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EDITORIAL NOTICE

Continuing what seems to have become a monthly practice of breaking records, we note that the current batches of *MPCs* and *MPSs* contain some 67 000 observations, compared to only 52 500 in the last batch. The 3029 new provisional designations also handsomely beat last month's record of 2205; furthermore, the 3173 designations that apply to the second half of March 1998 alone (extending to 1998 FC₁₂₇!) exceed by a similar margin the previous record of 2115 (in the second half of March 1993). The 174 new permanent numberings this month are also above last month's 160.

Since even last month's batch of *MPCs* was essentially at the 0.45-kg limit that is acceptable for normal mail delivery outside the U.S., it has again been necessary for us to make a choice on how to distribute the current batch. Wishing to avoid a repeat of the earlier complication of a multiple mailing, we are therefore sending this batch with a customs declaration. The increased weight does increase our mailing costs, however, so we need again to pursue the possibility of using smaller print in the future. Accordingly, a sample sheet attached at the end shows the effect of a fourfold reduction. This is our suggested remedy for future distribution of the *MPCs*, and we invite comments. Subscribers who still want to receive full-size *MPCs* and who would agree to a possibly substantial increase in the subscription rate are urged to inform us of this in an e-mail message to iausubs@cfa.harvard.edu as soon as possible. It should in fact be possible for us to offer a choice of service. Furthermore, we are also immediately arranging for *MPC* subscribers who *also* subscribe to the Extended Computer Service to have the possibility of downloading a (full-size) PostScript version of the current batch of *MPCs* from the Web ECS. In doing this, we are encouraged by the fact that downloading the *MPS* in this way—an option we introduced last month—seems to be largely solving the problem of distributing our supplementary series containing the actual observations of minor planets. We have actually received very few requests from people who still wish to receive the printed *MPS* by mail. Arrangements will be made shortly for these few to subscribe to *MPS* delivery by mail; we apologize for the delay in mailing them the April batch and thank them for their patience.

Understandably, the recent general increase in activity on minor planets has also brought a significant increase in the rate of discovery of NEOs (near-earth objects), with already as many new NEO discoveries in 1998 as in the whole of 1997 and a total of now 501 minor planets in the Apollo, Amor and Aten classes combined. Of these, 120 form the subset of PHAs (potentially hazardous asteroids), which have absolute magnitude $H \leq 22.0$ and a current possibility of passing within 0.05 AU of a circle in the plane of the ecliptic at 1.0 AU from the sun. As many as 16

new PHAs have been added so far during 1998, 12 of them since the March 11 announcement on *IAUC* 6837 that entry No. 104, 1997 XF₁₁, would make a predicted record close pass to the earth in 2028 for a PHA intrinsically as bright as $H = 17.0$. That announcement created somewhat of a stir, and it was in fact correct. Most importantly, it pointed out the need for ensuring that follow-up observations (both astrometric and physical) are made of an increasing number of objects, one particularly effective form of follow-up being the search for images of newly-discovered PHAs in photographic archives. The problem with 1997 XF₁₁ was that its particular significance from this point of view had not been appreciated earlier, with the March 3–4 observations that led to the startling *nominal* orbit computation on *MPC* 31424 therefore being the only ones obtained in a month. In the hope of preventing similar stirs with regard to PHA predictions in the future, we have recently taken the step of specifically indicating objects that are PHAs (and the distance in AU from the 1.0-AU circle) on the *MPECs*. Although this notation is not being carried over to the “Daily Orbit Update” *MPECs* or to the *MPCs* themselves, readers are reminded that an up-to-date list of PHAs is maintained in the WWW at <http://cfa-www.harvard.edu/iau/lists/Dangerous.html> and that there is in addition now at <http://cfa-www.harvard.edu/iau/lists/PHACloseApp.html> a list of the indicated actual passages within 0.05 AU of the earth (in order of increasing approach distance) until the year 2100 (cases with very short arcs being omitted); the one-opposition objects on the latter list (currently 1988 TA, 1994 WR₁₂, 1997 BQ, 1997 QK₁ and 1998 DV₉) are therefore particularly good candidates for archival searches.

In response to requests, the “Daily Orbit Update” *MPECs* have for the past month been regularly including the latest astrometric data on recently-discovered NEOs. The automatic preparation of these *MPECs* makes it feasible to recognize—and therefore acknowledge—these data *only* by the appearance of the observatory code. Not surprisingly, it has already happened that some erroneous data have been disseminated in this way, and we apologize to the observer concerned. The actual archiving of the data and acknowledgment of the observers is of course done in the monthly combination of *MPCs* and *MPSs*. If the observers with a particular observatory code do *not* wish to have their data included in these automatic *MPECs*, they should so inform us.

ERRATA

<i>MPC</i>	Line	
29616	35 to 48	The identification 1992 UE ₂ = 1995 KU ₂ is invalid and the orbit is to be removed.
31548	–35	Add S. Nakano, A. Gnädig

NEW OBSERVATORY CODES

The following listing is a continuation to that on *MPC* 31457. The longitudes λ are measured in degrees eastward from Greenwich, and the parallax constants $\rho \cos \phi'$ and $\rho \sin \phi'$ are the product of the geocentric distance (in earth equatorial radii) and the cosine and sine, respectively, of the geocentric latitude.

Obs.	λ	$\rho \cos \phi'$	$\rho \sin \phi'$	
701	249.7989	0.85383	+0.51922	Sierra Vista
717	256.0481	0.86160	+0.50636	Prude Ranch
749	276.1642	0.82795	+0.55902	Oakwood

CORRECTED OBSERVATIONS

The following observations correct those previously published.

Object	Date	UT	α_{2000}	δ_{2000}	Reference	Mag.	N Obs.
1982 US ₁	* 1982 10	16.87721	02 04 03.78	+09 13 03.5	<i>MPC</i> 7401	16.3	046
1982 US ₁	1982 10	16.89127	02 04 03.09	+09 13 02.0	<i>MPC</i> 7401		I 046
1982 US ₁	1982 10	21.86545	01 58 57.58	+08 49 49.0	<i>MPC</i> 7401	16.0	046
1982 US ₁	1982 10	21.87951	01 58 56.82	+08 49 45.5	<i>MPC</i> 7401		046
1990 HA	* 1990 04	17.87708	13 12 30.29	+06 43 00.7	<i>MPC</i> 16309	14.0	E 046
1990 HA	1990 04	17.89132	13 12 33.62	+06 42 13.1	<i>MPC</i> 16309		E 046
1990 HA	1990 04	20.83073	13 22 43.54	+04 29 54.0	<i>MPC</i> 16309	14.0	t 046
1990 HA	1990 04	20.83785	13 22 44.63	+04 29 38.5	<i>MPC</i> 16309		t 046
1990 HA	1990 04	27.05313	13 35 03.99	+01 39 15.6	<i>MPC</i> 16309	15.0	046
1990 HA	1990 04	27.06667	13 35 04.97	+01 38 58.4	<i>MPC</i> 16309		046

DELETED OBSERVATIONS

The following observations are to be deleted.

Object	Date	UT	α_{2000}	δ_{2000}	Reference	Obs.
1982 US ₁	1982 10 20.87020	01 59 58.94	+08 54 29.4	<i>MPC</i> 7401		046
1982 US ₁	1982 10 20.88571	01 59 58.48	+08 54 24.8	<i>MPC</i> 7401		046
1992 OQ ₁₀	* 1992 07 24.24792	21 22 14.09	-15 39 37.3	<i>MPC</i> 26872		809
1992 OQ ₁₀	1992 07 24.25833	21 22 13.55	-15 39 40.5	<i>MPC</i> 26872		809
1992 OQ ₁₀	1992 07 24.26875	21 22 12.96	-15 39 43.7	<i>MPC</i> 26872		809
1992 OQ ₁₀	1992 07 26.22083	21 20 44.13	-15 48 59.7	<i>MPC</i> 26872		809
1992 OQ ₁₀	1992 07 26.23125	21 20 43.56	-15 49 03.2	<i>MPC</i> 26872		809
1992 OQ ₁₀	1992 07 26.24167	21 20 43.03	-15 49 07.0	<i>MPC</i> 26872		809
1992 OR ₁₀	* 1992 07 24.24792	21 42 20.33	-16 14 07.6	<i>MPC</i> 26872		809
1992 OR ₁₀	1992 07 24.25833	21 42 19.94	-16 14 09.0	<i>MPC</i> 26872		809
1992 OR ₁₀	1992 07 24.26875	21 42 19.47	-16 14 11.7	<i>MPC</i> 26872		809
1992 OR ₁₀	1992 07 26.22083	21 41 03.55	-16 18 52.0	<i>MPC</i> 26872		809
1992 OR ₁₀	1992 07 26.23125	21 41 03.08	-16 18 53.1	<i>MPC</i> 26872		809
1992 OR ₁₀	1992 07 26.24167	21 41 02.59	-16 18 54.9	<i>MPC</i> 26872		809
1992 UE ₂	1989 01 08.42361	08 51 32.62	+16 11 07.5	<i>MPC</i> 29406		675
1992 UE ₂	1989 01 08.45990	08 51 30.81	+16 11 12.7	<i>MPC</i> 29406		675
1992 UE ₂	1992 11 15.43125	02 02 08.90	+10 54 46.5	<i>MPC</i> 21191		400
1992 UE ₂	1992 11 15.44653	02 02 08.40	+10 54 45.9	<i>MPC</i> 21191		400
1995 SZ ₂₆	1995 09 24.45662	01 30 28.97	+09 24 40.3	<i>MPC</i> 25840		691
1995 SZ ₂₆	1995 09 24.47776	01 30 28.16	+09 24 35.1	<i>MPC</i> 25841		691
1995 SZ ₂₆	1995 09 24.49888	01 30 27.32	+09 24 29.7	<i>MPC</i> 25841		691
1998 EF ₁₀	1998 03 03.33627	10 42 19.54	+07 05 50.6	<i>MPS</i> 693		691

1998 EF ₁₀	1998 03 03.34008	10 42 19.37	+07 05 51.2	<i>MPS</i> 693	691
1998 EF ₁₀	1998 03 03.34844	10 42 18.92	+07 05 53.9	<i>MPS</i> 693	691

IDENTIFICATION CHANGES

Continuation to *MPC* 31457.

Object	Date	UT	α_{2000}	δ_{2000}	Originally	Mag.	Obs.
1983 RS ₉	* 1983 09 10.35625	01 40 09.39	+08 11 37.7	1983 TM ₁	17.0	688	
1983 RS ₉	1983 09 10.40833	01 40 07.92	+08 11 26.0	1983 TM ₁		688	
1983 WO ₁	* 1983 11 23.46307	01 47 01.37	+23 52 04.9	1983 VO ₇		330	
1984 UO ₅	* 1984 10 26.92361	23 33 45.83	+05 52 11.8	1984 SO	17.0	054	
1986 TX ₁₈	* 1986 10 07.00164	02 13 27.56	+19 22 15.8	1986 TD ₁₂	16.0 V	095	
1991 EG ₉	* 1991 03 15.91045	11 47 32.70	+10 07 50.1	1991 ER ₁		046	
1991 EG ₉	1991 03 15.92451	11 47 32.03	+10 07 54.2	1991 ER ₁		046	
1991 OE ₂	* 1991 07 18.09097	19 29 48.52	-21 01 24.7	1991 NC ₄		809	
1991 OE ₂	1991 07 18.09792	19 29 48.15	-21 01 25.1	1991 NC ₄		809	
1991 OE ₂	1991 07 18.10486	19 29 47.77	-21 01 25.5	1991 NC ₄		809	
1994 AG ₁₇	* 1994 01 12.57156	08 09 43.36	+23 42 26.9	1994 AK ₂	17	399	
1994 AG ₁₇	1994 01 12.58611	08 09 42.36	+23 42 31.6	1994 AK ₂		399	
1994 CM ₂₀	* 1994 02 11.54896	09 57 31.21	+08 31 48.2	1994 CW ₁	16.5	400	
1994 CM ₂₀	1994 02 11.56597	09 57 30.20	+08 31 51.6	1994 CW ₁		400	
1995 VJ ₁₉	* 1995 11 01.35861	23 11 59.21	+07 17 05.1	1979 MA ₅		608	
1995 VJ ₁₉	1995 11 01.38780	23 11 59.10	+07 16 58.4	1979 MA ₅		608	

IDENTIFICATION

The following identification with a numbered minor planet, by G. V. Williams, continues the list on *MPC* 31046:

1992 UE₂ = (8234)

OBSERVATIONS OF COMETS

Observations are published here for the following observatory codes:

046	Kleť. 0.57-m <i>f</i> /5.2 reflector + CCD. Observers J. Tichá, M. Tichý and Z. Moravec.
106	Crni vrh. 0.36-m <i>f</i> /6.7 Schmidt-Cassegrain + CCD. Observer H. Mikuž.
108	Montelupo. 0.30-m <i>f</i> /5.7 Schmidt-Cassegrain + CCD. Observers M. Tombelli, A. Boattini, G. Forti.
118	Modra. 0.6-m <i>f</i> /5.5 reflector + CCD. Observers A. Galád, P. Kolény, L. Kornoš and A. Pravda.
143	Gnosca. 0.20-m <i>f</i> /6.3 reflector + CCD. Observer S. Sposetti.
145	's-Gravenwezel. 0.20-m <i>f</i> /2 Schmidt-Cassegrain + CCD. Observer T. Alderweireldt.
249	SOHO. SOHO-LASCO coronagraph C3. Observers D. A. Biesecker, S. Stezelberger and C. St. Cyr. Reduction by G. V. Williams.
355	Kadano. 0.28-m <i>f</i> /5.0 reflector + CCD. Observer A. Asami.
360	Huma Kogen. 0.60-m <i>f</i> /6.0 Ritchey-Chrétien + CCD. Observer A. Nakamura.
367	Yatsuka. 0.26-m <i>f</i> /4.8 reflector. Observer H. Abe.
372	Geisei. Observer T. Seki. 0.60-m <i>f</i> /3.5 reflector. From <i>Orient. Astron. Assoc. Comet Bull.</i>

400	Kitami. 0.25-m $f/3.4$ hyperboloid astrocamera + CCD. Observer K. Endate.	C/1995 O1	1998 01 23.08639	05 26 52.74	-63 10 44.9		834	
402	Dynic Astronomical Observatory. 0.60-m $f/4.0$ reflector + CCD. Observer A. Sugie.	C/1995 O1	1998 02 11.16220	05 03 13.63	-60 31 13.0		834	
422	Loomberah. 0.25-m $f/4.1$ reflector + CCD. Observer G. J. Garradd.	C/1995 O1	1998 02 11.16380	05 03 13.49	-60 31 12.9		834	
426	Woomera. 0.30-m $f/3.3$ Schmidt-Cassegrain + CCD. Observer F. B. Zoltowski.	C/1995 O1	1998 02 13.02782	05 01 48.16	-60 13 34.6		834	
428	Reedy Creek. 0.25-m $f/6.3$ Schmidt-Cassegrain + CCD. Observer J. Broughton.	C/1995 O1	1998 02 17.02971	04 59 13.34	-59 35 09.9	1	834	
504	Le Creusot. 0.40-m $f/5$ reflector + CCD. Observer J. C. Merlin.	C/1995 O1	1998 02 25.15049	04 55 49.03	-58 16 19.9	1	834	
557	Ondřejov. 0.65-m $f/3.6$ reflector + CCD. Observers P. Pravec and L. Šarounová.	C/1995 O1	1998 04 25.39057	05 18 18.77	-50 51 55.3		426	
561	Piszkéstető. 0.60-m Schmidt telescope + CCD. Observers K. Sárneczky and L. Kiss.	C/1995 O1	1998 04 25.39418	05 18 18.95	-50 51 54.3		426	
587	Sormano. 0.5-m reflector + CCD. Observers M. Cavagna and A. Testa.	C/1995 O1	1998 04 25.39829	05 18 19.16	-50 51 53.3	12.7 N	426	
596	Colleverde di Guidonia. 0.31-m $f/2.8$ Baker-Schmidt + CCD. Observer V. S. Casulli.	C/1995 O1	1998 04 25.95677	05 18 45.94	-50 49 28.9		844	
605	Marl. 0.2-m $f/10$ Schmidt-Cassegrain + CCD. Observer E. Jung.	C/1995 O1	1998 04 25.95890	05 18 45.99	-50 49 29.0		844	
610	Pianoro. 0.25-m $f/4$ Schmidt-Cassegrain. Observer V. Goretti.	C/1997 BA₆ (Spacewatch)						
616	Brno. 0.4-m $f/4.4$ reflector + CCD. Observer D. Hanžl.	C/1997 BA ₆	1998 04 19.49514	08 43 34.25	-05 39 58.5	16.9 T	360	
620	Mallorca. 0.3-m $f/3.3$ Schmidt-Cassegrain + CCD. Observers A. Lopez and R. Pacheco.	C/1997 BA ₆	1998 04 19.50000	08 43 34.20	-05 39 58.1		360	
691	Kitt Peak. 0.91-m Spacewatch telescope. Observer J. V. Scotti.	C/1997 BA ₆	1998 04 20.48109	08 43 24.90	-05 39 46.6	17.2 T	402	
699	LONEOS. 0.59-m Schmidt + CCD. Observer B. Koehn. Measurers B. W. Koehn and E. Bowell.	C/1997 BA ₆	1998 04 20.48457	08 43 24.88	-05 39 45.7		402	
700	Chinle. 0.30-m $f/10$ Schmidt-Cassegrain + CCD. Observer J. Bruton.	C/1997 BA ₆	1998 04 20.48804	08 43 24.84	-05 39 45.3		402	
704	LINEAR. 1.0-m $f/2.15$ reflector + CCD. Observers M. Blythe, F. Shelly and M. Bezpalko. Measurers J. Stuart and H. Viggh.	C/1997 BA ₆	1998 04 20.51357	08 43 24.60	-05 39 44.7	17.0 T	867	
750	Fall Creek. 0.60-m $f/5$ reflector + CCD. Observer R. Elliott.	C/1997 BA ₆	1998 04 20.52016	08 43 24.54	-05 39 44.8		867	
758	Cocoa. 0.3-m reflector + CCD. Observer I. Griffin.	C/1997 D1 (Mueller)						
784	Alfred University Observatory. 0.81-m $f/4$ reflector + CCD. Observers D. R. DeGraff and A. C. Schwortz.	C/1997 D1	1998 01 29.45972	02 45 37.51	-13 24 44.7	17 T	372	
817	Sudbury. 0.41-m Schmidt-Cassegrain. Observer D. di Cicco.	P/1997 G1 (Montani)						
834	Buenos Aires-AAAAA. 0.25-m $f/6.3$ reflector + CCD. Observers R. Caprio and R. Mackintosh. Measured by R. Mackintosh and J. R. Carozza.	P/1997 G1	1998 03 04.27050	10 53 20.87	+01 44 19.6	19.0 T	704	
844	Los Molinos. 0.35-m $f/6.4$ reflector + CCD. Observers O. Mendez, R. Salvo, J. Scheck, J. C. Tulic and T. Gallardo.	P/1997 G1	1998 03 04.29064	10 53 20.18	+01 44 24.2	19.7 T	704	
860	Valinhos. 0.20-m $f/3.3$ reflector + CCD. Observer P. R. Holvorcem.	P/1997 G1	1998 03 04.33101	10 53 18.92	+01 44 31.3	19.8 T	704	
867	Saji Observatory. 1.03-m $f/4.8$ reflector + CCD. Observers M. Yamanishi, A. Miyamoto, M. Aimoto and T. Oribe.	P/1997 G1	1998 03 04.35114	10 53 18.07	+01 44 31.4	19.8 T	704	
871	Akou. 0.33-m $f/3.3$ reflector + CCD. Observer K. Kawanishi.	C/1997 J1 (Mueller)						
896	Yatsugatake South Base Observatory. 0.40-m $f/6.0$ reflector + CCD and 0.21-m $f/6.0$ reflector + CCD. Observers M. Fukuda, Y. Kushida and R. Kushida. Measurers M. Fukuda and Y. Kushida.	C/1997 J1	1998 04 19.46406	05 31 14.44	+19 05 04.8	17.7 T	360	
900	Moriyama. 0.25-m $f/6.3$ reflector + CCD. Observer Y. Ikari.	C/1997 J1	1998 04 19.46858	05 31 14.50	+19 05 02.9		360	
963	0.28-m $f/3.3$ Schmidt-Cassegrain + CCD. Observer J. Mackey.	C/1997 J2 (Meunier-Dupouy)						
		C/1997 J2	1998 02 26.85207	21 09 22.59	+33 13 39.6	13.5 T	372	
		C/1997 J2	1998 04 15.07961	22 06 28.29	+31 15 39.7		118	
		C/1997 J2	1998 04 15.09013	22 06 28.87	+31 15 39.0	12.5 T	118	
		C/1997 J2	1998 05 03.03742	22 20 11.77	+30 54 09.5		118	
		C/1997 J2	1998 05 03.04487	22 20 12.05	+30 54 08.7	12.5 T	118	
		C/1997 L1 (Zhu-Balam)						
		C/1997 L1	1998 05 01.45008	17 15 47.90	+23 20 00.0	22.7 N	691	
		C/1997 L1	1998 05 01.45438	17 15 47.84	+23 20 03.5	20.7 T	691	
		C/1997 L1	1998 05 01.45921	17 15 47.69	+23 20 06.1	20.6 T	691	
		C/1997 L1	1998 05 01.46361	17 15 47.61	+23 20 07.2	20.3 T	691	
		C/1997 L1	1998 05 01.46827	17 15 47.49	+23 20 11.0	20.3 T	691	
		C/1997 L1	1998 05 01.47250	17 15 47.37	+23 20 13.5	20.8 T	691	
		C/1997 T1 (Utsunomiya)						
		C/1997 T1	1997 12 16.71823	18 46 58.43	+08 16 54.6	12.4 T	605	
		C/1997 T1	1997 12 16.75219	18 46 58.57	+08 16 17.1	12.5 T	605	
		C/1997 T1	1998 04 04.75639	17 48 50.92	-12 28 13.2		900	
		C/1997 T1	1998 04 04.76912	17 48 48.93	-12 28 23.4	14.3 T	900	
		C/1997 T1	1998 04 26.03433	16 35 41.76	-17 33 06.0	14.0 T	108	
		C/1997 T1	1998 04 26.03947	16 35 40.80	-17 33 09.1		108	
Object	Date	UT	α_{2000}	δ_{2000}	Mag.	N Obs.		
	C/1995 O1 (Hale-Bopp)							
C/1995 O1	1998 01 09.22281		05 54 51.22	-64 17 54.2		834		
C/1995 O1	1998 01 12.23134		05 48 04.53	-64 08 26.1		834		
C/1995 O1	1998 01 13.12505		05 46 08.11	-64 05 01.0		834		
C/1995 O1	1998 01 15.21859		05 41 42.83	-63 56 01.3		834		
C/1995 O1	1998 01 23.03917		05 26 57.74	-63 11 04.1		834		

C/1997 T1	1998 04 26.04225	16 35 39.78	-17 33 09.3		108
C/1997 T1	1998 04 26.75565	16 32 40.71	-17 42 21.7	14.5 T	402
C/1997 T1	1998 04 26.75773	16 32 40.20	-17 42 23.2		402
C/1997 T1	1998 04 26.75982	16 32 39.66	-17 42 24.8		402
C/1997 T1	1998 04 29.68588	16 20 12.16	-18 18 18.2		900
C/1997 T1	1998 04 29.69740	16 20 09.09	-18 18 27.1	15.6 T	900
C/1997 T1	1998 05 03.70104	16 02 44.97	-19 02 03.3		896
C/1997 T1	1998 05 03.70833	16 02 43.20	-19 02 10.1		896
C/1997 T1	1998 05 03.71354	16 02 41.85	-19 02 14.0		896
C/1997 T1	1998 05 03.71528	16 02 41.32	-19 02 14.7	13.3 T	360
C/1997 T1	1998 05 03.71979	16 02 40.13	-19 02 17.2		360

P/1997 V1 (Larsen)

P/1997 V1	1998 01 27.44601	00 57 18.30	+10 42 54.2	18 T	372
P/1997 V1	1998 01 29.44132	00 59 25.78	+10 49 41.0		372

P/1998 G1 (LINEAR)

P/1998 G1	1998 04 03.88565	11 03 55.34	+29 24 18.4	18.1 N	561
P/1998 G1	1998 04 03.88814	11 03 54.97	+29 24 17.6		561
P/1998 G1	1998 04 03.89080	11 03 54.59	+29 24 16.3		561
P/1998 G1	1998 04 06.94318	10 56 27.09	+29 00 54.1	17.6 N	046
P/1998 G1	1998 04 06.94462	10 56 26.85	+29 00 53.9		046
P/1998 G1	1998 04 06.94573	10 56 26.69	+29 00 52.8		046
P/1998 G1	1998 04 06.94741	10 56 26.40	+29 00 52.4		046
P/1998 G1	1998 04 07.04853	10 56 11.78	+29 00 01.4		557
P/1998 G1	1998 04 07.05016	10 56 11.57	+29 00 00.8		557
P/1998 G1	1998 04 07.05179	10 56 11.27	+29 00 00.2		557
P/1998 G1	1998 04 11.54179	10 45 46.31	+28 19 43.5	17.7 N	402
P/1998 G1	1998 04 11.54388	10 45 46.08	+28 19 43.0		402
P/1998 G1	1998 04 11.54804	10 45 45.33	+28 19 41.1		402
P/1998 G1	1998 04 11.84351	10 45 05.79	+28 16 47.0	17.4 N	046
P/1998 G1	1998 04 11.84606	10 45 05.49	+28 16 46.2		046
P/1998 G1	1998 04 11.85039	10 45 04.90	+28 16 42.8		046
P/1998 G1	1998 04 11.85237	10 45 04.59	+28 16 41.9		046
P/1998 G1	1998 04 11.85601	10 45 04.15	+28 16 40.2		046
P/1998 G1	1998 04 13.91043	10 40 33.88	+27 56 00.7		557
P/1998 G1	1998 04 13.91256	10 40 33.57	+27 55 59.0	18.3 N	557
P/1998 G1	1998 04 13.94818	10 40 28.95	+27 55 36.9		557
P/1998 G1	1998 04 13.95660	10 40 27.86	+27 55 31.2		557
P/1998 G1	1998 04 15.51649	10 37 09.51	+27 39 04.8		360
P/1998 G1	1998 04 15.52517	10 37 08.39	+27 38 59.4		360
P/1998 G1	1998 04 15.52847	10 37 07.96	+27 38 56.8		360
P/1998 G1	1998 04 15.61082	10 36 57.51	+27 38 02.9	18.2 N	402
P/1998 G1	1998 04 15.61499	10 36 56.98	+27 38 00.6		402
P/1998 G1	1998 04 15.61915	10 36 56.48	+27 37 57.9		402
P/1998 G1	1998 04 15.87024	10 36 25.21	+27 35 14.3		118
P/1998 G1	1998 04 15.87775	10 36 24.28	+27 35 09.5	16.8 N	118
P/1998 G1	1998 04 16.14761	10 35 50.78	+27 32 14.8	17.9 N	704
P/1998 G1	1998 04 16.15797	10 35 49.63	+27 32 07.8	17.1 N	704
P/1998 G1	1998 04 16.16838	10 35 48.29	+27 32 00.7	17.5 N	704
P/1998 G1	1998 04 16.17885	10 35 47.02	+27 31 53.7	18.3 N	704
P/1998 G1	1998 04 16.18922	10 35 45.65	+27 31 46.1	18.1 N	704
P/1998 G1	1998 04 16.47159	10 35 10.88	+27 28 41.2	18.3 N	402
P/1998 G1	1998 04 16.47992	10 35 09.82	+27 28 35.8		402

P/1998 G1	1998 04 16.48200	10 35 09.57	+27 28 34.7		402
P/1998 G1	1998 04 17.84442	10 32 24.18	+27 13 22.9		557
P/1998 G1	1998 04 17.84674	10 32 23.86	+27 13 20.7		557
P/1998 G1	1998 04 17.85373	10 32 23.03	+27 13 14.9		557
P/1998 G1	1998 04 17.92520	10 32 14.38	+27 12 26.8		118
P/1998 G1	1998 04 17.93294	10 32 13.44	+27 12 21.4	17.4 N	118
P/1998 G1	1998 04 19.47377	10 29 12.37	+26 54 40.0	18.1 N	402
P/1998 G1	1998 04 19.47586	10 29 12.09	+26 54 39.3		402
P/1998 G1	1998 04 19.47794	10 29 11.89	+26 54 37.2		402
P/1998 G1	1998 04 19.54566	10 29 03.97	+26 53 50.1	18.3 N	360
P/1998 G1	1998 04 19.54965	10 29 03.51	+26 53 47.2		360
P/1998 G1	1998 04 19.55382	10 29 03.03	+26 53 44.3		360
P/1998 G1	1998 04 19.58301	10 28 59.55	+26 53 25.0	18.2 N	867
P/1998 G1	1998 04 19.58961	10 28 58.78	+26 53 20.1		867
P/1998 G1	1998 04 19.59933	10 28 57.65	+26 53 13.2		867
P/1998 G1	1998 04 20.50988	10 27 13.78	+26 42 29.8	18.1 N	402
P/1998 G1	1998 04 20.51197	10 27 13.52	+26 42 28.3		402
P/1998 G1	1998 04 20.51405	10 27 13.29	+26 42 26.5		402
P/1998 G1	1998 04 21.88175	10 24 41.01	+26 26 02.8	18.2 T	504
P/1998 G1	1998 04 21.88270	10 24 40.97	+26 26 01.2	18.0 N	587
P/1998 G1	1998 04 21.88332	10 24 40.86	+26 26 01.5	18.1 T	504
P/1998 G1	1998 04 21.88529	10 24 40.66	+26 26 00.2		504
P/1998 G1	1998 04 21.88902	10 24 40.23	+26 25 57.6	18.4 T	504
P/1998 G1	1998 04 21.89196	10 24 39.88	+26 25 54.6		587
P/1998 G1	1998 04 21.89582	10 24 39.52	+26 25 52.8	18.3 T	504
P/1998 G1	1998 04 21.89762	10 24 39.28	+26 25 52.0	18.0 T	504
P/1998 G1	1998 04 28.49712	10 13 32.13	+25 02 29.3	17.8 N	402
P/1998 G1	1998 04 28.49920	10 13 32.09	+25 02 28.2		402
P/1998 G1	1998 04 28.50129	10 13 31.90	+25 02 26.9		402
P/1998 G1	1998 04 28.85513	10 12 59.28	+24 57 47.8	17.7 T	504
P/1998 G1	1998 04 28.85626	10 12 59.14	+24 57 47.3		504
P/1998 G1	1998 04 28.85772	10 12 59.03	+24 57 46.0		504
P/1998 G1	1998 04 28.85881	10 12 58.94	+24 57 45.2		504
P/1998 G1	1998 04 28.86311	10 12 58.51	+24 57 41.6	17.7 T	504
P/1998 G1	1998 04 30.46688	10 10 34.83	+24 36 32.1	18.2 N	402
P/1998 G1	1998 04 30.46965	10 10 34.57	+24 36 29.7		402
P/1998 G1	1998 04 30.47243	10 10 34.31	+24 36 27.4		402

C/1998 G2 (SOHO)

C/1998 G2	1998 04 02.08005	00 52 09.9	+04 02 22		249
Geocentric position (AU)	+0.00799256	+0.00564831	+0.00248964		
C/1998 G2	1998 04 02.10252	00 51 43.4	+04 04 55		249
Geocentric position (AU)	+0.00799091	+0.00565230	+0.00249067		
C/1998 G2	1998 04 02.12634	00 51 14.5	+04 07 34		249
Geocentric position (AU)	+0.00798915	+0.00565653	+0.00249176		
C/1998 G2	1998 04 02.14262	00 50 54.4	+04 09 40		249
Geocentric position (AU)	+0.00798795	+0.00565941	+0.00249251		
C/1998 G2	1998 04 02.16574	00 50 23.9	+04 12 12		249
Geocentric position (AU)	+0.00798625	+0.00566350	+0.00249357		
C/1998 G2	1998 04 02.18515	00 49 58.7	+04 14 38		249
Geocentric position (AU)	+0.00798482	+0.00566693	+0.00249446		

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C/1998 H1 (Stonehouse)											
C/1998 H1	1998 04 26.53337	15 28 43.45	+11 30 16.3	15.3 N	422	C/1998 H1	1998 04 27.68980	15 21 02.64	+14 29 11.7	15.5 N	422
C/1998 H1	1998 04 26.53461	15 28 42.94	+11 30 28.0	15.2 N	422	C/1998 H1	1998 04 27.69090	15 21 02.18	+14 29 21.7	15.5 N	422
C/1998 H1	1998 04 26.53586	15 28 42.44	+11 30 39.7	15.3 N	422	C/1998 H1	1998 04 27.69200	15 21 01.74	+14 29 31.6	15.2 N	422
C/1998 H1	1998 04 26.53756	15 28 41.76	+11 30 55.8	15.4 N	422	C/1998 H1	1998 04 27.69792	15 20 59.57	+14 30 10.0		896
C/1998 H1	1998 04 26.53865	15 28 41.30	+11 31 06.0	15.2 N	422	C/1998 H1	1998 04 27.70417	15 20 57.04	+14 31 06.9		896
C/1998 H1	1998 04 26.61007	15 28 12.87	+11 42 01.5		360	C/1998 H1	1998 04 27.70833	15 20 55.36	+14 31 44.5		896
C/1998 H1	1998 04 26.61215	15 28 12.04	+11 42 21.4		360	C/1998 H1	1998 04 27.83149	15 20 07.12	+14 50 20.2		557
C/1998 H1	1998 04 26.61424	15 28 11.19	+11 42 41.0		360	C/1998 H1	1998 04 27.83242	15 20 06.73	+14 50 29.0		557
C/1998 H1	1998 04 26.67567	15 27 46.45	+11 52 18.0	12.4 T	900	C/1998 H1	1998 04 27.83336	15 20 06.37	+14 50 37.3		557
C/1998 H1	1998 04 26.67660	15 27 45.79	+11 52 43.1	14.8 N	422	C/1998 H1	1998 04 27.83429	15 20 05.99	+14 50 45.6		557
C/1998 H1	1998 04 26.67763	15 27 45.42	+11 52 53.4	14.8 N	422	C/1998 H1	1998 04 27.84626	15 20 01.18	+14 52 35.4	12.5 T	046
C/1998 H1	1998 04 26.68012	15 27 44.64	+11 53 00.2		900	C/1998 H1	1998 04 27.84845	15 20 00.30	+14 52 55.2		046
C/1998 H1	1998 04 26.69787	15 27 37.49	+11 55 45.8	12.4 T	2 402	C/1998 H1	1998 04 27.84973	15 19 59.79	+14 53 06.8		046
C/1998 H1	1998 04 26.70065	15 27 36.37	+11 56 11.8		2 402	C/1998 H1	1998 04 27.85051	15 19 59.48	+14 53 13.9		046
C/1998 H1	1998 04 26.70620	15 27 34.18	+11 57 02.9		2 402	C/1998 H1	1998 04 27.86823	15 19 52.52	+14 55 54.5		620
C/1998 H1	1998 04 26.74427	15 27 18.83	+12 03 00.1	12.5 T	867	C/1998 H1	1998 04 27.87135	15 19 51.31	+14 56 24.2		620
C/1998 H1	1998 04 26.74566	15 27 18.29	+12 03 12.9		867	C/1998 H1	1998 04 27.88041	15 19 47.35	+14 57 48.6	13.0 T	106
C/1998 H1	1998 04 26.74608	15 27 18.08	+12 03 18.6	12.3 T	402	C/1998 H1	1998 04 27.88148	15 19 47.16	+14 57 55.5	13.3 N	620
C/1998 H1	1998 04 26.74677	15 27 17.80	+12 03 25.2		402	C/1998 H1	1998 04 27.88342	15 19 46.20	+14 58 15.7		106
C/1998 H1	1998 04 26.74885	15 27 16.98	+12 03 44.6		402	C/1998 H1	1998 04 27.88490	15 19 45.82	+14 58 27.3		620
C/1998 H1	1998 04 26.74960	15 27 16.71	+12 03 50.1		867	C/1998 H1	1998 04 27.89359	15 19 42.09	+14 59 48.1		106
C/1998 H1	1998 04 26.79369	15 27 00.29	+12 10 40.2		046	C/1998 H1	1998 04 27.89677	15 19 40.80	+15 00 16.8		106
C/1998 H1	1998 04 26.79503	15 26 59.75	+12 10 52.1		046	C/1998 H1	1998 04 27.89867	15 19 40.31	+15 00 30.6		620
C/1998 H1	1998 04 26.79635	15 26 59.25	+12 11 05.0		046	C/1998 H1	1998 04 27.90198	15 19 38.72	+15 01 03.7		106
C/1998 H1	1998 04 26.79700	15 26 59.03	+12 11 10.9		046	C/1998 H1	1998 04 27.90744	15 19 36.50	+15 01 53.9		106
C/1998 H1	1998 04 26.79990	15 26 57.86	+12 11 39.0	12.5 T	046	C/1998 H1	1998 04 27.91480	15 19 33.57	+15 03 00.2		106
C/1998 H1	1998 04 26.80690	15 26 55.06	+12 12 43.5		046	C/1998 H1	1998 04 28.20671	15 17 37.13	+15 46 51.2		750
C/1998 H1	1998 04 26.80875	15 26 54.28	+12 13 01.1		046	C/1998 H1	1998 04 28.21609	15 17 33.30	+15 48 15.6		750
C/1998 H1	1998 04 26.85619	15 26 35.36	+12 20 24.9		046	C/1998 H1	1998 04 28.23482	15 17 25.77	+15 51 03.3		750
C/1998 H1	1998 04 26.85816	15 26 34.57	+12 20 43.3		557	C/1998 H1	1998 04 28.26702	15 17 12.76	+15 55 51.9		750
C/1998 H1	1998 04 26.85910	15 26 34.20	+12 20 51.9		557	C/1998 H1	1998 04 28.54711	15 15 21.41	+16 37 29.3	12.2 T	402
C/1998 H1	1998 04 26.86002	15 26 33.82	+12 21 00.7		557	C/1998 H1	1998 04 28.54850	15 15 20.86	+16 37 41.8		402
C/1998 H1	1998 04 26.86073	15 26 33.53	+12 21 08.4		046	C/1998 H1	1998 04 28.54988	15 15 20.29	+16 37 53.8		402
C/1998 H1	1998 04 26.86097	15 26 33.45	+12 21 09.2		557	C/1998 H1	1998 04 28.55226	15 15 19.32	+16 38 14.4		900
C/1998 H1	1998 04 26.86191	15 26 33.08	+12 21 17.7		557	C/1998 H1	1998 04 28.55795	15 15 17.05	+16 39 05.0	12.2 T	900
C/1998 H1	1998 04 27.00057	15 25 37.35	+12 42 54.5		616	C/1998 H1	1998 04 28.56192	15 15 15.38	+16 39 39.0	12.1 T	367
C/1998 H1	1998 04 27.00109	15 25 37.24	+12 42 59.4		616	C/1998 H1	1998 04 28.56741	15 15 13.20	+16 40 27.8		367
C/1998 H1	1998 04 27.00163	15 25 36.96	+12 43 03.9		616	C/1998 H1	1998 04 28.69479	15 14 21.69	+16 59 16.3		360
C/1998 H1	1998 04 27.00218	15 25 36.83	+12 43 08.5		616	C/1998 H1	1998 04 28.69653	15 14 20.99	+16 59 31.3		360
C/1998 H1	1998 04 27.21161	15 24 13.82	+13 15 34.1		750	C/1998 H1	1998 04 28.72882	15 14 07.76	+17 04 12.1	11.0 T	871
C/1998 H1	1998 04 27.22020	15 24 10.35	+13 16 53.8		750	C/1998 H1	1998 04 28.73333	15 14 05.99	+17 04 53.9		871
C/1998 H1	1998 04 27.23724	15 24 03.48	+13 19 31.9		750	C/1998 H1	1998 04 28.73785	15 14 04.31	+17 05 31.2		871
C/1998 H1	1998 04 27.28980	15 23 42.36	+13 27 38.2	16.5 N	750	C/1998 H1	1998 04 28.88317	15 13 07.15	+17 26 45.1		504
C/1998 H1	1998 04 27.29582	15 23 39.91	+13 28 33.4	16.2 N	750	C/1998 H1	1998 04 28.88642	15 13 05.91	+17 27 13.8		504
C/1998 H1	1998 04 27.30278	15 23 37.10	+13 29 38.1	16.1 N	750	C/1998 H1	1998 04 28.88703	15 13 05.60	+17 27 19.4		504
C/1998 H1	1998 04 27.31207	15 23 33.37	+13 31 03.7	16.4 N	750	C/1998 H1	1998 04 28.88936	15 13 04.67	+17 27 39.9		504
C/1998 H1	1998 04 27.31440	15 23 32.42	+13 31 25.4	16.3 N	750	C/1998 H1	1998 04 28.89003	15 13 04.40	+17 27 45.9		504
C/1998 H1	1998 04 27.54936	15 21 59.57	+14 07 28.7	12.4 T	900	C/1998 H1	1998 04 28.89133	15 13 03.89	+17 27 56.8		504
C/1998 H1	1998 04 27.55503	15 21 57.26	+14 08 20.9		900	C/1998 H1	1998 04 28.89182	15 13 03.73	+17 28 01.2		504
C/1998 H1	1998 04 27.56163	15 21 54.62	+14 09 22.0		867	C/1998 H1	1998 04 28.89249	15 13 03.46	+17 28 07.7		504
C/1998 H1	1998 04 27.56898	15 21 51.67	+14 10 28.9		867	C/1998 H1	1998 04 28.91885	15 12 52.72	+17 31 57.1		046
C/1998 H1	1998 04 27.57309	15 21 50.02	+14 11 06.6		867	C/1998 H1	1998 04 28.92108	15 12 51.81	+17 32 17.3		046
						C/1998 H1	1998 04 28.92241	15 12 51.26	+17 32 29.8		046

C/1998 H1	1998 04 29.15851	15 11 17.01	+18 06 34.3	12.3 T	784
C/1998 H1	1998 04 29.16146	15 11 15.86	+18 07 07.4	13.4 N	784
C/1998 H1	1998 04 29.16372	15 11 14.93	+18 07 19.9	12.2 T	784
C/1998 H1	1998 04 29.16615	15 11 14.01	+18 07 48.0	13.0 N	784
C/1998 H1	1998 04 29.16875	15 11 12.80	+18 08 04.2	12.4 T	784
C/1998 H1	1998 04 29.17083	15 11 12.10	+18 08 21.2	12.6 T	784
C/1998 H1	1998 04 29.17309	15 11 11.13	+18 08 45.8	13.1 N	784
C/1998 H1	1998 04 29.17932	15 11 08.57	+18 09 35.8	12.5 T	784
C/1998 H1	1998 04 29.18992	15 11 04.77	+18 11 14.3	14.1 T	700
C/1998 H1	1998 04 29.20194	15 10 59.85	+18 12 59.3	14.3 T	700
C/1998 H1	1998 04 29.21394	15 10 55.05	+18 14 42.6	14.1 T	700
C/1998 H1	1998 04 29.24302	15 10 43.40	+18 18 54.6	14.3 T	700
C/1998 H1	1998 04 29.24709	15 10 41.74	+18 19 29.8	14.6 T	700
C/1998 H1	1998 04 29.51386	15 08 55.46	+18 57 35.2	12.4 T	900
C/1998 H1	1998 04 29.51957	15 08 53.12	+18 58 24.1		900
C/1998 H1	1998 04 29.52358	15 08 51.53	+18 58 58.8	13.0 T	355
C/1998 H1	1998 04 29.53345	15 08 47.58	+19 00 23.1		355
C/1998 H1	1998 04 29.53512	15 08 46.89	+19 00 36.6		355
C/1998 H1	1998 04 29.71713	15 07 33.58	+19 26 20.1	11.0 T	871
C/1998 H1	1998 04 29.72407	15 07 30.50	+19 27 17.3		871
C/1998 H1	1998 04 29.72894	15 07 28.60	+19 27 50.3		871
C/1998 H1	1998 04 29.89936	15 06 21.41	+19 51 48.0		145
C/1998 H1	1998 04 29.90618	15 06 18.65	+19 52 44.7		145
C/1998 H1	1998 04 29.91152	15 06 16.52	+19 53 30.0		145
C/1998 H1	1998 04 29.91942	15 06 13.32	+19 54 35.8		145
C/1998 H1	1998 04 29.92023	15 06 13.14	+19 54 45.7	10.5 T	610
C/1998 H1	1998 04 29.92182	15 06 12.48	+19 54 58.8		610
C/1998 H1	1998 04 29.92318	15 06 11.91	+19 55 10.0		610
C/1998 H1	1998 04 29.92453	15 06 11.35	+19 55 21.1		610
C/1998 H1	1998 04 29.92565	15 06 10.84	+19 55 28.1		145
C/1998 H1	1998 04 29.92620	15 06 10.65	+19 55 34.9		610
C/1998 H1	1998 04 29.93535	15 06 06.89	+19 56 48.7		145
C/1998 H1	1998 04 29.94822	15 06 01.69	+19 58 37.1		145
C/1998 H1	1998 04 30.18563	15 04 27.23	+20 31 30.8	14.7 T	750
C/1998 H1	1998 04 30.19732	15 04 22.48	+20 33 08.1	14.3 T	750
C/1998 H1	1998 04 30.20385	15 04 20.22	+20 34 04.7	14.4 T	700
C/1998 H1	1998 04 30.20686	15 04 18.64	+20 34 27.7	15.6 T	750
C/1998 H1	1998 04 30.20804	15 04 18.54	+20 34 38.9	14.1 T	700
C/1998 H1	1998 04 30.21324	15 04 16.41	+20 35 20.8	14.0 T	700
C/1998 H1	1998 04 30.23568	15 04 07.08	+20 38 25.0	15.4 T	750
C/1998 H1	1998 04 30.24035	15 04 05.19	+20 39 03.6	16.1 T	750
C/1998 H1	1998 04 30.28214	15 03 48.37	+20 44 48.9	15.1 T	750
C/1998 H1	1998 04 30.52771	15 02 11.20	+21 18 17.8	12.2 T	402
C/1998 H1	1998 04 30.52840	15 02 10.93	+21 18 23.2		402
C/1998 H1	1998 04 30.52910	15 02 10.63	+21 18 28.7		402
C/1998 H1	1998 04 30.56184	15 01 57.35	+21 22 52.2	12.8 T	400
C/1998 H1	1998 04 30.56355	15 01 56.62	+21 23 03.3		400
C/1998 H1	1998 04 30.56676	15 01 55.23	+21 23 28.7		400
C/1998 H1	1998 04 30.56969	15 01 54.20	+21 23 53.9		400
C/1998 H1	1998 04 30.87367	14 59 53.87	+22 04 42.0		620
C/1998 H1	1998 04 30.87488	14 59 53.22	+22 04 51.4		596
C/1998 H1	1998 04 30.87517	14 59 53.19	+22 04 53.9		620
C/1998 H1	1998 04 30.87800	14 59 51.96	+22 05 15.8		596

C/1998 H1	1998 04 30.88164	14 59 50.49	+22 05 45.4		596
C/1998 H1	1998 04 30.88490	14 59 49.29	+22 06 11.4		620
C/1998 H1	1998 04 30.89010	14 59 47.18	+22 06 53.6		620
C/1998 H1	1998 05 01.08536	14 58 29.68	+22 32 44.0		817
C/1998 H1	1998 05 01.08828	14 58 28.55	+22 33 07.2		817
C/1998 H1	1998 05 01.09360	14 58 26.39	+22 33 49.4		817
C/1998 H1	1998 05 01.09689	14 58 25.07	+22 34 15.4		817
C/1998 H1	1998 05 01.10444	14 58 21.04	+22 35 13.0		046
C/1998 H1	1998 05 01.10522	14 58 20.73	+22 35 19.2		046
C/1998 H1	1998 05 01.10590	14 58 20.46	+22 35 24.7		046
C/1998 H1	1998 05 01.11234	14 58 18.55	+22 36 35.7	12.5 T	860
C/1998 H1	1998 05 01.11735	14 58 16.51	+22 37 15.1	12.6 T	860
C/1998 H1	1998 05 01.12072	14 58 15.10	+22 37 41.9		860
C/1998 H1	1998 05 01.12442	14 58 13.64	+22 38 12.5	12.5 T	860
C/1998 H1	1998 05 02.17022	14 51 21.05	+24 51 25.0	13.6 T	758
C/1998 H1	1998 05 02.17192	14 51 20.39	+24 51 36.0	13.5 T	758
C/1998 H1	1998 05 02.17826	14 51 17.84	+24 52 23.8	13.5 T	758
C/1998 H1	1998 05 02.23731	14 50 54.80	+24 59 42.0	14.5 T	700
C/1998 H1	1998 05 02.24291	14 50 52.56	+25 00 22.0	14.4 T	700
C/1998 H1	1998 05 02.24619	14 50 51.18	+25 00 46.7	14.5 T	700
C/1998 H1	1998 05 02.94182	14 46 18.46	+26 24 48.2		3 118
C/1998 H1	1998 05 02.94669	14 46 16.53	+26 25 22.7	11.6 T	3 118
C/1998 H1	1998 05 03.18300	14 44 44.78	+26 53 10.0	13.5 T	758
C/1998 H1	1998 05 03.18519	14 44 43.93	+26 53 24.2	13.5 T	758
C/1998 H1	1998 05 03.54618	14 42 23.70	+27 35 05.3		896
C/1998 H1	1998 05 03.55694	14 42 19.84	+27 36 13.7		896
C/1998 H1	1998 05 03.64097	14 41 46.75	+27 45 47.6		896
C/1998 H1	1998 05 03.68507	14 41 29.52	+27 50 46.4	12.3 T	360
C/1998 H1	1998 05 03.68715	14 41 28.71	+27 51 00.5		360
C/1998 H1	1998 05 03.68924	14 41 27.89	+27 51 14.6		360
C/1998 H1	1998 05 03.81867	14 40 38.79	+28 05 42.4		046
C/1998 H1	1998 05 03.82104	14 40 37.86	+28 05 57.8		046
C/1998 H1	1998 05 03.82179	14 40 37.58	+28 06 03.0		046
C/1998 H1	1998 05 03.82257	14 40 37.25	+28 06 08.6		046
C/1998 H1	1998 05 03.94419	14 39 50.13	+28 19 40.3		963

C/1998 J1 (SOHO)

C/1998 J1	1998 05 03.77939	02 10 14.7	+19 34 59		249
Geocentric position (AU)	+0.00591078	+0.00896964	+0.00308568		
C/1998 J1	1998 05 03.82384	02 10 41.1	+19 38 53		249
Geocentric position (AU)	+0.00590840	+0.00897160	+0.00308575		
C/1998 J1	1998 05 03.86812	02 11 05.2	+19 43 03		249
Geocentric position (AU)	+0.00590603	+0.00897354	+0.00308582		
C/1998 J1	1998 05 03.90655	02 11 29.3	+19 45 53		249
Geocentric position (AU)	+0.00590399	+0.00897521	+0.00308588		
C/1998 J1	1998 05 03.98626	02 12 13.0	+19 54 12		249
Geocentric position (AU)	+0.00589975	+0.00897868	+0.00308601		
C/1998 J1	1998 05 04.02787	02 12 39.8	+19 58 45		249
Geocentric position (AU)	+0.00589755	+0.00898048	+0.00308607		
C/1998 J1	1998 05 04.07264	02 13 06.2	+20 02 28		249
Geocentric position (AU)	+0.00589518	+0.00898241	+0.00308613		
C/1998 J1	1998 05 04.11437	02 13 26.2	+20 05 53		249
Geocentric position (AU)	+0.00589298	+0.00898420	+0.00308619		

C/1998 J1	1998 05 04.15366	02 13 54.5	+20 09 59	249
Geocentric position (AU)	+0.00589091	+0.00898588	+0.00308625	
C/1998 J1	1998 05 04.23622	02 14 49.3	+20 17 30	249
Geocentric position (AU)	+0.00588658	+0.00898940	+0.00308637	
C/1998 J1	1998 05 04.27868	02 15 10.5	+20 21 41	249
Geocentric position (AU)	+0.00588435	+0.00899121	+0.00308642	
C/1998 J1	1998 05 04.32313	02 15 39.6	+20 24 45	249
Geocentric position (AU)	+0.00588203	+0.00899308	+0.00308648	
C/1998 J1	1998 05 04.36397	02 16 01.5	+20 29 44	249
Geocentric position (AU)	+0.00587990	+0.00899481	+0.00308653	
C/1998 J1	1998 05 04.40287	02 16 22.5	+20 32 41	249
Geocentric position (AU)	+0.00587788	+0.00899644	+0.00308658	
C/1998 J1	1998 05 04.44534	02 16 48.0	+20 36 06	249
Geocentric position (AU)	+0.00587568	+0.00899822	+0.00308664	
C/1998 J1	1998 05 04.48821	02 17 20.0	+20 39 26	249
Geocentric position (AU)	+0.00587346	+0.00900001	+0.00308669	
C/1998 J1	1998 05 04.52867	02 17 44.0	+20 43 58	249
Geocentric position (AU)	+0.00587136	+0.00900169	+0.00308674	
C/1998 J1	1998 05 04.57317	02 18 13.3	+20 47 45	249
Geocentric position (AU)	+0.00586907	+0.00900354	+0.00308679	
C/1998 J1	1998 05 04.61117	02 18 37.0	+20 52 08	249
Geocentric position (AU)	+0.00586711	+0.00900511	+0.00308683	
C/1998 J1	1998 05 04.65366	02 19 02.3	+20 55 24	249
Geocentric position (AU)	+0.00586493	+0.00900686	+0.00308688	
C/1998 J1	1998 05 04.69529	02 19 26.5	+20 59 51	249
Geocentric position (AU)	+0.00586280	+0.00900857	+0.00308693	
C/1998 J1	1998 05 04.73697	02 19 57.3	+21 04 07	249
Geocentric position (AU)	+0.00586067	+0.00901028	+0.00308697	
C/1998 J1	1998 05 04.77867	02 20 18.4	+21 06 59	249
Geocentric position (AU)	+0.00585854	+0.00901198	+0.00308701	
C/1998 J1	1998 05 04.82052	02 20 48.9	+21 11 14	249
Geocentric position (AU)	+0.00585641	+0.00901368	+0.00308706	
C/1998 J1	1998 05 04.84159	02 21 02.1	+21 13 13	249
Geocentric position (AU)	+0.00585534	+0.00901454	+0.00308708	
C/1998 J1	1998 05 04.89655	02 21 39.1	+21 18 01	249
Geocentric position (AU)	+0.00585255	+0.00901676	+0.00308713	
C/1998 J1	1998 05 04.92112	02 21 52.7	+21 20 07	249
Geocentric position (AU)	+0.00585131	+0.00901775	+0.00308716	
C/1998 J1	1998 05 04.98775	02 22 33.0	+21 26 02	249
Geocentric position (AU)	+0.00584794	+0.00902043	+0.00308722	
C/1998 J1	1998 05 05.02799	02 23 03.2	+21 30 02	249
Geocentric position (AU)	+0.00584592	+0.00902205	+0.00308726	
C/1998 J1	1998 05 05.07281	02 23 30.8	+21 33 47	249
Geocentric position (AU)	+0.00584366	+0.00902384	+0.00308730	
C/1998 J1	1998 05 05.11307	02 24 00.2	+21 37 52	249
Geocentric position (AU)	+0.00584165	+0.00902544	+0.00308733	
C/1998 J1	1998 05 05.15365	02 24 27.0	+21 40 17	249
Geocentric position (AU)	+0.00583962	+0.00902705	+0.00308737	
C/1998 J1	1998 05 05.20472	02 25 00.2	+21 45 21	249
Geocentric position (AU)	+0.00583707	+0.00902907	+0.00308741	
C/1998 J1	1998 05 05.28052	02 25 51.6	+21 52 27	249
Geocentric position (AU)	+0.00583330	+0.00903205	+0.00308747	

C/1998 J1	1998 05 05.32494	02 26 25.1	+21 56 50	249
Geocentric position (AU)	+0.00583110	+0.00903380	+0.00308751	
C/1998 J1	1998 05 05.36586	02 26 51.3	+21 59 13	249
Geocentric position (AU)	+0.00582908	+0.00903539	+0.00308754	
C/1998 J1	1998 05 05.40867	02 27 18.3	+22 02 43	249
Geocentric position (AU)	+0.00582696	+0.00903706	+0.00308757	
C/1998 J1	1998 05 05.45163	02 27 48.0	+22 06 42	249
Geocentric position (AU)	+0.00582485	+0.00903873	+0.00308760	
C/1998 J1	1998 05 05.49591	02 28 16.0	+22 11 16	249
Geocentric position (AU)	+0.00582267	+0.00904044	+0.00308763	
C/1998 J1	1998 05 05.53731	02 28 45.7	+22 15 06	249
Geocentric position (AU)	+0.00582065	+0.00904204	+0.00308766	

21P/Giacobini-Zinner

21P	1998 04 26.72204	17 40 34.73	+12 27 31.8	17.8 T	402
21P	1998 04 26.72551	17 40 34.67	+12 27 36.3		402
21P	1998 04 26.72898	17 40 34.68	+12 27 38.4		402
21P	1998 04 26.73245	17 40 34.74	+12 27 43.6		402

29P/Schwassmann-Wachmann 1

29P	1998 02 05.82462	13 41 02.74	-20 26 57.3	13.5 T	372
29P	1998 04 04.64432	13 26 45.17	-20 33 04.5	14.2 T	900
29P	1998 04 04.65772	13 26 44.86	-20 33 01.8		900
29P	1998 04 14.95420	13 22 05.23	-20 11 50.3		118
29P	1998 04 14.96098	13 22 05.05	-20 11 49.2	14.6 T	118
29P	1998 04 19.64149	13 19 58.00	-20 00 39.5	12.3 T	360
29P	1998 04 19.64462	13 19 57.92	-20 00 39.2	16.3 N	360
29P	1998 04 20.60466	13 19 32.17	-19 58 16.1	14.7 T	402
29P	1998 04 20.60814	13 19 32.02	-19 58 15.8		402
29P	1998 04 20.61161	13 19 31.93	-19 58 14.9		402
29P	1998 04 27.63470	13 16 28.09	-19 40 01.8	15.5 T	900
29P	1998 04 27.65480	13 16 27.49	-19 39 57.7		900
29P	1998 04 28.61736	13 16 03.26	-19 37 24.5	13.0 T	360
29P	1998 04 28.62049	13 16 03.20	-19 37 24.3	16.6 N	360

43P/Wolf-Harrington

43P	1998 04 19.51962	09 34 37.24	-12 20 18.2	14.7 T	360
43P	1998 04 19.52240	09 34 37.32	-12 20 16.7		360
43P	1998 04 20.49181	09 35 15.68	-12 13 07.1	16.2 T	402
43P	1998 04 20.49390	09 35 15.80	-12 13 07.2		402
43P	1998 04 20.49598	09 35 15.88	-12 13 05.7		402
43P	1998 04 21.87431	09 36 12.36	-12 03 11.1	16.6 T	504
43P	1998 04 21.87583	09 36 12.43	-12 03 09.9	16.7 T	504
43P	1998 04 25.40955	09 38 46.41	-11 39 08.5		426
43P	1998 04 25.42480	09 38 47.05	-11 39 01.9		426
43P	1998 04 25.44001	09 38 47.78	-11 38 56.6	17.8 T	426
43P	1998 04 26.48733	09 39 35.98	-11 32 20.3	16.6 T	900
43P	1998 04 26.50012	09 39 36.40	-11 32 17.2		900

55P/Tempel-Tuttle

55P	1998 01 01.82917	12 36 03.13	+33 13 49.8	9 T	372
55P	1998 01 09.85361	12 20 28.83	+52 55 14.5	13.1 T	605
55P	1998 01 09.86086	12 20 26.83	+52 56 48.6	13.0 T	605
55P	1998 01 09.86887	12 20 24.71	+52 58 34.7	13.1 T	605
55P	1998 01 29.47431	01 24 16.69	+35 14 54.2	9 T	372

55P	1998 01 31.72700	01 21 37.29	+30 38 52.0	11.9 T	605
55P	1998 01 31.73384	01 21 36.92	+30 38 06.3	11.8 T	605
55P	1998 01 31.73826	01 21 36.64	+30 37 37.4	11.8 T	605
55P	1998 02 09.74708	01 16 35.70	+19 15 05.3	11.9 T	605
55P	1998 02 09.76006	01 16 35.45	+19 14 26.8	11.5 T	605
55P	1998 02 09.76844	01 16 35.26	+19 14 00.3	11.7 T	605
55P	1998 02 17.43229	01 14 50.33	+13 58 15.8	8.5 T	372

62P/Tsuchinshan 1

62P	1998 03 08.82101	03 36 32.21	+18 34 28.9	15.9 T	605
62P	1998 03 08.83476	03 36 34.46	+18 34 37.1	15.9 T	605
62P	1998 03 12.81904	03 46 39.54	+19 35 02.3	15.3 T	605
62P	1998 03 12.82936	03 46 41.01	+19 35 12.3	15.5 T	605
62P	1998 03 16.38074	03 56 00.85	+20 27 32.8	13.9 T	428
62P	1998 03 19.37882	04 04 07.33	+21 10 16.5	13.3 T	428
62P	1998 04 10.78587	05 11 11.46	+25 36 03.7		046
62P	1998 04 10.78709	05 11 11.70	+25 36 05.1		046
62P	1998 04 10.78840	05 11 11.96	+25 36 05.2		046
62P	1998 04 19.45629	05 39 42.81	+26 45 32.6	14.4 T	402
62P	1998 04 19.45837	05 39 43.39	+26 45 34.5		402
62P	1998 04 19.46045	05 39 43.73	+26 45 34.3		402
62P	1998 04 19.47344	05 39 46.28	+26 45 41.0	13.7 T	360
62P	1998 04 19.47587	05 39 46.75	+26 45 41.7		360
62P	1998 04 20.84719	05 44 23.64	+26 54 36.7	15.2 T	118
62P	1998 04 20.85272	05 44 24.74	+26 54 39.0		118
62P	1998 04 23.80231	05 54 24.95	+27 11 51.9		118
62P	1998 04 23.80954	05 54 26.42	+27 11 54.4	15.2 T	118
62P	1998 04 27.83370	06 08 14.48	+27 30 51.5		118
62P	1998 04 27.83800	06 08 15.39	+27 30 52.7	15.2 T	118

69P/Taylor

69P	1998 04 14.99973	08 48 43.13	+36 15 33.4		118
69P	1998 04 15.00534	08 48 43.62	+36 15 31.7	14.5 T	118
69P	1998 04 18.17109	08 53 17.63	+35 58 26.9	15.3 T	699
69P	1998 04 18.18102	08 53 18.44	+35 58 21.7		699
69P	1998 04 18.19095	08 53 19.21	+35 58 19.7		699
69P	1998 04 19.17854	08 54 46.23	+35 52 41.5	15.3 T	699
69P	1998 04 19.18847	08 54 47.09	+35 52 37.3		699
69P	1998 04 19.19840	08 54 47.73	+35 52 35.9		699
69P	1998 04 19.46511	08 55 11.27	+35 51 05.9	14.2 T	402
69P	1998 04 19.46719	08 55 11.43	+35 51 04.7		402
69P	1998 04 19.46927	08 55 11.61	+35 51 04.0		402
69P	1998 04 19.53542	08 55 17.33	+35 50 41.0	14.5 T	360
69P	1998 04 19.53837	08 55 17.58	+35 50 39.9		360
69P	1998 04 19.84531	08 55 44.95	+35 48 51.4		143
69P	1998 04 19.85314	08 55 45.66	+35 48 48.7		143
69P	1998 04 19.86097	08 55 46.40	+35 48 46.1		143
69P	1998 04 21.85804	08 58 45.17	+35 36 47.3		143
69P	1998 04 21.86196	08 58 45.49	+35 36 46.5		143
69P	1998 04 21.86587	08 58 45.84	+35 36 44.9		143
69P	1998 04 21.86978	08 58 46.26	+35 36 43.0		143
69P	1998 04 27.93977	09 08 05.18	+34 57 06.6		4 118
69P	1998 04 27.94778	09 08 05.94	+34 57 03.0	15.1 T	4 118

78P/Gehrels 2

78P	1998 01 01.86016	06 32 14.72	+13 08 43.2	13.5 T	605
78P	1998 01 01.89315	06 32 13.05	+13 08 45.4	13.4 T	605
78P	1998 01 25.91751	06 17 24.74	+13 45 55.2	13.3 T	605
78P	1998 01 25.93394	06 17 24.35	+13 45 57.2	13.3 T	605
78P	1998 01 25.95963	06 17 23.82	+13 46 00.8	13.3 T	605
78P	1998 04 09.83492	06 58 22.51	+16 17 09.4	16.2 T	118
78P	1998 04 09.84219	06 58 23.03	+16 17 09.4		118
78P	1998 04 10.79480	06 59 30.68	+16 17 24.5		046
78P	1998 04 10.79722	06 59 30.83	+16 17 24.9		046
78P	1998 04 10.79848	06 59 30.97	+16 17 25.0		046
78P	1998 04 17.87803	07 08 08.69	+16 17 21.2		118
78P	1998 04 17.88273	07 08 09.04	+16 17 21.2	15.0 T	118
78P	1998 04 19.48594	07 10 09.63	+16 16 52.2	15.3 T	360
78P	1998 04 19.48837	07 10 09.79	+16 16 52.0		360
78P	1998 04 20.47313	07 11 24.47	+16 16 28.4	15.4 T	402
78P	1998 04 20.47433	07 11 24.69	+16 16 28.5	14.8 T	867
78P	1998 04 20.47521	07 11 24.63	+16 16 27.9		402
78P	1998 04 20.47729	07 11 24.83	+16 16 27.8		402
78P	1998 04 20.48127	07 11 25.22	+16 16 28.4		867
78P	1998 04 20.49100	07 11 25.92	+16 16 27.8		867

80P/Peters-Hartley

80P	1998 04 25.40494	09 07 10.96	-29 22 51.0		426
80P	1998 04 25.42020	09 07 11.66	-29 22 39.8		426
80P	1998 04 25.43541	09 07 12.34	-29 22 29.3	18.5 T	426

88P/Howell

88P	1998 04 15.04503	13 33 41.51	-04 53 28.2		118
88P	1998 04 15.05370	13 33 40.95	-04 53 25.9	15.4 T	118
88P	1998 04 19.64948	13 28 45.84	-04 32 55.6	15.1 T	360
88P	1998 04 19.65347	13 28 45.57	-04 32 54.6		360
88P	1998 04 19.68090	13 28 43.70	-04 32 47.3		360
88P	1998 04 20.25479	13 28 06.33	-04 30 17.4	17.4 T	704
88P	1998 04 20.27496	13 28 04.95	-04 30 12.1	17.5 T	704
88P	1998 04 20.29501	13 28 03.54	-04 30 06.8		704
88P	1998 04 20.31507	13 28 02.24	-04 30 01.6		704
88P	1998 04 20.33521	13 28 00.71	-04 29 56.4		704
88P	1998 04 21.19965	13 27 04.56	-04 26 12.4		704
88P	1998 04 21.21970	13 27 03.18	-04 26 06.5	17.6 T	704
88P	1998 04 21.23976	13 27 01.71	-04 26 02.0		704
88P	1998 04 21.25978	13 27 00.36	-04 25 57.9	17.7 T	704
88P	1998 04 21.27989	13 26 58.85	-04 25 50.1	18.0 T	704
88P	1998 04 22.24206	13 25 55.86	-04 21 45.6		704
88P	1998 04 22.26098	13 25 54.53	-04 21 39.4	18.0 T	704
88P	1998 04 22.27970	13 25 53.17	-04 21 35.3	18.1 T	704
88P	1998 04 22.29857	13 25 51.96	-04 21 30.3	18.1 T	704
88P	1998 04 22.31772	13 25 50.55	-04 21 25.7	18.3 T	704
88P	1998 04 25.94694	13 21 51.38	-04 06 33.1		108
88P	1998 04 25.94895	13 21 51.65	-04 06 35.4	16.0 T	108
88P	1998 04 25.95358	13 21 51.52	-04 06 35.0		108
88P	1998 04 27.51994	13 20 09.3	-04 00 32	15.3 T	900
88P	1998 04 27.53809	13 20 08.05	-04 00 28.7		900
88P	1998 04 28.62517	13 18 57.40	-03 56 27.8	15.3 T	360

88P	1998 04 28.62847	13 18 57.19	−03 56 27.1		360
88P	1998 05 02.99003	13 14 22.21	−03 41 58.0		118
88P	1998 05 02.99630	13 14 21.80	−03 41 56.5	15.5 T	118
88P	1998 05 03.87228	13 13 28.78	−03 39 21.6		3 118
88P	1998 05 03.87876	13 13 28.37	−03 39 20.5	15.6 T	3 118
103P/Hartley 2					
103P	1998 01 27.47222	01 46 24.29	−02 06 31.2	9 T	372
103P	1998 01 31.76060	02 07 52.84	−01 04 41.1	12.5 T	605
103P	1998 01 31.77726	02 07 57.75	−01 04 27.3	12.5 T	605
103P	1998 04 17.84137	06 42 44.87	+09 29 36.4		118
103P	1998 04 17.84851	06 42 45.96	+09 29 36.8	14.8 T	118
103P	1998 04 19.47969	06 46 54.90	+09 31 16.6	14.2 T	360
103P	1998 04 19.48229	06 46 55.32	+09 31 16.5		360
103P	1998 04 20.46168	06 49 23.45	+09 32 03.4	15.3 T	402
103P	1998 04 20.46376	06 49 23.77	+09 32 02.4		402
103P	1998 04 20.46585	06 49 24.11	+09 32 02.9		402
103P	1998 04 26.81787	07 05 01.18	+09 33 41.7	15.9 T	118
103P	1998 04 26.82269	07 05 01.94	+09 33 41.4		118
104P/Kowal 2					
104P	1997 12 16.77493	23 05 11.82	+06 38 31.6	14.9 T	605
104P	1997 12 16.78618	23 05 13.30	+06 38 32.7	14.8 T	605
104P	1997 12 16.80397	23 05 15.26	+06 38 32.3	14.7 T	605
104P	1998 02 18.75917	01 57 19.25	+11 08 36.1	14.7 T	605
104P	1998 02 18.76991	01 57 21.09	+11 08 39.0	14.7 T	605
104P	1998 02 18.78767	01 57 24.64	+11 08 46.7	14.9 T	605
128P/Shoemaker-Holt 1					
128P-B	1998 04 19.45382	05 23 08.50	+19 52 10.1	17.2 T	360
128P-B	1998 04 19.45868	05 23 08.92	+19 52 10.2		360
129P/Shoemaker-Levy 3					
129P	1998 04 15.90824	07 42 51.60	+20 17 52.7		118
129P	1998 04 15.91372	07 42 51.91	+20 17 51.6	16.6 T	118
129P	1998 04 19.50990	07 46 28.67	+20 05 23.1	17.0 T	360
129P	1998 04 19.51389	07 46 28.89	+20 05 22.2		360
129P	1998 04 20.49863	07 47 30.16	+20 01 49.8	17.2 T	867
129P	1998 04 20.50558	07 47 30.61	+20 01 48.2		867
129P	1998 04 27.85318	07 55 31.33	+19 33 49.4		3 118
129P	1998 04 27.86057	07 55 31.82	+19 33 47.7	16.2 T	3 118
134P/Kowal-Vávrová					
134P	1998 04 19.52917	09 56 01.42	+09 03 27.0	18.4 T	360
134P	1998 04 19.55972	09 56 01.63	+09 03 29.2		360
134P	1998 04 28.87226	09 58 15.80	+09 09 23.2	18.1 T	504
134P	1998 04 28.87491	09 58 15.84	+09 09 23.2	18.2 T	504

Note 1: bad seeing. 2: trailed image. 3: poor distribution of reference stars.

4: measurement difficult.

OBSERVATIONS OF MINOR PLANETS

The summary lists, for each observatory code, the designation of each object observed (an asterisk signifying a new discovery), with three numbers indicating the number of observations, the number of different nights on which the object was

observed and the arc (in days) covered by the observations; at the end of each observatory listing there is a count of the total number of observations, of the number of objects and of the number of discoveries followed by an asterisk, together with the total range of dates covered by the observations.

012 Uccle

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Observers E. Elst, T. Pauwels

Measurer T. Pauwels

0.85-m $f/2.5$ Schmidt + CCD

GSC 1.2

1998 DH₃₄, 3, 1, 0; 1998 EZ₈, 3, 1, 0; 1998 EA₉, 6, 3, 7; 1998 EH₁₂, 3, 1, 0; 1998 FH₁₁, 3, 1, 0; 1998 HS₂₄ *, 8, 3, 7; (4681), 3, 1, 0; (5136), 6, 2, 1; (6493), 3, 1, 0; [38, 9, 1*, 1998/04/22–1998/04/29]

033 Tautenburg

F. Börngen, Thüringer Landessternwarte, Sternwarte 5, D-07778 Tautenburg, Germany [boerg@tls.tautenburg.de]

1.3-m Schmidt telescope

PPM

(293), 2, 1, 0; (2141), 3, 2, 2; (2726), 3, 2, 2; (3095), 2, 1, 0; (3606), 2, 1, 0; (3840), 2, 1, 0; (4638), 2, 1, 0; (6209), 5, 3, 67; (7746), 2, 1, 0; [23, 9, 0*, 1994/11/02–1995/01/07]

046 Kleť

J. Tichá, Hvězdárna Kleť, Zátkovo nábřeží 4, CZ-37001 České Budějovice, Czech Republic [klet@klet.cz]

Observers J. Tichá, M. Tichý, Z. Moravec

Measurer M. Tichý

0.57-m $f/5.2$ reflector + CCD

GSC, USNO-SA1.0

1989 TJ₂, 6, 2, 11; 1995 VR, 6, 2, 11; 1996 UN, 6, 2, 11; 1996 VM₅, 6, 2, 11; 1996 XU₁₈, 6, 2, 11; 1996 XW₁₈, 3, 1, 0; 1997 CR₁, 6, 2, 7; 1997 CV₁, 3, 1, 0; 1997 CN₁₃, 5, 2, 2; 1997 CU₂₆, 3, 1, 0; 1997 EJ₆, 6, 2, 2; 1997 WT₂₂, 5, 1, 0; 1997 YB₈, 6, 2, 1; 1998 AS₈, 6, 2, 2; 1998 CH₆, 6, 2, 1; 1998 DP, 6, 2, 2; 1998 DV₉, 6, 2, 10; 1998 EC₃, 4, 1, 0; 1998 FX₂, 12, 4, 14; 1998 FA₃, 3, 1, 0; 1998 FM₅, 25, 8, 24; 1998 FS₅, 16, 5, 25; 1998 FN₉, 4, 1, 0; 1998 FS₁₁, 3, 1, 0; 1998 FE₁₂, 16, 5, 23; 1998 FF₁₂, 15, 5, 24; 1998 FF₁₅, 18, 6, 23; 1998 FD₁₆, 11, 4, 22; 1998 FJ₁₆, 15, 4, 12; 1998 FJ₃₆, 9, 2, 1; 1998 FS₅₁, 13, 3, 3; 1998 FU₇₂, 7, 2, 3; 1998 FV₇₂, 12, 4, 17; 1998 FH₇₄, 3, 1, 0; 1998 FJ₇₄, 2, 1, 0; 1998 FH₁₂₆, 4, 1, 0; 1998 FP₁₂₆ *, 15, 4, 22; 1998 GC₁, 12, 3, 10; 1998 GN₁ *, 9, 2, 2; 1998 GO₁ *, 21, 6, 24; 1998 GL₁₀, 10, 2, 4; 1998 GM₁₀, 6, 2, 7; 1998 HH₁, 17, 3, 3; 1998 HK₁, 15, 5, 7; 1998 HL₁, 9, 3, 3; 1998 HM₁, 13, 3, 3; 1998 HR₂, 4, 1, 0; 1998 HC₃ *, 7, 2, 2; 1998 HD₃ *, 15, 4, 10; 1998 HE₃, 17, 4, 9; 1998 HJ₃, 15, 4, 3; 1998 HK₃, 14, 4, 3; 1998 HL₃, 8, 2, 1; 1998 HM₃, 10, 3, 2; 1998 HN₄, 8, 2, 1; 1998 HO₄ *, 13, 2, 3; 1998 HP₄ *, 8, 2, 1; 1998 HQ₄ *, 10, 2, 1; 1998 HR₄ *, 18, 4, 31; 1998 HS₄ *, 11, 3, 8; 1998 HH₅, 4, 1, 0; 1998 HZ₇ *, 30, 7, 8; 1998 HD₁₄, 14, 3, 5; 1998 HT₃₁, 17, 3, 4; 1998 HJ₄₁, 9, 2, 1; 1998 HN₄₂ *, 8, 2, 1; 1998 HL₄₉, 4, 1, 0; (1791), 3, 1, 0; (1862), 3, 1, 0; (2199), 6, 2, 1; (3419), 6, 2, 1; (3492), 6, 2, 1; (3550), 6, 2, 1; (3628), 6, 2, 1; (3665), 6, 2, 1; (3727), 6, 2, 1; (3827), 5, 2, 1; (3983), 3, 1, 0; (4662), 6, 2, 1; (6557), 3, 1, 0; (6832), 6, 2, 7; (7409), 9, 3, 17; [734, 82, 12*, 1998/03/29–1998/05/03]

098 Asiago Observatory, Cima Ekar

U. Munari, Osservatorio Astronomico di Padova, Sede di Asiago, I-36012 Asiago (VI), Italy [munari@astras.pd.astro.it]

Observers U. Munari, A. Boattini, M. Tombelli

Measurers M. Tombelli, G. Forti, A. Boattini

0.67-m $f/3.2$ Schmidt

1985 TJ₁, 4, 2, 1; 1991 GH₁₀, 4, 2, 1; 1994 CC₁₈, 4, 2, 1; 1998 AV, 4, 2, 1; 1998 BP₂₅, 4, 2, 3; 1998 BR₃₃, 4, 2, 1; 1998 BT₃₃, 4, 2, 1; 1998 BW₄₃, 4, 2, 1; 1998 DU₄, 4, 2, 3; 1998 DY₄, 2, 1, 0; 1998 DB₃₃, 4, 2, 1; 1998 DN₃₅, 2, 1, 0; 1998 DS₃₅, 4, 2, 3; 1998 DT₃₅, 2, 1, 0; 1998 DV₃₅, 2, 1, 0; 1998 DF₃₆ *, 4, 2, 1; 1998 DG₃₆ *, 4, 2, 1; 1998 DH₃₆ *, 4, 2, 1; 1998 DJ₃₆ *, 4, 2, 1; 1998 FL₆₈, 2, 1, 0; (493), 4, 2, 1; (1105), 4, 2, 1; (2185), 4, 2, 1; (2632), 4, 2, 1; (3157), 2, 1, 0;

(5117), 4, 2, 1; (6005), 4, 2, 1; (6413), 4, 2, 1; (7577), 4, 2, 1; (8379), 4, 2, 1; (8521), 2, 1, 0; [110, 31, 4*, 1995/09/26–1998/03/03]

104 San Marcello Pistoiese

L. Tesi, Osservatorio di Pian dei Termini, Viale Panoramico 45, I-51028 San

Marcello Pistoiese (PT), Italy [iauaracetri.astro.it]

Observers L. Tesi, A. Boattini, E. Gregori, G. Forti, M. Tombelli

Measurers A. Boattini, G. Forti, L. Tesi

0.40-m $f/5$ reflector + CCD

GSC

1981 EU₃₈, 3, 1, 0; 1988 RC₇, 3, 1, 0; 1991 NS₁, 3, 1, 0; 1993 FT₄₁, 3, 1, 0; 1995 UP₆, 3, 1, 0; 1996 OM₂, 5, 2, 94; 1997 CA₁₇, 6, 2, 1; 1998 BP₂₄, 3, 1, 0; 1998 HK₁, 3, 1, 0; 1998 HL₁, 3, 1, 0; 1998 HE₃, 3, 1, 0; 1998 HM₃, 4, 1, 0; [42, 12, 0*, 1997/10/27–1998/04/22]

106 Crni vrh

H. Mikuž, Kersnikova 11, SI-61000 Ljubljana, Slovenia [herman.mikuz@uni-lj.si]

Observers H. Mikuž, B. Dintinjana, J. Skvarc

0.36-m $f/6.7$ Schmidt-Cassegrain + CCD

USNO SA-1, GSC

1998 FM₅, 5, 1, 0; 1998 HT₃₁, 3, 1, 0; [8, 2, 0*, 1998/04/14–1998/04/30]

108 Montelupo

M. Tombelli, Via Bozzeto 26, I-50056 Montelupo (Fi), Italy

[iauaracetri.astro.it]

Observers M. Tombelli, A. Boattini, G. Forti

0.30-m $f/5.7$ Schmidt-Cassegrain + CCD

GSC

1994 EL₃, 2, 1, 0; 1994 JF₁, 3, 1, 0; 1996 XG₃₂, 6, 2, 4; 1998 FX₂, 4, 1, 0; 1998 FM₅, 8, 2, 7; (1862), 3, 1, 0; (7196), 5, 2, 4; [31, 7, 0*, 1998/04/14–1998/04/26]

113 Volkssternwarte Drebach, Schönbrunn

G. Lehmann, Volkssternwarte Drebach, D-09430 Drebach, Germany

[lehmann@stw-drebach.zp.sn.schule.de]

Observers G. Lehmann, J. Kandler, A. Knoefel

0.50-m $f/4$ reflector + CCD, 0.18-m $f/9.0$ refractor + CCD

GSC, USNO-A1.0, USNO-SA1.0

1989 CO₅, 3, 2, 1; 1989 CE₆, 8, 3, 5; 1989 SZ₁, 4, 2, 1; 1989 YX₆, 4, 2, 1; 1990 TC₄, 11, 5, 29; 1990 TA₁₃, 8, 4, 28; 1991 AY₂, 11, 6, 29; 1991 GC₁₀, 4, 2, 1; 1991 GG₁₀, 11, 5, 28; 1991 GH₁₀, 5, 2, 25; 1991 GN₁₀, 3, 2, 1; 1991 TQ₆, 5, 2, 5; 1991 TF₇, 2, 1, 0; 1991 VX₅, 3, 1, 0; 1992 FO₃, 2, 1, 0; 1995 SM₅₄, 10, 5, 29; 1998 BF₁₄, 7, 3, 52; 1998 CA, 6, 2, 25; 1998 DL₁, 6, 3, 47; 1998 DB₂, 5, 2, 42; 1998 FX₂, 10, 1, 0; 1998 FR₇₄ *, 6, 2, 1; 1998 FC₁₂₇ *, 6, 2, 6; 1998 HQ₁ *, 11, 4, 6; (2374), 3, 1, 0; (3859), 3, 1, 0; (8501), 13, 5, 27; (8502), 4, 2, 27; (8588), 3, 1, 0; [177, 29, 3*, 1998/02/28–1998/04/23]

118 Modra

A. Galád, AGO MFF UK, P.O. Box 4, SK-90001 Modra, Slovakia

[ago.modra@center.fmph.uniba.sk]

Observers P. Kolény, L. Kornoš, A. Galád, A. Pravda

0.6-m $f/5.5$ reflector + CCD

GSC, USNO-SA1.0

1996 PK, 4, 2, 14; 1996 YG₁, 4, 2, 14; 1996 YH₁, 4, 2, 11; 1997 CU₂₆, 2, 1, 0; 1997 UF₉, 2, 1, 0; 1997 WT₂₂, 2, 1, 0; 1998 CL₁, 3, 2, 1; 1998 DC₁, 4, 2, 5; 1998 DV₉, 6, 3, 16; 1998 EC₃, 2, 1, 0; 1998 ER₉, 4, 2, 5; 1998 FF₂, 3, 1, 0; 1998 FX₂, 5, 2, 5; 1998 FM₅, 2, 1, 0; 1998 FP₅, 5, 2, 6; 1998 FQ₅, 9, 4, 18; 1998 FM₉, 5, 2, 10; 1998 FR₁₁, 2, 1, 0; 1998 FJ₇₄, 3, 1, 0; 1998 FR₇₆, 2, 1, 0; 1998 GC₁, 2, 1, 0; 1998 HK₁, 3, 1, 0; 1998 HM₁, 3, 1, 0; 1998 HC₂ *, 10, 4, 6; 1998 HE₃, 8, 3, 3; 1998 HF₃ *, 15, 6, 12; 1998 HG₃ *, 14, 6, 12; 1998 HH₃ *, 13, 5, 11; 1998 HJ₃, 8, 3, 3; 1998 HK₃, 5, 2, 5; 1998 HL₃, 3, 1, 0; 1998 HM₃, 9, 3, 3; 1998 HN₄, 3, 1, 0; 1998 HT₁₈ *, 6, 2, 1; 1998 HT₃₁, 4, 1, 0; (887), 2, 1, 0; (1362), 2, 1, 0; (1862), 2, 1, 0; (1917), 2, 1, 0; (2204), 2, 1, 0; (3256), 2, 1, 0; (3800), 2, 1, 0; (3853), 3, 1, 0; (4379), 2, 1, 0; (4495), 2, 1, 0; (4732), 2, 1, 0; (5066), 2, 1, 0; (5657), 2, 1, 0; (5751), 6, 3, 16; (5870), 4, 2, 14; (5949), 4, 2, 1; (6493), 2, 1,

0; (6832), 2, 1, 0; (7117), 4, 2, 10; (7343), 5, 2, 7; (7888), 3, 1, 0; (7889), 2, 1, 0; [238, 57, 5*, 1998/04/09–1998/05/03]

119 Abastumani

R. I. Kiladze, Abastumani Observatory, 383762, Abastumani, Georgia

Observers R. I. Kiladze, R. Y. Inasaridze

Measurer R. Y. Inasaridze

0.7-m Meniscus telescope

SAO

(270), 1, 1, 0; (403), 1, 1, 0; (492), 2, 2, 1; (503), 1, 1, 0; (1074), 1, 1, 0; (1602), 1, 1, 0; (1704), 1, 1, 0; (1841), 1, 1, 0; (2056), 1, 1, 0; (2203), 1, 1, 0; (2293), 2, 2, 1; (3598), 1, 1, 0; [14, 12, 0*, 1994/06/03–1994/06/05]

120 Višňjan

K. Korlević, Istarska 5, HR-51463 Višňjan, Croatia [kkorlevic@x400.srce.hr]

Observers K. Korlević, M. Dusic, P. Radovan

Measurers K. Korlević, I. Turcin

0.41-m $f/4.3$ reflector + CCD

GSC, USNO-SA1.0

1990 QE₉, 5, 2, 1; 1993 FF₈₂, 7, 3, 8; 1996 XA₃₂, 6, 2, 2; 1998 FQ₁₂₆ *, 6, 2, 1; 1998 FR₁₂₆ *, 6, 2, 1; 1998 FS₁₂₆ *, 6, 2, 1; 1998 FT₁₂₆ *, 4, 2, 1; 1998 HT₄ *, 10, 3, 3; 1998 HU₄ *, 8, 3, 3; 1998 HV₄ *, 9, 3, 3; 1998 HU₇ *, 5, 2, 2; 1998 HV₇ *, 6, 2, 2; 1998 HW₇ *, 5, 2, 2; 1998 HC₂₀, 3, 1, 0; 1998 HP₂₄ *, 9, 3, 4; 1998 HQ₂₄ *, 7, 3, 6; 1998 HR₂₄ *, 6, 2, 2; 1998 HK₄₃ *, 7, 2, 4; 1998 HL₄₃ *, 5, 2, 4; 1998 JU, 2, 1, 0; 1998 JV, 4, 2, 4; 1998 JW, 2, 1, 0; 2080 T-2, 9, 4, 9; 4076 T-2, 7, 3, 9; (242), 3, 1, 0; (1912), 7, 3, 6; (2362), 3, 1, 0; (2746), 3, 1, 0; (3050), 2, 1, 0; (3377), 5, 2, 9; (3948), 3, 1, 0; (5187), 2, 1, 0; (5425), 4, 1, 0; (6203), 5, 2, 1; (7420), 4, 1, 0; [185, 35, 15*, 1998/03/29–1998/04/29]

121 Kharkov University, Chuguevskaya Station

V. G. Shevchenko, Astronomical Observatory of the Kharkov State University,

Sumskaya Str. 35, UA-310022 Kharkov, Ukraine

[shevchenko@astron.kharkov.ua]

Yu. N. Krugly, Astronomical Observatory of the Kharkov State University,

Sumskaya Str. 35, UA-310022 Kharkov, Ukraine

[krugly@astron.kharkov.ua]

Observers V. G. Shevchenko, Yu. N. Krugly

0.70-m $f/4$ reflector + CCD

GSC

1998 EC₃, 7, 2, 1; 1998 FX₂, 6, 2, 1; 1998 HC₂₉, 6, 2, 1; (214), 24, 3, 9; (387), 17, 3, 9; (1036), 3, 1, 0; (1866), 2, 1, 0; (4869), 6, 1, 0; (5862), 4, 1, 0; [75, 9, 0*, 1998/01/28–1998/05/02]

127 Bornheim

N. Ehring, Stationenweg 54, D-53332 Bornheim, Germany [norbert.ehring@t-online.de]

0.19-m $f/4$ FFC + CCD

GSC

1977 RK, 6, 3, 22; 1981 EH₁, 2, 1, 0; 1990 UB₁, 2, 1, 0; 1990 WN₅, 4, 2, 8; 1991 DJ₁, 2, 1, 0; 1993 FX₈₁, 2, 1, 0; 1993 KB₂, 4, 2, 8; 1994 JS₁, 4, 2, 8; 1994 LJ₁, 2, 1, 0; 1996 VB₅, 2, 1, 0; 1997 BL₂, 2, 1, 0; 3076 T-2, 2, 1, 0; (1862), 2, 1, 0; [36, 13, 0*, 1998/03/31–1998/04/30]

132 Bedoin

P. Antonini, 47 rue Guillaume Puy, F-84000 Avignon, France

[Pierre.Antonini@wanadoo.fr]

0.16-m $f/3.3$ reflector + CCD

GSC

1981 EO₇, 3, 1, 0; 1997 FC, 3, 1, 0; 1998 FX₂, 5, 1, 0; 1998 FG₆₉, 6, 2, 1; 1998 HD₈ *, 8, 3, 7; 1998 HU₂₄ *, 5, 2, 1; [30, 6, 2*, 1998/04/19–1998/04/28]

133 Les Tardieux

M. Boeuf, Les Tardieux, St Julien, F-13500 Martigues, France
[Michel.Boeuf@wanadoo.fr]

0.20-m $f/3.5$ reflector + CCD

GSC

1998 HV₆ *, 11, 4, 9; 1998 HE₈ *, 8, 3, 9; [19, 2, 2*, 1998/04/21–1998/04/30]

143 Gnosca

S. Sposetti, CH-6525 Gnosca, Switzerland [spo@dialedunet.ch]

0.20-m $f/6.3$ reflector + CCD, 0.20-m $f/7.1$ reflector + CCD

GSC

(4582), 3, 1, 0; [3, 1, 0*, 1998/04/19]

145 's-Gravenwezel Observatory

T. Alderweireldt, Rozenlaan 14, B-2970 's-Gravenwezel, Belgium

[Tom.Alderweireldt@ping.be]

0.20-m $f/2$ Schmidt-Cassegrain + CCD

Hipparcos, ACT, Tycho, PPM, GSC 1.2

1994 JK₉, 5, 1, 0; (1722), 6, 1, 0; [11, 2, 0*, 1998/04/12–1998/04/22]

292 Burlington

T. Handley, 13 Linden Road, Burlington, NJ 08016, U.S.A.

0.30-m $f/3.0$ Schmidt-Cassegrain + focal reducer + CCD

GSC

1998 FJ₇₀, 9, 3, 4; [9, 1, 0*, 1998/04/03–1998/04/07]

294 Astrophysical Observatory, College of Staten Island

I. Robbins, The College of Staten Island, 2800 Victory Boulevard, Staten Island,
NY 10314, U.S.A. [robbins@postbox.csi.cuny.edu]

Observer I. Robbins

Measurer S. Parello

0.41-m $f/6.3$ Schmidt-Cassegrain + CCD

GSC, USNO-SA1.0

(1862), 4, 2, 3; (3800), 13, 6, 28; [17, 2, 0*, 1998/03/06–1998/04/03]

327 Peking Observatory, Xinglong Station

J. Zhu, Peking Astronomical Observatory, Chinese Academy of Sciences,

Zhongguancun, Peking 100101, Peoples Republic of China

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Observers X. Y. Li, Y. J. Chen, X. M. Teng, Z. J. Jiang, J. Zhu, H. T. Zhang,

Z. Y. Zheng, X. Zhou, B. Zhao, R. Chen, Z. Zheng

Measurers X. Y. Li, X. M. Teng, Y. J. Chen, J. Zhu

0.60-m Schmidt + CCD

1979 TT₂, 3, 1, 0; 1979 UC₄, 3, 1, 0; 1981 QS, 3, 1, 0; 1981 SD₂, 6, 2, 1; 1982 SM₂, 3, 1, 0;
1989 RJ, 3, 1, 0; 1990 ES₁, 3, 1, 0; 1990 QX₈, 4, 1, 0; 1990 VN₁₄, 3, 1, 0; 1991 ED₂, 9, 3, 29;
1991 VA₁, 3, 1, 0; 1992 OG₂, 4, 1, 0; 1992 PV₁, 3, 1, 0; 1993 BL₇, 3, 1, 0; 1993 FG₅, 3, 1, 0;
1993 FG₆, 3, 1, 0; 1993 FT₂₃, 3, 1, 0; 1993 GG₁, 4, 1, 0; 1993 TU₂₄, 3, 1, 0; 1994 CL, 3, 1, 0;
1995 CK, 4, 1, 0; 1996 RE₄, 6, 2, 3; 1996 TS₁₀, 4, 1, 0; 1996 VQ₁, 3, 1, 0; 1996 XT₁, 3, 1, 0;
1996 YB₁, 7, 2, 1; 1996 YD₂, 4, 1, 0; 1997 UA₂₂, 4, 1, 0; 1997 WL₇, 3, 1, 0; 1997 WQ₃₄, 3, 1,
0; 1997 XA₉, 6, 2, 2; 1997 YM₁₄, 3, 1, 0; 1998 AB₂, 2, 1, 0; 1998 BK₄, 3, 1, 0; 1998 BE₃₃, 6,
2, 21; 1998 BS₃₃, 3, 1, 0; 1998 CC₄, 6, 2, 6; 1998 DT, 2, 1, 0; 1998 DP₁, 3, 1, 0; 1998 DS₃, 6,
2, 6; 1998 DL₈, 3, 1, 0; 1998 DJ₁₀, 3, 1, 0; 1998 DQ₁₀, 6, 2, 1; 1998 DT₁₀, 3, 1, 0; 1998 DV₁₁,
15, 5, 23; 1998 DL₁₄, 4, 1, 0; 1998 DS₂₉, 7, 2, 2; 1998 DY₃₄, 7, 2, 4; 1998 DL₃₆ *, 7, 2, 3;
1998 DM₃₆ *, 6, 2, 1; 1998 DN₃₆ *, 7, 2, 1; 1998 DO₃₆ *, 6, 2, 2; 1998 ES₃, 9, 3, 6; 1998 EX₇, 3,
1, 0; 1998 EA₈, 3, 1, 0; 1998 EB₈, 6, 2, 9; 1998 EJ₈, 3, 1, 0; 1998 EQ₈, 4, 1, 0; 1998 ET₈, 10, 3,
24; 1998 EE₁₀, 3, 1, 0; 1998 EZ₁₂, 6, 2, 1; 1998 EG₂₁ *, 6, 2, 1; 1998 EH₂₁ *, 6, 2, 1; 1998 EJ₂₁ *,
6, 2, 1; 1998 EK₂₁ *, 6, 2, 1; 1998 EL₂₁ *, 6, 2, 1; 1998 EM₂₁ *, 12, 4, 14; 1998 EN₂₁ *, 7, 3,
8; 1998 FA₁₂, 6, 2, 1; 1998 FF₁₃, 7, 2, 4; 1998 FO₁₈, 7, 2, 4; 1998 FU₃₁, 3, 1, 0; 1998 FO₈₄, 6,
2, 7; 1998 FU₁₂₆ *, 6, 2, 6; 1998 FV₁₂₆ *, 8, 2, 5; 1998 FW₁₂₆ *, 6, 2, 4; 1998 FX₁₂₆ *, 5, 2,

3; 1998 FY₁₂₆ *, 7, 2, 6; 1998 FZ₁₂₆ *, 5, 2, 2; 1998 FA₁₂₇ *, 6, 2, 6; 1998 FB₁₂₇ *, 6, 2, 2;
1998 GG₁₀ *, 6, 2, 4; 1998 GH₁₀ *, 6, 2, 3; 1998 HE₁ *, 7, 2, 1; 1998 HL₃, 3, 1, 0; 4049 P-L, 4, 1,
0; 4071 P-L, 4, 1, 0; 6584 P-L, 9, 3, 10; 2258 T-1, 3, 1, 0; 2301 T-1, 6, 2, 6; (148), 3, 1, 0; (366), 3,
1, 0; (384), 3, 1, 0; (387), 3, 1, 0; (495), 3, 1, 0; (545), 4, 1, 0; (752), 3, 1, 0; (937), 2, 1, 0; (1076),
3, 1, 0; (1366), 9, 3, 5; (2213), 4, 1, 0; (2361), 6, 2, 27; (2501), 3, 1, 0; (3216), 3, 1, 0; (3218),
3, 1, 0; (3408), 3, 1, 0; (3514), 6, 2, 6; (3673), 7, 2, 1; (4398), 3, 1, 0; (5128), 3, 1, 0; (5623), 6,
2, 2; (5781), 3, 1, 0; (6329), 4, 1, 0; (6422), 3, 1, 0; (6580), 3, 1, 0; (6619), 3, 1, 0; (6656), 3, 1,
0; (8376), 3, 1, 0; (8426), 6, 2, 1; (8449), 6, 2, 6; (8487), 4, 1, 0; (8503), 3, 1, 0; (8523), 3, 1, 0;
(8562), 8, 2, 25; (8564), 6, 2, 1; (8584), 6, 2, 2; (8594), 3, 1, 0; (8598), 4, 1, 0; [603, 128, 22*,
1995/08/27–1998/04/24]

358 Nanyou

T. Okuni, 158-28, Mitsuma-dori, Nanyou, Yamagata-Ken, 999-22 Japan

0.28-m $f/6.3$ Schmidt-Cassegrain + CCD

GSC

1998 FS₇₃, 5, 2, 1; 1998 HT₄₂ *, 4, 2, 1; [9, 2, 1*, 1998/04/03–1998/05/01]

360 Kuma Kogen Astronomical Observatory

A. Nakamura, Shimo-Hatanokawa, Kuma, Kamiukena-Gun, Ehime-Ken, 791-12

Japan [a-nakamu@mx2.nisiq.net]

0.60-m $f/6.0$ Ritchey-Chrétien + CCD

GSC, USNO-SA1.0

1964 VZ₂, 3, 1, 0; 1981 UD₂₃, 3, 1, 0; 1993 JL₁, 3, 1, 0; 1995 WE₁, 4, 2, 9; 1995 WC₇, 2, 1, 0;
1997 CO, 3, 1, 0; 1997 XP₂, 5, 2, 16; 1998 BE₇, 3, 1, 0; 1998 DV₉, 6, 2, 11; 1998 FF₂, 3, 1, 0;
1998 FX₂, 3, 1, 0; 1998 FM₅, 6, 2, 11; 1998 FN₉, 3, 1, 0; 1998 FR₁₁, 3, 1, 0; 1998 FS₁₁, 3, 1,
0; 1998 FH₇₄, 3, 1, 0; 1998 FJ₇₄, 3, 1, 0; 1998 GL, 3, 1, 0; 1998 HE₃, 3, 1, 0; 1998 HL₃, 4, 1, 0;
1998 HM₃, 7, 2, 7; 1998 HM₁₄ *, 9, 3, 9; 1998 HT₃₁, 3, 1, 0; 1998 HJ₄₁, 3, 1, 0; 3476 T-3, 3, 1,
0; (416), 3, 1, 0; (4745), 3, 1, 0; (7438), 3, 1, 0; [103, 28, 1*, 1998/03/30–1998/05/03]

367 Yatsuka

H. Abe, 461-2, Futago, Yatsuka-Cho, Shimane-Ken, 690-14 Japan

0.26-m $f/6.0$ reflector + CCD

GSC

1994 CE₂, 2, 1, 0; 1994 HA, 2, 1, 0; 1996 TG₅, 2, 1, 0; 1996 XJ₁₉, 2, 1, 0; 1998 EX₆, 2, 1, 0;
1998 FM₅, 2, 1, 0; [12, 6, 0*, 1998/04/11–1998/04/19]

372 Geisei

T. Seki, Kamimachi 2-9-35, Kochi-Shi, Kochi-Ken 780, Japan

0.60-m $f/3.5$ reflector

GSC

1981 ES₄₂, 5, 3, 3; 1990 SV₁₂, 2, 1, 0; 1990 UZ₁, 6, 3, 6; 1991 EY₁, 4, 2, 7; 1991 RB₁₂, 4, 2, 2;
1993 TV₃₄, 3, 2, 1; 1993 UU, 2, 1, 0; 1996 VB₉, 5, 3, 3; 1997 WQ₂₂, 3, 2, 1; 1997 XH, 7, 4, 10;
1997 XN₃, 6, 3, 11; 1997 XR₈, 5, 3, 3; 1998 BV, 6, 3, 6; 1998 BB₄, 5, 3, 4; 1998 BD₄, 4, 3, 7;
1998 BJ₆, 5, 3, 7; 1998 BQ₁₅, 5, 3, 7; 1998 BQ₄₀, 6, 3, 12; 1998 BL₄₈ *, 4, 2, 2; 1998 BM₄₈ *,
4, 2, 1; 1998 BN₄₈ *, 8, 4, 8; 1998 BO₄₈ *, 6, 3, 5; 1998 DY₉, 5, 3, 7; 1998 DV₃₁, 4, 3, 5;
1998 DC₃₆ *, 3, 2, 4; 1998 DD₃₆ *, 5, 4, 5; 1998 EX₁₄ *, 5, 3, 3; 1998 FV₉, 4, 3, 3; 1998 FC₆₃,
4, 2, 3; 1998 FF₈₃, 5, 3, 3; 1998 FT₁₂₁, 4, 2, 3; 1998 FK₁₂₅ *, 3, 3, 7; 1998 FL₁₂₅ *, 3, 2, 3;
1998 FM₁₂₅ *, 3, 2, 3; (2060), 2, 1, 0; (3730), 1, 1, 0; (4192), 4, 2, 3; (6398), 3, 3, 9; (6431), 5, 4,
7; (6538), 2, 1, 0; (7286), 4, 2, 3; (8367), 7, 5, 57; (8375), 2, 1, 0; (8387), 2, 1, 0; (8452), 6, 3, 5;
[191, 45, 10*, 1998/01/05–1998/03/25]

385 Nihondaira Observatory

T. Urata, 1-8, Dobayashi 1 Chome, Shimizu, Shizuoka-Ken 424-0851, Japan

[urata@sannet.ne.jp]

0.31-m $f/4.7$ reflector + CCD

GSC, USNO-A1.0

1987 DO, 2, 1, 0; 1992 YU₂, 2, 1, 0; 1994 AV₁, 2, 1, 0; 1994 OC, 2, 1, 0; 1995 PV, 2, 1, 0;
1996 VO₁, 2, 1, 0; 1997 AT₁, 2, 1, 0; 1997 AQ₆, 2, 1, 0; 1998 BH₄, 2, 1, 0; 1998 DQ₁₃, 2, 1, 0;
1998 DV₂₃, 2, 1, 0; 1998 DB₂₄, 2, 1, 0; 1998 EK₈, 2, 1, 0; 1998 GZ, 2, 1, 0; 1998 GA₁, 2, 1, 0;
1998 HX₆ *, 2, 1, 0; (7889), 2, 1, 0; [34, 17, 1*, 1998/04/03–1998/04/20]

399 Kushiro

H. Kaneda, Taiyo MS 2-H, 2-15, Kawazoe 8 Jo 2 Chime, Minami-Ku, Sapporo, 005 Japan

Observer S. Ueda

Measurer H. Kaneda

0.25-m $f/3.4$ hyperboloid astrocamera

GSC

1996 VZ₇, 2, 1, 0; [2, 1, 0*, 1994/01/15]

402 Dynic Astronomical Observatory

A. Sugie, Dynic Astronomical Observatory, Taga 283-1, Taga, Inukami-Gun, Shiga-Ken 522-03, Japan [hhf00201@niftyserve.or.jp]

Observers A. Sugie, Y. Ikari

0.60-m $f/5.0$ reflector + CCD

GSC

1995 TG₆, 6, 2, 12; 1996 VB₅, 3, 1, 0; 1997 WT₂₂, 3, 1, 0; 1998 DV₉, 3, 1, 0; 1998 EC₃, 6, 2, 4; 1998 EX₆, 6, 2, 6; 1998 FX₂, 6, 2, 5; 1998 FM₅, 9, 3, 17; 1998 FM₉, 6, 2, 3; 1998 FR₁₁, 3, 1, 0; 1998 FG₁₀₁, 3, 1, 0; 1998 HK₁, 9, 3, 11; 1998 HL₁, 3, 1, 0; 1998 HM₁, 3, 1, 0; 1998 HJ₃, 3, 1, 0; 1998 HZ₇, 4, 1, 0; 1998 HD₁₄, 3, 1, 0; (3105), 3, 1, 0; (4630), 3, 1, 0; [85, 19, 0*, 1998/03/25–1998/04/30]

411 Oizumi

T. Kobayashi, 8-6, Nishi Koizumi 1 Chome, Oizumi, Ora-Gun, Gunma-Ken, 370-05 Japan [kobataka@oaa.iiijnet.or.jp]

0.25-m $f/4.4$ reflector + CCD, 0.41-m $f/4.3$ reflector + CCD

GSC

1998 EC₂, 2, 1, 0; [2, 1, 0*, 1998/03/28]

413 Siding Spring

C. Kouveliotou, NASA Marshall Space Flight Center, ES-62, Huntsville, AL 35812, U.S.A. [kouveliotou@eagles.msfc.nasa.gov]

Observers R. Smith, B. Jones, D. Windridge, C. Tinney

Measurers P. Vreeswijk, T. Galama, P. Groot

3.6-m Anglo-Australian Telescope

1998 FO₁₂₆ *, 2, 1, 0; [2, 1, 1*, 1998/03/27]

422 Loomberah

G. J. Garradd, P.O. Box 157, Tamworth, NSW 2340, Australia [gjjg@mpx.com.au]

0.25-m $f/4.1$ reflector + CCD

ACT, GSC, USNO-A1.0

1998 BZ₇, 3, 1, 0; 1998 FM₅, 6, 2, 2; 1998 HK₁, 5, 2, 1; 1998 HM₃, 3, 1, 0; (49), 3, 1, 0; (59), 3, 1, 0; (71), 4, 1, 0; (102), 3, 1, 0; (216), 3, 1, 0; (375), 3, 1, 0; (432), 3, 1, 0; (433), 6, 2, 1; (699), 3, 1, 0; (1243), 6, 2, 1; (1862), 2, 1, 0; (3122), 3, 1, 0; [59, 16, 0*, 1998/04/06–1998/04/29]

423 North Ryde

S. McAndrew, 2/32 Twin Rd, North Ryde, NSW 2113, Australia

[mcandrew@trinity.nsw.edu.au]

0.2-m $f/4$ hyperbolic astrograph + CCD

GSC

1981 FC₁, 4, 2, 4; 1990 FG₆, 6, 2, 1; 1991 OM₁, 4, 2, 8; 1992 YY₆, 6, 2, 4; 1995 QG₂, 5, 2, 1; 1995 UJ₄, 2, 1, 0; (433), 2, 1, 0; [29, 7, 0*, 1998/04/02–1998/04/27]

426 Woomera

F. B. Zoltowski, 10 Gundawarra St., P.O. Box 84, Woomera, SA 5720, Australia [100356.23@CompuServe.com]

0.30-m $f/3.3$ Schmidt-Cassegrain + CCD

USNO-SA1.0, GSC

1972 AU₆, 6, 2, 5; 1995 UG₈, 9, 3, 11; 1998 DW₉, 6, 2, 7; 1998 FG₆, 6, 2, 5; 1998 FJ₆, 6, 2, 5; 1998 FJ₁, 5, 2, 7; 1998 FK₁, 5, 2, 10; 1998 FN₅, 5, 2, 8; 1998 FO₅, 5, 2, 3; 1998 FZ₁₄, 6, 2, 5; 1998 FL₁₅, 6, 2, 8; 1998 FM₁₅, 6, 2, 8; 1998 FN₁₅, 6, 2, 5; 1998 FS₇₂, 6, 2, 2; 1998 FG₇₄, 5, 2, 3; 1998 FZ₁₂₁, 6, 2, 2; 1998 GY₅, 5, 2, 2; 1998 GF₁, 3, 1, 0; 1998 GG₁, 8, 3, 9; 1998 GH₁, 6, 2, 2; 1998 GJ₁, 6, 2, 2; 1998 GK₁, 6, 2, 11; 1998 GL₁, 6, 2, 1; 1998 HK₈ *, 6, 2, 3; 1998 HL₈ *, 6, 2, 3; (25), 2, 1, 0; (875), 3, 1, 0; (1229), 3, 1, 0; (1990), 5, 2, 3; (3714), 5, 2, 3; (4495), 6, 2, 1; (4629), 6, 2, 3; (5339), 3, 1, 0; (5896), 5, 2, 3; (6241), 5, 2, 3; (6693), 5, 2, 3; (6732), 6, 2, 3; (6883), 5, 2, 3; [205, 38, 2*, 1998/04/05–1998/04/27]

428 Reedy Creek

J. Broughton, 18 Branch Crescent, Reedy Creek, QLD 4228, Australia

0.25-m $f/6.3$ Schmidt-Cassegrain + CCD

GSC

1988 XL₇, 7, 4, 3; 1991 PU₂, 2, 1, 0; 1998 AK₅, 2, 1, 0; 1998 AL₁₀, 1, 1, 0; 1998 AM₁₀, 2, 1, 0; 1998 AN₁₀, 2, 1, 0; 1998 DL₄, 2, 1, 0; 1998 DU₄, 3, 1, 0; 1998 DL₃₅, 2, 1, 0; 1998 DM₃₅, 2, 1, 0; 1998 EW₆, 8, 4, 4; 1998 FW₄₆, 9, 4, 4; 1998 FJ₄₇, 6, 4, 3; 1998 FO₄₇, 6, 3, 2; 1998 FB₄₉, 6, 3, 2; 1998 FD₄₉, 6, 4, 6; 1998 FS₆₅, 5, 3, 2; 1998 FP₆₈, 6, 3, 2; 1998 FM₁₁₅, 6, 3, 6; 1998 FE₁₁₇, 5, 3, 6; 1998 FF₁₁₇, 5, 3, 6; 1998 FH₁₂₆ *, 6, 5, 8; 1998 FJ₁₂₆ *, 8, 4, 7; 1998 FK₁₂₆ *, 8, 4, 7; 1998 FL₁₂₆ *, 6, 3, 2; 1998 FM₁₂₆ *, 7, 3, 7; 1998 FN₁₂₆ *, 8, 3, 7; 1998 GJ₁₀ *, 5, 3, 2; 1998 GK₁₀ *, 5, 3, 2; (2444), 2, 1, 0; (4758), 2, 1, 0; (5423), 2, 1, 0; [152, 32, 8*, 1998/03/16–1998/04/05]

429 Hawker

J. Child, 64 Woolner Circuit, Hawker, ACT 2614, Australia

[jchild@dynamite.com.au]

Observer J. Child

Measurers J. Child, J. Rogers

0.32-m $f/4.8$ reflector + CCD

GSC

1996 PZ₆, 7, 2, 26; 1996 PA₇, 5, 2, 3; 1996 TP₁, 2, 1, 0; [14, 3, 0*, 1998/04/01–1998/04/28]

469 Courroux

H. Lehmann, Sports 6, CH-2822 Courroux, Switzerland [hubble@vtx.ch]

0.20-m $f/6.3$ Schmidt-Cassegrain + CCD

GSC

1998 FX₂, 14, 1, 0; [14, 1, 0*, 1998/03/29]

504 Le Creusot

J.-C. Merlin, 18 rue P. Mendès-France, F-71200 Le Creusot, France

[merlin@obspm.fr]

0.40-m $f/5.1$ reflector + CCD

GSC

1997 XQ₂, 1, 1, 0; 1998 FM₅, 8, 1, 0; [9, 2, 0*, 1998/03/22–1998/04/21]

540 Linz

E. Meyer, F. Marklstrasse 1/62, A-4040 Linz, Austria [erich.meyer@ooonet.at]

Observers E. Meyer, E. Obermair, H. Raab

0.30-m $f/5.2$ Schmidt Cassegrain + CCD

GSC

1993 FK₈₁, 4, 2, 1; 1996 VY₂₉, 4, 2, 1; 1998 BS₁₃, 5, 2, 1; 1998 DT₄, 4, 2, 1; 1998 FX₂, 3, 1, 0; 1998 FM₅, 3, 1, 0; [23, 6, 0*, 1998/04/09–1998/04/23]

552 San Vittore

E. Colombini, Via S. Vittore 44, I-40136 Bologna, Italy

[ermes.colombini@iol.it]

Observers C. Vacchi, G. Sassi, E. Colombini, R. Di Luca

0.45-m $f/3.3$ reflector + CCD

GSC

1998 MAY 11

M.P.C. 31645

1981 EX₁₅, 2, 1, 0; 1993 FP₁₁, 4, 2, 1; 1995 HL, 2, 1, 0; 1995 QT₃, 5, 2, 1; 1996 VE₉, 4, 1, 0; 1998 DU₇, 2, 1, 0; 1998 DQ₁₃, 2, 1, 0; 1998 FJ, 8, 3, 5; 1998 FQ₁, 4, 2, 1; 1998 FG₁₆, 2, 1, 0; 1998 FH₁₆, 7, 3, 19; 1998 FP₃₄, 2, 1, 0; (5339), 2, 1, 0; [46, 13, 0*, 1998/02/16–1998/04/25]

557 Ondřejov

P. Pravec, Astronomical Institute, Czech Academy of Sciences, CZ-25165 Ondřejov, Czech Republic [ppravec@asu.cas.cz]

Observers P. Pravec, L. Šarounová, M. Wolf

0.65-m $f/3.6$ reflector + CCD

USNO-SA1.0, GSC

1988 PN₁, 3, 1, 0; 1990 QY₈, 4, 1, 0; 1992 SJ₁, 3, 1, 0; 1994 JF₁, 7, 2, 1; 1995 SO, 9, 3, 15; 1995 WM₂, 3, 1, 0; 1996 AY₁, 4, 2, 2; 1997 WT₂₂, 5, 2, 21; 1998 BR₈, 4, 1, 0; 1998 DP₁, 2, 1, 0; 1998 DV₉, 5, 2, 23; 1998 DF₂₀, 4, 2, 7; 1998 DG₂₀, 13, 4, 17; 1998 EC₃, 8, 3, 21; 1998 FD₂, 3, 1, 0; 1998 FE₂, 4, 1, 0; 1998 FX₂, 18, 5, 25; 1998 FA₃, 5, 3, 14; 1998 FB₃, 12, 4, 25; 1998 FC₃, 4, 2, 11; 1998 FD₃, 4, 2, 10; 1998 FE₃, 5, 2, 13; 1998 FF₃, 2, 1, 0; 1998 FL₅, 3, 1, 0; 1998 FM₅, 8, 2, 14; 1998 FM₉, 11, 4, 25; 1998 FN₉, 10, 3, 16; 1998 FR₁₁, 3, 1, 0; 1998 FF₆₇, 5, 2, 1; 1998 FD₇₃, 9, 3, 24; 1998 FE₇₃, 9, 4, 18; 1998 FO₇₃, 8, 3, 19; 1998 FP₇₃, 6, 2, 11; 1998 FJ₇₄, 2, 1, 0; 1998 GC₁, 7, 1, 0; 1998 GM₁ *, 13, 5, 21; 1998 GL₁₀, 2, 1, 0; 1998 GM₁₀, 5, 1, 0; 1998 HA *, 11, 5, 14; 1998 HK₁, 12, 4, 9; 1998 HL₁, 11, 4, 11; 1998 HM₁, 4, 1, 0; 1998 HE₂ *, 10, 4, 10; 1998 HE₃, 17, 6, 12; 1998 HJ₃, 10, 4, 11; 1998 HK₃, 13, 5, 11; 1998 HL₃, 11, 4, 6; 1998 HM₃, 11, 4, 6; 1998 HN₄, 2, 1, 0; 1998 HY₁₃, 4, 1, 0; 1998 HD₁₄, 8, 3, 6; 1998 HC₂₉ *, 11, 4, 4; 1998 HR₃₁ *, 8, 3, 4; 1998 HS₃₁ *, 9, 2, 3; 1998 HT₃₁, 10, 2, 3; 1998 HJ₄₁, 7, 2, 1; 2043 P-L, 4, 1, 0; (116), 2, 1, 0; (384), 4, 1, 0; (1862), 9, 2, 7; (1866), 12, 4, 15; (3520), 3, 1, 0; (3752), 3, 1, 0; (4487), 2, 1, 0; (5370), 7, 2, 6; (5626), 2, 1, 0; (7117), 6, 1, 0; (7889), 5, 2, 7; (8444), 2, 1, 0; (8475), 2, 1, 0; (8557), 3, 1, 0; [467, 71, 6*, 1995/08/26–1998/05/03]

560 Madonna di Dossobuono

L. Lai, Via Mantovana 130e, I-37062 Dossobuono (Verona), Italy

[astrofil@astbo1.bo.cnr.it]

Observers L. Lai, I. Rocchetti, G. Vespentini

0.40-m $f/3.5$ reflector + CCD

GSC

1996 WC₂, 3, 1, 0; 1998 BB₂, 11, 4, 14; 1998 BC₂, 9, 3, 14; 1998 BD₄₂, 6, 2, 4; (3253), 6, 2, 1; (8569), 3, 1, 0; (8582), 3, 1, 0; (8600), 3, 1, 0; [44, 8, 0*, 1998/03/16–1998/03/30]

561 Piskéztető

L. Kiss, Pf. 596, H-6701 Szeged, Hungary [l.kiss@physx.u-szeged.hu]

Observers K. Sárneczky, Gy. Szabó, L. Kiss

Measurers L. Kiss, K. Sárneczky

0.60-m Schmidt telescope + CCD

USNO-A1.0

1929 PK, 5, 2, 1; 1931 TD₃, 3, 1, 0; 1968 OH, 3, 1, 0; 1971 UG, 3, 1, 0; 1971 UT, 3, 1, 0; 1971 UH₁, 3, 1, 0; 1981 EM₁₂, 3, 1, 0; 1994 VR₆, 3, 1, 0; 1998 BM₁₀, 3, 1, 0; 1998 BU₂₅, 3, 1, 0; 1998 DA₃₃, 8, 2, 1; 1998 FM₅, 3, 1, 0; 1998 FH₇₄, 3, 1, 0; 1998 FN₉₇, 3, 1, 0; 1998 GF₁, 3, 1, 0; 1998 GN₁₀ *, 9, 2, 1; 1998 GO₁₀ *, 8, 2, 1; (1167), 3, 1, 0; (2415), 3, 1, 0; (3270), 3, 1, 0; (6591), 3, 1, 0; (6655), 3, 1, 0; (8444), 3, 1, 0; [87, 23, 2*, 1998/04/02–1998/04/05]

565 Bassano Bresciano

U. Quadri, Osservatorio di Bassano Bresciano, Via S. Michele 4, I-25020 Bassano

Bresciano (BS), Italy [astrofil@astbo1.bo.cnr.it]

Observers U. Quadri, L. Strabla

0.40-m $f/2.5$ Schmidt + CCD

GSC

(3), 2, 1, 0; (148), 2, 1, 0; (1521), 2, 1, 0; [6, 3, 0*, 1998/04/21]

566 Haleakala-NEAT/GEODSS

E. F. Helin, MS 183-501, Jet Propulsion Laboratory, Pasadena, CA 91109, U.S.A.

[efh@ip1.jpl.nasa.gov]

Observers E. F. Helin, S. H. Pravdo, K. J. Lawrence, D. L. Rabinowitz, S. Groom, C. Clark, R. Bamberg, S. Levin, J. Lorre, S. Shaklan, R. Byrd, A. Esquibel, C. Cotton, D. Bascon

1-m $f/2.2$ Ritchey-Chrétien + CCD

1971 SB, 6, 2, 1; 1972 AU, 3, 1, 0; 1975 LT, 3, 1, 0; 1976 YO₂, 3, 1, 0; 1977 QD₃, 3, 1, 0; 1977 RK, 3, 1, 0; 1978 VP₂, 3, 1, 0; 1979 KO₁, 6, 2, 1; 1979 QX, 3, 1, 0; 1979 SC₂, 3, 1, 0; 1979 YQ, 3, 1, 0; 1980 PW, 3, 1, 0; 1980 RL₂, 3, 1, 0; 1981 DJ, 3, 1, 0; 1981 EQ₉, 3, 1, 0; 1981 EU₉, 3, 1, 0; 1981 ER₁₀, 3, 1, 0; 1981 EK₂₀, 3, 1, 0; 1981 EN₂₄, 6, 2, 556; 1981 ES₂₄, 3, 1, 0; 1981 EP₃₀, 3, 1, 0; 1981 EB₃₅, 3, 1, 0; 1981 ER₄₅, 3, 1, 0; 1981 SD₂, 3, 1, 0; 1981 UH₂₈, 3, 1, 0; 1982 QY₁, 3, 1, 0; 1982 UY₆, 3, 1, 0; 1983 BD, 3, 1, 0; 1983 CZ₂, 3, 1, 0; 1985 JU₁, 3, 1, 0; 1986 AT₂, 6, 2, 5; 1986 CS₁, 3, 1, 0; 1986 QF₁, 3, 1, 0; 1986 QU₂, 3, 1, 0; 1986 QC₃, 6, 2, 32; 1987 BM₁, 3, 1, 0; 1987 DO, 9, 3, 529; 1987 DQ₆, 3, 1, 0; 1987 QE₇, 3, 1, 0; 1988 RJ₃, 3, 1, 0; 1988 RV₁₀, 6, 2, 1; 1988 SD, 3, 1, 0; 1988 ST₂, 3, 1, 0; 1988 XL, 3, 1, 0; 1989 SZ₁, 3, 1, 0; 1989 SS₂, 3, 1, 0; 1989 SA₃, 3, 1, 0; 1989 SB₄, 3, 1, 0; 1989 TJ₂, 3, 1, 0; 1989 WT, 3, 1, 0; 1990 BC₂, 6, 1, 0; 1990 DZ₁, 6, 2, 1; 1990 EK, 6, 2, 32; 1990 ES₁, 6, 2, 1; 1990 HE, 3, 1, 0; 1990 HP, 3, 1, 0; 1990 KF, 3, 1, 0; 1990 OZ, 3, 1, 0; 1990 QR₂, 3, 1, 0; 1990 QZ₅, 3, 1, 0; 1990 QX₈, 3, 1, 0; 1990 QE₉, 3, 1, 0; 1990 TT₄, 3, 1, 0; 1990 TE₇, 3, 1, 0; 1990 UB₁, 6, 2, 1; 1990 UZ₄, 3, 1, 0; 1990 VK₁, 3, 1, 0; 1990 VZ₄, 3, 1, 0; 1990 VQ₆, 3, 1, 0; 1990 VX₆, 3, 1, 0; 1990 VH₁₂, 3, 1, 0; 1990 VN₁₄, 3, 1, 0; 1990 WN₅, 6, 2, 1; 1991 AB₂, 3, 1, 0; 1991 ED₂, 3, 1, 0; 1991 EX₂, 3, 1, 0; 1991 FC₄, 6, 2, 28; 1991 GW, 3, 1, 0; 1991 GO₁, 3, 1, 0; 1991 GG₆, 3, 1, 0; 1991 GE₈, 3, 1, 0; 1991 GG₁₀, 3, 1, 0; 1991 GN₁₀, 3, 1, 0; 1991 LH₁, 6, 2, 28; 1991 LE₂, 3, 1, 0; 1991 PU, 3, 1, 0; 1991 PP₉, 3, 1, 0; 1991 PZ₁₄, 6, 2, 36; 1991 PL₁₆, 6, 2, 28; 1991 RA₁, 6, 2, 1; 1991 RO₂, 3, 1, 0; 1991 RE₁₀, 3, 1, 0; 1991 VN₄, 3, 1, 0; 1991 WB, 3, 1, 0; 1992 BD₂, 3, 1, 0; 1992 BF₂, 6, 2, 1; 1992 DX₅, 3, 1, 0; 1992 ES₅, 3, 1, 0; 1992 EE₇, 3, 1, 0; 1992 EE₁₁, 3, 1, 0; 1992 EA₂₂, 3, 1, 0; 1992 EU₂₈, 6, 2, 29; 1992 PH₁, 3, 1, 0; 1992 PZ₁, 3, 1, 0; 1992 PO₂, 3, 1, 0; 1992 SE, 3, 1, 0; 1992 SF, 3, 1, 0; 1992 WH₁, 3, 1, 0; 1992 WJ₂, 6, 2, 1; 1992 YH, 3, 1, 0; 1992 YY, 6, 2, 1; 1992 YM₂, 3, 1, 0; 1993 AJ, 6, 2, 3; 1993 BR₂, 3, 1, 0; 1993 BL₇, 3, 1, 0; 1993 FW₂₆, 3, 1, 0; 1993 FT₃₃, 6, 2, 1; 1993 FF₄₀, 3, 1, 0; 1993 FZ₄₄, 3, 1, 0; 1993 FF₄₉, 3, 1, 0; 1993 FF₈₂, 6, 2, 1; 1993 KB₂, 9, 2, 1; 1993 LG₂, 6, 2, 1; 1993 MK, 6, 2, 1; 1993 TV₃₄, 6, 2, 557; 1993 VB₈, 3, 1, 0; 1993 XL, 3, 1, 0; 1993 YK, 6, 2, 28; 1994 AD₃, 3, 1, 0; 1994 BW, 3, 1, 0; 1994 BN₄, 3, 1, 0; 1994 CL, 3, 1, 0; 1994 CQ₁, 3, 1, 0; 1994 CT₁₂, 3, 1, 0; 1994 EL₃, 3, 1, 0; 1994 EC₅, 3, 1, 0; 1994 EH₇, 3, 1, 0; 1994 EJ₇, 3, 1, 0; 1994 HA, 6, 2, 1; 1994 JK₉, 6, 2, 1; 1994 LL, 3, 1, 0; 1994 PL₉, 3, 1, 0; 1994 PG₁₇, 6, 2, 388; 1994 PD₃₈, 3, 1, 0; 1994 TH₂, 3, 1, 0; 1994 UN₁, 3, 1, 0; 1994 VR₆, 3, 1, 0; 1995 CG, 3, 1, 0; 1995 HK, 3, 1, 0; 1995 PV, 3, 1, 0; 1995 QC₂, 3, 1, 0; 1995 SH, 6, 2, 1; 1995 SL₂, 3, 1, 0; 1995 SL₅, 3, 1, 0; 1995 SV₅₃, 6, 2, 28; 1995 UB₁, 3, 1, 0; 1995 UP₂, 3, 1, 0; 1995 UU₄, 3, 1, 0; 1995 UC₈, 3, 1, 0; 1995 UA₉, 3, 1, 0; 1995 UX₄₄, 3, 1, 0; 1995 WH, 3, 1, 0; 1996 AO₃, 3, 1, 0; 1996 OR₁, 3, 1, 0; 1996 PZ₆, 3, 1, 0; 1996 SH₆, 3, 1, 0; 1996 TY₄, 3, 1, 0; 1996 TQ₇, 3, 1, 0; 1996 TN₁₂, 3, 1, 0; 1996 UM, 3, 1, 0; 1996 UN, 3, 1, 0; 1996 VE₁, 6, 2, 28; 1996 VL₃, 3, 1, 0; 1996 VB₅, 3, 1, 0; 1996 VM₅, 6, 2, 1; 1996 VS₅, 3, 1, 0; 1996 VH₈, 3, 1, 0; 1996 VG₃₀, 6, 2, 1; 1996 WC₂, 3, 1, 0; 1996 XY, 3, 1, 0; 1996 XD₁, 3, 1, 0; 1996 XW₅, 6, 2, 66; 1996 XQ₁₉, 3, 1, 0; 1996 XR₂₅, 3, 1, 0; 1996 XA₃₂, 3, 1, 0; 1996 YD₃, 3, 1, 0; 1997 AR₂, 6, 2, 1; 1997 AC₄, 3, 1, 0; 1997 AN₁₂, 3, 1, 0; 1997 AF₂₂, 3, 1, 0; 1997 CO, 3, 1, 0; 1997 EO₇, 3, 1, 0; 1997 UD₂₅, 6, 2, 472; 1997 XH₅, 3, 1, 0; 1997 XA₉, 6, 2, 61; 1997 XD₉, 9, 3, 9; 1997 XE₁₁, 3, 1, 0; 1997 YR₁₁, 3, 1, 0; 1997 YV₁₈, 3, 1, 0; 1998 AR, 6, 1, 0; 1998 AH₆, 3, 1, 0; 1998 AJ₆, 3, 1, 0; 1998 BR₇, 6, 2, 66; 1998 BD₁₅, 3, 1, 0; 1998 BS₁₅, 3, 1, 0; 1998 BV₁₈, 3, 1, 0; 1998 BF₂₃, 3, 1, 0; 1998 BN₂₅, 6, 1, 0; 1998 BE₂₆, 3, 1, 0; 1998 BH₂₆, 3, 1, 0; 1998 BL₃₉, 3, 1, 0; 1998 BD₄₁, 3, 1, 0; 1998 CZ₁, 3, 1, 0; 1998 CA₂, 3, 1, 0; 1998 CC₂, 3, 1, 0; 1998 CC₃, 3, 1, 0; 1998 DT, 3, 1, 0; 1998 DK₁, 3, 1, 0; 1998 DL₁, 6, 2, 60; 1998 DB₂, 3, 1, 0; 1998 DN₂, 3, 1, 0; 1998 DN₃, 6, 2, 1; 1998 DB₆, 3, 1, 0; 1998 DJ₇, 3, 1, 0; 1998 DQ₉, 3, 1, 0; 1998 DS₉, 3, 1, 0; 1998 DZ₉, 3, 1, 0; 1998 DT₁₀, 3, 1, 0; 1998 DE₁₁, 3, 1, 0; 1998 DH₁₁, 3, 1, 0; 1998 DT₁₁, 6, 2, 35; 1998 DZ₁₂, 3, 1, 0; 1998 DC₁₃, 3, 1, 0; 1998 DG₁₃, 3, 1, 0; 1998 DM₁₃, 3, 1, 0; 1998 DQ₁₃, 3, 1, 0; 1998 DR₁₃, 3, 1, 0; 1998 DU₁₃, 3, 1, 0; 1998 DK₁₄, 3, 1, 0; 1998 DL₁₄, 3, 1, 0; 1998 DM₁₄, 3, 1, 0; 1998 DT₁₄, 3, 1, 0; 1998 DR₁₅, 3, 1, 0; 1998 DA₁₆, 6, 2, 62; 1998 DE₁₆, 3, 1, 0; 1998 DC₁₈, 3, 1, 0; 1998 DN₂₃, 3, 1, 0; 1998 DN₂₇, 3, 1, 0; 1998 DJ₃₃, 3, 1, 0; 1998 DR₃₃, 3, 1, 0; 1998 DT₃₃, 3, 1, 0; 1998 DW₃₃, 3, 1, 0; 1998 DZ₃₃, 3, 1, 0; 1998 DA₃₄, 6, 2, 28; 1998 DC₃₄, 3, 1, 0; 1998 DG₃₄, 3, 1, 0; 1998 DJ₃₄, 6, 1, 0; 1998 DL₃₄, 3, 1, 0; 1998 DN₃₄, 3, 1, 0; 1998 DO₃₄, 3, 1, 0; 1998 DQ₃₄, 3, 1, 0; 1998 DW₃₄, 3, 1, 0; 1998 DB₃₅, 3, 1, 0; 1998 DG₃₅, 3, 1, 0; 1998 DH₃₅, 6, 2, 61; 1998 DL₃₅, 3, 1, 0; 1998 DM₃₅, 3, 1, 0; 1998 DQ₃₅, 3, 1, 0; 1998 DT₃₅, 3, 1, 0; 1998 DU₃₅, 3, 1, 0; 1998 DX₃₅, 3, 1, 0; 1998 DD₃₆, 3, 1, 0; 1998 EC, 3, 1, 0; 1998 ED₃, 6, 2, 1; 1998 ER₃, 3, 1, 0; 1998 ES₃, 3, 1, 0; 1998 EZ₅, 3, 1, 0; 1998 EF₆, 3, 1, 0; 1998 EO₆, 3, 1, 0; 1998 EP₆, 6, 2, 534; 1998 ER₆, 3, 1, 0; 1998 EA₈, 6, 2, 29; 1998 ET₈, 3, 1, 0; 1998 EV₈, 3, 1, 0; 1998 EZ₈, 3, 1, 0; 1998 EA₉, 6, 2, 5; 1998 EQ₉, 3, 1, 0; 1998 ER₉, 3, 1, 0; 1998 EE₁₀, 3, 1, 0; 1998 EM₁₀, 3, 1, 0; 1998 ES₁₀, 6, 2, 28; 1998 EU₁₀, 6, 2, 28; 1998 EA₁₁, 3, 1, 0; 1998 EC₁₁, 6, 2, 28; 1998 EG₁₁, 3, 1, 0; 1998 EJ₁₁, 3, 1, 0; 1998 EQ₁₁, 3, 1, 0; 1998 ES₁₁, 3, 1, 0; 1998 ET₁₁, 6, 2, 28; 1998 EU₁₁, 3, 1, 0; 1998 EW₁₁, 3, 1, 0; 1998 EY₁₁, 3, 1, 0; 1998 EB₁₂, 3, 1, 0; 1998 ED₁₂, 6, 2, 28; 1998 EE₁₂, 3, 1, 0; 1998 EG₁₂, 6, 2, 28; 1998 EH₁₂, 6, 2, 62; 1998 EK₁₂, 3, 1, 0; 1998 EL₁₂, 3, 1, 0; 1998 EO₁₂, 3, 1, 0; 1998 EU₁₂, 3, 1, 0; 1998 EV₁₂, 3, 1, 0; 1998 EX₁₂, 3, 1, 0; 1998 EF₁₃, 6, 1, 0; 1998 EN₁₃, 3, 1, 0; 1998 ER₁₃, 3, 1, 0; 1998 EV₁₃, 3,

1, 0; 1998 ED₁₄, 6, 2, 28; 1998 EG₁₄, 3, 1, 0; 1998 EL₁₄, 3, 1, 0; 1998 ER₁₄, 6, 2, 28; 1998 ES₁₄, 3, 1, 0; 1998 EV₁₄, 3, 1, 0; 1998 EX₁₄, 3, 1, 0; 1998 EA₁₅, 3, 1, 0; 1998 EC₁₅, 3, 1, 0; 1998 EW₁₅, 3, 1, 0; 1998 EL₁₆, 3, 1, 0; 1998 EQ₁₆, 3, 1, 0; 1998 FL₁, 3, 1, 0; 1998 FH₂, 3, 1, 0; 1998 FK₂, 6, 2, 1; 1998 FO₂, 6, 2, 63; 1998 FD₃, 3, 1, 0; 1998 FF₃, 3, 1, 0; 1998 FK₃, 6, 2, 4; 1998 FJ₅, 6, 2, 3; 1998 FO₅, 3, 1, 0; 1998 FO₈, 6, 2, 1; 1998 FH₁₀, 3, 1, 0; 1998 FU₁₀, 3, 1, 0; 1998 FH₁₁, 3, 1, 0; 1998 FJ₁₁, 3, 1, 0; 1998 FO₁₁, 3, 1, 0; 1998 FQ₁₁, 6, 2, 30; 1998 FT₁₁, 3, 1, 0; 1998 FY₁₁, 3, 1, 0; 1998 FA₁₂, 3, 1, 0; 1998 FL₁₂, 6, 2, 2; 1998 FF₁₃, 3, 1, 0; 1998 FG₁₄, 3, 1, 0; 1998 FP₁₄, 3, 1, 0; 1998 FY₁₄, 3, 1, 0; 1998 FD₁₅, 3, 1, 0; 1998 FL₁₅, 6, 2, 32; 1998 FM₁₅, 3, 1, 0; 1998 FO₁₅, 3, 1, 0; 1998 FY₁₅, 6, 2, 28; 1998 FN₁₇, 6, 2, 28; 1998 FS₁₇, 3, 1, 0; 1998 FE₁₈, 3, 1, 0; 1998 FO₁₈, 3, 1, 0; 1998 FW₁₉, 3, 1, 0; 1998 FA₂₃, 3, 1, 0; 1998 FY₂₃, 3, 1, 0; 1998 FE₂₄, 3, 1, 0; 1998 FK₂₆, 6, 2, 28; 1998 FM₂₇, 3, 1, 0; 1998 FY₂₇, 3, 1, 0; 1998 FG₂₈, 3, 1, 0; 1998 FC₂₉, 3, 1, 0; 1998 FU₂₉, 3, 1, 0; 1998 FW₂₉, 3, 1, 0; 1998 FX₂₉, 3, 1, 0; 1998 FZ₂₉, 6, 2, 66; 1998 FY₃₁, 3, 1, 0; 1998 FE₃₂, 3, 1, 0; 1998 FK₃₂, 3, 1, 0; 1998 FP₃₂, 3, 1, 0; 1998 FZ₃₃, 6, 2, 28; 1998 FA₃₄, 3, 1, 0; 1998 FH₃₄, 3, 1, 0; 1998 FL₃₄, 6, 2, 28; 1998 FM₃₄, 3, 1, 0; 1998 FP₃₄, 3, 1, 0; 1998 FW₃₄, 6, 2, 28; 1998 FY₃₄, 3, 1, 0; 1998 FN₃₅, 3, 1, 0; 1998 FD₃₈, 6, 2, 28; 1998 FB₄₀, 3, 1, 0; 1998 FD₄₀, 3, 1, 0; 1998 FG₄₀, 3, 1, 0; 1998 FZ₄₁, 3, 1, 0; 1998 FB₄₂, 6, 2, 28; 1998 FC₄₂, 3, 1, 0; 1998 FJ₄₂, 3, 1, 0; 1998 FT₄₂, 3, 1, 0; 1998 FV₄₂, 3, 1, 0; 1998 FW₄₂, 6, 2, 27; 1998 FY₄₂, 3, 1, 0; 1998 FK₄₃, 3, 1, 0; 1998 FL₄₄, 3, 1, 0; 1998 FV₄₆, 3, 1, 0; 1998 FE₄₇, 3, 1, 0; 1998 FJ₄₇, 3, 1, 0; 1998 FR₄₇, 3, 1, 0; 1998 FZ₄₇, 3, 1, 0; 1998 FB₄₈, 3, 1, 0; 1998 FE₄₈, 3, 1, 0; 1998 FN₄₈, 3, 1, 0; 1998 FO₄₈, 9, 2, 66; 1998 FD₄₉, 3, 1, 0; 1998 FD₄₉, 6, 2, 65; 1998 FK₄₉, 3, 1, 0; 1998 FL₄₉, 6, 2, 36; 1998 FN₄₉, 3, 1, 0; 1998 FO₄₉, 6, 2, 28; 1998 FQ₄₉, 3, 1, 0; 1998 FY₄₉, 3, 1, 0; 1998 FZ₄₉, 3, 1, 0; 1998 FF₅₂, 3, 1, 0; 1998 FT₅₂, 3, 1, 0; 1998 FA₅₃, 3, 1, 0; 1998 FE₅₃, 3, 1, 0; 1998 FF₅₃, 3, 1, 0; 1998 FG₅₃, 3, 1, 0; 1998 FS₅₃, 3, 1, 0; 1998 FT₅₃, 3, 1, 0; 1998 FZ₅₃, 3, 1, 0; 1998 FB₅₄, 3, 1, 0; 1998 FD₅₄, 3, 1, 0; 1998 FE₅₄, 3, 1, 0; 1998 FM₅₄, 3, 1, 0; 1998 FY₅₄, 3, 1, 38; 1998 FJ₅₆, 3, 1, 0; 1998 FJ₅₇, 3, 1, 0; 1998 FH₅₈, 3, 1, 0; 1998 FJ₅₈, 3, 1, 0; 1998 FK₅₈, 6, 2, 28; 1998 FO₅₈, 3, 1, 0; 1998 FV₅₈, 3, 1, 0; 1998 FX₅₈, 3, 1, 0; 1998 FA₅₉, 3, 1, 0; 1998 FC₅₉, 6, 2, 1; 1998 FE₅₉, 3, 1, 0; 1998 FT₅₉, 3, 1, 0; 1998 FU₅₉, 3, 1, 0; 1998 FE₆₀, 3, 1, 0; 1998 FP₆₀, 3, 1, 0; 1998 FN₆₁, 3, 1, 0; 1998 FO₆₁, 3, 1, 0; 1998 FT₆₁, 3, 1, 0; 1998 FW₆₁, 3, 1, 0; 1998 FF₆₂, 3, 1, 0; 1998 FK₆₂, 6, 2, 36; 1998 FO₆₂, 3, 1, 0; 1998 FR₆₂, 3, 1, 0; 1998 FX₆₂, 3, 1, 0; 1998 FY₆₂, 3, 1, 0; 1998 FK₆₄, 6, 2, 36; 1998 FY₆₄, 3, 1, 0; 1998 FH₆₅, 3, 1, 0; 1998 FR₆₅, 3, 1, 0; 1998 FT₆₅, 3, 1, 0; 1998 FY₆₅, 3, 1, 0; 1998 FZ₆₅, 3, 1, 0; 1998 FB₆₆, 3, 1, 0; 1998 FC₆₆, 6, 2, 36; 1998 FE₆₆, 3, 1, 0; 1998 FF₆₆, 3, 1, 0; 1998 FG₆₆, 3, 1, 0; 1998 FY₆₆, 3, 1, 0; 1998 FF₆₇, 3, 1, 0; 1998 FC₆₈, 3, 1, 0; 1998 FF₆₈, 6, 2, 1; 1998 FL₆₈, 3, 1, 0; 1998 FM₆₈, 6, 2, 1; 1998 FO₆₈, 6, 2, 1; 1998 FS₆₈, 3, 1, 0; 1998 FZ₆₈, 3, 1, 0; 1998 FA₆₉, 3, 1, 0; 1998 FJ₆₉, 3, 1, 0; 1998 FJ₇₀, 3, 1, 0; 1998 FL₇₀, 3, 1, 0; 1998 FP₇₀, 3, 1, 0; 1998 FY₇₁, 3, 1, 0; 1998 FO₇₂, 3, 1, 0; 1998 FE₇₃, 3, 1, 0; 1998 FO₇₃, 3, 1, 0; 1998 FD₇₄, 3, 1, 0; 1998 FT₇₄, 6, 2, 1; 1998 FH₇₇, 6, 2, 1; 1998 FG₈₀, 3, 1, 0; 1998 FQ₈₅, 3, 1, 0; 1998 FU₉₀, 6, 2, 1; 1998 FP₉₁, 6, 2, 61; 1998 FD₉₄, 3, 1, 0; 1998 FW₉₆, 9, 3, 69; 1998 FY₉₇, 3, 1, 0; 1998 FZ₉₇, 3, 1, 0; 1998 FP₉₈, 6, 2, 62; 1998 FW₉₈, 6, 2, 28; 1998 FX₉₈, 6, 2, 28; 1998 FG₉₉, 3, 1, 0; 1998 FO₉₉, 3, 1, 0; 1998 FS₉₉, 3, 1, 0; 1998 FW₉₉, 3, 1, 0; 1998 FY₉₉, 3, 1, 0; 1998 FM₁₀₀, 6, 2, 66; 1998 FS₁₀₀, 3, 1, 0; 1998 FW₁₀₀, 3, 1, 0; 1998 FN₁₀₁, 3, 1, 0; 1998 FO₁₀₁, 3, 1, 0; 1998 FS₁₀₁, 6, 2, 60; 1998 FX₁₀₁, 3, 1, 0; 1998 FZ₁₀₁, 3, 1, 0; 1998 FA₁₀₂, 6, 1, 0; 1998 FB₁₀₂, 3, 1, 0; 1998 FL₁₀₂, 6, 2, 29; 1998 FT₁₀₂, 6, 2, 66; 1998 FU₁₀₂, 6, 2, 1; 1998 FW₁₀₂, 3, 1, 0; 1998 FZ₁₀₂, 3, 1, 0; 1998 FL₁₀₃, 6, 2, 29; 1998 FO₁₀₃, 3, 1, 0; 1998 FP₁₀₃, 3, 1, 0; 1998 FQ₁₀₃, 3, 1, 0; 1998 FU₁₀₃, 6, 2, 37; 1998 FX₁₀₃, 3, 1, 0; 1998 FD₁₀₄, 9, 3, 66; 1998 FG₁₀₄, 6, 2, 1; 1998 FL₁₀₄, 3, 1, 0; 1998 FL₁₀₅, 3, 1, 0; 1998 FN₁₀₅, 3, 1, 0; 1998 FR₁₀₅, 3, 1, 0; 1998 FZ₁₀₅, 3, 1, 0; 1998 FD₁₀₈, 3, 1, 0; 1998 FX₁₀₈, 3, 1, 0; 1998 FB₁₀₉, 3, 1, 0; 1998 FL₁₀₉, 3, 1, 0; 1998 FM₁₀₉, 3, 1, 0; 1998 FA₁₁₀, 3, 1, 0; 1998 FB₁₁₁, 6, 2, 2; 1998 FE₁₁₂, 6, 2, 1; 1998 FG₁₁₂, 3, 1, 0; 1998 FJ₁₁₂, 3, 1, 0; 1998 FP₁₁₃, 6, 2, 36; 1998 FQ₁₁₃, 3, 1, 0; 1998 FT₁₁₃, 3, 1, 0; 1998 FA₁₁₄, 6, 2, 1; 1998 FC₁₁₄, 6, 2, 36; 1998 FT₁₁₅, 6, 2, 37; 1998 FB₁₁₆, 3, 1, 0; 1998 FG₁₁₆, 3, 1, 0; 1998 FL₁₁₆, 3, 1, 0; 1998 FG₁₁₇, 3, 1, 0; 1998 FS₁₁₇, 3, 1, 0; 1998 FT₁₁₇, 3, 1, 0; 1998 FE₁₁₉, 3, 1, 0; 1998 FO₁₁₉, 3, 1, 0; 1998 FX₁₁₉, 3, 1, 0; 1998 FN₁₂₁, 3, 1, 0; 1998 FS₁₂₁, 3, 1, 0; 1998 FZ₁₂₁, 6, 2, 61; 1998 FG₁₂₂, 3, 1, 0; 1998 FK₁₂₂, 3, 1, 0; 1998 FE₁₂₃, 3, 1, 0; 1998 FR₁₂₃, 3, 1, 0; 1998 FM₁₂₅, 3, 1, 0; 1998 FY₁₂₅, 6, 2, 1; 1998 FA₁₂₆, 3, 1, 0; 1998 FM₁₂₆, 3, 1, 0; 1998 GA₆, 2, 33; 1998 GH₆, 6, 2, 1; 1998 GH₁, 3, 1, 0; 1998 GJ₁, 6, 2, 35; 1998 GK₁, 6, 2, 36; 1998 GN₄, 6, 2, 57; 1998 GK₅, 3, 1, 0; 1998 GM₅, 3, 1, 0; 1998 GP₅, 6, 2, 1; 1998 GS₆, 6, 2, 4; 1998 GU₆, 3, 1, 0; 1998 GD₇, 3, 1, 0; 1998 GJ₇, 3, 1, 0; 1998 GN₇, 9, 3, 8; 1998 GH₉, 6, 2, 4; 1998 HA₃, 6, 2, 1; 1998 HD₃, 3, 1, 0; 1998 HH₃, 3, 1, 0; 1998 HL₄ *, 12, 4, 6; 1998 HS₄, 3, 1, 0; 1998 HY₆, 3, 1, 0; 1998 HF₇, 3, 1, 0; 1998 HJ₇, 3, 1, 0; 1998 HK₇, 3, 1, 0; 1998 HO₇, 12, 2, 1; 1998 HT₇, 3, 1, 0; 1998 HW₇, 6, 2, 1; 1998 HX₇ *, 9, 3, 3; 1998 HY₇ *, 9, 3, 5; 1998 HD₈, 3, 1, 0; 1998 HE₈, 3, 1, 0; 1998 HT₁₂ *, 9, 3, 4; 1998 HU₁₂ *, 9, 3, 6; 1998 HV₁₂ *, 6, 2, 2; 1998 HW₁₂ *, 6, 2, 2; 1998 HA₁₃ *, 6, 2, 1; 1998 HZ₁₃ *, 6, 2, 4; 1998 HA₁₄ *, 6, 2, 2; 1998 HB₁₄ *, 6, 2, 2; 1998 HC₁₄ *, 6, 2, 2; 1998 HD₁₄ *, 3, 1, 0; 1998 HH₁₄ *, 6, 2, 1; 1998 HJ₁₄ *, 6, 2, 5; 1998 HK₁₄ *, 9, 3, 6; 1998 HL₁₄ *, 12, 4, 6; 1998 HZ₁₆, 6, 2, 2, 1; 1998 HJ₁₈, 3, 1, 0; 1998 HO₁₈, 3, 1, 0; 1998 HR₁₈, 3, 1, 0; 1998 HS₁₈, 3, 1, 0; 1998 HU₁₈ *, 6, 2, 1; 1998 HY₁₈, 3, 1, 0; 1998 HQ₁₉, 3, 1, 0; 1998 HS₁₉ *, 6, 2, 1; 1998 HU₁₉, 3, 1, 0; 1998 HH₂₀, 6, 2, 60; 1998 HD₂₁, 3, 1, 0; 1998 HT₂₂, 6, 2, 60; 1998 HN₂₃ *, 6, 2, 3; 1998 HO₂₃ *, 6, 2, 3; 1998 HQ₂₄, 3, 1, 0; 1998 HA₂₉ *, 6, 2, 6; 1998 HA₃₀ *, 6, 2, 4; 1998 HS₃₀ *, 12, 2, 1; 1998 HT₃₁ *, 12, 3, 2; 1998 HY₃₁, 6, 2, 1; 1998 HO₄₂ *, 9, 3, 9; 1998 HP₄₂ *, 6, 2, 8; 1998 HQ₄₂ *, 6, 2, 8; 1998 HR₄₂ *, 6, 2, 2; 1998 HH₄₃ *, 6, 2, 9; 1998 HJ₄₃ *, 6, 2, 8; 1998 JJ *

, 6, 2, 1; 1998 JK *, 6, 2, 1; 1998 JL *, 6, 2, 1; 1998 JM *, 6, 2, 1; 1998 JN *, 6, 2, 1; 1998 JO *, 6, 2, 1; 1998 JP *, 6, 2, 1; 1998 JQ *, 6, 2, 1; 1998 JR *, 6, 2, 1; 1998 JS *, 6, 2, 1; 1998 JT *, 6, 2, 1; 1998 JU *, 6, 2, 1; 1998 JV *, 6, 2, 1; 1998 JW *, 6, 2, 1; 1998 JX *, 6, 2, 1; 1998 JY *, 6, 2, 1; 1998 JZ *, 6, 2, 1; 1998 JA₁ *, 6, 2, 1; 1998 JB₁ *, 6, 2, 1; 1998 JC₁ *, 6, 2, 1; 1998 JD₁ *, 6, 2, 1; 1998 JE₁ *, 6, 2, 1; 1998 JF₁ *, 6, 2, 1; 1998 JG₁ *, 6, 2, 1; 1998 JH₁ *, 6, 2, 1; 1998 JJ₁ *, 6, 2, 1; 1998 JK₁ *, 6, 2, 1; 1998 JL₁ *, 6, 2, 1; 1998 JM₁ *, 6, 2, 1; 1998 JN₁ *, 6, 2, 1; 1998 JO₁ *, 6, 2, 1; 1998 JP₁ *, 6, 2, 1; 1998 JQ₁ *, 6, 2, 1; 1998 JR₁ *, 6, 2, 1; 1998 JS₁ *, 6, 2, 1; 1998 JT₁ *, 6, 2, 1; 1998 JU₁ *, 6, 2, 1; 1998 JV₁ *, 6, 2, 1; 1998 JW₁ *, 6, 2, 1; 1998 JX₁ *, 6, 2, 1; 1998 JY₁ *, 6, 2, 1; 1998 JZ₁ *, 6, 2, 1; 1998 JA₂ *, 6, 2, 1; 1998 JB₂ *, 6, 2, 1; 1998 JC₂ *, 6, 2, 1; 1998 JD₂ *, 6, 2, 1; 1998 JE₂ *, 6, 2, 1; 1998 JF₂ *, 6, 2, 1; 2575 P-L, 3, 1, 0; 2594 P-L, 3, 1, 0; 2727 P-L, 3, 1, 0; 4035 P-L, 3, 1, 0; 4053 P-L, 6, 2, 37; 3196 T-1, 3, 1, 0; 3216 T-1, 3, 1, 0; 3274 T-1, 3, 1, 0; 4265 T-1, 3, 1, 0; 1059 T-2, 3, 1, 0; 1167 T-2, 3, 1, 0; 1325 T-2, 3, 1, 0; 2080 T-2, 3, 1, 0; 2115 T-2, 3, 1, 0; 2287 T-2, 6, 2, 27; 3089 T-2, 3, 1, 0; 3297 T-2, 3, 1, 0; 4076 T-2, 3, 1, 0; 5125 T-2, 3, 1, 0; 5162 T-2, 3, 1, 0; 1135 T-3, 3, 1, 0; 2390 T-3, 3, 1, 0; 3109 T-3, 6, 2, 1; 3468 T-3, 3, 1, 0; 3476 T-3, 3, 1, 0; 5016 T-3, 6, 1, 0; (24), 3, 1, 0; (36), 6, 2, 1; (48), 3, 1, 0; (84), 3, 1, 0; (85), 3, 1, 0; (88), 3, 1, 0; (93), 3, 1, 0; (117), 9, 2, 1; (118), 3, 1, 0; (120), 6, 2, 1; (131), 6, 2, 1; (148), 6, 2, 4; (153), 3, 1, 0; (160), 6, 2, 1; (166), 6, 2, 2; (169), 3, 1, 0; (172), 3, 1, 0; (173), 3, 1, 0; (179), 3, 1, 0; (194), 3, 1, 0; (210), 3, 1, 0; (214), 3, 1, 0; (243), 6, 2, 1; (244), 3, 1, 0; (260), 3, 1, 0; (262), 3, 1, 0; (279), 3, 1, 0; (318), 3, 1, 0; (327), 3, 1, 0; (332), 3, 1, 0; (370), 3, 1, 0; (381), 6, 2, 5; (386), 6, 2, 1; (388), 3, 1, 0; (403), 3, 1, 0; (427), 3, 1, 0; (436), 3, 1, 0; (438), 3, 1, 0; (443), 3, 1, 0; (451), 3, 1, 0; (471), 6, 2, 2; (478), 3, 1, 0; (479), 6, 2, 1; (516), 3, 1, 0; (518), 6, 2, 1; (526), 3, 1, 0; (528), 3, 1, 0; (538), 3, 1, 0; (543), 3, 1, 0; (549), 6, 2, 1; (551), 3, 1, 0; (566), 3, 1, 0; (591), 6, 2, 1; (598), 6, 1, 0; (608), 3, 1, 0; (613), 6, 2, 1; (615), 3, 1, 0; (616), 3, 1, 0; (632), 3, 1, 0; (646), 3, 1, 0; (653), 3, 1, 0; (656), 6, 2, 1; (666), 3, 1, 0; (693), 3, 1, 0; (706), 3, 1, 0; (711), 3, 1, 0; (717), 3, 1, 0; (734), 6, 2, 1; (744), 3, 1, 0; (772), 3, 1, 0; (780), 3, 1, 0; (796), 3, 1, 0; (843), 3, 1, 0; (863), 3, 1, 0; (875), 3, 1, 0; (904), 3, 1, 0; (917), 6, 2, 1; (923), 3, 1, 0; (924), 3, 1, 0; (940), 3, 1, 0; (975), 3, 1, 0; (985), 3, 1, 0; (986), 3, 1, 0; (987), 6, 2, 1; (990), 3, 1, 0; (991), 3, 1, 0; (1003), 6, 2, 1; (1031), 3, 1, 0; (1044), 3, 1, 0; (1054), 6, 2, 1; (1060), 3, 1, 0; (1074), 6, 2, 1; (1085), 3, 1, 0; (1086), 3, 1, 0; (1087), 3, 1, 0; (1088), 3, 1, 0; (1091), 3, 1, 0; (1132), 3, 1, 0; (1146), 3, 1, 0; (1155), 6, 2, 1; (1168), 6, 2, 1; (1176), 6, 2, 1; (1202), 3, 1, 0; (1255), 3, 1, 0; (1263), 3, 1, 0; (1273), 3, 1, 0; (1285), 3, 1, 0; (1326), 3, 1, 0; (1327), 3, 1, 0; (1346), 3, 1, 0; (1348), 6, 2, 1; (1361), 3, 1, 0; (1363), 3, 1, 0; (1365), 3, 1, 0; (1382), 6, 2, 1; (1407), 3, 1, 0; (1414), 2, 1, 0; (1420), 3, 1, 0; (1432), 3, 1, 0; (1442), 3, 1, 0; (1453), 3, 1, 0; (1488), 3, 1, 0; (1494), 6, 2, 1; (1499), 3, 1, 0; (1521), 3, 1, 0; (1522), 3, 1, 0; (1530), 3, 1, 0; (1540), 6, 2, 1; (1542), 6, 2, 1; (1561), 3, 1, 0; (1563), 3, 1, 0; (1570), 3, 1, 0; (1587), 3, 1, 0; (1589), 3, 1, 0; (1605), 3, 1, 0; (1607), 3, 1, 0; (1632), 3, 1, 0; (1634), 3, 1, 0; (1659), 3, 1, 0; (1671), 3, 1, 0; (1688), 3, 1, 0; (1689), 6, 2, 1; (1690), 6, 2, 1; (1711), 3, 1, 0; (1722), 3, 1, 0; (1725), 3, 1, 0; (1727), 6, 1, 0; (1755), 6, 2, 1; (1780), 3, 1, 0; (1791), 3, 1, 0; (1797), 3, 1, 0; (1813), 3, 1, 0; (1833), 3, 1, 0; (1846), 6, 2, 1; (1854), 3, 1, 0; (1855), 3, 1, 0; (1862), 3, 1, 0; (1888), 3, 1, 0; (1905), 6, 2, 1; (1949), 3, 1, 0; (1963), 3, 1, 0; (1982), 3, 1, 0; (1986), 3, 1, 0; (1998), 3, 1, 0; (2002), 3, 1, 0; (2018), 3, 1, 0; (2027), 6, 2, 1; (2030), 3, 1, 0; (2031), 3, 1, 0; (2054), 3, 1, 0; (2060), 6, 2, 1; (2084), 3, 1, 0; (2091), 3, 1, 0; (2114), 3, 1, 0; (2120), 3, 1, 0; (2126), 3, 1, 0; (2152), 3, 1, 0; (2157), 3, 1, 0; (2177), 3, 1, 0; (2181), 6, 2, 1; (2187), 3, 1, 0; (2231), 6, 2, 1; (2233), 3, 1, 0; (2236), 3, 1, 0; (2237), 3, 1, 0; (2239), 3, 1, 0; (2249), 3, 1, 0; (2262), 6, 2, 1; (2269), 3, 1, 0; (2276), 3, 1, 0; (2299), 3, 1, 0; (2313), 3, 1, 0; (2316), 6, 2, 1; (2319), 3, 1, 0; (2345), 6, 2, 1; (2362), 6, 2, 1; (2365), 3, 1, 0; (2373), 3, 1, 0; (2381), 3, 1, 0; (2397), 3, 1, 0; (2402), 3, 1, 0; (2407), 3, 1, 0; (2444), 3, 1, 0; (2465), 3, 1, 0; (2467), 3, 1, 0; (2470), 3, 1, 0; (2487), 3, 1, 0; (2541), 3, 1, 0; (2566), 3, 1, 0; (2572), 3, 1, 0; (2591), 6, 2, 1; (2627), 3, 1, 0; (2628), 3, 1, 0; (2636),

2, 1; (4745), 3, 1, 0; (4752), 3, 1, 0; (4759), 3, 1, 0; (4807), 3, 1, 0; (4822), 3, 1, 0; (4848), 6, 2, 1; (4869), 3, 1, 0; (4870), 3, 1, 0; (4881), 3, 1, 0; (4892), 3, 1, 0; (4904), 6, 2, 1; (4963), 3, 1, 0; (5048), 3, 1, 0; (5065), 3, 1, 0; (5076), 6, 2, 1; (5117), 3, 1, 0; (5136), 3, 1, 0; (5138), 3, 1, 0; (5187), 3, 1, 0; (5191), 3, 1, 0; (5313), 3, 1, 0; (5362), 15, 2, 1; (5376), 3, 1, 0; (5406), 3, 1, 0; (5433), 6, 2, 1; (5445), 3, 1, 0; (5505), 3, 1, 0; (5508), 3, 1, 0; (5521), 6, 2, 3; (5528), 3, 1, 0; (5533), 6, 2, 1; (5544), 3, 1, 0; (5565), 6, 2, 1; (5589), 3, 1, 0; (5611), 3, 1, 0; (5616), 6, 2, 1; (5623), 3, 1, 0; (5651), 3, 1, 0; (5653), 6, 2, 1; (5720), 3, 1, 0; (5783), 3, 1, 0; (5862), 3, 1, 0; (5885), 3, 1, 0; (5896), 6, 2, 1; (5910), 3, 1, 0; (5916), 6, 2, 1; (5935), 3, 1, 0; (5937), 3, 1, 0; (5956), 3, 1, 0; (5962), 3, 1, 0; (5975), 3, 1, 0; (5977), 3, 1, 0; (6007), 3, 1, 0; (6012), 6, 2, 1; (6024), 3, 1, 0; (6026), 3, 1, 0; (6052), 3, 1, 0; (6169), 3, 1, 0; (6174), 3, 1, 0; (6214), 3, 1, 0; (6218), 3, 1, 0; (6237), 6, 2, 1; (6277), 3, 1, 0; (6381), 3, 1, 0; (6430), 3, 1, 0; (6434), 3, 1, 0; (6471), 3, 1, 0; (6500), 3, 1, 0; (6520), 6, 2, 1; (6544), 3, 1, 0; (6559), 6, 2, 1; (6567), 3, 1, 0; (6572), 3, 1, 0; (6576), 3, 1, 0; (6589), 6, 2, 1; (6596), 3, 1, 0; (6609), 9, 3, 8; (6619), 3, 1, 0; (6621), 3, 1, 0; (6656), 3, 1, 0; (6657), 3, 1, 0; (6683), 6, 2, 1; (6694), 6, 2, 1; (6696), 3, 1, 0; (6697), 3, 1, 0; (6720), 3, 1, 0; (6733), 3, 1, 0; (6785), 3, 1, 0; (6803), 3, 1, 0; (6832), 3, 1, 0; (7117), 12, 2, 1; (7196), 3, 1, 0; (7261), 6, 2, 1; (7298), 3, 1, 0; (7307), 6, 2, 1; (7309), 3, 1, 0; (7311), 6, 2, 1; (7321), 3, 1, 0; (7338), 3, 1, 0; (7348), 3, 1, 0; (7355), 3, 1, 0; (7381), 3, 1, 0; (7392), 3, 1, 0; (7402), 6, 2, 1; (7418), 3, 1, 0; (7419), 3, 1, 0; (7424), 6, 2, 1; (7428), 3, 1, 0; (7434), 3, 1, 0; (7446), 3, 1, 0; (7496), 6, 2, 2; (7505), 3, 1, 0; (7528), 3, 1, 0; (7532), 3, 1, 0; (7551), 3, 1, 0; (7578), 3, 1, 0; (7581), 3, 1, 0; (7596), 6, 2, 1; (7607), 3, 1, 0; (7618), 3, 1, 0; (7650), 3, 1, 0; (7718), 6, 2, 1; (7762), 3, 1, 0; (8257), 3, 1, 0; (8296), 3, 1, 0; (8349), 3, 1, 0; (8356), 3, 1, 0; (8363), 3, 1, 0; (8388), 3, 1, 0; (8447), 3, 1, 0; (8450), 3, 1, 0; (8453), 3, 1, 0; (8474), 3, 1, 0; (8491), 3, 1, 0; (8499), 3, 1, 0; (8501), 3, 1, 0; (8512), 3, 1, 0; (8513), 3, 1, 0; (8525), 6, 2, 1; (8533), 6, 2, 1; (8534), 6, 2, 1; (8536), 3, 1, 0; (8548), 6, 2, 1; (8565), 3, 1, 0; (8573), 6, 2, 1; (8580), 3, 1, 0; (8584), 3, 1, 0; (8586), 3, 1, 0; (8593), 3, 1, 0; (8597), 3, 1, 0; (8602), 3, 1, 0; [4751, 1214, 79*, 1996/07/15–1998/05/02]

568 Mauna Kea

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C. Veillet, Canada-France-Hawaii Telescope Corporation, P.O. Box 1597, Kamuela, HI 96743, U.S.A. [veillet@cfht.hawaii.edu] (3)

Observers R. J. Whiteley (2), K. D. S. Smith (2), J. Bauer (2), C. Veillet (3)

Measurers R. J. Whiteley (2), K. D. S. Smith (2), C. Veillet (3)

0.6-m $f/15$ reflector + CCD, CFHT 3.6-m + CCD

USNO-A1.0, USNO-SA1.0

(2) 1998 DK₃₆ *, 4, 2, 1; 1998 HY₁₃, 2, 1, 0; 1998 HD₁₄, 8, 1, 0; [14, 3, 1*, 1998/02/23–1998/04/27]

(3) 1998 HH₂₄ *, 19, 2, 1; 1998 HJ₂₄ *, 5, 2, 1; 1998 HK₂₄ *, 4, 2, 1; 1998 HL₂₄ *, 5, 2, 1; 1998 HM₂₄ *, 4, 2, 1; 1998 HN₂₄ *, 4, 2, 1; 1998 HO₂₄ *, 5, 2, 1; [46, 7, 7*, 1998/04/24–1998/04/25]

587 Sormano

P. Sicoli, Via Valli 9, I-23846 Garbagnate Monastero (Lecco), Italy

[sormano@tin.it]

Observers A. Testa, P. Chiavenna, P. Sicoli, M. Cavagna, F. Manca, V. Giuliani, P. Ghezzi, G. Ventre

0.5-m reflector + CCD

GSC

1998 AX₄, 2, 1, 0; 1998 DV₉, 2, 1, 0; 1998 DY₁₁, 2, 1, 0; 1998 DK₂₃, 2, 1, 0; [8, 4, 0*, 1998/04/21]

589 Santa Lucia Stroncone

A. Vagnozzi, Via Santa Lucia 68, I-05039 Stroncone (Terni), Italy

[vagnozzi@freenet.hut.fi]

Observers A. Vagnozzi, G. Bernabei, V. Risoldi, V. Scirri

0.50-m $f/2.8$ Ritchey-Chrétien + CCD

GSC

1995 SX, 17, 5, 6; 1995 SQ₂, 2, 1, 0; 1996 QU, 4, 1, 0; 1996 TN₁₂, 2, 1, 0; 1997 BH₃, 2, 1, 0; 1998 DX, 6, 2, 1; 1998 FB, 3, 1, 0; 1998 FA₁₅, 3, 1, 0; 1998 FR₇₃, 16, 5, 23; 1998 HO₁ *, 23, 7, 11; 1998 HP₁ *, 20, 6, 11; 1998 HH₈ *, 12, 4, 6; 1998 HJ₈ *, 6, 2, 1; (5045), 4, 1, 0; [120, 14, 4*, 1998/04/03–1998/04/30]

595 Farra d'Isonzo

L. Bittesini, Via dei Conventi 10, I-34070 Farra D'Isonzo (GO), Italy

[ccaf@tmedia.it]

Observers A. Toso, W. Boschini, L. Drigo, G. Lombardi, E. Pettarin, F. Piani

Measurers L. Drigo, G. Lombardi, E. Pettarin, A. Toso

0.4-m $f/4.5$ reflector + CCD

GSC

1994 BN₄, 4, 2, 5; 1997 AQ₁₇, 4, 2, 5; 1998 BJ₁₉, 4, 2, 2; 1998 DW₁, 2, 1, 0; 1998 FH₁₅, 4, 2, 3; 1998 FK₁₅, 4, 2, 3; 1998 HT₂₄ *, 4, 2, 1; [26, 7, 1*, 1998/04/14–1998/04/25]

596 Colleverde di Guidonia

V. S. Casulli, Via M. Rosa 1, I-00010 Colleverde di Guidonia (RM), Italy

[v.casulli@priminet.it]

0.40-m $f/3.2$ reflector + CCD

GSC

1994 EB, 6, 2, 17; 1995 SB₂, 8, 3, 18; 1995 UL, 3, 1, 0; 1997 AP₁₇, 2, 1, 0; 1998 DP₁₃, 2, 1, 0; 1998 HD₂ *, 6, 2, 1; (8569), 2, 1, 0; [29, 7, 1*, 1998/04/03–1998/04/21]

605 Marl

J. Jahn, Neustaedter Strasse 11, D-29389 Bodenteich, Germany

[j.jahn@abbs.heide.de]

Observer E. Jung

0.20-m $f/10$ reflector + CCD

GSC

1998 BZ₇, 3, 1, 0; (3800), 4, 1, 0; (5751), 3, 1, 0; [10, 3, 0*, 1998/02/14–1998/03/23]

609 Osservatorio Polino

G. Iatteri, Via Val Serra 45h, Terni, Italy

Observers G. Iatteri, V. S. Casulli, V. Scirri, G. Bernabei

Measurers V. S. Casulli, V. Scirri

0.40-m $f/2.9$ reflector + CCD

GSC

1995 SB₂, 3, 1, 0; 1998 CB₂, 3, 1, 0; 1998 DO, 3, 1, 0; 1998 DP₁₃, 3, 1, 0; 1998 HD₂, 3, 1, 0; (5057), 3, 1, 0; [18, 6, 0*, 1998/04/25]

610 Pianoro

V. Goretta, Via Resistenza 93, I-40065 Pianoro (BO), Italy

[astrofil@astbo1.bo.cnr.it]

0.25-m $f/4$ Schmidt-Cassegrain + CCD

GSC

1998 FM₅, 5, 1, 0; (1862), 5, 1, 0; (3800), 5, 1, 0; [15, 3, 0*, 1998/04/14]

611 Starkenburg Sternwarte, Heppenheim

M. Busch, Giessener Strasse 4, D-64646 Heppenheim, Germany [mab@iez.com]

Observers M. Busch, F. Hormuth, S. Kluegl, J. Rothermel, P. Thiessen, P. Geffert,

A. Seib, L. Kurtze, K. Sonnenberg, R. Stoss, C. Daume, K. Spanowsky

Measurers S. Kluegl, M. Busch, F. Hormuth, R. Stoss, J. Rothermel, L. Kurtze

0.45-m $f/4.4$ Newtonian reflector + CCD, 0.20-m $f/6$ Newtonian reflector + CCD,

0.19-m $f/4$ Flat-Field camera + CCD

USNO-SA1.0

1998 FW₁₅, 6, 2, 7; 1998 GS₉ *, 13, 4, 8; [19, 2, 1*, 1998/04/14–1998/04/22]

620 Observatorio Astronómico de Mallorca

M. Blasco, Afueras s/n, E-07144 Costitx, Baleares, Spain

[astroam@dinky.bitel.es]

Observers R. Pacheco, A. Lopez

Measurer A. Lopez

0.30-m $f/3.3$ Schmidt-Cassegrain + CCD

GSC

1998 HG₂₄ *, 7, 2, 3; 1998 HT₃₁, 6, 1, 0; (5865), 3, 1, 0; [16, 3, 1*, 1998/04/24–1998/04/30]

627 Blauvac

R. Roy, Le Badassier St Esteve, F-84570 Blauvac, France [Rene.Roy@wanadoo.fr]

0.26-m $f/4.7$ reflector + CCD

GSC

1998 BB₄₂, 3, 1, 0; 1998 CP₂, 3, 1, 0; 1998 DY₉, 3, 1, 0; [9, 3, 0*, 1998/04/19–1998/04/21]

628 Mülheim-Ruhr

A. Martin, Turtle Star Observatory, Friedhostr. 15, D-45478 Mülheim-Ruhr, Germany [axelm@bph.ruhr-uni-bochum.de]

0.2-m Schmidt-Cassegrain + CCD

GSC, USNO-SA1.0

(311), 5, 1, 0; [5, 1, 0*, 1998/03/31]

633 Romito

M. Bernazzani, via Provinciale 170, I-19030 Romito Magra (SP), Italy [naidabis@col.it]

Observers N. Biso, M. Bernazzani

Measurer M. Bernazzani

0.30-m $f/5.1$ Schmidt-Cassegrain + CCD

GSC

1998 FX₂, 3, 1, 0; 1998 FM₅, 4, 1, 0; (8275), 3, 1, 0; [10, 3, 0*, 1998/04/24]

635 Perpignan

J.-M. Llapasset, 66 Cours De Lassus, F-66000 Perpignan, France [Jean-Marie.Llapasset@wanadoo.fr]

Observers J.-M. Llapasset, G. Authier

Measurer J.-M. Llapasset

0.28-m $f/6.3$ reflector + CCD

USNO

1998 FX₂, 2, 1, 0; [2, 1, 0*, 1998/04/23]

658 Dominion Astrophysical Observatory, Victoria

J. B. Tatum, Dept. of Physics, University of Victoria, P.O. Box 3055, Victoria, BC V8W 3P6, Canada [universe@uvvm.uvic.ca]

Observers D. D. Balam, G. C. L. Aikman

1.82-m Plaskett telescope + CCD

GSC, USNO-A1.0

1993 BW₂, 3, 1, 0; 1996 DH, 3, 1, 0; 1997 WT₂₂, 3, 1, 0; 1997 YX₃, 3, 1, 0; 1998 BE₇, 3, 1, 0; 1998 BX₇, 3, 1, 0; 1998 DV₉, 6, 2, 1; 1998 EC₃, 2, 1, 0; 1998 FF₂, 3, 1, 0; 1998 FX₂, 9, 3, 2; 1998 FL₅, 2, 1, 0; 1998 FM₉, 3, 1, 0; 1998 FN₉, 1, 1, 0; 1998 FR₁₁, 3, 1, 0; 1998 FS₁₁, 3, 1, 0; 1998 FG₁₂, 2, 1, 0; 1998 FH₁₂, 3, 1, 0; 1998 FH₇₄, 5, 2, 1; (3800), 3, 1, 0; (7889), 2, 1, 0; [65, 20, 0*, 1998/04/15–1998/04/17]

663 Red Mountain Observatory

R. B. Denny, 6665 E. Vanguard St., Mesa, AZ 85215, U.S.A. [rdenny@dc3.com]

0.2-m $f/6.3$ Schmidt-Cassegrain + CCD

GSC 1.1

(127), 3, 2, 1; [3, 1, 0*, 1998/04/10–1998/04/11]

670 Camarillo

J. E. Rogers, 441 Rowland Avenue, Camarillo, CA 93010, U.S.A. [72401.3174@compuserve.com]

0.25-m Schmidt-Cassegrain + CCD

GSC

1998 FX₂, 7, 2, 2; 1998 FM₅, 8, 2, 2; 1998 HT₃₁, 4, 1, 0; (1862), 6, 2, 2; [25, 4, 0*, 1998/04/18–1998/05/01]

675 Palomar

E. F. Helin, MS 183-501, Jet Propulsion Laboratory, Pasadena, CA 91109, U.S.A. [efh@alps.jpl.nasa.gov] (2)

C. S. Shoemaker, P.O. Box 984, Flagstaff, AZ 86002, U.S.A.

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C. J. van Houten, Sterrewacht Leiden, Postbus 9513, NL-2300 RA Leiden, The Netherlands [vanhouten@rnhl1.leidenuniv.nl] (4)

E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff, AZ 86001, U.S.A. [elgb@lowell.edu] (6)

9 = 6 + 3

Observers T. Gehrels (4, L), E. F. Helin (2, S), H. E. Holt (3, S), K. Lawrence (2, S), D. H. Levy (3, S), C. S. Shoemaker (3, S), E. M. Shoemaker (3, S)

Measurers K. Lawrence (2), T. Melis (6), B. A. Skiff (6), C. S. Shoemaker (3),

C. J. van Houten (4), I. van Houten-Groeneveld (4), A. Wisse (4)

1.2-m Oschin Schmidt (L), 0.46-m Schmidt (S)

(2) 1994 NQ, 4, 2, 1; [4, 1, 0*, 1994/07/11–1994/07/12]

(4) 2049 P-L *, 8, 8, 32; 2053 P-L *, 7, 7, 32; 2112 P-L *, 6, 4, 5; 3098 P-L *, 7, 6, 5; 4234 P-L *, 5, 3, 4; 4695 P-L *, 7, 6, 32; 6223 P-L *, 6, 3, 4; 6286 P-L *, 5, 5, 23; 6800 P-L *, 4, 4, 4; 7069 P-L *, 5, 5, 30; 1050 T-1 *, 10, 4, 3; 1154 T-1 *, 5, 4, 3; 1166 T-1 *, 10, 8, 51; 2026 T-1 *, 5, 4, 3; 2114 T-1 *, 8, 6, 23; 2208 T-1 *, 10, 8, 51; 3074 T-1 *, 9, 7, 50; 3158 T-1 *, 4, 3, 7; 3164 T-1 *, 4, 3, 2; 3224 T-1 *, 10, 8, 51; 3770 T-1 *, 5, 4, 30; 4221 T-1 *, 10, 8, 53; 4240 T-1 *, 4, 3, 3; 4300 T-1 *, 6, 4, 21; 4503 T-1 *, 5, 3, 3; 1108 T-2 *, 15, 8, 16; 1142 T-2 *, 14, 8, 16; 4159 T-2 *, 22, 8, 16; 4323 T-2 *, 8, 4, 6; 5087 T-2 *, 15, 8, 16; 1021 T-3 *, 9, 5, 10; 3150 T-3 *, 13, 7, 15; 3210 T-3 *, 9, 5, 10; 3286 T-3 *, 17, 5, 10; 3532 T-3 *, 8, 3, 5; 4245 T-3 *, 13, 7, 15; 5721 T-3 *, 12, 5, 10; [320, 37, 37*, 1960/09/24–1977/10/22]

(6) 1981 ER₈, 2, 1, 0; [2, 1, 0*, 1979/10/18]

(9) 1975 TQ₃, 2, 1, 0; 1978 VD₇, 2, 1, 0; 1981 EC₂₇, 1, 1, 0; 1981 QG, 2, 1, 0; 1981 SL, 2, 1, 0; 1983 CH, 2, 1, 0; 1987 QT₁, 2, 1, 0; 1988 RZ₅, 2, 1, 0; 1988 VO₃, 2, 1, 0; 1991 GT₂, 2, 1, 0; 1991 TN, 2, 1, 0; 1992 US, 2, 1, 0; 1992 UW, 2, 1, 0; 1992 UF₁, 2, 1, 0; 1993 FT₃₃, 2, 1, 0; 1993 GG₁, 1, 1, 0; 1993 HG, 2, 1, 0; 1993 SE₄, 2, 1, 0; 1994 CM, 2, 1, 0; 1994 CE₂, 2, 1, 0; 1994 NM₂, 2, 1, 0; 1995 WV₄₂, 2, 1, 0; 1996 BW₄, 1, 1, 0; 1996 CM₇, 2, 1, 0; 1996 HR₂₁, 2, 1, 0; 1996 PN₅, 1, 1, 0; 1996 TJ₉, 2, 1, 0; 1996 VV, 3, 2, 2; 1996 WQ₁, 2, 1, 0; 1997 AQ₁₂, 2, 1, 0; 1997 AR₂₂, 2, 1, 0; 1997 QS₄, 4, 2, 2; 2559 P-L, 2, 1, 0; 4004 P-L, 1, 1, 0; 3076 T-2, 2, 1, 0; (124), 2, 1, 0; (292), 2, 1, 0; (302), 2, 1, 0; (765), 2, 1, 0; (798), 2, 1, 0; (1123), 2, 1, 0; (1350), 2, 1, 0; (1782), 2, 1, 0; (1848), 2, 1, 0; (2076), 2, 1, 0; (2276), 2, 1, 0; (2354), 2, 1, 0; (2405), 1, 1, 0; (2587), 2, 1, 0; (2756), 1, 1, 0; (2775), 2, 1, 0; (3112), 2, 1, 0; (3192), 1, 1, 0; (3380), 2, 1, 0; (3411), 2, 1, 0; (3417), 2, 1, 0; (3499), 2, 1, 0; (3621), 2, 1, 0; (3993), 4, 2, 2; (4233), 2, 1, 0; (4365), 2, 1, 0; (4376), 2, 1, 0; (4520), 2, 1, 0; (4523), 2, 1, 0; (4685), 2, 1, 0; (5060), 1, 1, 0; (5080), 2, 1, 0; (5209), 1, 1, 0; (5557), 2, 1, 0; (5608), 2, 1, 0; (5613), 2, 1, 0; (5698), 2, 1, 0; (5888), 2, 1, 0; (5919), 2, 1, 0; (5993), 2, 1, 0; (6034), 4, 2, 2; (6070), 2, 1, 0; (6111), 2, 1, 0; (6328), 2, 1, 0; (6336), 2, 1, 0; (6467), 2, 1, 0; (6496), 1, 1, 0; (6647), 2, 1, 0; (6700), 2, 1, 0; (6714), 2, 1, 0; (6885), 2, 1, 0; (6900), 2, 1, 0; (6909), 2, 1, 0; (7109), 2, 1, 0; (7469), 1, 1, 0; (7578), 2, 1, 0; (7581), 2, 1, 0; (7701), 1, 1, 0; (7726), 2, 1, 0; (7924), 2, 1, 0; (8094), 2, 1, 0; (8125), 2, 1, 0; (8169), 2, 1, 0; (8183), 2, 1, 0; (8234), 4, 2, 2; (8402), 2, 1, 0; [198, 101, 0*, 1991/05/18–1994/08/06]

683 Goodricke-Pigott Observatory, Tucson

R. A. Tucker, 5500 West Nebraska Street, Tucson, AZ 85746, U.S.A. [tucker@noao.edu]

0.36-m $f/11$ Schmidt-Cassegrain + CCD

GSC

1993 VY, 7, 3, 5; 1998 FG₂, 5, 2, 11; 1998 HE₃ *, 23, 6, 12; [35, 3, 1*, 1998/03/20–1998/05/03]

1998 MAY 11

M.P.C. 31649

684 Prescott

P. G. Comba, 1411 Galaxy Lane, Prescott, AZ 86303, U.S.A.

[comba@northlink.com]

0.46-m $f/4.5$ reflector + CCD

GSC

1978 SQ₄, 4, 2, 1; 1981 EW₅, 4, 2, 2; 1983 XG₄, 4, 2, 1; 1992 PV₁, 4, 2, 1; 1994 RC₁₁, 4, 2, 1; 1995 VY₄, 4, 2, 1; 1996 TU₁₁, 4, 2, 1; 1996 WX₇, 7, 3, 2; 1996 XE₂, 4, 2, 1; 1996 YT₂, 3, 2, 1; 1997 AA₄, 4, 2, 1; 1997 AN₁₂, 4, 2, 1; 1997 CM₅, 5, 2, 1; 1997 CM₁₉, 3, 2, 1; 1997 CF₂₂, 5, 2, 1; 1997 CK₂₂, 6, 2, 1; 1997 EO₇, 5, 2, 1; 1998 DV₁₂, 4, 2, 1; 1998 ED₃, 4, 2, 1; 1998 FZ₄, 4, 2, 1; 1998 FA₅, 5, 2, 1; 1998 FW₉, 4, 2, 1; 1998 FL₄₉, 5, 2, 1; 1998 HL *, 6, 3, 2; 1998 HJ₁ *, 7, 3, 2; 1998 HU₄, 4, 2, 1; 1998 HZ₇, 2, 1, 0; 1998 HK₈, 4, 2, 1; 1998 HC₂₀ *, 8, 4, 5; 1998 HD₂₀ *, 4, 2, 1; 1998 HE₂₀ *, 8, 4, 5; 1998 HF₂₀ *, 8, 4, 5; 1998 HP₂₃ *, 4, 2, 1; 1998 HQ₂₃ *, 8, 4, 4; 1998 HR₂₃ *, 8, 4, 4; 1998 HS₂₃ *, 8, 4, 4; 2702 P-L, 4, 2, 1; 4878 T-1, 4, 2, 1; [187, 38, 10*, 1998/04/16–1998/05/02]

689 U.S. Naval Observatory, Flagstaff Station

A. K. B. Monet, U. S. Naval Observatory, Flagstaff Station, P.O. Box 1149,

Flagstaff AZ 86002-1149 [alice@nobs.navy.mil]

Observers A. K. B. Monet, C. Luginbuhl, H. Guetter

Measurer A. K. B. Monet

0.20-m transit telescope + CCD, 1.55-m astrometric reflector + CCD

USNO-A1.0, ACT

1971 SB₃, 3, 3, 20; 1977 RK₁, 1, 1, 0; 1981 DF₁, 1, 1, 0; 1981 GG₄, 4, 4, 59; 1981 WO₁, 1, 1, 0; 1983 BD₁, 1, 1, 0; 1985 JU₁, 1, 1, 0; 1985 VG₂, 2, 2, 1; 1986 TU₆, 1, 1, 0; 1987 SU₁, 1, 1, 0; 1988 SC₂, 2, 2, 17; 1989 KF₂, 2, 2, 10; 1990 KC₁, 1, 1, 0; 1990 TM₁, 2, 2, 9; 1990 WF₁, 1, 1, 0; 1990 WN₅, 1, 1, 0; 1991 GR₁, 1, 1, 0; 1991 JL₁, 1, 1, 0; 1991 NS₁, 1, 1, 0; 1991 OM₁, 1, 1, 0; 1991 PT₇, 1, 1, 0; 1991 XS₁, 1, 1, 0; 1992 WH₁, 1, 1, 0; 1992 WG₅, 1, 1, 0; 1993 FT₄₁, 1, 1, 0; 1993 KT₁, 1, 1, 0; 1993 UB₁, 1, 1, 0; 1994 AT₁, 1, 1, 0; 1994 AC₁₇, 1, 1, 0; 1994 CF₁, 1, 1, 0; 1994 JS₁, 1, 1, 0; 1994 JK₉, 1, 1, 0; 1994 LJ₁, 1, 1, 0; 1995 BT₂, 1, 1, 0; 1995 KL₁, 1, 1, 0; 1996 EU₂, 1, 1, 0; 1996 TR₁₀, 1, 1, 0; 1996 VE₉, 1, 1, 0; 1996 XR₂₅, 1, 1, 0; 1997 VX₁, 1, 1, 0; 1997 WB₂₂, 2, 2, 22; 1997 YW₁₃, 1, 1, 0; 1998 EC₁, 1, 1, 0; 2272 T-2, 1, 1, 0; 3076 T-2, 1, 1, 0; (6), 2, 2, 11; (16), 7, 7, 60; (27), 1, 1, 0; (28), 7, 7, 57; (32), 4, 4, 49; (85), 7, 7, 59; (89), 1, 1, 0; (90), 7, 7, 86; (91), 3, 3, 19; (112), 5, 5, 39; (141), 6, 6, 50; (391), 2, 2, 19; (433), 2, 2, 18; (454), 9, 9, 86; (471), 6, 6, 86; (472), 1, 1, 0; (538), 7, 7, 75; (664), 2, 2, 11; (712), 7, 7, 46; (779), 5, 5, 48; (811), 2, 2, 19; (895), 1, 1, 0; (908), 2, 2, 29; (1035), 1, 1, 0; (1055), 2, 2, 8; (1139), 1, 1, 0; (1236), 1, 1, 0; (1521), 5, 5, 46; (1727), 1, 1, 0; (1793), 10, 10, 86; (1992), 3, 3, 28; (2060), 3, 3, 20; (2430), 1, 1, 0; (2467), 5, 5, 68; (2502), 1, 1, 0; (2655), 2, 2, 36; (2703), 3, 3, 22; (2873), 1, 1, 0; (2941), 1, 1, 0; (3057), 4, 4, 68; (3209), 3, 3, 27; (3444), 1, 1, 0; (3448), 1, 1, 0; (3531), 4, 4, 40; (3648), 1, 1, 0; (3767), 1, 1, 0; (3800), 2, 2, 36; (4194), 4, 4, 18; (4780), 1, 1, 0; (5278), 2, 2, 9; (5720), 1, 1, 0; (5817), 1, 1, 0; (6333), 4, 4, 28; (6445), 1, 1, 0; (6674), 4, 4, 49; (7117), 1, 1, 0; (8272), 1, 1, 0; (8276), 3, 3, 22; (8285), 1, 1, 0; (8292), 2, 2, 18; (8323), 3, 3, 22; (8341), 1, 1, 0; (8345), 1, 1, 0; (8356), 1, 1, 0; (8359), 1, 1, 0; (8364), 2, 2, 46; (8373), 2, 2, 5; (8413), 1, 1, 0; (8420), 1, 1, 0; (8434), 1, 1, 0; (8443), 2, 2, 10; (8453), 2, 2, 28; (8455), 1, 1, 0; (8458), 1, 1, 0; (8474), 2, 2, 10; (8481), 1, 1, 0; (8505), 2, 2, 8; (8525), 2, 2, 29; (8531), 1, 1, 0; (8533), 1, 1, 0; [264, 125, 0*, 1998/02/01–1998/04/28]

691 Kitt Peak, Steward Observatory

T. Gehrels, Space Sciences Building, University of Arizona, Tucson, AZ 85721,

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Observers T. Gehrels, J. Larsen, J. Montani, J. V. Scotti

0.91-m Spacewatch telescope + CCD

GSC

1976 UB₁₆, 3, 1, 0; 1978 TP₂, 3, 1, 0; 1978 UR₄, 3, 1, 0; 1979 MB₂, 6, 2, 5; 1981 EF₅, 3, 1, 0; 1981 EK₇, 6, 2, 6; 1981 EM₈, 3, 1, 0; 1981 WE₁, 3, 1, 0; 1987 DO₆, 6, 2, 5; 1988 VH₁, 3, 1, 0; 1989 XD₁, 3, 1, 0; 1990 QY₈, 9, 3, 11; 1990 SB₆, 3, 1, 0; 1991 GN₉, 6, 2, 10; 1991 NS₁, 6, 2, 8; 1991 PW₁₆, 3, 1, 0; 1991 RK₁₆, 3, 1, 0; 1991 UZ₃, 3, 1, 0; 1991 UV₂, 3, 1, 0; 1992 EG₄, 6, 2, 7; 1992 ER₆, 6, 2, 8; 1992 EY₁₁, 2, 1, 0; 1992 ST₃, 3, 1, 0; 1992 SJ₁, 12, 3, 10; 1992 UY₆, 6, 2, 8; 1992 YE₄, 9, 3, 16; 1993 BA₉, 3, 5; 1993 FX₂, 6, 2, 9; 1993 FY₂₂, 3, 1, 0; 1993 TV₃₄, 6, 2, 8; 1994 EG₉, 3, 1, 0; 1995 CV₃, 3, 1, 0; 1995 OJ₆, 6, 2, 5; 1995 OQ₁₀ *, 3, 1, 0; 1995 SM₂₉, 3, 1, 0; 1995 TT₃, 3, 1, 0; 1995 UW₆, 3, 1, 0; 1995 VL₃, 3, 1, 0; 1995 WM₇, 5, 2, 7; 1996 VX₅, 6, 2, 7; 1996 VK₃₀, 3, 1, 0; 1996 VO₃₀, 9, 3, 7; 1996 XS₁₈, 6, 2, 7; 1996 YB₁, 3, 1, 0; 1996 YQ₂, 3, 1, 0; 1997 AA₃, 3, 1, 0; 1997 BR₂, 3, 1, 0; 1997 BE₃, 9, 3, 15; 1997 EQ₅₉ *, 3, 1, 0; 1998 BL₂₆, 3, 1, 0; 1998 CU₃, 3, 1, 0; 1998 DG₁₅, 3, 1, 0; 1998 DK₁₅, 3, 1, 0; 1998 DL₁₅, 6, 2, 6; 1998 DK₂₀, 6, 2,

6; 1998 EM₇, 6, 2, 3; 1998 EZ₇, 6, 2, 7; 1998 EW₈, 3, 1, 0; 1998 FD₇, 3, 1, 0; 1998 FA₈, 3, 1, 0; 1998 FC₉, 12, 4, 10; 1998 FF₁₆, 3, 1, 0; 1998 FS₁₇, 6, 2, 5; 1998 FA₂₃, 3, 1, 0; 1998 FF₆₀, 3, 1, 0; 1998 FN₆₁, 6, 2, 3; 1998 FS₆₁, 3, 1, 0; 1998 FX₆₁, 3, 1, 0; 1998 FY₆₁, 3, 1, 0; 1998 FZ₆₁, 3, 1, 0; 1998 FD₆₂, 3, 1, 0; 1998 FG₆₂, 3, 1, 0; 1998 FH₆₂, 5, 2, 6; 1998 FX₆₂, 6, 2, 5; 1998 FY₆₂, 3, 1, 0; 1998 FZ₆₂, 3, 1, 0; 1998 FH₆₃, 6, 2, 3; 1998 FP₆₃, 3, 1, 0; 1998 FQ₆₃, 3, 1, 0; 1998 FS₆₃, 3, 1, 0; 1998 FD₆₄, 6, 2, 10; 1998 FF₆₄, 9, 3, 11; 1998 FG₆₄, 3, 1, 0; 1998 FH₆₄, 3, 1, 0; 1998 FK₆₄, 9, 3, 11; 1998 FU₆₄, 3, 1, 0; 1998 FZ₆₄, 3, 1, 0; 1998 FL₆₅, 3, 1, 0; 1998 FM₆₅, 3, 1, 0; 1998 FN₆₅, 3, 1, 0; 1998 FJ₆₆, 3, 1, 0; 1998 FM₆₆, 3, 1, 0; 1998 FZ₆₆, 3, 1, 0; 1998 FF₆₇, 3, 1, 0; 1998 FQ₆₇, 9, 3, 11; 1998 FR₆₇, 3, 1, 0; 1998 FV₆₇, 3, 1, 0; 1998 FW₆₇, 6, 2, 7; 1998 FA₇₀, 3, 1, 0; 1998 FP₇₃, 12, 4, 11; 1998 FU₇₆, 6, 2, 8; 1998 FV₇₆, 6, 2, 1; 1998 FW₇₆, 6, 2, 7; 1998 FY₇₆, 3, 1, 0; 1998 FD₇₇, 3, 1, 0; 1998 FR₇₉, 6, 2, 3; 1998 FU₇₉, 3, 1, 0; 1998 FC₁₀₇, 3, 1, 0; 1998 FE₁₀₉, 3, 1, 0; 1998 FW₁₁₅, 3, 1, 0; 1998 FM₁₁₉, 3, 1, 0; 1998 FO₁₁₉, 3, 1, 0; 1998 FS₁₁₉, 3, 1, 0; 1998 FW₁₂₁, 3, 1, 0; 1998 FX₁₂₁, 9, 3, 11; 1998 FU₁₂₂, 6, 2, 3; 1998 FM₁₂₅, 3, 1, 0; 1998 FH₁₂₆, 9, 3, 2; 1998 GM₃, 1, 0; 1998 GA₁, 6, 2, 9; 1998 HB *, 6, 2, 1; 1998 HC *, 6, 2, 1; 1998 HD *, 6, 2, 1; 1998 HE *, 5, 2, 1; 1998 HF *, 6, 2, 1; 1998 HG *, 6, 2, 1; 1998 HH *, 6, 2, 1; 1998 HJ *, 6, 2, 1; 1998 HM *, 6, 2, 2; 1998 HN *, 12, 4, 6; 1998 HO *, 6, 2, 2; 1998 HP *, 12, 4, 9; 1998 HQ *, 6, 2, 2; 1998 HR *, 9, 3, 8; 1998 HS *, 6, 2, 2; 1998 HT *, 9, 3, 9; 1998 HU *, 12, 4, 10; 1998 HV *, 6, 2, 2; 1998 HW *, 9, 3, 10; 1998 HX *, 9, 3, 9; 1998 HY *, 9, 3, 10; 1998 HZ *, 6, 2, 2; 1998 HA₁ *, 6, 2, 2; 1998 HB₁ *, 6, 2, 2; 1998 HC₁ *, 6, 2, 1; 1998 HD₁ *, 6, 2, 1; 1998 HE₁, 3, 1, 0; 1998 HH₁ *, 19, 5, 5; 1998 HM₁ *, 17, 5, 7; 1998 HR₁ *, 6, 2, 2; 1998 HS₁ *, 6, 2, 2; 1998 HT₁ *, 6, 2, 2; 1998 HU₁ *, 12, 4, 12; 1998 HV₁ *, 6, 2, 2; 1998 HW₁ *, 9, 3, 11; 1998 HX₁ *, 9, 3, 8; 1998 HY₁ *, 9, 3, 6; 1998 HZ₁ *, 6, 2, 1; 1998 HA₂ *, 6, 2, 1; 1998 HB₂ *, 12, 4, 8; 1998 HC₂ *, 6, 2, 3; 1998 HH₂ *, 6, 2, 3; 1998 HJ₂ *, 12, 4, 8; 1998 HK₂ *, 9, 3, 3; 1998 HL₂ *, 6, 2, 1; 1998 HM₂ *, 6, 2, 1; 1998 HN₂ *, 6, 2, 1; 1998 HO₂ *, 5, 2, 1; 1998 HP₂ *, 6, 2, 1; 1998 HQ₂ *, 9, 3, 9; 1998 HR₂ *, 9, 3, 5; 1998 HS₂ *, 9, 3, 9; 1998 HT₂ *, 8, 3, 9; 1998 HU₂ *, 9, 3, 8; 1998 HN₃ *, 21, 7, 13; 1998 HO₃ *, 5, 2, 5; 1998 HP₃ *, 9, 3, 6; 1998 HQ₃ *, 6, 2, 3; 1998 HR₃ *, 9, 3, 8; 1998 HS₃ *, 15, 5, 13; 1998 HT₃ *, 9, 3, 8; 1998 HU₃ *, 6, 2, 3; 1998 HV₃ *, 6, 2, 3; 1998 HW₃ *, 6, 2, 3; 1998 HX₃ *, 6, 2, 3; 1998 HY₃ *, 6, 2, 3; 1998 HZ₃ *, 6, 2, 3; 1998 HA₄ *, 6, 2, 3; 1998 HB₄ *, 9, 3, 8; 1998 HC₄ *, 9, 3, 8; 1998 HD₄ *, 6, 2, 3; 1998 HE₄ *, 9, 3, 8; 1998 HF₄ *, 9, 3, 7; 1998 HG₄ *, 6, 2, 1; 1998 HH₄ *, 6, 2, 1; 1998 HJ₄ *, 6, 2, 1; 1998 HK₄ *, 6, 2, 1; 1998 HN₄ *, 12, 4, 10; 1998 HW₄ *, 6, 2, 6; 1998 HX₄ *, 6, 2, 6; 1998 HY₄ *, 6, 2, 5; 1998 HZ₄ *, 6, 2, 5; 1998 HA₅ *, 6, 2, 5; 1998 HB₅ *, 6, 2, 4; 1998 HC₅ *, 6, 2, 1; 1998 HD₅ *, 6, 2, 1; 1998 HE₅ *, 12, 4, 7; 1998 HF₅ *, 12, 4, 7; 1998 HG₅ *, 9, 3, 3; 1998 HH₅ *, 6, 2, 1; 1998 HJ₅ *, 6, 2, 1; 1998 HK₅ *, 6, 2, 1; 1998 HL₅ *, 9, 3, 3; 1998 HM₅ *, 6, 2, 1; 1998 HN₅ *, 12, 4, 4; 1998 HO₅ *, 6, 2, 1; 1998 HT₅ *, 3, 1, 0; 1998 HV₅ *, 3, 1, 0; 1998 HX₅ *, 3, 1, 0; 1998 HY₅ *, 3, 1, 0; 1998 HZ₅ *, 3, 1, 0; 1998 HA₆ *, 3, 1, 0; 1998 HB₆ *, 3, 1, 0; 1998 HC₆ *, 3, 1, 0; 1998 HD₆ *, 3, 1, 0; 1998 HE₆ *, 3, 1, 0; 1998 HF₆ *, 3, 1, 0; 1998 HG₆ *, 3, 1, 0; 1998 HH₆ *, 3, 1, 0; 1998 HJ₆ *, 3, 1, 0; 1998 HK₆ *, 3, 1, 0; 1998 HN₆ *, 3, 1, 0; 1998 HO₆ *, 3, 1, 0; 1998 HT₆ *, 3, 1, 0; 1998 HU₆ *, 3, 1, 0; 1998 HV₆ *, 3, 1, 0; 1998 HX₆ *, 3, 1, 0; 1998 HY₆ *, 3, 1, 0; 1998 HZ₆ *, 3, 1, 0; 1998 HA₇ *, 3, 1, 0; 1998 HB₇ *, 3, 1, 0; 1998 HC₇ *, 3, 1, 0; 1998 HD₇ *, 3, 1, 0; 1998 HE₇ *, 3, 1, 0; 1998 HF₇ *, 3, 1, 0; 1998 HG₇ *, 3, 1, 0; 1998 HH₇ *, 3, 1, 0; 1998 HJ₇ *, 3, 1, 0; 1998 HK₇ *, 3, 1, 0; 1998 HN₇ *, 3, 1, 0; 1998 HO₇ *, 3, 1, 0; 1998 HT₇ *, 3, 1, 0; 1998 HU₇ *, 3, 1, 0; 1998 HV₇ *, 3, 1, 0; 1998 HX₇ *, 3, 1, 0; 1998 HY₇ *, 3, 1, 0; 1998 HZ₇ *, 3, 1, 0; 1998 HA₈ *, 3, 1, 0; 1998 HB₈ *, 3, 1, 0; 1998 HC₈ *, 3, 1, 0; 1998 HD₈ *, 3, 1, 0; 1998 HE₈ *, 3, 1, 0; 1998 HF₈ *, 3, 1, 0; 1998 HG₈ *, 3, 1, 0; 1998 HH₈ *, 3, 1, 0; 1998 HJ₈ *, 3, 1, 0; 1998 HK₈ *, 3, 1, 0; 1998 HN₈ *, 3, 1, 0; 1998 HO₈ *, 3, 1, 0; 1998 HT₈ *, 3, 1, 0; 1998 HU₈ *, 3, 1, 0; 1998 HV₈ *, 3, 1, 0; 1998 HX₈ *, 3, 1, 0; 1998 HY₈ *, 3, 1, 0; 1998 HZ₈ *, 3, 1, 0; 1998 HA₉ *, 3, 1, 0; 1998 HB₉ *, 3, 1, 0; 1998 HC₉ *, 3, 1, 0; 1998 HD₉ *, 3, 1, 0; 1998 HE₉ *, 3, 1, 0; 1998 HF₉ *, 3, 1, 0; 1998 HG₉ *, 3, 1, 0; 1998 HH₉ *, 3, 1, 0; 1998 HJ₉ *, 3, 1, 0; 1998 HK₉ *, 3, 1, 0; 1998 HN₉ *, 3, 1, 0; 1998 HO₉ *, 3, 1, 0; 1998 HT₉ *, 3, 1, 0; 1998 HU₉ *, 3, 1, 0; 1998 HV₉ *, 3, 1, 0; 1998 HX₉ *, 3, 1, 0; 1998 HY₉ *, 3, 1, 0; 1998 HZ₉ *, 3, 1, 0; 1998 HA₁₀ *, 3, 1, 0; 1998 HB₁₀ *, 3, 1, 0; 1998 HC₁₀ *, 3, 1, 0; 1998 HD₁₀ *, 3, 1, 0; 1998 HE₁₀ *, 3, 1, 0; 1998 HF₁₀ *, 3, 1, 0; 1998 HG₁₀ *, 3, 1, 0; 1998 HH₁₀ *, 3, 1, 0; 1998 HJ₁₀ *, 3, 1, 0; 1998 HK₁₀ *, 3, 1, 0; 1998 HN₁₀ *, 3, 1, 0; 1998 HO₁₀ *, 3, 1, 0; 1998 HT₁₀ *, 3, 1, 0; 1998 HU₁₀ *, 3, 1, 0; 1998 HV₁₀ *, 3, 1, 0; 1998 HX₁₀ *, 3, 1, 0; 1998 HY₁₀ *, 3, 1, 0; 1998 HZ₁₀ *, 3, 1, 0; 1998 HA₁₁ *, 3, 1, 0; 1998 HB₁₁ *, 3, 1, 0; 1998 HC₁₁ *, 3, 1, 0; 1998 HD₁₁ *, 3, 1, 0; 1998 HE₁₁ *, 3, 1, 0; 1998 HF₁₁ *, 3, 1, 0; 1998 HG₁₁ *, 3, 1, 0; 1998 HH₁₁ *, 3, 1, 0; 1998 HJ₁₁ *, 3, 1, 0; 1998 HK₁₁ *, 3, 1, 0; 1998 HN₁₁ *, 3, 1, 0; 1998 HO₁₁ *, 3, 1, 0; 1998 HT₁₁ *, 3, 1, 0; 1998 HU₁₁ *, 3, 1, 0; 1998 HV₁₁ *, 3, 1, 0; 1998 HX₁₁ *, 3, 1, 0; 1998 HY₁₁ *, 3, 1, 0; 1998 HZ₁₁ *, 3, 1, 0; 1998 HA₁₂ *, 3, 1, 0; 1998 HB₁₂ *, 3, 1, 0; 1998 HC₁₂ *, 3, 1, 0; 1998 HD₁₂ *, 3, 1, 0; 1998 HE₁₂ *, 3, 1, 0; 1998 HF₁₂ *, 3, 1, 0; 1998 HG₁₂ *, 3, 1, 0; 1998 HH₁₂ *, 3, 1, 0; 1998 HJ₁₂ *, 3, 1, 0; 1998 HK₁₂ *, 3, 1, 0; 1998 HN₁₂ *, 3, 1, 0; 1998 HO₁₂ *, 3, 1, 0; 1998 HT₁₂ *, 3, 1, 0; 1998 HU₁₂ *, 3, 1, 0; 1998 HV₁₂ *, 3, 1, 0; 1998 HX₁₂ *, 3, 1, 0; 1998 HY₁₂ *, 3, 1, 0; 1998 HZ₁₂ *, 3, 1, 0; 1998 HA₁₃ *, 3, 1, 0; 1998 HB₁₃ *, 3, 1, 0; 1998 HC₁₃ *, 3, 1, 0; 1998 HD₁₃ *, 3, 1, 0; 1998 HE₁₃ *, 3, 1, 0; 1998 HF₁₃ *, 3, 1, 0; 1998 HG₁₃ *, 3, 1, 0; 1998 HH₁₃ *, 3, 1, 0; 1998 HJ₁₃ *, 3, 1, 0; 1998 HK₁₃ *, 3, 1, 0; 1998 HN₁₃ *, 3, 1, 0; 1998 HO₁₃ *, 3, 1, 0;

2, 6; 1998 HR₁₅ *, 6, 2, 5; 1998 HS₁₅ *, 6, 2, 5; 1998 HT₁₅ *, 6, 2, 5; 1998 HU₁₅ *, 6, 2, 5; 1998 HV₁₅ *, 6, 2, 5; 1998 HW₁₅ *, 6, 2, 5; 1998 HX₁₅ *, 6, 2, 5; 1998 HY₁₅ *, 6, 2, 5; 1998 HZ₁₅ *, 6, 2, 5; 1998 HA₁₆ *, 6, 2, 5; 1998 HB₁₆ *, 6, 2, 5; 1998 HC₁₆ *, 6, 2, 5; 1998 HD₁₆ *, 6, 2, 5; 1998 HE₁₆ *, 6, 2, 5; 1998 HF₁₆ *, 6, 2, 5; 1998 HG₁₆ *, 6, 2, 5; 1998 HH₁₆ *, 6, 2, 5; 1998 HI₁₆ *, 6, 2, 5; 1998 HJ₁₆ *, 6, 2, 3; 1998 HL₁₆ *, 6, 2, 3; 1998 HM₁₆ *, 6, 2, 3; 1998 HN₁₆ *, 6, 2, 3; 1998 HO₁₆ *, 6, 2, 3; 1998 HP₁₆ *, 6, 2, 3; 1998 HQ₁₆ *, 6, 2, 3; 1998 HR₁₆ *, 5, 2, 3; 1998 HS₁₆ *, 8, 3, 4; 1998 HT₁₆ *, 12, 4, 7; 1998 HU₁₆ *, 12, 3, 6; 1998 HV₁₆ *, 6, 2, 2; 1998 HW₁₆ *, 5, 2, 1; 1998 HX₁₆ *, 3, 1, 0; 1998 HY₁₆ *, 3, 1, 0; 1998 HZ₁₆ *, 6, 2, 6; 1998 HA₂₂ *, 3, 1, 0; 1998 HB₂₂ *, 3, 1, 0; 1998 HC₂₂ *, 6, 2, 7; 1998 HD₂₂ *, 3, 1, 0; 1998 HE₂₂ *, 3, 1, 0; 1998 HF₂₂ *, 3, 1, 0; 1998 HG₂₂ *, 3, 1, 0; 1998 HH₂₂ *, 3, 1, 0; 1998 HI₂₂ *, 3, 1, 0; 1998 HJ₂₂ *, 3, 1, 0; 1998 HK₂₂ *, 3, 1, 0; 1998 HL₂₂ *, 3, 1, 0; 1998 HM₂₂ *, 3, 1, 0; 1998 HN₂₂ *, 3, 1, 0; 1998 HO₂₂ *, 3, 1, 0; 1998 HP₂₂ *, 3, 1, 0; 1998 HQ₂₂ *, 3, 1, 0; 1998 HR₂₂ *, 3, 1, 0; 1998 HS₂₂ *, 3, 1, 0; 1998 HT₂₂ *, 3, 1, 0; 1998 HU₂₂ *, 3, 1, 0; 1998 HV₂₂ *, 3, 1, 0; 1998 HW₂₂ *, 3, 1, 0; 1998 HX₂₂ *, 3, 1, 0; 1998 HY₂₂ *, 3, 1, 0; 1998 HZ₂₂ *, 3, 1, 0; 1998 HA₂₄ *, 6, 2, 1; 1998 HB₂₄ *, 6, 2, 1; 1998 HC₂₄ *, 6, 2, 1; 1998 HD₂₄ *, 6, 2, 1; 1998 HE₂₄ *, 6, 2, 1; 1998 HF₂₄ *, 6, 2, 1; 1998 HG₂₄ *, 6, 2, 1; 1998 HH₂₄ *, 6, 2, 1; 1998 HI₂₄ *, 6, 2, 1; 1998 HJ₂₄ *, 6, 2, 1; 1998 HK₂₄ *, 6, 2, 1; 1998 HL₂₄ *, 6, 2, 1; 1998 HM₂₄ *, 6, 2, 1; 1998 HN₂₄ *, 6, 2, 1; 1998 HO₂₄ *, 6, 2, 1; 1998 HP₂₄ *, 6, 2, 1; 1998 HQ₂₄ *, 6, 2, 1; 1998 HR₂₄ *, 6, 2, 1; 1998 HS₂₄ *, 6, 2, 1; 1998 HT₂₄ *, 6, 2, 1; 1998 HU₂₄ *, 6, 2, 1; 1998 HV₂₄ *, 6, 2, 1; 1998 HW₂₄ *, 6, 2, 1; 1998 HX₂₄ *, 6, 2, 1; 1998 HY₂₄ *, 6, 2, 1; 1998 HZ₂₄ *, 6, 2, 1; 1998 HA₂₅ *, 6, 2, 12; 1998 HB₂₅ *, 6, 2, 9; 1998 HC₂₅ *, 6, 2, 10; 1998 HD₂₅ *, 6, 2, 11; 1998 HE₂₅ *, 6, 2, 9; 1998 HF₂₅ *, 6, 2, 10; 1998 HG₂₅ *, 6, 2, 10; 1998 HH₂₅ *, 6, 2, 9; 1998 HI₂₅ *, 6, 2, 10; 1998 HJ₂₅ *, 6, 2, 10; 1998 HK₂₅ *, 6, 2, 10; 1998 HL₂₅ *, 6, 2, 10; 1998 HM₂₅ *, 6, 2, 10; 1998 HN₂₅ *, 6, 2, 10; 1998 HO₂₅ *, 6, 2, 10; 1998 HP₂₅ *, 6, 2, 10; 1998 HQ₂₅ *, 6, 2, 10; 1998 HR₂₅ *, 6, 2, 10; 1998 HS₂₅ *, 6, 2, 9; 1998 HT₂₅ *, 6, 2, 9; 1998 HU₂₅ *, 6, 2, 9; 1998 HV₂₅ *, 6, 2, 9; 1998 HW₂₅ *, 11, 4, 12; 1998 HX₂₅ *, 6, 2, 9; 1998 HY₂₅ *, 6, 2, 9; 1998 HZ₂₅ *, 6, 2, 9; 1998 HA₂₆ *, 6, 2, 9; 1998 HB₂₆ *, 6, 2, 9; 1998 HC₂₆ *, 6, 2, 9; 1998 HD₂₆ *, 6, 2, 9; 1998 HE₂₆ *, 6, 2, 9; 1998 HF₂₆ *, 6, 2, 9; 1998 HG₂₆ *, 6, 2, 9; 1998 HH₂₆ *, 6, 2, 9; 1998 HI₂₆ *, 6, 2, 9; 1998 HJ₂₆ *, 6, 2, 9; 1998 HK₂₆ *, 5, 2, 8; 1998 HL₂₆ *, 6, 2, 8; 1998 HM₂₆ *, 6, 2, 8; 1998 HN₂₆ *, 9, 3, 8; 1998 HO₂₆ *, 6, 2, 9; 1998 HP₂₆ *, 6, 2, 9; 1998 HQ₂₆ *, 6, 2, 8; 1998 HR₂₆ *, 6, 2, 8; 1998 HS₂₆ *, 6, 2, 8; 1998 HT₂₆ *, 6, 2, 8; 1998 HU₂₆ *, 6, 2, 8; 1998 HV₂₆ *, 6, 2, 8; 1998 HW₂₆ *, 6, 2, 8; 1998 HX₂₆ *, 6, 2, 8; 1998 HY₂₆ *, 6, 2, 8; 1998 HZ₂₆ *, 6, 2, 8; 1998 HA₂₇ *, 6, 2, 8; 1998 HB₂₇ *, 6, 2, 8; 1998 HC₂₇ *, 6, 2, 8; 1998 HD₂₇ *, 6, 2, 8; 1998 HE₂₇ *, 6, 2, 8; 1998 HF₂₇ *, 6, 2, 8; 1998 HG₂₇ *, 6, 2, 8; 1998 HH₂₇ *, 6, 2, 8; 1998 HI₂₇ *, 6, 2, 8; 1998 HJ₂₇ *, 6, 2, 8; 1998 HK₂₇ *, 6, 2, 8; 1998 HL₂₇ *, 6, 2, 8; 1998 HM₂₇ *, 6, 2, 8; 1998 HN₂₇ *, 6, 2, 8; 1998 HO₂₇ *, 6, 2, 8; 1998 HP₂₇ *, 6, 2, 8; 1998 HQ₂₇ *, 6, 2, 8; 1998 HR₂₇ *, 6, 2, 8; 1998 HS₂₇ *, 6, 2, 8; 1998 HT₂₇ *, 6, 2, 8; 1998 HU₂₇ *, 6, 2, 8; 1998 HV₂₇ *, 6, 2, 8; 1998 HW₂₇ *, 6, 2, 8; 1998 HX₂₇ *, 6, 2, 8; 1998 HY₂₇ *, 6, 2, 8; 1998 HZ₂₇ *, 6, 2, 8; 1998 HA₂₈ *, 6, 2, 8; 1998 HB₂₈ *, 6, 2, 8; 1998 HC₂₈ *, 6, 2, 8; 1998 HD₂₈ *, 6, 2, 8; 1998 HE₂₈ *, 6,

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Cambridge, MA 02138, U.S.A. [bmarsden@cfa.harvard.edu]

Observers C. W. Hergenrother, M. J. Holman

1.2-m $f/8$ reflector + CCD

USNO-A1.0

1998 HM₁₀, 3, 1, 0; 1998 HQ₂₇, 9, 3, 2; 1998 HG₄₉, 3, 1, 0; 1998 HJ₄₉, 7, 3, 2; 1998 HK₄₉, 3, 1, 0; 1998 HL₄₉, 3, 1, 0; 1998 JG₂ *, 4, 2, 3; 1998 JH₂, 3, 1, 0; (5938), 9, 3, 2; [44, 9, 1*, 1998/05/01–1998/05/04]

699 Lowell Observatory–LONEOS

E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff AZ 86001,

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Observers B. A. Skiff, B. W. Koehn, P. J. Houlihan, T. Rivkin, M. Barboza

Measurers B. W. Koehn, E. Bowell

0.37-m LONEOS Schmidt + CCD

USNO-A1.0

1977 RK, 3, 1, 0; 1978 EU₉, 3, 1, 0; 1980 FY₄₃, 3, 1, 0; 1981 DF, 3, 1, 0; 1981 EH₁, 3, 1, 0; 1981 EO₇, 3, 1, 0; 1981 EU₉, 5, 2, 20; 1981 EN₂₄, 6, 2, 20; 1981 EU₃₈, 3, 1, 0; 1981 SD₂, 3, 1, 0; 1981 UE₂₆, 3, 1, 0; 1982 UX₅, 3, 1, 0; 1982 YR₁, 3, 1, 0; 1983 BD, 3, 1, 0; 1984 SV₅, 3, 1, 0; 1985 UF₅, 3, 1, 0; 1987 SH₄, 3, 1, 0; 1988 TN, 3, 1, 0; 1988 VS₂, 3, 1, 0; 1988 XE, 3, 1, 0; 1989 GS₄, 3, 1, 0; 1989 KF, 3, 1, 0; 1989 SS₂, 3, 1, 0; 1989 SB₄, 3, 1, 0; 1989 UL₁, 3, 1, 0; 1989 WU₁, 3, 1, 0; 1989 YX₆, 3, 1, 0; 1990 BC₂, 3, 1, 0; 1990 QJ₁, 3, 1, 0; 1990 QE₉, 3, 1, 0; 1990 TE₇, 3, 1, 0; 1991 ED₂, 3, 1, 0; 1991 FC₄, 3, 1, 0; 1991 GO₄, 3, 1, 0; 1991 OM₁, 3, 1, 0; 1991 PJ₁₄, 3, 1, 0; 1992 ED₃, 3, 1, 0; 1992 ER₉, 3, 1, 0; 1992 FO₃, 3, 1, 0; 1992 GG₃, 3, 1, 0; 1992 OX₁, 3, 1, 0; 1992 PZ₁, 3, 1, 0; 1992 PO₂, 3, 1, 0; 1992 WG₅, 6, 2, 1; 1993 CO, 3, 1, 0; 1993 FH₅, 3, 1, 0; 1993 HH, 6, 2, 1; 1993 JL₁, 3, 1, 0; 1993 OW₁, 3, 1, 0; 1993 VX₃, 3, 1, 0; 1994 AL₃, 3, 1, 0; 1994 CL, 6, 2, 23; 1994 CD₉, 3, 1, 0; 1994 EC₅, 3, 1, 0; 1994 GP, 3, 1, 0; 1995 SX₁₉, 3, 1, 0; 1995 SM₅₄, 3, 1, 0; 1995 VT₁, 3, 1, 0; 1996 AO₃, 3, 1, 0; 1996 PZ₆, 6, 2, 3; 1996 QQ₁, 3, 1, 0; 1996 QX₁, 3, 1, 0; 1996 RS₆, 6, 2, 1; 1996 SH₆, 3, 1, 0; 1996 SS₆, 3, 1, 0; 1996 TO₁₀, 3, 1, 0; 1996 VP₅, 3, 1, 0; 1996 VH₈, 3, 1, 0; 1996 VX₁₅, 6, 2, 20; 1996 VM₃₀, 3, 1, 0; 1996 VO₃₀, 3, 1, 0; 1996 XE₂, 3, 1, 0; 1996 XF₃, 3, 1, 0; 1996 XT₃₀, 6, 1, 0; 1996 YP₃, 3, 1, 0; 1997 AQ₁₇, 3, 1, 0; 1997 WG₇, 3, 1, 0; 1997 XV₇, 3, 1, 0; 1997 XN₈, 3, 1, 0; 1997 XG₉, 3, 1, 0; 1997 YX₃, 3, 1, 0; 1997 YM₄, 3, 1, 0; 1997 YA₅, 3, 1, 0; 1997 YQ₅, 3, 1, 0; 1997 YV₆, 3, 1, 0; 1997 YV₁₃, 3, 1, 0; 1997 YE₁₄, 3, 1, 0; 1997 YV₁₈, 3, 1, 0; 1998 AJ₆, 3, 1, 0; 1998 AL₇, 3, 1, 0; 1998 BV₂, 3, 1, 0; 1998 BD₈, 3, 1, 0; 1998 BE₈, 3, 1, 0; 1998 BG₈, 3, 1, 0; 1998 BH₈, 3, 1, 0; 1998 BM₁₀, 3, 1, 0; 1998 BH₁₂, 3, 1, 0; 1998 BD₁₅, 3, 1, 0; 1998 BZ₁₈, 3, 1, 0; 1998 BO₂₆, 3, 1, 0; 1998 BV₃₃, 3, 1, 0; 1998 BN₄₄, 6, 2, 1; 1998 BO₄₄, 3, 1, 0; 1998 CZ₁, 3, 1, 0; 1998 DW₉, 3, 1, 0; 1998 DE₁₀, 3, 1, 0; 1998 DQ₁₀, 3, 1, 0; 1998 DH₁₁, 3, 1, 0; 1998 DJ₁₁, 3, 1, 0; 1998 DT₁₁, 3, 1, 0; 1998 DV₁₂, 3, 1, 0; 1998 DR₁₅, 3, 1, 0; 1998 DW₃₁, 3, 1, 0; 1998 DE₃₄, 3, 1, 0; 1998 DJ₃₄, 3, 1, 0; 1998 DQ₃₅, 3, 1, 0; 1998 EP₂, 3, 1, 0; 1998 EP₃, 3, 1, 0; 1998 ER₃, 6, 2, 11; 1998 EP₆, 3, 1, 0; 1998 EE₉, 3, 1, 0; 1998 EE₁₀, 3, 1, 0; 1998 EG₁₀, 3, 1, 0; 1998 FH₂, 3, 1, 0; 1998 FO₂, 3, 1, 0; 1998 FK₅, 3, 1, 0; 1998 FF₁₀, 3, 1, 0; 1998 FR₁₀, 3, 1, 0; 1998 FY₁₁, 3, 1, 0; 1998 FG₁₄, 3, 1, 0; 1998 FD₁₅, 6, 2, 47; 1998 FK₁₅, 3, 1, 0; 1998 FO₁₅, 3, 1, 0; 1998 FF₁₆, 3, 1, 0; 1998 FH₂₃, 3, 1, 0; 1998 FK₄₃, 3, 1, 0; 1998 FL₄₄, 3, 1, 0; 1998 FO₄₇, 3, 1, 0; 1998 FZ₄₇, 3, 1, 0; 1998 FO₄₈, 3, 1, 0; 1998 FQ₄₈, 6, 2, 23; 1998 FK₄₉, 3, 1, 0; 1998 FL₄₉, 6, 2, 47; 1998 FN₄₉, 3, 1, 0; 1998 FO₄₉, 3, 1, 0; 1998 FQ₄₉, 3, 1, 0; 1998 FZ₄₉, 3, 1, 0; 1998 FK₅₁, 3, 1, 0; 1998 FS₅₃, 3, 1, 0; 1998 FK₅₅, 3, 1, 0; 1998 FJ₅₆, 3, 1, 0; 1998 FQ₅₆, 3, 1, 0; 1998 FO₅₈, 3, 1, 0; 1998 FR₅₈, 3, 1, 0; 1998 FC₅₉, 3, 1, 0; 1998 FD₆₁, 3, 1, 0; 1998 FM₆₁, 3, 1, 0; 1998 FO₆₁, 3, 1, 0; 1998 FZ₆₁, 3, 1, 0; 1998 FD₆₂, 3, 1, 0; 1998 FV₆₂, 3, 1, 0; 1998 FY₆₂, 6, 2, 17; 1998 FH₆₃, 3, 1, 0; 1998 FY₆₄, 3, 1, 0; 1998 FZ₆₄, 3, 1, 0; 1998 FC₆₅, 6, 2, 20; 1998 FH₆₅, 3, 1, 0; 1998 FK₆₅, 3, 1, 0; 1998 FR₆₅, 3, 1, 0; 1998 FS₆₅, 6, 2, 20; 1998 FY₆₅, 6, 2, 20; 1998 FZ₆₅, 3, 1, 0; 1998 FC₆₆, 3, 1, 0; 1998 FD₆₆, 3, 1, 0; 1998 FE₆₆, 3, 1, 0; 1998 FG₆₆, 3, 1, 0; 1998 FH₆₆, 3, 1, 0; 1998 FJ₆₆, 6, 2, 1; 0; 1998 FL₆₆, 3, 1, 0; 1998 FT₆₆, 3, 1, 0; 1998 FL₆₈, 3, 1, 0; 1998 FM₆₈, 6, 2, 20; 1998 FN₆

1998 FE₁₁₈, 3, 1, 0; 1998 FG₁₁₈, 3, 1, 0; 1998 FJ₁₁₈, 3, 1, 0; 1998 FL₁₁₈, 3, 1, 0; 1998 FV₁₁₈, 3, 1, 0; 1998 FH₁₁₉, 3, 1, 0; 1998 FL₁₁₉, 3, 1, 0; 1998 FN₁₁₉, 3, 1, 0; 1998 FS₁₂₁, 3, 1, 0; 1998 FZ₁₂₁, 3, 1, 0; 1998 FH₁₂₂, 6, 2, 31; 1998 FK₁₂₂, 3, 1, 0; 1998 FR₁₂₂, 3, 1, 0; 1998 FV₁₂₂, 3, 1, 0; 1998 FY₁₂₂, 3, 1, 0; 1998 FA₁₂₃, 3, 1, 0; 1998 FE₁₂₃, 3, 1, 0; 1998 FH₁₂₃, 3, 1, 0; 1998 FG₁₂₅, 3, 1, 0; 1998 FY₁₂₅, 3, 1, 0; 1998 FK₁₂₆, 6, 2, 10; 1998 FN₁₂₆, 3, 1, 0; 1998 GZ, 3, 1, 0; 1998 GJ₁, 3, 1, 0; 1998 GK₁, 3, 1, 0; 1998 GQ₉, 3, 1, 0; 1998 GE₁₀, 3, 1, 0; 1998 GJ₁₀, 3, 1, 0; 1998 HX, 3, 1, 0; 1998 HD₂, 3, 1, 0; 1998 HL₄, 3, 1, 0; 1998 HX₇, 6, 2, 1; 1998 HL₁₄, 6, 2, 1; 1998 HW₁₇, 3, 1, 0; 1998 HE₁₈, 6, 2, 13; 1998 HO₁₈, 3, 1, 0; 1998 HX₁₈, 3, 1, 0; 1998 HY₁₈, 3, 1, 0; 1998 HL₁₉, 3, 1, 0; 1998 HQ₂₇, 3, 1, 0; 1998 HX₃₁, 3, 1, 0; 1998 HY₃₁, 3, 1, 0; 1998 HE₃₂, 3, 1, 0; 1998 HO₃₂, 6, 2, 31; 1998 HF₃₄, 6, 2, 30; 1998 HK₃₄, 3, 1, 0; 1998 HA₃₇, 3, 1, 0; 1998 HE₃₇, 3, 1, 0; 1998 HG₃₇, 3, 1, 0; 1998 HN₃₈, 3, 1, 0; 1998 HU₃₈, 3, 1, 0; 1998 HD₄₀, 6, 2, 30; 1998 HH₄₄, 3, 1, 0; 1998 HQ₄₈ *, 6, 2, 1; 1998 HR₄₈ *, 6, 2, 1; 1998 HS₄₈ *, 6, 2, 1; 1998 HT₄₈ *, 6, 2, 1; 1998 HU₄₈ *, 6, 2, 1; 1998 HV₄₈ *, 6, 2, 1; 1998 HW₄₈ *, 6, 2, 1; 1998 HX₄₈ *, 6, 2, 1; 1998 HY₄₈ *, 6, 2, 1; 1998 HZ₄₈ *, 6, 2, 3; 1998 HA₄₉ *, 6, 2, 3; 1998 HB₄₉ *, 6, 2, 3; 1998 HC₄₉ *, 6, 2, 2; 1998 HD₄₉ *, 6, 2, 1; 1998 HE₄₉ *, 6, 2, 1; 1998 HF₄₉ *, 6, 2, 1; 2727 P-L, 3, 1, 0; 4044 P-L, 3, 1, 0; 4053 P-L, 3, 1, 0; 6044 P-L, 3, 1, 0; 6600 P-L, 3, 1, 0; 7603 P-L, 3, 1, 0; 9057 P-L, 3, 1, 0; 1163 T-1, 3, 1, 0; 1198 T-1, 3, 1, 0; 2149 T-1, 3, 1, 0; 2258 T-1, 3, 1, 0; 1059 T-2, 2, 1, 0; 1070 T-2, 3, 1, 0; (3), 3, 1, 0; (17), 3, 1, 0; (33), 3, 1, 0; (50), 3, 1, 0; (56), 3, 1, 0; (99), 3, 1, 0; (111), 3, 1, 0; (113), 3, 1, 0; (115), 3, 1, 0; (160), 6, 2, 47; (168), 3, 1, 0; (169), 3, 1, 0; (211), 3, 1, 0; (219), 3, 1, 0; (231), 3, 1, 0; (243), 3, 1, 0; (247), 3, 1, 0; (292), 6, 2, 1; (363), 3, 1, 0; (384), 3, 1, 0; (395), 3, 1, 0; (403), 3, 1, 0; (427), 3, 1, 0; (447), 3, 1, 0; (507), 3, 1, 0; (526), 3, 1, 0; (527), 3, 1, 0; (544), 3, 1, 0; (546), 3, 1, 0; (550), 6, 2, 4; (551), 3, 1, 0; (553), 3, 1, 0; (567), 3, 1, 0; (569), 3, 1, 0; (570), 3, 1, 0; (602), 3, 1, 0; (622), 3, 1, 0; (632), 3, 1, 0; (641), 3, 1, 0; (666), 3, 1, 0; (671), 3, 1, 0; (757), 3, 1, 0; (767), 3, 1, 0; (798), 3, 1, 0; (875), 3, 1, 0; (947), 3, 1, 0; (962), 3, 1, 0; (972), 3, 1, 0; (988), 3, 1, 0; (995), 3, 1, 0; (1003), 3, 1, 0; (1006), 3, 1, 0; (1019), 6, 2, 1; (1044), 3, 1, 0; (1051), 3, 1, 0; (1074), 3, 1, 0; (1091), 3, 1, 0; (1104), 3, 1, 0; (1130), 6, 2, 47; (1143), 3, 1, 0; (1146), 3, 1, 0; (1189), 3, 1, 0; (1202), 6, 2, 20; (1219), 3, 1, 0; (1230), 2, 1, 0; (1236), 3, 1, 0; (1254), 3, 1, 0; (1258), 3, 1, 0; (1279), 3, 1, 0; (1385), 3, 1, 0; (1396), 3, 1, 0; (1432), 3, 1, 0; (1454), 3, 1, 0; (1464), 3, 1, 0; (1471), 3, 1, 0; (1488), 3, 1, 0; (1521), 3, 1, 0; (1527), 3, 1, 0; (1547), 3, 1, 0; (1561), 3, 1, 0; (1567), 3, 1, 0; (1587), 3, 1, 0; (1653), 3, 1, 0; (1669), 3, 1, 0; (1683), 3, 1, 0; (1722), 3, 1, 0; (1740), 3, 1, 0; (1746), 3, 1, 0; (1760), 3, 1, 0; (1768), 6, 2, 27; (1786), 3, 1, 0; (1797), 3, 1, 0; (1831), 3, 1, 0; (1840), 3, 1, 0; (1878), 3, 1, 0; (1925), 3, 1, 0; (1944), 3, 1, 0; (1986), 3, 1, 0; (2051), 3, 1, 0; (2072), 3, 1, 0; (2075), 6, 2, 3; (2096), 3, 1, 0; (2112), 3, 1, 0; (2164), 3, 1, 0; (2176), 3, 1, 0; (2259), 3, 1, 0; (2297), 3, 1, 0; (2313), 2, 1, 0; (2325), 3, 1, 0; (2361), 3, 1, 0; (2385), 6, 2, 20; (2412), 3, 1, 0; (2420), 3, 1, 0; (2487), 3, 1, 0; (2555), 3, 1, 0; (2566), 3, 1, 0; (2591), 3, 1, 0; (2619), 3, 1, 0; (2646), 3, 1, 0; (2687), 3, 1, 0; (2714), 3, 1, 0; (2738), 3, 1, 0; (2754), 2, 1, 0; (2763), 3, 1, 0; (2773), 3, 1, 0; (2778), 3, 1, 0; (2784), 3, 1, 0; (2827), 3, 1, 0; (2835), 6, 2, 47; (2852), 3, 1, 0; (2866), 3, 1, 0; (2925), 3, 1, 0; (2972), 3, 1, 0; (2973), 3, 1, 0; (2978), 6, 2, 27; (2984), 3, 1, 0; (2986), 3, 1, 0; (3036), 3, 1, 0; (3053), 3, 1, 0; (3058), 3, 1, 0; (3069), 3, 1, 0; (3070), 3, 1, 0; (3120), 3, 1, 0; (3130), 3, 1, 0; (3162), 3, 1, 0; (3168), 3, 1, 0; (3204), 3, 1, 0; (3234), 1, 1, 0; (3253), 3, 1, 0; (3328), 3, 1, 0; (3329), 3, 1, 0; (3340), 3, 1, 0; (3358), 3, 1, 0; (3418), 3, 1, 0; (3429), 3, 1, 0; (3431), 3, 1, 0; (3448), 3, 1, 0; (3453), 3, 1, 0; (3500), 3, 1, 0; (3503), 6, 2, 47; (3591), 3, 1, 0; (3624), 3, 1, 0; (3648), 3, 1, 0; (3649), 3, 1, 0; (3711), 3, 1, 0; (3730), 3, 1, 0; (3767), 3, 1, 0; (3773), 3, 1, 0; (3774), 3, 1, 0; (3777), 3, 1, 0; (3800), 3, 1, 0; (3836), 3, 1, 0; (3844), 3, 1, 0; (3868), 3, 1, 0; (3933), 3, 1, 0; (3960), 6, 2, 1; (3965), 3, 1, 0; (3973), 3, 1, 0; (4018), 3, 1, 0; (4057), 3, 1, 0; (4061), 3, 1, 0; (4067), 3, 1, 0; (4200), 3, 1, 0; (4210), 3, 1, 0; (4273), 3, 1, 0; (4326), 3, 1, 0; (4377), 3, 1, 0; (4392), 3, 1, 0; (4415), 6, 2, 20; (4448), 3, 1, 0; (4490), 3, 1, 0; (4509), 3, 1, 0; (4527), 3, 1, 0; (4549), 2, 1, 0; (4553), 3, 1, 0; (4585), 3, 1, 0; (4623), 6, 2, 27; (4651), 3, 1, 0; (4662), 3, 1, 0; (4664), 3, 1, 0; (4698), 3, 1, 0; (4733), 3, 1, 0; (4745), 3, 1, 0; (4746), 2, 1, 0; (4780), 3, 1, 0; (4781), 3, 1, 0; (4788), 3, 1, 0; (4802), 3, 1, 0; (4842), 3, 1, 0; (4846), 3, 1, 0; (4859), 3, 1, 0; (4875), 3, 1, 0; (4894), 3, 1, 0; (4911), 3, 1, 0; (5013), 3, 1, 0; (5048), 3, 1, 0; (5054), 3, 1, 0; (5065), 3, 1, 0; (5074), 3, 1, 0; (5084), 3, 1, 0; (5102), 3, 1, 0; (5151), 6, 2, 1; (5339), 3, 1, 0; (5350), 3, 1, 0; (5397), 3, 1, 0; (5423), 3, 1, 0; (5443), 3, 1, 0; (5482), 3, 1, 0; (5534), 6, 2, 47; (5544), 3, 1, 0; (5567), 3, 1, 0; (5578), 3, 1, 0; (5623), 6, 2, 27; (5628), 6, 2, 23; (5682), 3, 1, 0; (5710), 3, 1, 0; (5792), 3, 1, 0; (5817), 3, 1, 0; (5861), 3, 1, 0; (5877), 3, 1, 0; (5922), 3, 1, 0; (5969), 3, 1, 0; (5998), 3, 1, 0; (6006), 3, 1, 0; (6028), 3, 1, 0; (6030), 3, 1, 0; (6068), 3, 1, 0; (6080), 3, 1, 0; (6103), 2, 1, 0; (6112), 3, 1, 0; (6138), 3, 1, 0; (6165), 1, 1, 0; (6381), 3, 1, 0; (6487), 3, 1, 0; (6521), 3, 1, 0; (6529), 3, 1, 0; (6536), 3, 1, 0; (6557), 3, 1, 0; (6603), 3, 1, 0; (6619), 3, 1, 0; (6671), 3, 1, 0; (6674), 3, 1, 0; (6710), 3, 1, 0; (6797), 3, 1, 0; (7090), 3, 1, 0; (7142), 3, 1, 0; (7166), 3, 1, 0; (7196), 6, 1, 0; (7223), 6, 2, 1; (7228), 3, 1, 0; (7234), 3, 1, 0; (7261), 3, 1, 0; (7268), 3, 1, 0; (7296), 6, 2, 47; (7325), 3, 1, 0; (7339), 3, 1, 0; (7346), 3, 1, 0; (7347), 3, 1, 0; (7397), 3, 1, 0; (7423), 3, 1, 0; (7429), 3, 1, 0; (7446), 3, 1, 0; (7500), 3, 1, 0; (7521), 3, 1, 0; (7569), 3, 1, 0; (7596), 3, 1, 0; (7607), 3, 1, 0; (7650), 6, 2, 20; (7662), 3, 1, 0; (7870), 3, 1, 0; (8170), 3, 1, 0; (8239), 3, 1, 0; (8246), 3, 1, 0; (8249), 3, 1, 0; (8265), 6, 2, 1; (8272), 3, 1, 0; (8310), 3, 1, 0; (8318), 3, 1, 0; (8340), 3, 1, 0; (8344), 3, 1, 0; (8363), 3, 1, 0; (8376), 3, 1, 0; (8399), 3, 1, 0; (8420), 3, 1, 0; (8447), 3, 1, 0; (8458), 3, 1, 0; (8474), 3, 1, 0; (8476), 3, 1, 0; (8489), 3, 1, 0; (8491), 3, 1, 0; (8495), 3, 1, 0; (8498), 3, 1, 0; (8505), 3, 1, 0; (8506), 3, 1, 0; (8508), 6, 2, 4; (8516), 3, 1, 0; (8527), 3, 1, 0; (8534), 3, 1, 0; (8537), 3, 1,

0; (8544), 3, 1, 0; (8547), 3, 1, 0; (8554), 3, 1, 0; (8579), 3, 1, 0; (8585), 3, 1, 0; (8586), 3, 1, 0; (8594), 3, 1, 0; (8602), 6, 2, 23; [2198, 659, 19*, 1998/01/07-1998/04/24]

700 Chinle

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0.30-m $f/10$ Schmidt-Cassegrain + CCD

GSC

1998 FX₂, 9, 3, 9; 1998 FM₅, 16, 5, 11; 1998 HE₃, 4, 1, 0; 1998 HT₃₁, 6, 1, 0; (699), 3, 1, 0; (1862), 3, 1, 0; (3800), 7, 2, 3; (4495), 4, 1, 0; (4582), 7, 2, 2; (4780), 7, 2, 3; (6497), 4, 1, 0; [70, 11, 0*, 1998/04/19-1998/05/02]

701 Sierra Vista

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[76443.1440@compuserve.com]

Observers D. Healy, J. Medkeff

Measurer J. Medkeff

0.4-m Schmidt-Cassegrain + CCD

GSC

(494), 4, 2, 2; [4, 1, 0*, 1998/04/22-1998/04/24]

704 Lincoln Laboratory Experimental Test System, New Mexico

H. Viggh, MIT Lincoln Laboratory, 244 Wood Street, Lexington, MA 02173,

U.S.A. [viggh@ll.mit.edu]

Observers M. Blythe, F. Shelly, M. Bezpalko

Measurers J. Stuart, H. Viggh

1.0-m $f/2.15$ reflector + CCD

USNO-SA1.0

1929 PK, 10, 2, 1; 1964 VZ₂, 5, 1, 0; 1971 SB, 5, 1, 0; 1971 UG, 5, 1, 0; 1971 UT, 5, 1, 0; 1971 UH₁, 5, 1, 0; 1972 AU, 19, 4, 19; 1974 SF, 4, 1, 0; 1975 XF, 8, 2, 1; 1976 UP₂, 9, 2, 1; 1976 UN₁₄, 10, 2, 1; 1976 UB₁₆, 10, 2, 2; 1976 YO₂, 10, 2, 1; 1977 EK₁, 5, 1, 0; 1977 EU₁, 10, 2, 1; 1977 PP₁, 10, 2, 1; 1977 QN₂, 4, 1, 0; 1977 QH₃, 5, 1, 0; 1977 RQ₁₉, 14, 3, 2; 1977 UD, 10, 2, 1; 1977 UM₄, 14, 3, 3; 1978 EU₉, 14, 3, 3; 1978 NS, 4, 1, 0; 1978 PE, 5, 1, 0; 1978 QA₂, 15, 3, 3; 1978 RK, 5, 1, 0; 1978 RU, 5, 1, 0; 1978 RR₁, 5, 1, 0; 1978 RA₈, 10, 2, 1; 1978 RU₈, 9, 2, 1; 1978 RQ₉, 9, 2, 46; 1978 SQ₄, 15, 3, 46; 1978 SS₇, 8, 2, 1; 1978 TP₂, 5, 1, 0; 1978 TL₄, 10, 2, 1; 1978 TT₈, 9, 2, 1; 1978 UL₄, 4, 1, 0; 1978 UN₄, 10, 2, 1; 1978 UR₄, 8, 2, 1; 1978 VN₂, 5, 1, 0; 1978 VP₂, 5, 1, 0; 1978 VF₃, 4, 1, 0; 1978 VX₄, 9, 2, 2; 1978 VC₆, 5, 1, 0; 1978 VZ₇, 4, 1, 0; 1978 VD₉, 10, 2, 1; 1978 VN₉, 4, 1, 0; 1978 VE₁₀, 4, 1, 0; 1978 VG₁₁, 5, 1, 0; 1978 VJ₁₈, 9, 2, 1; 1978 VP₁₁, 10, 2, 2; 1979 MB₂, 10, 2, 1; 1979 MA₅, 8, 2, 1; 1979 MH₆, 5, 1, 0; 1979 QX, 5, 1, 0; 1979 TT₂, 5, 1, 0; 1979 UC₄, 4, 1, 0; 1979 YQ, 5, 1, 0; 1980 FY₄, 10, 2, 2; 1980 PW, 10, 2, 1; 1980 TZ₃, 10, 2, 1; 1980 VA₃, 4, 1, 0; 1981 DF, 10, 2, 1; 1981 DJ, 4, 1, 0; 1981 DV, 9, 2, 1; 1981 DX, 4, 1, 0; 1981 DB₃, 8, 2, 1; 1981 DO₃, 10, 2, 1; 1981 EH₁, 5, 1, 0; 1981 EY₃, 10, 2, 2; 1981 EF₅, 5, 1, 0; 1981 EK₅, 19, 3, 2; 1981 ES₅, 4, 1, 0; 1981 EA₇, 4, 1, 0; 1981 EK₇, 15, 3, 4; 1981 EO₇, 10, 2, 2; 1981 EF₈, 5, 1, 0; 1981 EM₈, 10, 2, 1; 1981 EO₉, 4, 1, 0; 1981 EQ₉, 10, 2, 1; 1981 ES₉, 10, 2, 1; 1981 EU₉, 19, 4, 4; 1981 EM₁₀, 19, 5, 47; 1981 ER₁₀, 8, 2, 1; 1981 EH₁₁, 14, 3, 46; 1981 ER₁₁, 8, 2, 4; 1981 EA₁₂, 5, 1, 0; 1981 EF₁₄, 5, 1, 0; 1981 EO₁₄, 4, 1, 0; 1981 ET₁₄, 4, 1, 0; 1981 EQ₁₅, 10, 2, 1; 1981 EX₁₅, 5, 1, 0; 1981 EQ₁₆, 10, 2, 1; 1981 EL₁₇, 4, 1, 0; 1981 EM₁₇, 4, 1, 0; 1981 ET₁₇, 10, 2, 1; 1981 EC₁₈, 5, 1, 0; 1981 EP₁₈, 10, 2, 1; 1981 VI₁₈, 8, 2, 1; 1981 EJ₁₉, 9, 2, 1; 1981 ES₁₉, 9, 2, 1; 1981 EK₂₀, 5, 1, 0; 1981 EN₂₀, 4, 1, 0; 1981 ET₂₀, 5, 1, 0; 1981 EU₂₀, 14, 3, 2; 1981 ET₂₁, 4, 1, 0; 1981 EX₂₁, 9, 2, 1; 1981 EH₂₂, 12, 3, 3; 1981 EM₂₃, 5, 1, 0; 1981 ES₂₃, 4, 1, 0; 1981 ET₂₃, 9, 2, 1; 1981 EV₂₃, 9, 2, 1; 1981 EF₂₄, 4, 1, 0; 1981 EN₂₄, 19, 4, 4; 1981 EH₂₅, 10, 2, 1; 1981 ER₂₅, 9, 2, 1; 1981 EB₂₆, 9, 2, 1; 1981 EU₂₆, 4, 1, 0; 1981 EF₂₇, 13, 3, 3; 1981 EU₂₇, 5, 1, 0; 1981 EQ₂₉, 10, 2, 1; 1981 ET₂₉, 9, 2, 1; 1981 EO₃₀, 14, 3, 3; 1981 EF₃₁, 20, 2, 1; 1981 EW₃₁, 4, 1, 0; 1981 EL₃₂, 5, 1, 0; 1981 EL₃₄, 5, 1, 0; 1981 EZ₃₇, 10, 2, 1; 1981 EU₃₈, 10, 2, 7; 1981 EC₃₉, 10, 2, 46; 1981 ED₄₀, 9, 2, 1; 1981 EP₄₀, 5, 1, 0; 1981 EZ₄₀, 4, 1, 0; 1981 EA₄₁, 10, 2, 1; 1981 EK₄₁, 10, 2, 1; 1981 EJ₄₂, 5, 1, 0; 1981 EC₄₃, 10, 2, 1; 1981 ER₄₅, 9, 2, 1; 1981 EE₄₇, 5, 1, 0; 1981 ET₄₇, 9, 2, 1; 1981 FR, 5, 1, 0; 1981 FC₁, 15, 3, 2; 1981 SD₂, 5, 1, 0; 1981 SG₃, 4, 1, 0; 1981 UU₁₁, 5, 1, 0; 1981 UV₂₃, 4, 1, 0; 1981 UV₂₈, 10, 2, 1; 1981 VF, 12, 3, 3; 1982 JM₁, 4, 1, 0; 1982 QY₁, 10, 2, 1; 1982 SM₂, 5, 1, 0; 1982 SJ₇, 5, 1, 0; 1982 SC₈, 10, 2, 21; 1982 SG₁₂, 14, 3, 46; 1982 UX₅, 25, 5, 22; 1982 UY₆, 10, 2, 1; 1983 BD, 8, 2, 1; 1983 CZ₂, 10, 2, 1; 1983 RL, 10, 2, 1; 1983 RL₃, 9, 2, 45; 1983 RL₄, 8, 2, 46; 1983 DR, 5, 1, 0; 1984 EU₁, 10, 2, 1; 1984 SV₅, 20, 4, 4; 1984 SC₆, 5, 1, 0; 1985 JU₁, 5, 1, 0; 1985 PL₁, 9, 2, 1; 1985 PG₂, 4, 1, 0; 1985 QM₅, 5, 1, 0; 1985 TS, 5, 1, 0; 1985 UH₂, 14, 3, 3; 1985 UJ₃, 5, 1, 0; 1985 UF₅,

10, 2, 1; 1985 VG, 10, 2, 1; 1985 VF₁, 9, 2, 1; 1986 AT₂, 8, 2, 1; 1986 CS₁, 5, 1, 0; 1986 QY, 10, 2, 1; 1986 QF₁, 5, 1, 0; 1986 QX₁, 5, 1, 0; 1986 QU₂, 4, 1, 0; 1986 QG₃, 4, 1, 0; 1986 VB₁, 10, 2, 1; 1986 VX₅, 14, 2, 1; 1987 BM₁, 8, 2, 1; 1987 RB₂, 10, 2, 1; 1987 RQ₂, 14, 3, 2; 1987 RA₃, 8, 2, 1; 1987 SC₁, 4, 1, 0; 1988 PD₁, 7, 2, 1; 1988 PZ₁, 9, 2, 1; 1988 RK, 9, 2, 1; 1988 RS₃, 9, 2, 1; 1988 RD₆, 4, 1, 0; 1988 RL₆, 9, 2, 1; 1988 RC₇, 15, 3, 2; 1988 RZ₁₁, 10, 2, 1; 1988 SD, 5, 1, 0; 1988 SN, 4, 1, 0; 1988 SN₁, 5, 1, 0; 1988 ST₂, 10, 2, 1; 1988 TE, 13, 3, 4; 1988 TG, 10, 2, 1; 1988 TN, 15, 3, 2; 1988 TB₁, 10, 2, 1; 1988 TM₁, 4, 1, 0; 1988 VP, 10, 2, 1; 1988 VH₁, 15, 3, 2; 1988 VR₃, 9, 2, 1; 1988 VE₇, 4, 1, 0; 1988 XL, 10, 2, 1; 1989 AW₅, 13, 3, 2; 1989 BZ, 10, 2, 1; 1989 CO₅, 10, 2, 1; 1989 EC₃, 5, 1, 0; 1989 GS₄, 14, 3, 47; 1989 KF, 5, 1, 0; 1989 RG, 18, 4, 4; 1989 RJ, 10, 2, 1; 1989 RL, 4, 1, 0; 1989 SO, 10, 2, 1; 1989 SZ₁, 10, 2, 1; 1989 SS₂, 5, 1, 0; 1989 SA₃, 10, 2, 1; 1989 SD₃, 14, 3, 2; 1989 SN₃, 8, 2, 1; 1989 SV₃, 5, 1, 0; 1989 SB₄, 19, 4, 29; 1989 SM₄, 5, 1, 0; 1989 SC₈, 8, 2, 1; 1989 SA₁₀, 5, 1, 0; 1989 TD, 4, 1, 0; 1989 TW, 5, 1, 0; 1989 TT₂, 5, 1, 0; 1989 TR₃, 14, 3, 2; 1989 TY₄, 5, 1, 0; 1989 TY₁₀, 8, 2, 2; 1989 UM₁, 12, 3, 3; 1989 UV₁, 4, 1, 0; 1989 UU₃, 9, 2, 1; 1989 UB₈, 4, 1, 0; 1989 WT, 5, 1, 0; 1989 WZ₁, 5, 1, 0; 1989 XD₁, 10, 2, 1; 1989 YA₂, 5, 1, 0; 1989 YV₄, 10, 2, 1; 1989 YU₅, 10, 2, 1; 1989 YX₆, 5, 1, 0; 1990 BC₂, 14, 3, 3; 1990 DZ₁, 9, 2, 1; 1990 EM₁, 10, 2, 1; 1990 EA₅, 15, 3, 2; 1990 HP, 10, 2, 2; 1990 KE, 10, 2, 2; 1990 KC₁, 8, 2, 1; 1990 OH, 10, 2, 1; 1990 OZ, 10, 2, 2; 1990 OE₄, 4, 1, 0; 1990 QR₁, 15, 3, 2; 1990 QR₂, 10, 2, 1; 1990 QK₇, 5, 1, 0; 1990 QX₈, 9, 2, 1; 1990 QY₈, 10, 2, 2; 1990 QE₉, 14, 3, 3; 1990 QM₉, 10, 2, 1; 1990 RG₃, 14, 3, 3; 1990 RK₇, 5, 1, 0; 1990 SB₆, 17, 4, 33; 1990 SH₇, 5, 1, 0; 1990 SO₇, 4, 1, 0; 1990 SE₁₁, 5, 1, 0; 1990 TO₃, 5, 1, 0; 1990 TC₄, 9, 2, 1; 1990 TT₄, 4, 1, 0; 1990 TE₇, 4, 1, 0; 1990 TP₇, 9, 2, 1; 1990 TG₈, 9, 2, 1; 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1991 PV₃₁, 10, 2, 1; 1991 QF, 4, 1, 0; 1991 RN₅, 9, 2, 1; 1991 RD₇, 5, 1, 0; 1991 RE₁₀, 8, 2, 1; 1991 RK₁₆, 9, 2, 1; 1991 RT₂₆, 10, 2, 2; 1991 SR₁, 10, 2, 2; 1991 TV₁, 5, 1, 0; 1991 TE₄, 12, 3, 2; 1991 UZ, 5, 1, 0; 1991 UV₂, 5, 1, 0; 1991 VU, 4, 1, 0; 1991 VD₂, 5, 1, 0; 1991 VU₄, 5, 1, 0; 1991 YZ, 20, 4, 47; 1992 AF, 5, 1, 0; 1992 BF₂, 10, 2, 1; 1992 BK₂, 5, 1, 0; 1992 BF₄, 4, 1, 0; 1992 CS, 10, 2, 1; 1992 CQ₂, 10, 2, 1; 1992 CT₂, 20, 4, 47; 1992 DC₃, 10, 2, 2; 1992 DO₆, 15, 3, 2; 1992 DA₁₀, 4, 1, 0; 1992 EB₂, 5, 1, 0; 1992 EG₄, 9, 2, 3; 1992 ER₆, 14, 3, 3; 1992 EK₇, 4, 1, 0; 1992 EG₈, 15, 3, 2; 1992 EJ₉, 5, 1, 0; 1992 EN₉, 10, 2, 2; 1992 ER₉, 4, 1, 0; 1992 EE₁₁, 10, 2, 1; 1992 EH₁₁, 15, 3, 2; 1992 EQ₁₁, 4, 1, 0; 1992 EY₁₁, 13, 3, 3; 1992 EE₁₃, 14, 3, 47; 1992 ER₂₈, 4, 1, 0; 1992 OX₁, 5, 1, 0; 1992 OP₅, 5, 1, 0; 1992 PC, 5, 1, 0; 1992 PV, 8, 2, 45; 1992 PV₁, 5, 1, 0; 1992 PZ₁, 9, 2, 1; 1992 PO₂, 15, 3, 4; 1992 PU₃, 8, 2, 2; 1992 QW, 5, 1, 0; 1992 QS₁, 5, 1, 0; 1992 RS₃, 10, 2, 1; 1992 RZ₃, 5, 1, 0; 1992 RL₇, 10, 2, 1; 1992 SJ₁, 9, 2, 1; 1992 SW₃, 9, 2, 1; 1992 SK₂₆, 9, 2, 1; 1992 SF₂₆, 5, 1, 0; 1992 UX, 10, 2, 1; 1992 UY, 5, 1, 0; 1992 UA₁, 5, 1, 0; 1992 UZ₁, 18, 4, 47; 1992 UD₂, 14, 3, 3; 1992 UM₂, 9, 2, 1; 1992 UN₂, 4, 1, 0; 1992 UD₃, 5, 1, 0; 1992 UY₃, 10, 1, 0; 1992 UP₁₀, 5, 1, 0; 1992 WH, 15, 3, 2; 1992 WX, 20, 4, 28; 1992 WH₁, 10, 2, 1; 1992 WJ₂, 10, 2, 1; 1992 WU₃, 5, 1, 0; 1992 YH, 8, 2, 1; 1992 YE₁, 10, 2, 2; 1992 YU₂, 9, 2, 1; 1992 YE₄, 4, 1, 0; 1993 AJ, 8, 2, 1; 1993 BL₇, 9, 2, 1; 1993 FO, 5, 1, 0; 1993 FX₂, 4, 1, 0; 1993 FG₅, 5, 1, 0; 1993 FH₅, 10, 2, 2; 1993 FM₇, 5, 1, 0; 1993 FO₈, 9, 2, 1; 1993 FW₈, 9, 2, 2; 1993 FQ₁₀, 5, 1, 0; 1993 FP₁₁, 5, 1, 0; 1993 FF₁₈, 10, 2, 1; 1993 FM₁₉, 9, 2, 1; 1993 FX₂₀, 13, 3, 3; 1993 FF₂₁, 4, 1, 0; 1993 FY₂₂, 9, 2, 1; 1993 FA₂₃, 15, 3, 47; 1993 FS₂₃, 4, 1, 0; 1993 FZ₂₅, 10, 2, 1; 1993 FW₂₆, 10, 2, 1; 1993 FS₂₇, 5, 1, 0; 1993 FS₂₉, 13, 3, 2; 1993 FT₃₃, 5, 1, 0; 1993 FW₃₄, 5, 1, 0; 1993 FF₄₀, 5, 1, 0; 1993 FT₄₁, 10, 2, 1; 1993 FZ₄₄, 13, 3, 3; 1993 FO₄₈, 13, 3, 3; 1993 FF₄₉, 10, 2, 46; 1993 FH₄₉, 13, 3, 3; 1993 FC₅₁, 8, 2, 2; 1993 FR₅₈, 15, 3, 2; 1993 FF₇₆, 5, 1, 0; 1993 FK₈₁, 10, 2, 1; 1993 FX₈₁, 9, 2, 1; 1993 FF₈₂, 10, 2, 1; 1993 GL, 10, 2, 1; 1993 GG₁, 5, 1, 0; 1993 HJ₃, 15, 3, 2; 1993 JL₁, 10, 2, 1; 1993 KB₂, 10, 2, 1; 1993 LG₂, 19, 4, 50; 1993 TC₃, 5, 1, 0; 1993 TU₂₄, 5, 1, 0; 1993 TX₂₆, 2, 1, 0; 1993 UF₇, 9, 2, 1; 1993 VX₃, 23, 5, 50; 1993 XN, 5, 1, 0; 1993 XP₁, 5, 1, 0; 1993 XQ₁, 5, 1, 0; 1993 YG, 9, 2, 1; 1993 YJ, 13, 3, 2; 1993 YN₂, 10, 2, 1; 1994 AC, 10, 2, 1; 1994 AG, 15, 3, 2; 1994 AC₂, 4, 1, 0; 1994 AP₂, 8, 2, 1; 1994 AR₂, 9, 2, 46; 1994 AE₃, 4, 1, 0; 1994 AL₃, 9, 2, 1; 1994 AB₈, 4, 1, 0; 1994 BM, 5, 1, 0; 1994 BX, 5, 1, 0; 1994 BN₄, 15, 3, 47; 1994 BS₄, 10, 2, 1; 1994 CL, 15, 3, 46; 1994 CB₁, 5, 1, 0; 1994 CE₂, 15, 3, 2; 1994 CD₉, 14, 3, 2; 1994 CJ₁₇, 5, 1, 0; 1994 CO₁₇, 5, 1, 0; 1994 DD, 9, 2, 2; 1994 EB, 10, 2, 2; 1994 EP, 10, 2, 1; 1994 EC₅, 14, 3, 3; 1994 EG₇, 5, 1, 0; 1994 EJ₇, 10, 2, 1; 1994 HA, 15, 3, 4; 1994 JN, 10, 2, 1; 1994 JF₁, 10, 2, 1; 1994 JK₉, 8, 2, 2; 1994 LJ₁, 10, 2, 1; 1994 PV, 10, 2, 1; 1994 PJ₁₃, 10, 2, 1; 1994 PG₁₇, 10, 2, 1; 1994 PT₁₀, 13, 3, 47; 1994 PC₃₄, 5, 1, 0; 1994 PS₃₇, 5, 1, 0; 1994 RC₁, 4, 1, 0; 1994 SH₃, 4, 1, 0; 1994 TH₂, 10, 2, 1; 1994 TX₁₂, 9, 2, 1; 1994 UN₇, 5, 1, 0; 1994 VR₆, 5, 1, 0; 1995 FA₁, 10, 2, 1; 1995 FM₁₁, 4, 1, 0; 1995 KM₁, 4, 1, 0; 1995 LJ, 5, 1, 0; 1995 OJ, 10, 2, 2; 1995 OT, 15, 3, 2; 1995 OX₁, 10, 2, 2; 1995 ON₄, 9, 2, 47; 1995 OH₁₀, 4, 1, 0; 1995 QC₂, 9, 2, 1; 1995 QG₂, 5, 1, 0; 1995 QJ₃, 9, 2,

1; 1995 QQ₃, 5, 1, 0; 1995 QP₁₀, 5, 1, 0; 1995 RK, 5, 1, 0; 1995 SX, 9, 2, 1; 1995 SB₂, 10, 2, 1; 1995 SX₂, 10, 2, 1; 1995 SL₃, 10, 2, 1; 1995 SZ₄, 13, 3, 3; 1995 SH₅, 10, 2, 2; 1995 SL₅, 10, 2, 1; 1995 SR₉, 5, 1, 0; 1995 SX₁₉, 14, 3, 3; 1995 SD₂₄, 9, 2, 1; 1995 SO₂₆, 9, 2, 1; 1995 SR₂₆, 13, 3, 3; 1995 SM₂₉, 13, 3, 3; 1995 SN₂₉, 13, 3, 3; 1995 SO₃₃, 5, 1, 0; 1995 SV₅₂, 5, 1, 0; 1995 SM₅₄, 5, 1, 0; 1995 TC, 10, 2, 46; 1995 TN, 9, 2, 3; 1995 TT, 14, 3, 3; 1995 UL, 14, 3, 2; 1995 UB₁, 10, 2, 1; 1995 UJ₁, 10, 2, 1; 1995 UD₂, 10, 2, 1; 1995 UP₆, 5, 1, 0; 1995 UW₆, 10, 2, 2; 1995 UC₈, 10, 2, 1; 1995 UC₈, 10, 2, 1; 1995 UJ₈, 4, 1, 0; 1995 UA₉, 4, 1, 0; 1995 UD₄₅, 9, 2, 1; 1995 UF₄₅, 10, 2, 1; 1995 VL, 5, 1, 0; 1995 VR, 5, 1, 0; 1995 VY, 5, 1, 0; 1995 VT₁, 10, 2, 1; 1995 WJ, 9, 2, 1; 1995 WL, 10, 2, 1; 1995 WT, 4, 1, 0; 1995 WE₁, 5, 1, 0; 1995 WF₂, 4, 1, 0; 1995 WM₂, 5, 1, 0; 1995 WC₄, 12, 2, 1; 1995 WM₅, 5, 1, 0; 1995 WV₅, 10, 2, 1; 1995 WL₇, 5, 1, 0; 1995 YA, 5, 1, 0; 1995 YN₁, 10, 2, 1; 1995 YB₂, 4, 1, 0; 1995 YY₂, 5, 1, 0; 1995 YK₃, 4, 1, 0; 1996 AO₃, 19, 4, 4; 1996 OR₁, 5, 1, 0; 1996 PB₅, 9, 2, 1; 1996 QU₁, 10, 2, 1; 1996 RG₁, 10, 2, 1; 1996 RQ₂, 5, 1, 0; 1996 RZ₂₀, 5, 1, 0; 1996 SG₄, 4, 1, 0; 1996 SU₄, 5, 1, 0; 1996 SH₆, 4, 1, 0; 1996 SL₇, 10, 2, 1; 1996 SK₈, 5, 1, 0; 1996 TR, 5, 1, 0; 1996 TG₅, 15, 3, 2; 1996 TR₅, 4, 1, 0; 1996 TQ₇, 14, 3, 26; 1996 TM₉, 8, 2, 46; 1996 TO₁₀, 9, 2, 1; 1996 TS₁₀, 13, 3, 3; 1996 TU₁₁, 5, 1, 0; 1996 TN₁₂, 9, 2, 1; 1996 TQ₁₂, 5, 1, 0; 1996 TG₁₃, 8, 2, 2; 1996 TT₁₄, 5, 1, 0; 1996 TD₂₁, 5, 1, 0; 1996 TC₅₄, 4, 1, 0; 1996 UD, 15, 3, 2; 1996 UF, 5, 1, 0; 1996 UG, 5, 1, 0; 1996 UM, 4, 1, 0; 1996 UN, 10, 2, 1; 1996 UR, 9, 2, 1; 1996 UU, 5, 1, 0; 1996 UH₁, 9, 2, 1; 1996 UK₁, 8, 2, 1; 1996 VN, 15, 3, 3; 1996 VE₁, 5, 1, 0; 1996 VF₁, 4, 1, 0; 1996 VG₂, 14, 3, 4; 1996 VW₂, 10, 2, 1; 1996 VK₃, 5, 1, 0; 1996 VN₃, 5, 1, 0; 1996 VP₄, 4, 1, 0; 1996 VX₄, 5, 1, 0; 1996 VB₅, 5, 1, 0; 1996 VM₅, 15, 3, 29; 1996 VP₅, 10, 2, 1; 1996 VT₅, 5, 1, 0; 1996 VU₅, 5, 1, 0; 1996 VV₅, 14, 3, 47; 1996 VX₅, 5, 1, 0; 1996 VA₆, 8, 2, 1; 1996 VB₆, 5, 1, 0; 1996 VP₆, 10, 2, 1; 1996 VR₇, 13, 3, 2; 1996 VU₇, 5, 1, 0; 1996 VZ₇, 5, 1, 0; 1996 VE₈, 19, 4, 47; 1996 VH₈, 9, 2, 2; 1996 VJ₈, 14, 3, 3; 1996 VU₈, 10, 2, 1; 1996 VZ₈, 4, 1, 0; 1996 VD₉, 5, 1, 0; 1996 VF₉, 4, 1, 0; 1996 VZ₁₂, 9, 2, 46; 1996 VX₁₅, 14, 3, 3; 1996 VY₂₉, 10, 2, 1; 1996 VG₃₀, 10, 2, 1; 1996 VH₃₀, 5, 1, 0; 1996 VJ₃₀, 14, 3, 46; 1996 VK₃₀, 9, 2, 1; 1996 VM₃₀, 9, 2, 1; 1996 VO₃₀, 20, 4, 50; 1996 VT₃₀, 10, 2, 1; 1996 WD, 8, 2, 1; 1996 WY, 15, 3, 2; 1996 WQ₁, 5, 1, 0; 1996 WC₂, 5, 1, 0; 1996 XC, 5, 1, 0; 1996 XY, 10, 2, 1; 1996 XC₁, 10, 2, 1; 1996 XD₁, 5, 1, 0; 1996 XJ₁, 4, 1, 0; 1996 XT₁, 5, 1, 0; 1996 XV₁, 5, 1, 0; 1996 XE₂, 5, 1, 0; 1996 XM₂, 4, 1, 0; 1996 XB₃, 5, 1, 0; 1996 XF₃, 5, 1, 0; 1996 XY₃, 4, 1, 0; 1996 XF₆, 10, 2, 1; 1996 XQ₁₁, 4, 1, 0; 1996 XY₁₁, 10, 2, 1; 1996 XE₁₂, 8, 2, 2; 1996 XA₁₈, 8, 2, 2; 1996 XC₁₈, 10, 2, 1; 1996 XS₁₈, 8, 2, 1; 1996 XU₁₈, 15, 3, 2; 1996 XE₁₉, 9, 2, 1; 1996 XJ₁₉, 10, 2, 1; 1996 XQ₁₉, 10, 2, 1; 1996 XX₁₉, 10, 2, 1; 1996 XD₂₀, 4, 1, 0; 1996 XR₂₅, 9, 2, 1; 1996 XS₂₅, 10, 2, 1; 1996 XU₂₅, 4, 1, 0; 1996 XU₃₀, 9, 2, 1; 1996 XA₃₂, 10, 2, 1; 1996 XG₃₂, 10, 2, 1; 1996 YK, 4, 1, 0; 1996 YM, 10, 2, 1; 1996 YT, 5, 1, 0; 1996 YB₁, 9, 2, 1; 1996 YH₁, 5, 1, 0; 1996 YD₂, 10, 2, 2; 1996 YF₂, 9, 2, 2; 1996 YQ₂, 4, 1, 0; 1996 YY₂, 5, 1, 0; 1996 YD₃, 15, 3, 46; 1997 AA, 14, 3, 3; 1997 AH, 10, 2, 1; 1997 AU, 5, 1, 0; 1997 AA₁, 4, 1, 0; 1997 AO₁, 5, 1, 0; 1997 AZ₁, 19, 4, 4; 1997 AR₂, 4, 1, 0; 1997 AX₃, 4, 1, 0; 1997 AC₄, 5, 1, 0; 1997 AK₄, 5, 1, 0; 1997 AO₄, 5, 1, 0; 1997 AR₄, 5, 1, 0; 1997 AU₆, 10, 2, 1; 1997 AD₇, 15, 3, 2; 1997 AD₁₀, 9, 2, 1; 1997 AN₁₂, 10, 2, 1; 1997 AQ₁₂, 8, 2, 1; 1997 AL₁₃, 4, 1, 0; 1997 AQ₁₆, 9, 2, 1; 1997 AS₁₆, 14, 3, 47; 1997 AQ₁₇, 13, 3, 46; 1997 AT₁₈, 15, 3, 2; 1997 AK₁₉, 5, 1, 0; 1997 AF₂₁, 10, 2, 1; 1997 BZ₁, 4, 1, 0; 1997 BA₂, 10, 2, 1; 1997 BR₂, 5, 1, 0; 1997 BE₃, 14, 3, 3; 1997 BC₉, 4, 1, 0; 1997 CO, 10, 2, 1; 1997 CQ₁, 3, 1, 0; 1997 CA₃, 4, 1, 0; 1997 CF₁₇, 4, 1, 0; 1997 CW₂₇, 5, 1, 0; 1997 ET₁, 9, 2, 1; 1997 TL₂, 5, 1, 0; 1997 UY₂₄, 10, 2, 4; 1997 UD₂₅, 10, 2, 12; 1997 WU₃, 5, 1, 0; 1997 WJ₁₃, 5, 1, 0; 1997 WT₂₃, 14, 3, 8; 1997 WA₅₇ *, 10, 2, 5; 1997 XM, 4, 1, 0; 1997 XX₃, 5, 1, 0; 1997 XY₃, 10, 2, 2; 1997 XX₄, 9, 2, 1; 1997 XD₅, 5, 1, 0; 1997 XF₅, 10, 2, 1; 1997 XG₅, 4, 1,

2, 1; 1998 DJ₉, 9, 2, 1; 1998 DM₉, 9, 2, 1; 1998 DN₉, 9, 2, 1; 1998 DQ₉, 9, 2, 1; 1998 DS₉, 8, 2, 1; 1998 DZ₉, 10, 2, 1; 1998 DE₁₀, 3, 1, 0; 1998 DJ₁₀, 5, 1, 0; 1998 DM₁₀, 10, 2, 1; 1998 DN₁₀, 10, 2, 1; 1998 DS₁₀, 9, 2, 1; 1998 DT₁₀, 10, 2, 1; 1998 DW₁₀, 8, 2, 1; 1998 DE₁₁, 10, 2, 1; 1998 DG₁₁, 4, 1, 0; 1998 DJ₁₁, 4, 1, 0; 1998 DS₁₁, 9, 2, 1; 1998 DT₁₁, 3, 1, 0; 1998 DV₁₁, 3, 1, 0; 1998 DD₁₂, 5, 1, 0; 1998 DW₁₂, 6, 1, 0; 1998 DD₁₃, 9, 2, 1; 1998 DE₁₃, 9, 2, 1; 1998 DG₁₃, 10, 2, 1; 1998 DH₁₃, 5, 1, 0; 1998 DJ₁₃, 4, 1, 0; 1998 DM₁₃, 10, 2, 1; 1998 DP₁₃, 5, 1, 0; 1998 DQ₁₃, 5, 1, 0; 1998 DT₁₃, 4, 1, 0; 1998 DU₁₃, 9, 2, 46; 1998 DZ₁₃, 9, 2, 1; 1998 DK₁₄, 9, 2, 1; 1998 DM₁₄, 10, 2, 1; 1998 DT₁₄, 10, 2, 1; 1998 DX₁₄, 5, 1, 0; 1998 DD₁₅, 5, 1, 0; 1998 DF₁₅, 10, 2, 1; 1998 DH₁₅, 5, 1, 0; 1998 DJ₁₅, 5, 1, 0; 1998 DK₁₅, 3, 1, 0; 1998 DL₁₅, 3, 1, 0; 1998 DM₁₅, 9, 2, 1; 1998 DN₁₅, 9, 2, 1; 1998 DQ₁₅, 19, 4, 29; 1998 DS₁₅, 10, 2, 1; 1998 DT₁₅, 10, 2, 1; 1998 DU₁₅, 9, 2, 1; 1998 DV₁₅, 5, 1, 0; 1998 DW₁₅, 20, 4, 28; 1998 DZ₁₅, 10, 2, 1; 1998 DA₁₆, 10, 2, 1; 1998 DB₁₆, 10, 2, 1; 1998 DF₁₆, 9, 2, 1; 1998 DQ₁₇, 8, 2, 1; 1998 DX₁₇, 9, 2, 2; 1998 DQ₁₈, 4, 1, 0; 1998 DG₁₉, 9, 2, 1; 1998 DM₁₉, 4, 1, 0; 1998 DF₂₀, 24, 1, 0; 1998 DG₂₀, 5, 1, 0; 1998 DN₂₀, 9, 2, 1; 1998 DS₂₀, 9, 2, 1; 1998 DV₂₀, 9, 2, 1; 1998 DZ₂₀, 9, 2, 1; 1998 DA₂₁, 8, 2, 1; 1998 DS₂₁, 10, 2, 1; 1998 DT₂₁, 5, 1, 0; 1998 DV₂₃, 10, 2, 1; 1998 DC₂₄, 10, 2, 1; 1998 DD₂₄, 10, 2, 1; 1998 DT₂₅, 5, 1, 0; 1998 DX₂₅, 9, 2, 1; 1998 DZ₂₉, 8, 2, 1; 1998 DA₃₃, 9, 2, 1; 1998 DJ₃₃, 5, 1, 0; 1998 DQ₃₃, 10, 2, 2; 1998 DR₃₃, 9, 2, 1; 1998 DV₃₃, 5, 1, 0; 1998 DX₃₃, 4, 1, 0; 1998 DZ₃₃, 12, 3, 24; 1998 DE₃₄, 8, 2, 1; 1998 DJ₃₄, 3, 1, 0; 1998 DL₃₄, 5, 1, 0; 1998 DN₃₄, 5, 1, 0; 1998 DO₃₄, 9, 2, 1; 1998 DV₃₄, 5, 1, 0; 1998 DY₃₄, 3, 1, 0; 1998 DM₃₅, 9, 2, 1; 1998 DQ₃₅, 10, 2, 1; 1998 DS₃₅, 5, 1, 0; 1998 DT₃₅, 5, 1, 0; 1998 DU₃₅, 10, 2, 1; 1998 DW₃₅, 9, 2, 1; 1998 DX₃₅, 9, 2, 1; 1998 DD₃₆, 10, 2, 1; 1998 EC₁₀, 10, 2, 1; 1998 EN₁₄, 13, 19; 1998 ES₁₀, 2, 1; 1998 EQ₁, 19, 4, 28; 1998 ER₁, 18, 4, 29; 1998 EU₁, 8, 2, 2; 1998 EA₂, 9, 2, 1; 1998 EF₂, 9, 2, 2; 1998 EG₂, 15, 3, 2; 1998 EH₂, 9, 2, 2; 1998 EL₂, 15, 3, 2; 1998 EO₂, 14, 3, 2; 1998 EP₂, 25, 5, 28; 1998 EQ₂, 14, 3, 2; 1998 EP₃, 10, 2, 1; 1998 ER₃, 19, 4, 33; 1998 ES₃, 10, 1, 0; 1998 ED₆, 10, 2, 1; 1998 EH₆, 10, 2, 1; 1998 EH₆, 4, 1, 0; 1998 EL₆, 4, 1, 0; 1998 EM₆, 13, 3, 25; 1998 EB₈, 5, 1, 0; 1998 EM₈, 4, 1, 0; 1998 EV₈, 10, 2, 9; 1998 EX₈, 10, 2, 2; 1998 EY₈, 9, 2, 1; 1998 EZ₈, 9, 2, 1; 1998 EB₉, 5, 1, 0; 1998 EC₉, 5, 1, 0; 1998 EN₉, 4, 1, 0; 1998 EQ₉, 4, 1, 0; 1998 ER₉, 10, 2, 1; 1998 EB₁₀, 9, 2, 1; 1998 EG₁₀, 10, 2, 1; 1998 EN₁₀, 9, 2, 1; 1998 EP₁₀, 9, 2, 1; 1998 EQ₁₀, 9, 2, 1; 1998 ES₁₀, 9, 2, 1; 1998 EU₁₀, 9, 2, 1; 1998 EV₁₀, 9, 2, 1; 1998 EW₁₀, 8, 2, 1; 1998 EY₁₀, 9, 2, 1; 1998 EA₁₁, 9, 2, 1; 1998 EB₁₁, 9, 2, 1; 1998 EC₁₁, 9, 2, 1; 1998 EE₁₁, 9, 2, 1; 1998 EF₁₁, 9, 2, 1; 1998 EG₁₁, 9, 2, 1; 1998 EJ₁₁, 9, 2, 1; 1998 EK₁₁, 9, 2, 1; 1998 EL₁₁, 9, 2, 1; 1998 EM₁₁, 9, 2, 1; 1998 EP₁₁, 13, 3, 25; 1998 EQ₁₁, 9, 2, 1; 1998 ER₁₁, 9, 2, 1; 1998 ES₁₁, 9, 2, 1; 1998 ET₁₁, 9, 2, 1; 1998 EU₁₁, 9, 2, 1; 1998 EV₁₁, 9, 2, 1; 1998 EW₁₁, 9, 2, 1; 1998 EX₁₁, 9, 2, 1; 1998 EY₁₁, 9, 2, 1; 1998 EZ₁₁, 9, 2, 1; 1998 EB₁₂, 9, 2, 1; 1998 ED₁₂, 9, 2, 1; 1998 EE₁₂, 18, 4, 26; 1998 EF₁₂, 9, 2, 1; 1998 EG₁₂, 9, 2, 1; 1998 EH₁₂, 9, 2, 1; 1998 EK₁₂, 18, 4, 26; 1998 EL₁₂, 8, 2, 1; 1998 EM₁₂, 9, 2, 1; 1998 EN₁₂, 9, 2, 1; 1998 EO₁₂, 9, 2, 1; 1998 EP₁₂, 9, 2, 1; 1998 EW₁₂, 13, 3, 24; 1998 EZ₁₂, 3, 1, 0; 1998 EA₁₃, 4, 1, 0; 1998 EE₁₃, 9, 2, 1; 1998 EM₁₃, 9, 2, 1; 1998 EN₁₃, 7, 2, 1; 1998 EQ₁₃, 9, 2, 1; 1998 EV₁₃, 10, 2, 2; 1998 EX₁₃, 5, 1, 0; 1998 EC₁₄, 9, 2, 2; 1998 ED₁₄, 9, 2, 1; 1998 EG₁₄, 9, 2, 1; 1998 EK₁₄, 9, 2, 1; 1998 EO₁₄, 9, 2, 1; 1998 ER₁₄, 9, 2, 1; 1998 ES₁₄, 5, 1, 0; 1998 EV₁₄, 4, 1, 0; 1998 EX₁₄, 9, 2, 1; 1998 EY₁₄ *, 10, 2, 1; 1998 EZ₁₄ *, 9, 2, 1; 1998 EA₁₅ *, 10, 2, 1; 1998 EB₁₅ *, 9, 2, 1; 1998 EC₁₅ *, 10, 2, 1; 1998 ED₁₅ *, 10, 2, 1; 1998 EE₁₅ *, 10, 2, 1; 1998 EF₁₅ *, 10, 2, 1; 1998 EG₁₅ *, 9, 2, 1; 1998 EH₁₅ *, 10, 2, 1; 1998 EJ₁₅ *, 10, 2, 1; 1998 EK₁₅ *, 10, 2, 1; 1998 EL₁₅ *, 10, 2, 1; 1998 EM₁₅ *, 9, 2, 1; 1998 EN₁₅ *, 10, 2, 1; 1998 EO₁₅ *, 9, 2, 1; 1998 EP₁₅ *, 9, 2, 1; 1998 EQ₁₅ *, 8, 2, 1; 1998 ER₁₅ *, 10, 2, 1; 1998 ES₁₅ *, 8, 2, 1; 1998 ET₁₅ *, 10, 2, 1; 1998 EU₁₅ *, 10, 2, 1; 1998 EV₁₅ *, 10, 2, 1; 1998 EW₁₅ *, 10, 2, 1; 1998 EX₁₅ *, 10, 2, 1; 1998 EY₁₅ *, 10, 2, 1; 1998 EZ₁₅ *, 10, 2, 1; 1998 EA₁₆ *, 9, 2, 1; 1998 EB₁₆ *, 9, 2, 1; 1998 EC₁₆ *, 9, 2, 1; 1998 ED₁₆ *, 10, 2, 1; 1998 EE₁₆ *, 10, 2, 1; 1998 EF₁₆ *, 8, 2, 1; 1998 EG₁₆ *, 9, 2, 1; 1998 EH₁₆ *, 10, 2, 1; 1998 EJ₁₆ *, 9, 2, 1; 1998 EK₁₆ *, 10, 2, 1; 1998 EL₁₆ *, 9, 2, 1; 1998 EM₁₆ *, 9, 2, 1; 1998 EN₁₆ *, 9, 2, 1; 1998 EO₁₆ *, 8, 2, 1; 1998 EP₁₆ *, 10, 2, 1; 1998 EQ₁₆ *, 9, 2, 1; 1998 ER₁₆ *, 8, 2, 1; 1998 ES₁₆ *, 10, 2, 1; 1998 ET₁₆ *, 10, 2, 1; 1998 EU₁₆ *, 10, 2, 1; 1998 EV₁₆ *, 9, 2, 1; 1998 EW₁₆ *, 8, 2, 1; 1998 EX₁₆ *, 9, 2, 1; 1998 EY₁₆ *, 8, 2, 1; 1998 EZ₁₆ *, 9, 2, 1; 1998 FD₁₀, 10, 2, 1; 1998 FA₁, 10, 2, 2; 1998 FK₁, 8, 2, 1; 1998 FE₂, 28, 5, 29; 1998 FF₂, 4, 1, 0; 1998 FJ₂, 4, 1, 0; 1998 FK₂, 20, 4, 47; 1998 FM₂, 9, 2, 1; 1998 FO₂, 9, 2, 1; 1998 FQ₂, 9, 2, 2; 1998 FA₃, 10, 2, 1; 1998 FB₃, 10, 2, 1; 1998 FC₃, 10, 2, 1; 1998 FE₃, 10, 2, 1; 1998 FF₃, 10, 2, 1; 1998 FK₃, 5, 1, 0; 1998 FZ₄, 14, 3, 28; 1998 FA₅, 10, 2, 1; 1998 FB₅, 5, 1, 0; 1998 FK₅, 10, 2, 2; 1998 FM₅, 5, 1, 0; 1998 FO₅, 20, 4, 29; 1998 FP₅, 15, 3, 27; 1998 FQ₅, 10, 2, 1; 1998 FB₆, 9, 2, 1; 1998 FD₇, 8, 2, 1; 1998 FA₈, 10, 2, 1; 1998 FV₈, 15, 3, 2; 1998 FZ₈, 9, 2, 2; 1998 FC₉, 10, 2, 1; 1998 FF₉, 10, 2, 1; 1998 FM₉, 12, 3, 44; 1998 FW₉, 9, 2, 1; 1998 FA₁₀, 13, 3, 46; 1998 FB₁₀, 14, 3, 46; 1998 FF₁₀, 5, 1, 0; 1998 FH₁₀, 14, 3, 30; 1998 FR₁₀, 10, 2, 1; 1998 FG₁₀, 10, 2, 1; 1998 FG₁₁, 20, 4, 29; 1998 FP₁₁, 14, 3, 3; 1998 FT₁₁, 10, 2, 1; 1998 FY₁₁, 5, 1, 0; 1998 FA₁₂, 15, 2, 1; 1998 FS₁₂, 5, 1, 0; 1998 FF₁₃, 10, 2, 1; 1998 FH₁₃, 9, 2, 1; 1998 FJ₁₃, 10, 2, 1; 1998 FK₁₃, 10, 2, 1; 1998 FM₁₃, 10, 2, 1; 1998 FN₁₃, 10, 2, 1; 1998 FO₁₃, 10, 2, 1; 1998 FP₁₃, 10, 2, 1; 1998 FQ₁₃, 9, 2, 1; 1998 FR₁₃, 9, 2, 1; 1998 FS₁₃, 9, 2, 1; 1998 FY₁₃, 15, 3, 47; 1998 FG₁₄, 5, 1, 0; 1998 FM₁₄, 9, 2, 1; 1998 FP₁₄, 10, 2, 1; 1998 FQ₁₄, 9, 2, 2; 1998 FT₁₄, 9, 2, 1; 1998 FY₁₄, 14, 3, 30; 1998 FZ₁₄, 8, 2, 1; 1998 FA₁₅, 9, 2, 1; 1998 FH₁₅, 9, 2, 1; 1998 FL₁₅, 10, 2, 1; 1998 FM₁₅, 3, 1, 0; 1998 FY₁₅, 4, 1, 0; 1998 FD₁₆, 9, 2, 1; 1998 FF₁₆, 14, 3, 3; 1998 FG₁₆, 9, 2, 1; 1998 FW₁₆, 9, 2, 1; 1998 FN₁₇, 9, 2, 1; 1998 FE₁₈, 10, 2, 1; 1998 FW₁₉, 8, 2, 1; 1998 FG₂₀, 10, 2, 1; 1998 FO₂₀, 9, 2, 1; 1998 FM₂₁, 9, 2, 1;

1998 FR₂₁, 9, 2, 1; 1998 FE₂₂, 8, 2, 1; 1998 FJ₂₂, 10, 2, 1; 1998 FU₂₂, 10, 2, 1; 1998 FA₂₃, 10, 2, 1; 1998 FE₂₄, 10, 2, 1; 1998 FQ₂₄, 10, 2, 1; 1998 FJ₂₅, 4, 1, 0; 1998 FN₂₅, 5, 1, 0; 1998 FR₂₆, 9, 2, 1; 1998 FM₂₇, 10, 2, 1; 1998 FW₂₇, 10, 2, 1; 1998 FX₂₇, 5, 1, 0; 1998 FY₂₇, 10, 2, 1; 1998 FD₂₈, 10, 2, 1; 1998 FE₂₈, 10, 2, 1; 1998 FF₂₈, 5, 1, 0; 1998 FG₂₈, 10, 2, 1; 1998 FK₂₈, 10, 2, 1; 1998 FM₂₉, 5, 1, 0; 1998 FT₂₉, 10, 2, 1; 1998 FW₂₉, 10, 2, 1; 1998 FX₂₉, 5, 1, 0; 1998 FZ₂₉, 9, 2, 45; 1998 FC₃₀, 9, 2, 1; 1998 FH₃₀, 5, 1, 0; 1998 FM₃₀, 10, 2, 1; 1998 FH₃₁, 9, 2, 1; 1998 FJ₃₁, 9, 2, 1; 1998 FY₃₁, 9, 2, 1; 1998 FE₃₂, 10, 2, 1; 1998 FK₃₂, 15, 3, 18; 1998 FO₃₂, 13, 3, 18; 1998 FP₃₂, 14, 3, 18; 1998 FC₃₃, 15, 2, 1; 1998 FD₃₃, 20, 2, 1; 1998 FF₃₃, 20, 2, 1; 1998 FZ₃₃, 9, 2, 1; 1998 FF₃₄, 15, 3, 18; 1998 FL₃₄, 15, 3, 18; 1998 FM₃₄, 15, 3, 18; 1998 FO₃₄, 14, 3, 18; 1998 FP₃₄, 10, 2, 1; 1998 FR₃₄, 24, 4, 26; 1998 FS₃₄, 5, 1, 0; 1998 FW₃₄, 9, 2, 1; 1998 FY₃₄, 10, 2, 1; 1998 FB₃₈, 10, 2, 1; 1998 FD₃₈, 5, 1, 0; 1998 FG₃₈, 9, 2, 1; 1998 FU₃₈, 10, 2, 1; 1998 FT₃₉, 12, 3, 18; 1998 FX₃₉, 15, 3, 18; 1998 FH₄₀, 15, 2, 1; 1998 FM₄₁, 12, 3, 18; 1998 FP₄₁, 10, 2, 1; 1998 FT₄₁, 10, 2, 1; 1998 FZ₄₁, 14, 3, 18; 1998 FB₄₂, 14, 3, 18; 1998 FC₄₂, 14, 3, 18; 1998 FD₄₂, 9, 2, 1; 1998 FE₄₂, 10, 2, 1; 1998 FH₄₂, 23, 3, 25; 1998 FJ₄₂, 10, 2, 1; 1998 FM₄₂, 9, 2, 1; 1998 FP₄₂, 15, 3, 18; 1998 FS₄₂, 9, 2, 1; 1998 FT₄₂, 9, 2, 1; 1998 FU₄₂, 10, 2, 1; 1998 FV₄₂, 10, 2, 1; 1998 FW₄₂, 15, 3, 46; 1998 FX₄₂, 14, 3, 18; 1998 FY₄₂, 15, 3, 18; 1998 FC₄₃, 10, 2, 1; 1998 FK₄₃, 10, 2, 1; 1998 FV₄₃, 9, 2, 1; 1998 FC₄₄, 9, 2, 1; 1998 FV₄₆, 5, 1, 0; 1998 FZ₄₆, 15, 3, 18; 1998 FD₄₇, 9, 2, 1; 1998 FE₄₇, 9, 2, 1; 1998 FJ₄₇, 10, 2, 1; 1998 FK₄₇, 15, 3, 18; 1998 FL₄₇, 14, 3, 18; 1998 FO₄₇, 10, 2, 1; 1998 FR₄₇, 14, 3, 18; 1998 FZ₄₇, 14, 3, 46; 1998 FB₄₈, 8, 2, 1; 1998 FE₄₈, 9, 2, 1; 1998 FF₄₈, 10, 2, 1; 1998 FK₄₈, 10, 2, 1; 1998 FO₄₈, 4, 1, 0; 1998 FP₄₈, 14, 3, 18; 1998 FQ₄₈, 15, 3, 46; 1998 FB₄₉, 14, 3, 18; 1998 FC₄₉, 10, 2, 1; 1998 FD₄₉, 10, 2, 1; 1998 FK₄₉, 4, 1, 0; 1998 FL₄₉, 15, 3, 18; 1998 FO₄₉, 10, 2, 1; 1998 FQ₄₉, 10, 2, 1; 1998 FY₄₉, 10, 2, 1; 1998 FZ₄₉, 10, 2, 1; 1998 FF₅₂, 5, 1, 0; 1998 FZ₅₂, 14, 3, 47; 1998 FE₅₃, 10, 2, 1; 1998 FF₅₃, 15, 3, 18; 1998 FG₅₃, 15, 3, 46; 1998 FQ₅₃, 13, 3, 46; 1998 FT₅₃, 19, 4, 19; 1998 FW₅₃, 10, 2, 1; 1998 FX₅₃, 4, 1, 0; 1998 FY₅₃, 10, 2, 1; 1998 FZ₅₃, 10, 2, 1; 1998 FA₅₄, 15, 3, 18; 1998 FB₅₄, 10, 2, 1; 1998 FD₅₄, 4, 1, 0; 1998 FJ₅₄, 14, 3, 18; 1998 FK₅₄, 15, 3, 26; 1998 FM₅₄, 15, 3, 26; 1998 FN₅₇, 5, 1, 0; 1998 FO₅₇, 14, 3, 18; 1998 FR₅₇, 9, 2, 1; 1998 FW₅₇, 9, 2, 1; 1998 FO₅₈, 9, 2, 1; 1998 FR₅₈, 10, 2, 2; 1998 FA₅₉, 9, 2, 1; 1998 FE₅₉, 10, 2, 2; 1998 FQ₅₉, 10, 2, 2; 1998 FT₅₉, 4, 1, 0; 1998 FZ₅₉, 10, 2, 2; 1998 FE₆₀, 10, 2, 2; 1998 FF₆₀, 9, 2, 2; 1998 FG₆₀, 8, 2, 2; 1998 FJ₆₀, 9, 2, 2; 1998 FL₆₀, 8, 2, 2; 1998 FN₆₀, 9, 2, 2; 1998 FP₆₀, 10, 2, 2; 1998 FV₆₀, 9, 2, 2; 1998 FW₆₀, 8, 2, 2; 1998 FY₆₀, 14, 3, 18; 1998 FC₆₁, 15, 3, 21; 1998 FD₆₁, 10, 2, 2; 1998 FL₆₁, 15, 3, 3; 1998 FM₆₁, 10, 2, 2; 1998 FN₆₁, 5, 1, 0; 1998 FS₆₁, 10, 2, 1; 1998 FT₆₁, 4, 1, 0; 1998 FU₆₁, 10, 2, 2; 1998 FV₆₁, 13, 3, 18; 1998 FW₆₁, 25, 5, 21; 1998 FX₆₁, 25, 5, 21; 1998 FY₆₁, 15, 3, 21; 1998 FZ₆₁, 24, 5, 21; 1998 FA₆₂, 14, 3, 18; 1998 FB₆₂, 28, 6, 22; 1998 FD₆₂, 14, 3, 18; 1998 FF₆₂, 9, 2, 2; 1998 FJ₆₂, 15, 3, 21; 1998 FK₆₂, 15, 3, 21; 1998 FM₆₂, 10, 2, 2; 1998 FN₆₂, 23, 5, 21; 1998 FO₆₂, 9, 2, 2; 1998 FR₆₂, 9, 2, 2; 1998 FS₆₂, 10, 2, 2; 1998 FU₆₂, 14, 3, 21; 1998 FX₆₂, 10, 2, 2; 1998 FZ₆₂, 10, 2, 2; 1998 FZ₆₂, 10, 2, 2; 1998 FA₆₃, 10, 2, 2; 1998 FB₆₃, 10, 2, 2; 1998 FC₆₃, 10, 2, 2; 1998 FF₆₃, 9, 2, 2; 1998 FG₆₃, 10, 2, 2; 1998 FH₆₃, 10, 2, 2; 1998 FK₆₃, 10, 2, 2; 1998 FL₆₃, 9, 2, 2; 1998 FO₆₃, 8, 2, 2; 1998 FP₆₃, 10, 2, 2; 1998 FQ₆₃, 9, 2, 2; 1998 FR₆₃, 9, 2, 2; 1998 FT₆₃, 10, 2, 2; 1998 FW₆₃, 10, 2, 2; 1998 FZ₆₃, 9, 2, 2; 1998 FA₆₄, 10, 2, 2; 1998 FB₆₄, 9, 2, 2; 1998 FC₆₄, 10, 2, 2; 1998 FF₆₄, 5, 1, 0; 1998 FG₆₄, 9, 2, 2; 1998 FH₆₄, 14, 3, 3; 1998 FL₆₄, 13, 3, 28; 1998 FM₆₄, 8, 2, 2; 1998 FO₆₄, 8, 2, 2; 1998 FP₆₄, 10, 2, 2; 1998 FQ₆₄, 10, 2, 2;

1998 FM₇₁, 15, 3, 2; 1998 FN₇₁, 25, 4, 29; 1998 FO₇₁, 29, 5, 29; 1998 FP₇₁, 9, 2, 21; 1998 FQ₇₁, 17, 4, 28; 1998 FR₇₁, 34, 5, 29; 1998 FV₇₁, 9, 2, 1; 1998 FY₇₁, 14, 3, 18; 1998 FC₇₂, 9, 2, 1; 1998 FD₇₂, 22, 5, 21; 1998 FE₇₂, 10, 2, 2; 1998 FJ₇₂, 9, 2, 2; 1998 FL₇₂, 9, 2, 2; 1998 FM₇₂, 23, 5, 28; 1998 FP₇₂, 14, 3, 28; 1998 FQ₇₂, 10, 2, 2; 1998 FR₇₂, 9, 2, 2; 1998 FS₇₂, 18, 4, 28; 1998 FD₇₃, 10, 2, 1; 1998 FE₇₃, 5, 1, 0; 1998 FJ₇₃, 23, 4, 30; 1998 FP₇₃, 19, 4, 33; 1998 FR₇₃, 17, 3, 2; 1998 FS₇₃, 24, 5, 29; 1998 FY₇₃, 10, 2, 2; 1998 FZ₇₃, 10, 2, 2; 1998 FA₇₄, 10, 2, 2; 1998 FB₇₄, 10, 2, 2; 1998 FD₇₄, 25, 5, 31; 1998 FE₇₄, 4, 1, 0; 1998 FO₇₄, 10, 2, 1; 1998 FQ₇₄, 9, 2, 1; 1998 FV₇₄ *, 10, 2, 1; 1998 FW₇₄ *, 10, 2, 1; 1998 FX₇₄ *, 20, 4, 29; 1998 FY₇₄ *, 23, 4, 29; 1998 FZ₇₄ *, 33, 7, 33; 1998 FA₇₅ *, 18, 4, 28; 1998 FB₇₅ *, 25, 4, 28; 1998 FC₇₅ *, 25, 5, 29; 1998 FD₇₅ *, 24, 5, 29; 1998 FE₇₅ *, 15, 2, 1; 1998 FF₇₅ *, 25, 4, 29; 1998 FG₇₅ *, 25, 5, 29; 1998 FH₇₅ *, 10, 2, 1; 1998 FJ₇₅ *, 22, 4, 29; 1998 FL₇₅ *, 10, 2, 1; 1998 FM₇₅ *, 9, 2, 1; 1998 FN₇₅ *, 25, 5, 29; 1998 FO₇₅ *, 24, 5, 29; 1998 FP₇₅ *, 8, 2, 1; 1998 FQ₇₅ *, 10, 2, 1; 1998 FR₇₅ *, 24, 4, 29; 1998 FS₇₅ *, 25, 5, 31; 1998 FT₇₅ *, 9, 2, 1; 1998 FV₇₅ *, 14, 2, 1; 1998 FV₇₅ *, 15, 2, 1; 1998 FW₇₅ *, 15, 2, 1; 1998 FX₇₅ *, 18, 2, 1; 1998 FY₇₅ *, 19, 2, 1; 1998 FZ₇₅ *, 19, 2, 1; 1998 FA₇₆ *, 9, 2, 1; 1998 FB₇₆ *, 20, 2, 1; 1998 FC₇₆ *, 15, 2, 1; 1998 FD₇₆ *, 37, 7, 30; 1998 FE₇₆ *, 10, 2, 1; 1998 FF₇₆ *, 8, 2, 1; 1998 FG₇₆ *, 17, 4, 29; 1998 FH₇₆ *, 9, 2, 1; 1998 FJ₇₆ *, 9, 2, 1; 1998 FK₇₆ *, 9, 2, 1; 1998 FL₇₆ *, 10, 2, 1; 1998 FM₇₆ *, 20, 4, 29; 1998 FN₇₆ *, 10, 2, 1; 1998 FO₇₆ *, 10, 2, 1; 1998 FP₇₆ *, 20, 4, 29; 1998 FQ₇₆ *, 19, 4, 29; 1998 FR₇₆ *, 10, 2, 1; 1998 FS₇₆ *, 9, 2, 1; 1998 FT₇₆ *, 20, 4, 29; 1998 FU₇₆ *, 19, 4, 29; 1998 FV₇₆ *, 9, 2, 1; 1998 FW₇₆ *, 8, 2, 1; 1998 FX₇₆ *, 10, 2, 1; 1998 FY₇₆ *, 20, 4, 29; 1998 FZ₇₆ *, 18, 4, 29; 1998 FA₇₇ *, 20, 4, 29; 1998 FB₇₇ *, 20, 4, 29; 1998 FC₇₇ *, 17, 4, 29; 1998 FD₇₇ *, 9, 2, 1; 1998 FE₇₇ *, 10, 2, 1; 1998 FF₇₇ *, 10, 2, 1; 1998 FG₇₇ *, 10, 2, 1; 1998 FH₇₇ *, 10, 2, 1; 1998 FJ₇₇ *, 9, 2, 1; 1998 FK₇₇ *, 9, 2, 1; 1998 FM₇₇ *, 20, 4, 29; 1998 FN₇₇ *, 19, 4, 29; 1998 FO₇₇ *, 19, 4, 29; 1998 FP₇₇ *, 9, 2, 1; 1998 FQ₇₇ *, 17, 4, 29; 1998 FR₇₇ *, 8, 2, 1; 1998 FS₇₇ *, 19, 4, 28; 1998 FT₇₇ *, 18, 4, 29; 1998 FU₇₇ *, 19, 4, 28; 1998 FV₇₇ *, 19, 4, 28; 1998 FW₇₇ *, 19, 4, 29; 1998 FX₇₇ *, 10, 2, 1; 1998 FY₇₇ *, 20, 4, 28; 1998 FZ₇₇ *, 9, 2, 1; 1998 FA₇₈ *, 20, 4, 28; 1998 FB₇₈ *, 10, 2, 1; 1998 FC₇₈ *, 20, 4, 29; 1998 FD₇₈ *, 20, 4, 28; 1998 FE₇₈ *, 20, 4, 28; 1998 FF₇₈ *, 25, 5, 29; 1998 FG₇₈ *, 25, 5, 29; 1998 FH₇₈ *, 10, 2, 1; 1998 FJ₇₈ *, 20, 4, 29; 1998 FK₇₈ *, 20, 4, 29; 1998 FL₇₈ *, 20, 4, 29; 1998 FM₇₈ *, 20, 4, 29; 1998 FN₇₈ *, 25, 5, 29; 1998 FO₇₈ *, 24, 5, 29; 1998 FP₇₈ *, 9, 2, 1; 1998 FQ₇₈ *, 20, 4, 29; 1998 FR₇₈ *, 20, 4, 28; 1998 FS₇₈ *, 9, 2, 1; 1998 FT₇₈ *, 17, 4, 28; 1998 FU₇₈ *, 20, 4, 28; 1998 FV₇₈ *, 20, 4, 28; 1998 FW₇₈ *, 18, 4, 28; 1998 FX₇₈ *, 9, 2, 1; 1998 FY₇₈ *, 9, 2, 1; 1998 FZ₇₈ *, 20, 4, 28; 1998 FA₇₉ *, 9, 2, 1; 1998 FB₇₉ *, 9, 2, 1; 1998 FC₇₉ *, 19, 4, 28; 1998 FD₇₉ *, 10, 2, 1; 1998 FE₇₉ *, 24, 5, 29; 1998 FF₇₉ *, 18, 4, 28; 1998 FG₇₉ *, 10, 2, 1; 1998 FH₇₉ *, 9, 2, 1; 1998 FJ₇₉ *, 20, 4, 28; 1998 FK₇₉ *, 9, 2, 1; 1998 FL₇₉ *, 18, 4, 28; 1998 FM₇₉ *, 25, 5, 29; 1998 FN₇₉ *, 25, 5, 29; 1998 FO₇₉ *, 25, 5, 29; 1998 FP₇₉ *, 10, 2, 1; 1998 FQ₇₉ *, 9, 2, 1; 1998 FR₇₉ *, 10, 2, 1; 1998 FS₇₉ *, 10, 2, 1; 1998 FT₇₉ *, 9, 2, 1; 1998 FU₇₉ *, 19, 4, 29; 1998 FV₇₉ *, 24, 5, 29; 1998 FW₇₉ *, 23, 5, 29; 1998 FX₇₉ *, 22, 5, 29; 1998 FY₇₉ *, 18, 4, 29; 1998 FZ₇₉ *, 8, 2, 1; 1998 FA₈₀ *, 8, 2, 1; 1998 FB₈₀ *, 10, 2, 1; 19

9, 2, 1; 1998 FD₈₅ *, 9, 2, 1; 1998 FE₈₅ *, 9, 2, 1; 1998 FF₈₅ *, 9, 2, 1; 1998 FG₈₅ *, 9, 2, 1; 1998 FH₈₅ *, 9, 2, 1; 1998 FJ₈₅ *, 9, 2, 1; 1998 FK₈₅ *, 9, 2, 1; 1998 FL₈₅ *, 9, 2, 1; 1998 FM₈₅ *, 9, 2, 1; 1998 FN₈₅ *, 8, 2, 1; 1998 FO₈₅ *, 9, 2, 1; 1998 FP₈₅ *, 9, 2, 1; 1998 FQ₈₅ *, 9, 2, 1; 1998 FR₈₅ *, 9, 2, 1; 1998 FS₈₅ *, 9, 2, 1; 1998 FT₈₅ *, 9, 2, 1; 1998 FU₈₅ *, 9, 2, 1; 1998 FV₈₅ *, 9, 2, 1; 1998 FW₈₅ *, 9, 2, 1; 1998 FX₈₅ *, 9, 2, 1; 1998 FY₈₅ *, 9, 2, 1; 1998 FZ₈₅ *, 8, 2, 1; 1998 FA₈₆ *, 9, 2, 1; 1998 FB₈₆ *, 9, 2, 1; 1998 FC₈₆ *, 9, 2, 1; 1998 FD₈₆ *, 9, 2, 1; 1998 FE₈₆ *, 9, 2, 1; 1998 FF₈₆ *, 8, 2, 1; 1998 FG₈₆ *, 9, 2, 1; 1998 FH₈₆ *, 9, 2, 1; 1998 FJ₈₆ *, 9, 2, 1; 1998 FK₈₆ *, 9, 2, 1; 1998 FL₈₆ *, 9, 2, 1; 1998 FM₈₆ *, 9, 2, 1; 1998 FN₈₆ *, 9, 2, 1; 1998 FO₈₆ *, 9, 2, 1; 1998 FP₈₆ *, 8, 2, 1; 1998 FQ₈₆ *, 9, 2, 1; 1998 FR₈₆ *, 8, 2, 1; 1998 FS₈₆ *, 9, 2, 1; 1998 FT₈₆ *, 9, 2, 1; 1998 FU₈₆ *, 8, 2, 1; 1998 FV₈₆ *, 9, 2, 1; 1998 FW₈₆ *, 8, 2, 1; 1998 FX₈₆ *, 9, 2, 1; 1998 FY₈₆ *, 9, 2, 1; 1998 FZ₈₆ *, 9, 2, 1; 1998 FA₈₇ *, 9, 2, 1; 1998 FB₈₇ *, 9, 2, 1; 1998 FC₈₇ *, 8, 2, 1; 1998 FD₈₇ *, 9, 2, 1; 1998 FE₈₇ *, 9, 2, 1; 1998 FG₈₇ *, 9, 2, 1; 1998 FH₈₇ *, 9, 2, 1; 1998 FJ₈₇ *, 8, 2, 1; 1998 FK₈₇ *, 9, 2, 1; 1998 FL₈₇ *, 9, 2, 1; 1998 FM₈₇ *, 9, 2, 1; 1998 FN₈₇ *, 9, 2, 1; 1998 FO₈₇ *, 9, 2, 1; 1998 FP₈₇ *, 9, 2, 1; 1998 FQ₈₇ *, 9, 2, 1; 1998 FR₈₇ *, 9, 2, 1; 1998 FS₈₇ *, 9, 2, 1; 1998 FT₈₇ *, 9, 2, 1; 1998 FU₈₇ *, 9, 2, 1; 1998 FV₈₇ *, 9, 2, 1; 1998 FW₈₇ *, 9, 2, 1; 1998 FX₈₇ *, 9, 2, 1; 1998 FY₈₇ *, 9, 2, 1; 1998 FZ₈₇ *, 8, 2, 1; 1998 FA₈₈ *, 9, 2, 1; 1998 FB₈₈ *, 8, 2, 1; 1998 FC₈₈ *, 9, 2, 1; 1998 FD₈₈ *, 9, 2, 1; 1998 FE₈₈ *, 9, 2, 1; 1998 FF₈₈ *, 9, 2, 1; 1998 FG₈₈ *, 9, 2, 1; 1998 FH₈₈ *, 8, 2, 1; 1998 FJ₈₈ *, 8, 2, 1; 1998 FK₈₈ *, 9, 2, 1; 1998 FL₈₈ *, 9, 2, 1; 1998 FM₈₈ *, 9, 2, 1; 1998 FN₈₈ *, 9, 2, 1; 1998 FO₈₈ *, 9, 2, 1; 1998 FP₈₈ *, 14, 2, 1; 1998 FQ₈₈ *, 9, 2, 1; 1998 FR₈₈ *, 9, 2, 1; 1998 FS₈₈ *, 8, 2, 1; 1998 FT₈₈ *, 9, 2, 1; 1998 FU₈₈ *, 9, 2, 1; 1998 FV₈₈ *, 9, 2, 1; 1998 FW₈₈ *, 14, 2, 1; 1998 FX₈₈ *, 9, 2, 1; 1998 FY₈₈ *, 9, 2, 1; 1998 FZ₈₈ *, 14, 2, 1; 1998 FA₈₉ *, 9, 2, 1; 1998 FB₈₉ *, 9, 2, 1; 1998 FC₈₉ *, 8, 2, 1; 1998 FD₈₉ *, 9, 2, 1; 1998 FE₈₉ *, 9, 2, 1; 1998 FG₈₉ *, 9, 2, 1; 1998 FH₈₉ *, 9, 2, 1; 1998 FJ₈₉ *, 9, 2, 1; 1998 FK₈₉ *, 9, 2, 1; 1998 FL₈₉ *, 9, 2, 1; 1998 FM₈₉ *, 9, 2, 1; 1998 FN₈₉ *, 8, 2, 1; 1998 FO₈₉ *, 9, 2, 1; 1998 FP₈₉ *, 9, 2, 1; 1998 FQ₈₉ *, 9, 2, 1; 1998 FR₈₉ *, 9, 2, 1; 1998 FS₈₉ *, 9, 2, 1; 1998 FT₈₉ *, 9, 2, 1; 1998 FU₈₉ *, 9, 2, 1; 1998 FV₈₉ *, 9, 2, 1; 1998 FW₈₉ *, 9, 2, 1; 1998 FX₈₉ *, 8, 2, 1; 1998 FY₈₉ *, 9, 2, 1; 1998 FZ₈₉ *, 9, 2, 1; 1998 FA₉₀ *, 9, 2, 1; 1998 FB₉₀ *, 9, 2, 1; 1998 FC₉₀ *, 9, 2, 1; 1998 FD₉₀ *, 8, 2, 1; 1998 FE₉₀ *, 9, 2, 1; 1998 FF₉₀ *, 9, 2, 1; 1998 FG₉₀ *, 9, 2, 1; 1998 FH₉₀ *, 8, 2, 1; 1998 FJ₉₀ *, 9, 2, 1; 1998 FK₉₀ *, 9, 2, 1; 1998 FL₉₀ *, 9, 2, 1; 1998 FM₉₀ *, 9, 2, 1; 1998 FN₉₀ *, 9, 2, 1; 1998 FO₉₀ *, 9, 2, 1; 1998 FP₉₀ *, 9, 2, 1; 1998 FQ₉₀ *, 9, 2, 1; 1998 FR₉₀ *, 9, 2, 1; 1998 FS₉₀ *, 9, 2, 1; 1998 FT₉₀ *, 9, 2, 1; 1998 FU₉₀ *, 9, 2, 1; 1998 FV₉₀ *, 9, 2, 1; 1998 FW₉₀ *, 9, 2, 1; 1998 FX₉₀ *, 9, 2, 1; 1998 FY₉₀ *, 8, 2, 1; 1998 FZ₉₀ *, 9, 2, 1; 1998 FA₉₁ *, 9, 2, 1; 1998 FB₉₁ *, 9, 2, 1; 1998 FC₉₁ *, 9, 2, 1; 1998 FD₉₁ *, 9, 2, 1; 1998 FE₉₁ *, 8, 2, 1; 1998 FF₉₁ *, 9, 2, 1; 1998 FG₉₁ *, 9, 2, 1; 1998 FH₉₁ *, 9, 2, 1; 1998 FJ₉₁ *, 9, 2, 1; 1998 FK₉₁ *, 9, 2, 1; 1998 FL₉₁ *, 9, 2, 1; 1998 FM₉₁ *, 9, 2, 1; 1998 FN₉₁ *, 9, 2, 1; 1998 FO₉₁ *, 9, 2, 1; 1998 FP₉₁ *, 9, 2, 1; 1998 FQ₉₁ *, 9, 2, 1; 1998 FR₉₁ *, 9, 2, 1; 1998 FS₉₁ *, 9, 2, 1; 1998 FT₉₁ *, 9, 2, 1; 1998 FU₉₁ *, 9, 2, 1; 1998 FV₉₁ *, 9, 2, 1; 1998 FW₉₁ *, 9, 2, 1; 1998 FX₉₁ *, 9, 2, 1; 1998 FY₉₁ *, 9, 2, 1;

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1998 FG₉₇ *, 10, 2, 1; 1998 FH₉₇ *, 10, 2, 1; 1998 FJ₉₇ *, 9, 2, 1; 1998 FK₉₇ *, 18, 4, 19; 1998 FL₉₇ *, 9, 2, 1; 1998 FM₉₇ *, 10, 2, 1; 1998 FN₉₇ *, 7, 2, 1; 1998 FO₉₇ *, 9, 2, 1; 1998 FP₉₇ *, 10, 2, 1; 1998 FQ₉₇ *, 10, 2, 1; 1998 FR₉₇ *, 10, 2, 1; 1998 FS₉₇ *, 7, 2, 1; 1998 FT₉₇ *, 10, 2, 1; 1998 FU₉₇ *, 10, 2, 1; 1998 FV₉₇ *, 10, 2, 1; 1998 FW₉₇ *, 10, 2, 1; 1998 FX₉₇ *, 10, 2, 1; 1998 FY₉₇ *, 22, 4, 8; 1998 FZ₉₇ *, 24, 5, 26; 1998 FA₉₈ *, 18, 4, 29; 1998 FB₉₈ *, 10, 2, 1; 1998 FC₉₈ *, 7, 2, 1; 1998 FD₉₈ *, 9, 2, 1; 1998 FE₉₈ *, 17, 4, 29; 1998 FF₉₈ *, 10, 2, 1; 1998 FG₉₈ *, 10, 2, 1; 1998 FH₉₈ *, 10, 2, 1; 1998 FI₉₈ *, 10, 2, 1; 1998 FJ₉₈ *, 10, 2, 1; 1998 FK₉₈ *, 10, 2, 1; 1998 FL₉₈ *, 10, 2, 1; 1998 FM₉₈ *, 10, 2, 1; 1998 FN₉₈ *, 10, 2, 1; 1998 FO₉₈ *, 10, 2, 1; 1998 FP₉₈ *, 20, 4, 19; 1998 FQ₉₈ *, 9, 2, 1; 1998 FR₉₈ *, 10, 2, 1; 1998 FS₉₈ *, 9, 2, 1; 1998 FT₉₈ *, 10, 2, 1; 1998 FU₉₈ *, 9, 2, 1; 1998 FV₉₈ *, 19, 4, 19; 1998 FW₉₈ *, 19, 4, 19; 1998 FX₉₈ *, 19, 4, 19; 1998 FY₉₈ *, 10, 2, 1; 1998 FZ₉₈ *, 10, 2, 1; 1998 FA₉₉ *, 10, 2, 1; 1998 FB₉₉ *, 9, 2, 1; 1998 FC₉₉ *, 10, 2, 1; 1998 FD₉₉ *, 10, 2, 1; 1998 FE₉₉ *, 10, 2, 1; 1998 FF₉₉ *, 18, 4, 19; 1998 FG₉₉ *, 18, 4, 19; 1998 FH₉₉ *, 8, 2, 1; 1998 FJ₉₉ *, 10, 2, 1; 1998 FK₉₉ *, 8, 2, 1; 1998 FL₉₉ *, 10, 2, 1; 1998 FM₉₉ *, 18, 4, 19; 1998 FN₉₉ *, 19, 4, 29; 1998 FO₉₉ *, 29, 5, 26; 1998 FP₉₉ *, 8, 2, 1; 1998 FQ₉₉ *, 9, 2, 1; 1998 FR₉₉ *, 10, 2, 1; 1998 FS₉₉ *, 34, 5, 25; 1998 FT₉₉ *, 9, 2, 1; 1998 FU₉₉ *, 9, 2, 1; 1998 FV₉₉ *, 9, 2, 1; 1998 FW₉₉ *, 19, 4, 19; 1998 FX₉₉ *, 10, 2, 1; 1998 FY₉₉ *, 20, 4, 19; 1998 FZ₉₉ *, 20, 4, 19; 1998 FA₁₀₀ *, 10, 2, 1; 1998 FB₁₀₀ *, 10, 2, 1; 1998 FC₁₀₀ *, 8, 2, 1; 1998 FD₁₀₀ *, 8, 2, 1; 1998 FE₁₀₀ *, 10, 2, 1; 1998 FF₁₀₀ *, 8, 2, 1; 1998 FG₁₀₀ *, 9, 2, 1; 1998 FH₁₀₀ *, 9, 2, 1; 1998 FI₁₀₀ *, 10, 2, 1; 1998 FJ₁₀₀ *, 9, 2, 1; 1998 FK₁₀₀ *, 9, 2, 1; 1998 FL₁₀₀ *, 8, 2, 1; 1998 FM₁₀₀ *, 18, 4, 19; 1998 FN₁₀₀ *, 10, 2, 1; 1998 FO₁₀₀ *, 10, 2, 1; 1998 FP₁₀₀ *, 9, 2, 1; 1998 FQ₁₀₀ *, 10, 2, 1; 1998 FR₁₀₀ *, 9, 2, 1; 1998 FS₁₀₀ *, 10, 2, 1; 1998 FT₁₀₀ *, 8, 2, 1; 1998 FU₁₀₀ *, 18, 4, 19; 1998 FV₁₀₀ *, 9, 2, 1; 1998 FW₁₀₀ *, 19, 4, 19; 1998 FX₁₀₀ *, 9, 2, 1; 1998 FY₁₀₀ *, 10, 2, 1; 1998 FZ₁₀₀ *, 9, 2, 1; 1998 FA₁₀₁ *, 9, 2, 1; 1998 FB₁₀₁ *, 18, 4, 19; 1998 FC₁₀₁ *, 8, 2, 1; 1998 FD₁₀₁ *, 9, 2, 1; 1998 FE₁₀₁ *, 9, 2, 1; 1998 FJ₁₀₁ *, 9, 2, 1; 1998 FK₁₀₁ *, 19, 4, 19; 1998 FL₁₀₁ *, 10, 2, 1; 1998 FM₁₀₁ *, 20, 4, 19; 1998 FN₁₀₁ *, 19, 4, 19; 1998 FO₁₀₁ *, 10, 2, 1; 1998 FP₁₀₁ *, 10, 2, 1; 1998 FQ₁₀₁ *, 10, 2, 1; 1998 FR₁₀₁ *, 19, 4, 19; 1998 FS₁₀₁ *, 29, 6, 47; 1998 FT₁₀₁ *, 18, 4, 19; 1998 FU₁₀₁ *, 8, 2, 1; 1998 FV₁₀₁ *, 8, 2, 1; 1998 FW₁₀₁ *, 17, 4, 19; 1998 FX₁₀₁ *, 19, 4, 19; 1998 FY₁₀₁ *, 18, 4, 19; 1998 FZ₁₀₁ *, 23, 5, 28; 1998 FA₁₀₂ *, 19, 4, 19; 1998 FB₁₀₂ *, 17, 4, 19; 1998 FC₁₀₂ *, 10, 2, 1; 1998 FD₁₀₂ *, 9, 2, 1; 1998 FE₁₀₂ *, 9, 2, 1; 1998 FF₁₀₂ *, 9, 2, 1; 1998 FG₁₀₂ *, 9, 2, 1; 1998 FH₁₀₂ *, 8, 2, 1; 1998 FI₁₀₂ *, 10, 2, 1; 1998 FJ₁₀₂ *, 10, 2, 1; 1998 FK₁₀₂ *, 9, 2, 1; 1998 FL₁₀₂ *, 10, 2, 1; 1998 FM₁₀₂ *, 9, 2, 1; 1998 FN₁₀₂ *, 9, 2, 1; 1998 FO₁₀₂ *, 10, 2, 1; 1998 FP₁₀₂ *, 8, 2, 1; 1998 FQ₁₀₂ *, 10, 2, 1; 1998 FR₁₀₂ *, 17, 4, 19; 1998 FS₁₀₂ *, 9, 2, 1; 1998 FT₁₀₂ *, 20, 4, 19; 1998 FU₁₀₂ *, 9, 2, 1; 1998 FV₁₀₂ *, 9, 2, 1; 1998 FW₁₀₂ *, 29, 6, 47; 1998 FX₁₀₂ *, 9, 2, 1; 1998 FY₁₀₂ *, 9, 2, 1; 1998 FZ₁₀₂ *, 18, 4, 19; 1998 FA₁₀₃ *, 9, 2, 1; 1998 FB₁₀₃ *, 9, 2, 1; 1998 FC₁₀₃ *, 8, 2, 1; 1998 FD₁₀₃ *, 9, 2, 1; 1998 FE₁₀₃ *, 8, 2, 1; 1998 FG₁₀₃ *, 18, 4, 19; 1998 FH₁₀₃ *, 8, 2, 1; 1998 FI₁₀₃ *, 8, 2, 1; 1998 FJ₁₀₃ *, 17, 4, 19; 1998 FK₁₀₃ *, 18, 4, 19; 1998 FL₁₀₃ *, 50, 8, 47; 1998 FM₁₀₃ *, 23, 5, 28; 1998 FN₁₀₃ *, 10, 2, 1; 1998 FO₁₀₃ *, 18, 4, 19; 1998 FP₁₀₃ *, 23, 4, 3; 1998 FQ₁₀₃ *, 52, 8

1; 1998 FE₁₀₈ *, 9, 2, 1; 1998 FF₁₀₈ *, 8, 2, 1; 1998 FG₁₀₈ *, 9, 2, 1; 1998 FH₁₀₈ *, 9, 2, 1; 1998 FK₁₀₈ *, 9, 2, 1; 1998 FL₁₀₈ *, 9, 2, 1; 1998 FM₁₀₈ *, 9, 2, 1; 1998 FN₁₀₈ *, 9, 2, 1; 1998 FO₁₀₈ *, 9, 2, 1; 1998 FP₁₀₈ *, 9, 2, 1; 1998 FQ₁₀₈ *, 9, 2, 1; 1998 FR₁₀₈ *, 19, 4, 19; 1998 FS₁₀₈ *, 9, 2, 1; 1998 FT₁₀₈ *, 18, 4, 19; 1998 FU₁₀₈ *, 9, 2, 1; 1998 FV₁₀₈ *, 27, 6, 22; 1998 FX₁₀₈ *, 18, 4, 19; 1998 FY₁₀₈ *, 18, 4, 19; 1998 FZ₁₀₈ *, 8, 2, 1; 1998 FA₁₀₉ *, 9, 2, 1; 1998 FB₁₀₉ *, 24, 5, 30; 1998 FC₁₀₉ *, 10, 2, 1; 1998 FD₁₀₉ *, 19, 4, 19; 1998 FE₁₀₉ *, 18, 4, 19; 1998 FF₁₀₉ *, 19, 4, 19; 1998 FG₁₀₉ *, 9, 2, 1; 1998 FH₁₀₉ *, 29, 6, 22; 1998 FI₁₀₉ *, 9, 2, 1; 1998 FJ₁₀₉ *, 10, 2, 1; 1998 FK₁₀₉ *, 20, 4, 22; 1998 FL₁₀₉ *, 19, 4, 19; 1998 FM₁₀₉ *, 10, 2, 1; 1998 FO₁₀₉ *, 9, 2, 1; 1998 FP₁₀₉ *, 20, 4, 19; 1998 FQ₁₀₉ *, 9, 2, 1; 1998 FR₁₀₉ *, 9, 2, 1; 1998 FS₁₀₉ *, 20, 4, 19; 1998 FT₁₀₉ *, 20, 4, 19; 1998 FU₁₀₉ *, 18, 4, 19; 1998 FV₁₀₉ *, 20, 4, 19; 1998 FW₁₀₉ *, 8, 2, 1; 1998 FX₁₀₉ *, 19, 4, 22; 1998 FY₁₀₉ *, 10, 2, 1; 1998 FZ₁₀₉ *, 19, 4, 19; 1998 FA₁₁₀ *, 19, 4, 19; 1998 FB₁₁₀ *, 9, 2, 1; 1998 FC₁₁₀ *, 16, 4, 19; 1998 FD₁₁₀ *, 9, 2, 1; 1998 FE₁₁₀ *, 9, 2, 1; 1998 FG₁₁₀ *, 10, 2, 1; 1998 FH₁₁₀ *, 10, 2, 1; 1998 FI₁₁₀ *, 10, 2, 1; 1998 FJ₁₁₀ *, 10, 2, 1; 1998 FK₁₁₀ *, 10, 2, 1; 1998 FL₁₁₀ *, 10, 2, 1; 1998 FM₁₁₀ *, 10, 2, 1; 1998 FN₁₁₀ *, 9, 2, 1; 1998 FO₁₁₀ *, 10, 2, 1; 1998 FP₁₁₀ *, 10, 2, 1; 1998 FQ₁₁₀ *, 10, 2, 1; 1998 FR₁₁₀ *, 9, 2, 1; 1998 FS₁₁₀ *, 10, 2, 1; 1998 FT₁₁₀ *, 9, 2, 1; 1998 FU₁₁₀ *, 8, 2, 1; 1998 FV₁₁₀ *, 10, 2, 1; 1998 FW₁₁₀ *, 10, 2, 1; 1998 FX₁₁₀ *, 9, 2, 1; 1998 FY₁₁₀ *, 8, 2, 1; 1998 FZ₁₁₀ *, 10, 2, 1; 1998 FA₁₁₁ *, 8, 2, 1; 1998 FB₁₁₁ *, 9, 2, 1; 1998 FC₁₁₁ *, 10, 2, 1; 1998 FD₁₁₁ *, 10, 2, 1; 1998 FE₁₁₁ *, 9, 2, 1; 1998 FG₁₁₁ *, 9, 2, 1; 1998 FH₁₁₁ *, 9, 2, 1; 1998 FI₁₁₁ *, 9, 2, 1; 1998 FJ₁₁₁ *, 9, 2, 1; 1998 FK₁₁₁ *, 10, 2, 1; 1998 FL₁₁₁ *, 10, 2, 1; 1998 FM₁₁₁ *, 9, 2, 1; 1998 FN₁₁₁ *, 10, 2, 1; 1998 FO₁₁₁ *, 10, 2, 1; 1998 FP₁₁₁ *, 10, 2, 1; 1998 FQ₁₁₁ *, 20, 4, 22; 1998 FR₁₁₁ *, 10, 2, 1; 1998 FS₁₁₁ *, 9, 2, 1; 1998 FT₁₁₁ *, 10, 2, 1; 1998 FU₁₁₁ *, 9, 2, 1; 1998 FV₁₁₁ *, 10, 2, 1; 1998 FW₁₁₁ *, 9, 2, 1; 1998 FX₁₁₁ *, 10, 2, 1; 1998 FY₁₁₁ *, 10, 2, 1; 1998 FZ₁₁₁ *, 8, 2, 1; 1998 FA₁₁₂ *, 9, 2, 1; 1998 FB₁₁₂ *, 7, 2, 1; 1998 FC₁₁₂ *, 8, 2, 1; 1998 FD₁₁₂ *, 10, 2, 1; 1998 FE₁₁₂ *, 10, 2, 1; 1998 FF₁₁₂ *, 9, 2, 1; 1998 FG₁₁₂ *, 9, 2, 1; 1998 FH₁₁₂ *, 10, 2, 1; 1998 FI₁₁₂ *, 19, 4, 19; 1998 FJ₁₁₂ *, 10, 2, 1; 1998 FK₁₁₂ *, 10, 2, 1; 1998 FL₁₁₂ *, 10, 2, 1; 1998 FM₁₁₂ *, 10, 2, 1; 1998 FN₁₁₂ *, 10, 2, 1; 1998 FO₁₁₂ *, 9, 2, 1; 1998 FP₁₁₂ *, 8, 2, 1; 1998 FQ₁₁₂ *, 8, 2, 1; 1998 FR₁₁₂ *, 9, 2, 1; 1998 FS₁₁₂ *, 8, 2, 1; 1998 FT₁₁₂ *, 9, 2, 1; 1998 FU₁₁₂ *, 9, 2, 1; 1998 FV₁₁₂ *, 9, 2, 1; 1998 FW₁₁₂ *, 9, 2, 1; 1998 FX₁₁₂ *, 8, 2, 1; 1998 FY₁₁₂ *, 9, 2, 1; 1998 FZ₁₁₂ *, 16, 4, 21; 1998 FA₁₁₃ *, 9, 2, 1; 1998 FB₁₁₃ *, 9, 2, 1; 1998 FC₁₁₃ *, 8, 2, 1; 1998 FD₁₁₃ *, 10, 2, 1; 1998 FE₁₁₃ *, 8, 2, 1; 1998 FF₁₁₃ *, 10, 2, 1; 1998 FG₁₁₃ *, 10, 2, 1; 1998 FH₁₁₃ *, 19, 4, 19; 1998 FJ₁₁₃ *, 9, 2, 1; 1998 FK₁₁₃ *, 9, 2, 1; 1998 FL₁₁₃ *, 9, 2, 1; 1998 FM₁₁₃ *, 19, 4, 19; 1998 FN₁₁₃ *, 17, 4, 19; 1998 FO₁₁₃ *, 17, 4, 19; 1998 FP₁₁₃ *, 18, 4, 19; 1998 FQ₁₁₃ *, 9, 2, 1; 1998 FR₁₁₃ *, 17, 4, 19; 1998 FS₁₁₃ *, 9, 2, 1; 1998 FT₁₁₃ *, 9, 2, 1; 1998 FU₁₁₃ *, 27, 6, 22; 1998 FV₁₁₃ *, 28, 6, 22; 1998 FW₁₁₃ *, 19, 4, 19; 1998 FX₁₁₃ *, 9, 2, 1; 1998 FY₁₁₃ *, 18, 4, 22; 1998 FZ₁₁₃ *, 18, 4, 22; 1998 FA₁₁₄ *, 10, 2, 1; 1998 FB₁₁₄ *, 10, 2, 1; 1998 FC₁₁₄ *, 20, 4, 22; 1998 FD₁₁₄ *, 17, 4, 19; 1998 FE₁₁₄ *, 17, 4, 19; 1998 FG₁₁₄ *, 9, 2, 1; 1998 FH₁₁₄ *, 8, 2, 1; 1998 FI₁₁₄ *, 9, 2, 1; 1998 FJ₁₁₄ *, 9, 2, 1; 1998 FK₁₁₄ *, 9, 2, 1; 1998 FL₁₁₄ *, 9, 2, 1; 1998 FM₁₁₄ *, 10, 2, 1; 1998 FN₁₁₄ *, 9, 2,

9, 2, 1; 1998 FC₁₁₉ *, 10, 2, 1; 1998 FD₁₁₉ *, 8, 2, 1; 1998 FE₁₁₉ *, 9, 2, 1; 1998 FF₁₁₉ *, 8, 2, 1; 1998 FG₁₁₉ *, 9, 2, 1; 1998 FH₁₁₉ *, 9, 2, 1; 1998 FJ₁₁₉ *, 17, 4, 22; 1998 FK₁₁₉ *, 22, 5, 25; 1998 FL₁₁₉ *, 26, 6, 22; 1998 FM₁₁₉ *, 17, 4, 19; 1998 FN₁₁₉ *, 19, 4, 22; 1998 FO₁₁₉ *, 18, 4, 19; 1998 FP₁₁₉ *, 7, 2, 2; 1998 FQ₁₁₉ *, 18, 4, 19; 1998 FR₁₁₉ *, 9, 2, 2; 1998 FS₁₁₉ *, 10, 2, 2; 1998 FT₁₁₉ *, 9, 2, 2; 1998 FU₁₁₉ *, 10, 2, 2; 1998 FV₁₁₉ *, 8, 2, 2; 1998 FW₁₁₉ *, 9, 2, 2; 1998 FX₁₁₉ *, 10, 2, 2; 1998 FY₁₁₉ *, 20, 4, 19; 1998 FZ₁₁₉ *, 10, 2, 2; 1998 FA₁₂₀ *, 9, 2, 2; 1998 FB₁₂₀ *, 8, 2, 2; 1998 FC₁₂₀ *, 9, 2, 2; 1998 FD₁₂₀ *, 7, 2, 2; 1998 FE₁₂₀ *, 9, 2, 2; 1998 FF₁₂₀ *, 10, 2, 2; 1998 FG₁₂₀ *, 9, 2, 2; 1998 FH₁₂₀ *, 9, 2, 2; 1998 FJ₁₂₀ *, 9, 2, 2; 1998 FK₁₂₀ *, 7, 2, 2; 1998 FL₁₂₀ *, 8, 2, 2; 1998 FM₁₂₀ *, 8, 2, 2; 1998 FN₁₂₀ *, 9, 2, 2; 1998 FO₁₂₀ *, 9, 2, 2; 1998 FP₁₂₀ *, 8, 2, 2; 1998 FQ₁₂₀ *, 8, 2, 2; 1998 FR₁₂₀ *, 7, 2, 2; 1998 FS₁₂₀ *, 7, 2, 2; 1998 FT₁₂₀ *, 14, 2, 2; 1998 FU₁₂₀ *, 22, 5, 30; 1998 FV₁₂₀ *, 10, 2, 2; 1998 FW₁₂₀ *, 8, 2, 2; 1998 FX₁₂₀ *, 9, 2, 2; 1998 FY₁₂₀ *, 9, 2, 2; 1998 FZ₁₂₀ *, 7, 2, 2; 1998 FA₁₂₁ *, 8, 2, 2; 1998 FB₁₂₁ *, 8, 2, 2; 1998 FC₁₂₁ *, 7, 2, 2; 1998 FD₁₂₁ *, 9, 2, 2; 1998 FE₁₂₁ *, 9, 2, 2; 1998 FF₁₂₁ *, 9, 2, 2; 1998 FG₁₂₁ *, 9, 2, 2; 1998 FH₁₂₁ *, 29, 6, 47; 1998 FJ₁₂₁ *, 8, 2, 2; 1998 FK₁₂₁ *, 8, 2, 2; 1998 FL₁₂₁ *, 10, 2, 2; 1998 FM₁₂₁ *, 21, 5, 30; 1998 FN₁₂₁ *, 17, 4, 33; 1998 FO₁₂₁ *, 9, 2, 2; 1998 FP₁₂₁ *, 10, 2, 2; 1998 FQ₁₂₁ *, 9, 2, 2; 1998 FR₁₂₁ *, 31, 7, 33; 1998 FS₁₂₁ *, 34, 7, 33; 1998 FT₁₂₁ *, 19, 4, 33; 1998 FU₁₂₁ *, 16, 4, 33; 1998 FV₁₂₁ *, 17, 4, 33; 1998 FW₁₂₁ *, 18, 4, 33; 1998 FX₁₂₁ *, 9, 2, 2; 1998 FY₁₂₁ *, 9, 2, 2; 1998 FZ₁₂₁ *, 20, 4, 33; 1998 FA₁₂₂ *, 8, 2, 2; 1998 FB₁₂₂ *, 9, 2, 2; 1998 FC₁₂₂ *, 23, 5, 33; 1998 FD₁₂₂ *, 16, 4, 33; 1998 FE₁₂₂ *, 16, 4, 33; 1998 FF₁₂₂ *, 8, 2, 2; 1998 FG₁₂₂ *, 17, 4, 30; 1998 FH₁₂₂ *, 34, 8, 33; 1998 FJ₁₂₂ *, 17, 4, 33; 1998 FK₁₂₂ *, 27, 6, 33; 1998 FL₁₂₂ *, 7, 2, 2; 1998 FM₁₂₂ *, 9, 2, 2; 1998 FN₁₂₂ *, 19, 4, 33; 1998 FO₁₂₂ *, 18, 4, 33; 1998 FP₁₂₂ *, 19, 4, 33; 1998 FQ₁₂₂ *, 17, 4, 33; 1998 FR₁₂₂ *, 22, 5, 33; 1998 FS₁₂₂ *, 19, 4, 33; 1998 FT₁₂₂ *, 19, 4, 33; 1998 FU₁₂₂ *, 22, 5, 33; 1998 FV₁₂₂ *, 18, 4, 33; 1998 FW₁₂₂ *, 7, 2, 2; 1998 FX₁₂₂ *, 19, 4, 33; 1998 FY₁₂₂ *, 8, 2, 2; 1998 FZ₁₂₂ *, 18, 4, 33; 1998 FA₁₂₃ *, 18, 4, 33; 1998 FB₁₂₃ *, 7, 2, 2; 1998 FC₁₂₃ *, 17, 4, 33; 1998 FD₁₂₃ *, 18, 4, 33; 1998 FE₁₂₃ *, 20, 4, 33; 1998 FF₁₂₃ *, 8, 2, 2; 1998 FG₁₂₃ *, 20, 4, 33; 1998 FH₁₂₃ *, 19, 4, 33; 1998 FI₁₂₃ *, 8, 2, 2; 1998 FK₁₂₃ *, 8, 2, 2; 1998 FL₁₂₃ *, 8, 2, 2; 1998 FM₁₂₃ *, 8, 2, 2; 1998 FN₁₂₃ *, 8, 2, 2; 1998 FO₁₂₃ *, 9, 2, 2; 1998 FP₁₂₃ *, 7, 2, 2; 1998 FR₁₂₃ *, 7, 2, 2; 1998 FS₁₂₃ *, 9, 2, 1; 1998 FT₁₂₃ *, 9, 2, 1; 1998 FU₁₂₃ *, 9, 2, 1; 1998 FV₁₂₃ *, 9, 2, 1; 1998 FW₁₂₃ *, 9, 2, 1; 1998 FX₁₂₃ *, 9, 2, 1; 1998 FY₁₂₃ *, 9, 2, 1; 1998 FZ₁₂₃ *, 9, 2, 1; 1998 FA₁₂₄ *, 8, 2, 1; 1998 FB₁₂₄ *, 8, 2, 1; 1998 FC₁₂₄ *, 9, 2, 1; 1998 FD₁₂₄ *, 9, 2, 1; 1998 FE₁₂₄ *, 9, 2, 1; 1998 FF₁₂₄ *, 9, 2, 1; 1998 FG₁₂₄ *, 8, 2, 1; 1998 FH₁₂₄ *, 8, 2, 1; 1998 FJ₁₂₄ *, 8, 2, 1; 1998 FK₁₂₄ *, 8, 2, 1; 1998 FL₁₂₄ *, 8, 2, 1; 1998 FM₁₂₄ *, 8, 2, 1; 1998 FN₁₂₄ *, 8, 2, 1; 1998 FO₁₂₄ *, 8, 2, 1; 1998 FP₁₂₄ *, 9, 2, 1; 1998 FQ₁₂₄ *, 9, 2, 1; 1998 FR₁₂₄ *, 25, 5, 29; 1998 FS₁₂₄ *, 14, 2, 1; 1998 FT₁₂₄ *, 10, 2, 1; 1998 FU₁₂₄ *, 9, 2, 1; 1998 FV₁₂₄ *, 10, 2, 1; 1998 FW₁₂₄ *, 9, 2, 1; 1998 FX₁₂₄ *, 15, 2, 1; 1998 FY₁₂₄ *, 14, 2, 1; 1998 FZ₁₂₄ *, 9, 2, 1; 1998 FA₁₂₅ *, 17, 4, 29; 1998 FB₁₂₅ *, 19, 4, 29; 1998 FC₁₂₅ *, 16, 4, 29; 1998 FD₁₂₅ *, 9, 2, 1; 1998 FE₁₂₅ *, 19, 4, 28; 1998 FF₁₂₅ *, 19, 4, 28; 1998 FG₁₂₅ *, 24, 5, 29; 1998 FH₁₂₅ *, 25, 5, 29; 1998 FI₁₂₅ *, 25, 5, 29; 1998 FJ₁₂₅ *, 10, 2, 1; 1998 FK₁₂₅ *, 10, 2, 1; 1998 FL₁₂₅ *, 15, 3, 18; 1998 FM₁₂₅ *, 19, 4, 28; 1998 FN₁₂₅ *, 9, 2, 1; 1998 FO₁₂₅ *, 10, 2, 1; 1998 FP₁₂₅ *, 10, 2, 1; 1998 FQ₁₂₅ *, 9, 2, 1; 1998 FR₁₂₅ *, 8, 2, 1; 1998 FS₁₂₅ *, 8, 2, 1; 1998 FT₁₂₅ *, 10, 2, 1; 1998 FU₁₂₅ *, 12, 2, 1; 1998 FV₁₂₅ *, 10, 2, 1; 1998 FW₁₂₅ *, 9, 2, 1; 1998 FX₁₂₅ *, 19, 4, 19; 1998 FY₁₂₅ *, 10, 2, 1; 1998 FZ₁₂₅ *, 17, 4, 19; 1998 FA₁₂₆ *, 8, 2, 1; 1998 FB₁₂₆ *, 10, 2, 1; 1998 FC₁₂₆ *, 9, 2, 1; 1998 FD₁₂₆ *, 10, 2, 1; 1998 FE₁₂₆ *, 9, 2, 1; 1998 FG₁₂₆ *, 8, 2, 1; 1998 FH₁₂₆ *, 14, 3, 21; 1998 FJ₁₂₆ *, 9, 2, 7; 1998 FK₁₂₆ *, 23, 5, 28; 1998 FL₁₂₆ *, 9, 2, 10; 1998 FN₁₂₆ *, 33, 7, 33; 1998 GL₁ *, 8, 2, 1; 1998 GM₁ *, 5, 1, 0; 1998 GA₁ *, 19, 4, 33; 1998 GC₁ *, 4, 1, 0; 1998 GE₁ *, 9, 2, 1; 1998 GF₁ *, 17, 4, 19; 1998 GG₁ *, 10, 2, 1; 1998 GH₁ *, 10, 2, 1; 1998 GJ₁ *, 20, 4, 31; 1998 GK₁ *, 18, 4, 19; 1998 GP₁ *, 9, 2, 1; 1998 GQ₁ *, 10, 2, 1; 1998 GR₁ *, 8, 2, 1; 1998 GS₁ *, 9, 2, 1; 1998 GT₁ *, 10, 2, 1; 1998 GU₁ *, 10, 2, 1; 1998 GV₁ *, 10, 2, 1; 1998 GW₁ *, 8, 2, 1; 1998 GX₁ *, 8, 2, 1; 1998 GY₁ *, 10, 2, 1; 1998 GZ₁ *, 10, 2, 1; 1998 GA₂ *, 10, 2, 1; 1998 GB₂ *, 10, 2, 1; 1998 GC₂ *, 10, 2, 1; 1998 GD₂ *, 10, 2, 1; 1998 GE₂ *, 9, 2, 1; 1998 GF₂ *, 9, 2, 1; 1998 GG₂ *, 8, 2, 1; 1998 GH₂ *, 9, 2, 1; 1998 GJ₂ *, 10, 2, 1; 1998 GK₂ *, 9, 2, 1; 1998 GL₂ *, 9, 2, 1; 1998 GM₂ *, 9, 2, 1; 1998 GN₂ *, 10, 2, 1; 1998 GO₂ *, 9, 2, 1; 1998 GP₂ *, 10, 2, 1; 1998 GQ₂ *, 9, 2, 1; 1998 GR₂ *, 9, 2, 1; 1998 GS₂ *, 9, 2, 1; 1998 GT₂ *, 9, 2, 1; 1998 GU₂ *, 8, 2, 1; 1998 GV₂ *, 9, 2, 1; 1998 GW₂ *, 10, 2, 1; 1998 GX₂ *, 10, 2, 1; 1998 GY₂ *, 10, 2, 1; 1998 GZ₂ *, 9, 2, 1; 1998 GA₃ *, 9, 2, 1; 1998 GB₃ *, 8, 2, 1; 1998 GC₃ *, 10, 2, 1; 1998 GD₃ *, 8, 2, 1; 1998 GE₃ *, 10, 2, 1; 1998 GF₃ *, 9, 2, 1; 1998 GG₃ *, 9, 2, 1; 1998 GH₃ *, 10, 2, 1; 1998 GJ₃ *, 10, 2, 1; 1998 GK₃ *, 10, 2, 1; 1998 GL₃ *, 9, 2, 1; 1998 GM₃ *, 9, 2, 1; 1998 GN₃ *, 10, 2, 1; 1998 GO₃ *, 9, 2, 1; 1998 GP₃ *, 10, 2, 1; 1998 GQ₃ *, 8, 2, 1; 1998 GR₃ *, 10, 2, 1; 1998 GS₃ *, 10, 2, 1; 1998 GT₃ *, 10, 2, 1; 1998 GU₃ *, 8, 2, 1; 1998 GV₃ *, 10, 2, 1; 1998 GW₃ *, 8, 2, 1; 1998 GX₃ *, 10, 2, 1; 1998 GY₃ *, 9, 2, 1; 1998 GZ₃ *, 9, 2, 1; 1998 GA₄ *, 8, 2, 1; 1998 GB₄ *, 9, 2, 1; 1998 GC₄ *, 10, 2, 1; 1998 GD₄ *, 12, 2, 1; 1998 GE₄ *, 10, 2, 1; 1998 GF₄ *, 9, 2, 1; 1998 GG₄ *, 9, 2, 1; 1998 GH₄ *, 9, 2, 1; 1998 GJ₄ *, 9, 2, 1; 1998 GK₄ *, 10, 2, 1; 1998 GL₄ *, 8, 2, 1; 1998 GM₄ *, 9, 2, 1; 1998 GN₄ *, 9, 2, 1; 1998 GO₄ *, 10, 2, 1; 1998 GP₄ *, 9, 2, 1; 1998 GQ₄ *, 10, 2, 1; 1998 GR₄ *, 10, 2, 1; 1998 GS₄ *, 10, 2, 1; 1998 GT₄ *, 9, 2, 1; 1998 GU₄ *, 10, 2, 1; 1998 GV₄ *, 9, 2, 1; 1998 GW₄ *, 9, 2, 1; 1998 GX₄ *, 10, 2, 1; 1998 GY₄ *, 10, 2, 1; 1998 GZ₄ *, 9, 2, 1; 1998 GA₅ *, 10, 2, 1; 1998 GB₅ *, 10, 2, 1; 1998 GC₅ *, 10, 2, 1; 1998 GD₅ *, 10, 2, 1;

1998 GE₅ *, 10, 2, 1; 1998 GF₅ *, 10, 2, 1; 1998 GG₅ *, 9, 2, 1; 1998 GH₅ *, 7, 2, 1; 1998 GJ₅ *, 10, 2, 1; 1998 GK₅ *, 9, 2, 1; 1998 GL₅ *, 10, 2, 1; 1998 GM₅ *, 10, 2, 1; 1998 GN₅ *, 10, 2, 1; 1998 GO₅ *, 9, 2, 1; 1998 GP₅ *, 10, 2, 1; 1998 GQ₅ *, 10, 2, 1; 1998 GR₅ *, 9, 2, 1; 1998 GS₅ *, 9, 2, 1; 1998 GT₅ *, 8, 2, 1; 1998 GU₅ *, 8, 2, 1; 1998 GV₅ *, 8, 2, 1; 1998 GW₅ *, 8, 2, 1; 1998 GX₅ *, 6, 2, 1; 1998 GY₅ *, 8, 2, 1; 1998 GZ₅ *, 8, 2, 1; 1998 GA₆ *, 8, 2, 1; 1998 GB₆ *, 8, 2, 1; 1998 GC₆ *, 8, 2, 1; 1998 GD₆ *, 8, 2, 1; 1998 GE₆ *, 8, 2, 1; 1998 GF₆ *, 8, 2, 1; 1998 GG₆ *, 8, 2, 1; 1998 GH₆ *, 8, 2, 1; 1998 GJ₆ *, 7, 2, 1; 1998 GK₆ *, 7, 2, 1; 1998 GL₆ *, 7, 2, 1; 1998 GM₆ *, 8, 2, 1; 1998 GN₆ *, 8, 2, 1; 1998 GO₆ *, 8, 2, 1; 1998 GP₆ *, 7, 2, 1; 1998 GQ₆ *, 7, 2, 1; 1998 GR₆ *, 8, 2, 1; 1998 GS₆ *, 8, 2, 1; 1998 GT₆ *, 8, 2, 1; 1998 GV₆ *, 8, 2, 1; 1998 GW₆ *, 8, 2, 1; 1998 GX₆ *, 8, 2, 1; 1998 GY₆ *, 8, 2, 1; 1998 GZ₆ *, 7, 2, 1; 1998 GA₇ *, 7, 2, 1; 1998 GB₇ *, 8, 2, 1; 1998 GC₇ *, 7, 2, 1; 1998 GD₇ *, 7, 2, 1; 1998 GE₇ *, 8, 2, 1; 1998 GF₇ *, 8, 2, 1; 1998 GG₇ *, 7, 2, 1; 1998 GH₇ *, 8, 2, 1; 1998 GJ₇ *, 8, 2, 1; 1998 GK₇ *, 8, 2, 1; 1998 GL₇ *, 8, 2, 1; 1998 GM₇ *, 8, 2, 1; 1998 GN₇ *, 8, 2, 1; 1998 GO₇ *, 7, 2, 1; 1998 GP₇ *, 8, 2, 1; 1998 GQ₇ *, 8, 2, 1; 1998 GR₇ *, 8, 2, 1; 1998 GS₇ *, 8, 2, 1; 1998 GT₇ *, 7, 2, 1; 1998 GU₇ *, 7, 2, 1; 1998 GV₇ *, 8, 2, 1; 1998 GW₇ *, 7, 2, 1; 1998 GX₇ *, 8, 2, 1; 1998 GY₇ *, 8, 2, 1; 1998 GZ₇ *, 8, 2, 1; 1998 GA₈ *, 8, 2, 1; 1998 GB₈ *, 7, 2, 1; 1998 GC₈ *, 6, 2, 1; 1998 GD₈ *, 8, 2, 1; 1998 GE₈ *, 8, 2, 1; 1998 GF₈ *, 8, 2, 1; 1998 GG₈ *, 8, 2, 1; 1998 GH₈ *, 8, 2, 1; 1998 GJ₈ *, 8, 2, 1; 1998 GK₈ *, 6, 2, 1; 1998 GL₈ *, 7, 2, 1; 1998 GM₈ *, 8, 2, 1; 1998 GN₈ *, 8, 2, 1; 1998 GO₈ *, 8, 2, 1; 1998 GP₈ *, 8, 2, 1; 1998 GQ₈ *, 8, 2, 1; 1998 GR₈ *, 8, 2, 1; 1998 GS₈ *, 7, 2, 1; 1998 GT₈ *, 8, 2, 1; 1998 GU₈ *, 8, 2, 1; 1998 GV₈ *, 8, 2, 1; 1998 GW₈ *, 8, 2, 1; 1998 GX₈ *, 8, 2, 1; 1998 GY₈ *, 8, 2, 1; 1998 GZ₈ *, 8, 2, 1; 1998 GA₉ *, 8, 2, 1; 1998 GB₉ *, 8, 2, 1; 1998 GC₉ *, 8, 2, 1; 1998 GD₉ *, 8, 2, 1; 1998 GE₉ *, 8, 2, 1; 1998 GF₉ *, 8, 2, 1; 1998 GG₉ *, 8, 2, 1; 1998 GH₉ *, 8, 2, 1; 1998 GJ₉ *, 8, 2, 1; 1998 GK₉ *, 8, 2, 1; 1998 GL₉ *, 8, 2, 1; 1998 GM₉ *, 8, 2, 1; 1998 GN₉ *, 8, 2, 1; 1998 GO₉ *, 8, 2, 1; 1998 GP₉ *, 7, 2, 1; 1998 GQ₉ *, 8, 2, 1; 1998 GR₉ *, 8, 2, 1; 1998 GT₉ *, 8, 2, 1; 1998 GV₉ *, 8, 2, 1; 1998 GW₉ *, 9, 2, 1; 1998 GX₉ *, 9, 2, 1; 1998 GY₉ *, 9, 2, 1; 1998 GZ₉ *, 8, 2, 1; 1998 GA₁₀ *, 8, 2, 1; 1998 GB₁₀ *, 8, 2, 1; 1998 GC₁₀ *, 8, 2, 1; 1998 GD₁₀ *, 8, 2, 1; 1998 GE₁₀ *, 8, 2, 1; 1998 GF₁₀ *, 8, 2, 1; 1998 GJ₁₀ *, 15, 3, 21; 1998 GL₁₀ *, 7, 2, 1; 1998 GM₁₀ *, 8, 2, 6; 1998 GN₁₀ *, 14, 3, 2; 1998 GO₁₀ *, 15, 3, 2; 1998 GP₁₀ *, 10, 2, 1; 1998 HA₁₄ *, 14, 3, 29; 1998 HK₁₄ *, 14, 3, 29; 1998 HR₁₄ *, 14, 3, 29; 1998 HX₁₄ *, 5, 1, 0; 1998 HE₁ *, 10, 2, 7; 1998 HF₁ *, 9, 2, 1; 1998 HG₁ *, 30, 5, 21; 1998 HL₁ *, 18, 3, 3; 1998 HM₁ *, 4, 1, 0; 1998 HN₁ *, 18, 3, 2; 1998 HD₂ *, 15, 3, 21; 1998 HE₂ *, 14, 3, 29; 1998 HJ₂ *, 10, 2, 1; 1998 HP₂ *, 10, 2, 2; 1998 HV₂ *, 14, 3, 2; 1998 HW₂ *, 9, 2, 1; 1998 HX₂ *, 25, 4, 3; 1998 HY₂ *, 9, 2, 1; 1998 HZ₂ *, 10, 2, 1; 1998 HA₃ *, 14, 3, 10; 1998 HB₃ *, 14, 3, 10; 1998 HD₃ *, 10, 2, 1; 1998 HE₃ *, 4, 1, 0; 1998 HH₃ *, 10, 2, 1; 1998 HJ₃ *, 18, 3, 3; 1998 HK₃ *, 18, 3, 2; 1998 HL₃ *, 15, 2, 1; 1998 HM₃ *, 24, 4, 3; 1998 HP₃ *, 10, 2, 1; 1998 HS₃ *, 9, 2, 1; 1998 HA₄ *, 15, 3, 29; 1998 HB₄ *, 10, 2, 1; 1998 HF₄ *, 9, 2, 1; 1998 HM₄ *, 10, 2, 2; 1998 HN₄ *, 9, 2, 1; 1998 HR₄ *, 10, 2, 1; 1998 HS₄ *, 8, 2, 1; 1998 HT₄ *, 10, 2, 1; 1998 HU₄ *, 10, 2, 1; 1998 HV₄ *, 10, 2, 1; 1998 HN₅ *, 5, 1, 0; 1998 HP₅ *, 9, 2, 1; 1998 HR₅ *, 10, 2, 1; 1998 HT₅ *, 10, 2, 1; 1998 HU₅ *, 10, 2, 1; 1998 HX₅ *, 9, 2, 1; 1998 HZ₅ *, 10, 2, 1; 1998 HA₆ *, 15, 3, 29; 1998 HB₆ *, 10, 2, 1; 1998 HC₆ *, 10, 2, 1; 1998 HD₆ *, 10, 2, 1; 1998 HE₆ *, 10, 2, 1; 1998 HJ₆ *, 8, 2, 1; 1998 HL₆ *, 10, 2, 1; 1998 HV₆ *, 10, 2, 1; 1998 HY₆ *, 9, 2, 2; 1998 HZ₆ *, 9, 2, 3; 1998 HA₇ *, 18, 4, 7; 1998 HB₇ *, 9, 2, 1; 1998 HC₇ *, 9, 2, 1; 1998 HD₇ *, 10, 2, 1; 1998 HE₇ *, 10, 2, 1; 1998 HF₇ *, 10, 2, 1; 1998 HG₇ *, 9, 2, 1; 1998 HH₇ *, 10, 2, 1; 1998 HJ₇ *, 9, 2, 1; 1998 HK₇ *, 10, 2, 1; 1998 HL₇ *, 10, 2, 1; 1998 HM₇ *, 10, 2, 1; 1998 HN₇ *, 10, 2, 1; 1998 HO₇ *, 8, 2, 1; 1998 HP₇ *, 8, 2, 1; 1998 HQ₇ *, 8, 2, 1; 1998 HR₇ *, 7, 2, 1; 1998 HS₇ *, 7, 2, 1; 1998 HT₇ *, 7, 2, 1; 1998 HV₇ *, 15, 3, 2; 1998 HZ₇ *, 10, 2, 1; 1998 HA₈ *, 14, 3, 3; 1998 HB₈ *, 8, 2, 1; 1998 HC₈ *, 8, 2, 1; 1998 HR₁₀ *, 8, 2, 2; 1998 HS₁₀ *, 18, 4, 31; 1998 HG₁₁ *, 8, 2, 2; 1998 HT₁₂ *, 5, 1, 0; 1998 HX₁₂ *, 7, 2

1998 HF₁₉ *, 9, 2, 1; 1998 HG₁₉ *, 9, 2, 1; 1998 HH₁₉ *, 8, 2, 1; 1998 HJ₁₉ *, 9, 2, 1; 1998 HK₁₉ *, 18, 4, 4; 1998 HL₁₉ *, 17, 4, 4; 1998 HM₁₉ *, 17, 4, 4; 1998 HN₁₉ *, 8, 2, 1; 1998 HO₁₉ *, 9, 2, 1; 1998 HP₁₉ *, 8, 2, 1; 1998 HQ₁₉ *, 25, 5, 21; 1998 HR₁₉ *, 10, 2, 1; 1998 HT₁₉ *, 9, 2, 1; 1998 HU₁₉ *, 15, 3, 18; 1998 HV₁₉ *, 10, 2, 1; 1998 HW₁₉ *, 17, 4, 4; 1998 HX₁₉ *, 17, 4, 4; 1998 HY₁₉ *, 9, 2, 2; 1998 HZ₁₉ *, 9, 2, 2; 1998 HA₂₀ *, 9, 2, 2; 1998 HB₂₀ *, 10, 2, 2; 1998 HG₂₀ *, 8, 2, 2; 1998 HH₂₀ *, 15, 3, 21; 1998 HJ₂₀ *, 9, 2, 2; 1998 HK₂₀ *, 10, 2, 2; 1998 HL₂₀ *, 10, 2, 2; 1998 HM₂₀ *, 9, 2, 2; 1998 HN₂₀ *, 8, 2, 2; 1998 HO₂₀ *, 10, 2, 2; 1998 HP₂₀ *, 10, 2, 2; 1998 HQ₂₀ *, 9, 2, 2; 1998 HR₂₀ *, 10, 2, 2; 1998 HS₂₀ *, 9, 2, 2; 1998 HT₂₀ *, 8, 2, 2; 1998 HU₂₀ *, 10, 2, 2; 1998 HV₂₀ *, 10, 2, 2; 1998 HW₂₀ *, 8, 2, 2; 1998 HX₂₀ *, 9, 2, 2; 1998 HY₂₀ *, 8, 2, 2; 1998 HZ₂₀ *, 8, 2, 2; 1998 HA₂₁ *, 9, 2, 2; 1998 HB₂₁ *, 8, 2, 2; 1998 HC₂₁ *, 10, 2, 2; 1998 HD₂₁ *, 9, 2, 2; 1998 HE₂₁ *, 10, 2, 2; 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1998 HB₂₃ *, 9, 2, 2; 1998 HC₂₃ *, 9, 2, 2; 1998 HD₂₃ *, 10, 2, 2; 1998 HE₂₃ *, 9, 2, 2; 1998 HF₂₃ *, 8, 2, 2; 1998 HG₂₃ *, 8, 2, 2; 1998 HH₂₃ *, 8, 2, 2; 1998 HJ₂₃ *, 8, 2, 2; 1998 HK₂₃ *, 10, 2, 2; 1998 HL₂₃ *, 9, 2, 2; 1998 HM₂₃ *, 9, 2, 2; 1998 HN₂₃ *, 5, 1, 0; 1998 HU₂₄ *, 10, 2, 2; 1998 HY₂₄ *, 9, 2, 2; 1998 HS₂₅ *, 9, 2, 2; 1998 HD₂₉ *, 15, 2, 2; 1998 HE₂₉ *, 14, 2, 2; 1998 HF₂₉ *, 9, 2, 2; 1998 HG₂₉ *, 8, 2, 2; 1998 HH₂₉ *, 8, 2, 2; 1998 HJ₂₉ *, 9, 2, 2; 1998 HK₂₉ *, 9, 2, 2; 1998 HL₂₉ *, 8, 2, 2; 1998 HM₂₉ *, 8, 2, 2; 1998 HN₂₉ *, 8, 2, 2; 1998 HO₂₉ *, 9, 2, 2; 1998 HP₂₉ *, 7, 2, 2; 1998 HQ₂₉ *, 8, 2, 2; 1998 HR₂₉ *, 8, 2, 2; 1998 HS₂₉ *, 8, 2, 2; 1998 HT₂₉ *, 10, 2, 2; 1998 HU₂₉ *, 8, 2, 2; 1998 HV₂₉ *, 9, 2, 2; 1998 HW₂₉ *, 9, 2, 2; 1998 HX₂₉ *, 10, 2, 2; 1998 HY₂₉ *, 10, 2, 2; 1998 HZ₂₉ *, 8, 2, 2; 1998 HA₃₀ *, 8, 2, 2; 1998 HB₃₀ *, 10, 2, 2; 1998 HC₃₀ *, 9, 2, 2; 1998 HD₃₀ *, 10, 2, 2; 1998 HE₃₀ *, 9, 2, 2; 1998 HF₃₀ *, 8, 2, 2; 1998 HG₃₀ *, 9, 2, 2; 1998 HH₃₀ *, 8, 2, 2; 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1998 HA₃₅ *, 10, 2, 1; 1998 HB₃₅ *, 8, 2, 1; 1998 HC₃₅ *, 9, 2, 2; 1998 HD₃₅ *, 9, 2, 1; 1998 HE₃₅ *, 8, 2, 1; 1998 HF₃₅ *, 9, 2, 1; 1998 HG₃₅ *, 8, 2, 1; 1998 HH₃₅ *, 10, 2, 1; 1998 HJ₃₅ *, 9, 2, 1; 1998 HK₃₅ *, 10, 2, 2; 1998 HL₃₅ *, 9, 2, 2; 1998 HM₃₅ *, 9, 2, 2; 1998 HN₃₅ *, 9, 2, 2; 1998 HO₃₅ *, 9, 2, 2; 1998 HP₃₅ *, 10, 2, 2; 1998 HQ₃₅ *, 9, 2, 2; 1998 HR₃₅ *, 15, 3, 2; 1998 HS₃₅ *, 9, 2, 1; 1998 HT₃₅ *, 9, 2, 2; 1998 HU₃₅ *, 9, 2, 1; 1998 HV₃₅ *, 14, 3, 2; 1998 HW₃₅ *, 10, 2, 2; 1998 HX₃₅ *, 10, 2, 1; 1998 HY₃₅ *, 15, 3, 2; 1998 HZ₃₅ *, 9, 2, 1; 1998 HA₃₆ *, 15, 3, 2; 1998 HB₃₆ *, 9, 2, 2; 1998 HC₃₆ *, 13, 3, 2; 1998 HD₃₆ *, 14, 3, 2; 1998 HE₃₆ *, 8, 2, 2; 1998 HF₃₆ *, 10, 2, 2; 1998 HG₃₆ *, 13, 3, 2; 1998 HH₃₆ *, 14, 3, 2; 1998 HJ₃₆ *, 15, 3, 2; 1998 HK₃₆ *, 10, 2, 2; 1998 HL₃₆ *, 14, 3, 2; 1998 HM₃₆ *, 9, 2, 2; 1998 HN₃₆ *, 9, 2, 2; 1998 HO₃₆ *, 9, 2, 2; 1998 HP₃₆ *, 9, 2, 1; 1998 HQ₃₆ *, 13, 3, 2; 1998 HR₃₆ *, 14, 3, 2; 1998 HS₃₆ *, 10, 2, 2; 1998 HT₃₆ *, 14, 3, 2; 1998 HU₃₆ *, 10, 2, 1; 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3, 2; 1998 HP₃₇ *, 9, 2, 1; 1998 HQ₃₇ *, 15, 3, 2; 1998 HR₃₇ *, 14, 3, 2; 1998 HS₃₇ *, 15, 3, 2; 1998 HT₃₇ *, 14, 3, 2; 1998 HU₃₇ *, 9, 2, 2; 1998 HV₃₇ *, 10, 2, 2; 1998 HW₃₇ *, 9, 2, 1; 1998 HX₃₇ *, 14, 3, 2; 1998 HY₃₇ *, 14, 3, 2; 1998 HZ₃₇ *, 14, 3, 2; 1998 HA₃₈ *, 10, 2, 1; 1998 HB₃₈ *, 15, 3, 2; 1998 HC₃₈ *, 14, 3, 2; 1998 HD₃₈ *, 9, 2, 2; 1998 HE₃₈ *, 15, 3, 2; 1998 HF₃₈ *, 15, 3, 2; 1998 HG₃₈ *, 15, 3, 2; 1998 HH₃₈ *, 15, 3, 2; 1998 HJ₃₈ *, 14, 3, 2; 1998 HK₃₈ *, 13, 3, 2; 1998 HL₃₈ *, 13, 3, 2; 1998 HM₃₈ *, 14, 3, 2; 1998 HN₃₈ *, 15, 3, 2; 1998 HO₃₈ *, 15, 3, 2; 1998 HP₃₈ *, 14, 3, 2; 1998 HQ₃₈ *, 15, 3, 2; 1998 HR₃₈ *, 10, 2, 1; 1998 HS₃₈ *, 8, 2, 1; 1998 HT₃₈ *, 14, 3, 2; 1998 HU₃₈ *, 15, 3, 2; 1998 HV₃₈ *, 14, 3, 2; 1998 HW₃₈ *, 15, 3, 2; 1998 HX₃₈ *, 14, 3, 2; 1998 HY₃₈ *, 13, 3, 2; 1998 HZ₃₈ *, 15, 3, 2; 1998 HA₃₉ *, 9, 2, 2; 1998 HB₃₉ *, 14, 3, 2; 1998 HC₃₉ *, 13, 3, 2; 1998 HD₃₉ *, 8, 2, 1; 1998 HE₃₉ *, 8, 2, 1; 1998 HF₃₉ *, 14, 3, 2; 1998 HG₃₉ *, 10, 2, 1; 1998 HH₃₉ *, 15, 3, 2; 1998 HJ₃₉ *, 14, 3, 2; 1998 HK₃₉ *, 15, 3, 2; 1998 HL₃₉ *, 8, 2, 2; 1998 HM₃₉ *, 15, 3, 2; 1998 HN₃₉ *, 10, 2, 2; 1998 HO₃₉ *, 15, 3, 2; 1998 HP₃₉ *, 9, 2, 2; 1998 HQ₃₉ *, 15, 3, 2; 1998 HR₃₉ *, 10, 2, 2; 1998 HS₃₉ *, 9, 2, 2; 1998 HT₃₉ *, 14, 3, 2; 1998 HU₃₉ *, 15, 3, 2; 1998 HV₃₉ *, 15, 3, 2; 1998 HW₃₉ *, 8, 2, 1; 1998 HX₃₉ *, 15, 3, 2; 1998 HY₃₉ *, 8, 2, 2; 1998 HZ₃₉ *, 13, 3, 2; 1998 HA₄₀ *, 10, 2, 2; 1998 HB₄₀ *, 8, 2, 2; 1998 HC₄₀ *, 10, 2, 1; 1998 HD₄₀ *, 15, 3, 2; 1998 HE₄₀ *, 14, 3, 2; 1998 HF₄₀ *, 8, 2, 1; 1998 HG₄₀ *, 15, 3, 2; 1998 HH₄₀ *, 14, 3, 2; 1998 HJ₄₀ *, 15, 3, 2; 1998 HK₄₀ *, 13, 3, 2; 1998 HL₄₀ *, 10, 2, 1; 1998 HM₄₀ *, 15, 3, 2; 1998 HN₄₀ *, 9, 2, 1; 1998 HO₄₀ *, 13, 3, 2; 1998 HP₄₀ *, 8, 2, 1; 1998 HQ₄₀ *, 15, 3, 2; 1998 HR₄₀ *, 13, 3, 2; 1998 HS₄₀ *, 8, 2, 2; 1998 HT₄₀ *, 15, 3, 2; 1998 HU₄₀ *, 15, 3, 2; 1998 HV₄₀ *, 8, 2, 1; 1998 HW₄₀ *, 14, 3, 2; 1998 HX₄₀ *, 15, 3, 2; 1998 HY₄₀ *, 8, 2, 1; 1998 HZ₄₀ *, 10, 2, 1; 1998 HA₄₁ *, 10, 2, 1; 1998 HB₄₁ *, 9, 2, 1; 1998 HC₄₁ *, 9, 2, 1; 1998 HD₄₁ *, 9, 2, 1; 1998 HE₄₁ *, 9, 2, 1; 1998 HF₄₁ *, 9, 2, 1; 1998 HG₄₁ *, 14, 3, 2; 1998 HH₄₁ *, 13, 3, 2; 1998 HJ₄₁ *, 5, 1, 0; 1998 HK₄₁ *, 9, 2, 2; 1998 HL₄₁ *, 8, 2, 1; 1998 HO₄₃ *, 15, 3, 2; 1998 HP₄₃ *, 8, 2, 1; 1998 HQ₄₃ *, 15, 3, 2; 1998 HR₄₃ *, 9, 2, 1; 1998 HS₄₃ *, 15, 3, 2; 1998 HT₄₃ *, 8, 2, 1; 1998 HU₄₃ *, 15, 3, 2; 1998 HV₄₃ *, 14, 3, 2; 1998 HW₄₃ *, 14, 3, 2; 1998 HX₄₃ *, 9, 2, 1; 1998 HY₄₃ *, 14, 3, 2; 1998 HZ₄₃ *, 15, 3, 2; 1998 HA₄₄ *, 14, 3, 2; 1998 HB₄₄ *, 13, 3, 2; 1998 HC₄₄ *, 14, 3, 2; 1998 HD₄₄ *, 8, 2, 1; 1998 HE₄₄ *, 15, 3, 2; 1998 HF₄₄ *, 15, 3, 2; 1998 HG₄₄ *, 14, 3, 2; 1998 HH₄₄ *, 15, 3, 2; 1998 HJ₄₄ *, 14, 3, 2; 1998 HK₄₄ *, 14, 3, 2; 1998 HL₄₄ *, 14, 3, 2; 1998 HM₄₄ *, 9, 2, 1; 1998 HN₄₄ *, 14, 3, 2; 1998 HO₄₄ *, 15, 3, 2; 1998 HP₄₄ *, 15, 3, 2; 1998 HQ₄₄ *, 14, 3, 2; 1998 HR₄₄ *, 10, 2, 1; 1998 HS₄₄ *, 12, 3, 2; 1998 HT₄₄ *, 15, 3, 2; 1998 HU₄₄ *, 8, 2, 1; 1998 HV₄₄ *, 8, 2, 1; 1998 HW₄₄ *, 13, 3, 2; 1998 HX₄₄ *, 9, 2, 1; 1998 HY₄₄ *, 13, 3, 2; 1998 HZ₄₄ *, 9, 2, 1; 1998 HA₄₅ *, 12, 3, 2; 1998 HB₄₅ *, 15, 3, 2; 1998 HC₄₅ *, 14, 3, 2; 1998 HD₄₅ *, 15, 3, 2; 1998 HE₄₅ *, 14, 3, 2; 1998 HF₄₅ *, 10, 2, 1; 1998 HG₄₅ *, 9, 2, 1; 1998 HH₄₅ *, 10, 2, 1; 1998 HJ₄₅ *, 8, 2, 1; 1998 HK₄₅ *, 10, 2, 2; 1998 HL₄₅ *, 10, 2, 1; 1998 HM₄₅ *, 9, 2, 1; 1998 HN₄₅ *, 13, 3, 2; 1998 HO₄₅ *, 15, 3, 2; 1998 HP₄₅ *, 13, 3, 2; 1998 HQ₄₅ *, 15, 3, 2; 1998 HR₄₅ *, 14, 3, 2; 1998 HS₄₅ *, 14, 3, 2; 1998 HT₄₅ *, 14, 3, 2; 1998 HU₄₅ *, 8, 2, 1; 1998 HV₄₅ *, 15, 3, 2; 1998 HW₄₅ *, 10, 2, 1; 1998 HX₄₅ *, 15, 3, 2; 1998 HY₄₅ *, 14, 3, 2; 1998 HZ₄₅ *, 10, 2, 2; 1998 HA₄₆ *, 15, 3, 2; 1998 HB₄₆ *, 13, 3, 2; 1998 HC₄₆ *, 14, 3, 2; 1998 HD₄₆ *, 15, 3, 2; 1998 HE₄₆ *, 13, 3, 2; 1998 HF₄₆ *, 14, 3, 2; 1998 HG₄₆ *, 14, 3, 2; 1998 HH₄₆ *, 15, 3, 2; 1998 HJ₄₆ *, 9, 2, 2; 1998 HK₄₆ *, 14, 3, 2; 1998 HL₄₆ *, 10, 2, 1; 1998 HM₄₆ *, 15, 3, 2; 1998 HN₄₆ *, 15, 3, 2; 1998 HO₄₆ *, 15, 3, 2; 1998 HP₄₆ *, 15, 3, 2; 1998 HQ₄₆ *, 15, 3, 2; 1998 HR₄₆ *, 15, 3, 2; 1998 HS₄₆ *, 15, 3, 2; 1998 HT₄₆ *, 15, 3, 2; 1998 HU₄₆ *, 15, 3, 2; 1998 HV₄₆ *, 14, 3, 2; 1998 HW₄₆ *, 9, 2, 2; 1998 HX₄₆ *, 9, 2, 1; 1998 HY₄₆ *, 15, 3, 2; 1998 HZ₄₆ *, 14, 3, 2; 1998 HA₄₇ *, 15, 3, 2; 1998 HB₄₇ *, 15, 3, 2; 1998 HC₄₇ *, 10, 2, 1; 1998 HD₄₇ *, 14, 3, 2; 1998 HE₄₇ *, 10, 2, 1; 1998 HF₄₇ *, 13, 3, 2; 1998 HG₄₇ *, 9, 2, 1; 1998 HH₄₇ *, 12, 3, 2; 1998 HJ₄₇ *, 15, 3, 2; 1998 HK₄₇ *, 10, 2, 1; 1998 HL₄₇ *, 8, 2, 1; 1998 HM₄₇ *, 9, 2, 1; 1998 HN₄₇ *, 10, 2, 1; 1998 HO₄₇ *, 9, 2, 1; 1998 HP₄₇ *, 10, 2, 1; 1998 HQ₄₇ *, 10, 2, 1; 1998 HR₄₇ *, 10, 2, 1; 1998 HS₄₇ *, 10, 2, 1; 1998 HT₄₇ *, 10, 2, 1; 1998 HU₄₇ *, 10, 2, 1; 1998 HV₄₇ *, 15, 3, 2; 1998 HW₄₇ *, 8, 2, 1; 199

1, 0; 1152 T-2, 4, 1, 0; 1167 T-2, 5, 1, 0; 1175 T-2, 10, 2, 1; 1218 T-2, 5, 1, 0; 1274 T-2, 9, 2, 46; 1304 T-2, 10, 2, 1; 1331 T-2, 9, 2, 1; 1335 T-2, 14, 3, 3; 1355 T-2, 10, 2, 1; 1364 T-2, 9, 2, 1; 1474 T-2, 14, 3, 46; 2080 T-2, 10, 2, 1; 2181 T-2, 10, 2, 1; 2246 T-2, 5, 1, 0; 2256 T-2, 9, 2, 1; 2275 T-2, 10, 2, 2; 2287 T-2, 10, 2, 1; 2319 T-2, 5, 1, 0; 3076 T-2, 5, 1, 0; 3089 T-2, 5, 1, 0; 3176 T-2, 9, 2, 1; 3187 T-2, 4, 1, 0; 3198 T-2, 10, 2, 1; 3237 T-2, 4, 1, 0; 3260 T-2, 9, 2, 1; 3305 T-2, 9, 2, 1; 4076 T-2, 10, 2, 1; 4188 T-2, 10, 2, 1; 4221 T-2, 10, 2, 1; 4223 T-2, 14, 3, 46; 4254 T-2, 10, 2, 2; 4272 T-2, 4, 1, 0; 4306 T-2, 14, 3, 3; 4314 T-2, 10, 2, 1; 5006 T-2, 10, 2, 1; 5061 T-2, 9, 2, 1; 5105 T-2, 4, 1, 0; 5125 T-2, 8, 2, 1; 5162 T-2, 5, 1, 0; 5184 T-2, 4, 1, 0; 5490 T-2, 9, 2, 1; 1120 T-3, 4, 1, 0; 2287 T-3, 10, 2, 1; 2390 T-3, 10, 2, 1; 2395 T-3, 9, 2, 1; 3105 T-3, 12, 3, 3; 3476 T-3, 10, 2, 1; 3502 T-3, 9, 2, 1; 4039 T-3, 5, 1, 0; 4190 T-3, 9, 2, 1; 4207 T-3, 4, 1, 0; 4250 T-3, 4, 1, 0; 4326 T-3, 4, 1, 0; 5122 T-3, 5, 1, 0; 5175 T-3, 9, 2, 1; (66), 4, 1, 0; (123), 4, 1, 0; (228), 5, 1, 0; (326), 15, 3, 10; (343), 5, 1, 0; (408), 3, 1, 0; (440), 4, 1, 0; (544), 2, 1, 0; (559), 3, 1, 0; (626), 6, 2, 1; (703), 5, 1, 0; (707), 5, 1, 0; (740), 2, 1, 0; (820), 5, 1, 0; (864), 3, 1, 0; (887), 3, 1, 0; (889), 5, 1, 0; (917), 8, 2, 1; (945), 5, 1, 0; (986), 8, 2, 1; (1020), 5, 1, 0; (1085), 10, 2, 1; (1092), 9, 2, 2; (1152), 5, 1, 0; (1176), 10, 2, 1; (1200), 5, 1, 0; (1254), 5, 1, 0; (1326), 8, 2, 1; (1409), 5, 1, 0; (1434), 4, 1, 0; (1453), 5, 1, 0; (1467), 9, 2, 1; (1502), 5, 1, 0; (1672), 5, 1, 0; (1808), 5, 1, 0; (1810), 5, 1, 0; (1862), 9, 2, 1; (1932), 4, 1, 0; (2010), 5, 1, 0; (2043), 5, 1, 0; (2067), 5, 1, 0; (2138), 5, 1, 0; (2169), 5, 1, 0; (2187), 8, 2, 1; (2312), 5, 1, 0; (2329), 4, 1, 0; (2431), 4, 1, 0; (2504), 5, 1, 0; (2506), 9, 2, 2; (2580), 8, 2, 1; (2581), 5, 1, 0; (2651), 10, 2, 1; (2657), 5, 1, 0; (2727), 10, 2, 1; (2734), 10, 2, 1; (2831), 5, 1, 0; 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(3780), 10, 2, 2; (3819), 10, 2, 1; (3824), 10, 2, 2; (3827), 10, 2, 1; (3831), 10, 2, 2; (3836), 4, 1, 0; (3844), 5, 1, 0; (3846), 15, 3, 4; (3858), 9, 2, 3; (3868), 5, 1, 0; (3886), 10, 2, 2; (3897), 9, 2, 1; (3900), 4, 1, 0; (3912), 5, 1, 0; (3913), 10, 2, 1; (3929), 15, 3, 2; (3933), 9, 2, 2; (3942), 4, 1, 0; (3948), 9, 2, 1; (3958), 15, 3, 2; (3963), 10, 2, 1; (3973), 5, 1, 0; (3983), 15, 3, 2; (3984), 9, 2, 2; (4000), 9, 2, 1; (4006), 5, 1, 0; (4029), 5, 1, 0; (4056), 8, 2, 1; (4067), 19, 4, 4; (4072), 5, 1, 0; (4105), 15, 3, 3; (4124), 10, 2, 1; (4127), 4, 1, 0; (4147), 10, 2, 1; (4175), 5, 1, 0; (4194), 4, 1, 0; (4204), 5, 1, 0; (4210), 5, 1, 0; (4220), 10, 2, 1; (4227), 5, 1, 0; (4245), 5, 1, 0; (4278), 10, 2, 1; (4287), 5, 1, 0; (4289), 10, 2, 1; (4290), 5, 1, 0; (4296), 10, 2, 1; (4299), 20, 4, 29; (4318), 5, 1, 0; (4321), 5, 1, 0; (4326), 10, 2, 1; (4329), 10, 2, 1; (4332), 10, 2, 1; (4335), 8, 2, 1; (4338), 5, 1, 0; (4343), 10, 2, 1; (4368), 10, 2, 1; (4371), 9, 2, 1; (4377), 15, 3, 4; (4385), 10, 2, 1; (4392), 10, 2, 2; (4393), 5, 1, 0; (4394), 10, 2, 1; (4415), 10, 2, 2; (4422), 10, 2, 1; (4428), 5, 1, 0; (4437), 5, 1, 0; (4438), 10, 2, 1; (4447), 5, 1, 0; (4458), 4, 1, 0; (4465), 5, 1, 0; (4476), 10, 2, 2; (4480), 4, 1, 0; (4488), 4, 1, 0; (4509), 14, 3, 3; (4515), 4, 1, 0; (4525), 10, 2, 1; (4527), 9, 2, 1; (4538), 10, 2, 1; (4547), 5, 1, 0; (4549), 9, 2, 2; (4553), 5, 1, 0; (4577), 5, 1, 0; (4600), 4, 1, 0; (4620), 5, 1, 0; (4623), 14, 3, 3; (4624), 5, 1, 0; (4629), 5, 1, 0; (4630), 5, 1, 0; (4641), 5, 1, 0; (4651), 10, 2, 2; (4653), 15, 3, 2; (4662), 10, 2, 1; (4664), 5, 1, 0; (4668), 10, 2, 1; (4670), 9, 2, 2; (4679), 14, 3, 3; (4681), 5, 1, 0; (4685), 10, 2, 1; (4687), 15, 3, 2; (4693), 4, 1, 0; (4696), 4, 1, 0; (4703), 4, 1, 0; (4720), 4, 1, 0; (4729), 4, 1, 0; (4732), 5, 1, 0; (4733), 5, 1, 0; (4745), 4, 1, 0; (4746), 15, 3, 2; (4750), 4, 1, 0; (4752), 10, 2, 1; (4758), 10, 2, 1; (4759), 4, 1, 0; (4772), 4, 1, 0; (4780), 9, 2, 1; (4781), 9, 2, 1; (4798), 5, 1, 0; (4802), 14, 3, 3; (4806), 5, 1, 0; (4817), 5, 1, 0; (4818), 5, 1, 0; (4822), 5, 1, 0; (4824), 9, 2, 1; (4841), 10, 2, 1; (4842), 9, 2, 1; (4846), 15, 3, 2; (4852), 10, 2, 1; (4869), 14, 3, 3; (4875), 5, 1, 0; (4892), 5, 1, 0; (4894), 5, 1, 0; (4903), 14, 3, 3; (4906), 10, 2, 1; (4910), 5, 1, 0; (4911), 4, 1, 0; (4918), 15, 3, 4; (4922), 9, 2, 1; (4945), 4, 1, 0; (4966), 13, 2, 1; (4972), 10, 2, 1; (4974), 5, 1, 0; (4975), 5, 1, 0; (4997), 13, 3, 2; (4999), 5, 1, 0; (5003), 10, 2, 1; (5045), 5, 1, 0; (5046), 5, 1, 0; (5048), 5, 1, 0; (5054), 19, 4, 4; (5065), 10, 2, 1; (5076), 5, 1, 0; (5088), 5, 1, 0; (5091), 19, 4, 4; (5101), 10, 2, 1; (5132), 5, 1, 0; (5138), 5, 1, 0; (5167), 14, 3, 3; (5170), 10, 2, 1; (5187), 10, 2, 1; (5191), 10, 2, 1; (5193), 10, 2, 1; (5198), 5, 1, 0; (5223), 10, 2, 2; (5266), 15, 3, 2; (5275), 4, 1, 0; (5278), 14, 3, 2; (5290), 10, 2, 1; (5309), 10, 2, 1; (5313), 5, 1, 0; (5315), 9, 2, 1; (5325), 4, 1, 0; (5334), 5, 1, 0; (5339), 10, 2, 1; (5352), 19, 4, 4; (5359), 15, 3,

2; (5362), 10, 2, 1; (5363), 10, 2, 1; (5364), 9, 2, 1; (5366), 15, 3, 2; (5389), 15, 3, 2; (5391), 10, 2, 2; (5395), 4, 1, 0; (5404), 10, 2, 1; (5421), 5, 1, 0; (5423), 5, 1, 0; (5425), 24, 4, 4; (5467), 9, 2, 1; (5489), 10, 2, 1; (5504), 5, 1, 0; (5507), 9, 2, 1; (5508), 5, 1, 0; (5526), 10, 2, 1; (5531), 5, 1, 0; (5534), 5, 1, 0; (5535), 20, 4, 29; (5536), 5, 1, 0; (5544), 4, 1, 0; (5552), 5, 1, 0; (5556), 5, 1, 0; (5563), 5, 1, 0; (5567), 5, 1, 0; (5576), 10, 2, 1; (5578), 10, 2, 1; (5597), 15, 3, 4; (5616), 5, 1, 0; (5619), 4, 1, 0; (5623), 9, 2, 1; (5624), 5, 1, 0; (5626), 10, 2, 1; (5628), 10, 2, 1; (5661), 5, 1, 0; (5689), 9, 2, 1; (5696), 5, 1, 0; (5699), 10, 2, 1; (5720), 9, 2, 9; (5728), 4, 1, 0; (5743), 5, 1, 0; (5745), 14, 3, 3; (5754), 5, 1, 0; (5783), 5, 1, 0; (5817), 5, 1, 0; (5822), 4, 1, 0; (5830), 14, 3, 2; (5843), 10, 2, 1; (5850), 4, 1, 0; (5859), 10, 2, 2; (5861), 10, 2, 1; (5862), 14, 3, 3; (5865), 4, 1, 0; (5872), 9, 2, 1; (5873), 10, 2, 1; (5874), 5, 1, 0; (5875), 5, 1, 0; (5878), 4, 1, 0; (5887), 5, 1, 0; (5895), 15, 3, 2; (5906), 10, 2, 1; (5908), 4, 1, 0; (5909), 5, 1, 0; (5910), 4, 1, 0; (5912), 14, 3, 3; (5915), 10, 2, 1; (5935), 5, 1, 0; (5937), 14, 3, 3; (5938), 15, 3, 2; (5947), 9, 2, 1; (5951), 15, 3, 2; (5956), 10, 2, 1; (5962), 10, 2, 1; (5963), 10, 2, 1; (5964), 10, 1, 0; (5966), 5, 1, 0; (5969), 5, 1, 0; (5988), 10, 2, 1; (5997), 4, 1, 0; (5998), 5, 1, 0; (6000), 10, 2, 1; (6007), 10, 2, 1; (6011), 15, 3, 2; (6012), 8, 2, 1; (6024), 9, 2, 1; (6030), 9, 2, 1; (6036), 10, 2, 1; (6037), 4, 1, 0; (6052), 5, 1, 0; (6056), 5, 1, 0; (6068), 9, 2, 1; (6075), 5, 1, 0; (6079), 4, 1, 0; (6080), 5, 1, 0; (6103), 4, 1, 0; (6106), 15, 3, 2; (6112), 10, 2, 1; (6113), 8, 2, 1; (6124), 4, 1, 0; (6138), 14, 3, 3; (6153), 9, 2, 1; (6168), 14, 3, 3; (6169), 10, 2, 1; (6188), 5, 1, 0; (6203), 14, 3, 3; (6218), 10, 2, 1; (6227), 4, 1, 0; (6237), 9, 2, 1; (6267), 4, 1, 0; (6290), 5, 1, 0; (6312), 5, 1, 0; (6336), 5, 1, 0; (6352), 15, 3, 2; (6414), 15, 3, 4; (6418), 4, 1, 0; (6421), 5, 1, 0; (6430), 10, 2, 1; (6434), 5, 1, 0; (6444), 5, 1, 0; (6445), 5, 1, 0; (6448), 5, 1, 0; (6452), 5, 1, 0; (6463), 5, 1, 0; (6469), 10, 2, 1; (6470), 14, 3, 2; (6480), 5, 1, 0; (6486), 13, 3, 3; (6494), 10, 2, 2; (6495), 9, 2, 1; (6497), 10, 2, 1; (6498), 5, 1, 0; (6509), 5, 1, 0; (6510), 10, 2, 1; (6513), 9, 2, 1; (6514), 4, 1, 0; (6515), 13, 3, 2; (6520), 14, 3, 2; (6529), 10, 2, 1; (6530), 10, 2, 1; (6536), 5, 1, 0; (6539), 5, 1, 0; (6544), 10, 2, 1; (6547), 5, 1, 0; (6548), 5, 1, 0; (6549), 5, 1, 0; (6554), 10, 2, 1; (6557), 8, 2, 1; (6559), 9, 2, 1; (6561), 5, 1, 0; (6566), 5, 1, 0; (6567), 5, 1, 0; (6571), 14, 3, 2; (6572), 10, 2, 1; (6575), 13, 3, 4; (6576), 9, 2, 1; (6580), 5, 1, 0; (6588), 5, 1, 0; (6591), 34, 4, 17; (6592), 4, 1, 0; (6593), 5, 1, 0; (6605), 10, 2, 1; (6612), 10, 2, 1; (6614), 5, 1, 0; (6619), 5, 1, 0; (6620), 4, 1, 0; (6623), 10, 2, 1; (6624), 10, 2, 1; (6625), 4, 1, 0; (6641), 10, 2, 1; (6642), 10, 2, 1; (6643), 12, 3, 3; (6644), 5, 1, 0; (6645), 15, 3, 2; (6648), 10, 2, 1; (6649), 9, 2, 1; (6653), 4, 1, 0; (6654), 14, 3, 3; (6655), 5, 1, 0; (6656), 10, 2, 1; (6657), 10, 2, 1; (6670), 15, 3, 14; (6673), 4, 1, 0; (6674), 9, 2, 1; (6677), 9, 2, 1; (6678), 15, 3, 2; (6683), 10, 2, 1; (6686), 5, 1, 0; (6688), 9, 2, 1; (6694), 5, 1, 0; (6696), 10, 2, 1; (6697), 5, 1, 0; (6704), 5, 1, 0; (6710), 4, 1, 0; (6717), 13, 3, 3; (6718), 5, 1, 0; (6721), 10, 2, 1; (6730), 10, 2, 1; (6732), 10, 2, 1; (6747), 10, 2, 4; (6749), 9, 2, 2; (6760), 15, 3, 2; (6766), 10, 2, 1; (6777), 10, 2, 1; (6783), 10, 2, 1; (6785), 10, 2, 1; (6794), 10, 2, 1; (6797), 19, 4, 4; (6799), 4, 1, 0; (6802), 5, 1, 0; (6803), 10, 2, 1; (6832), 10, 2, 1; (6835), 14, 3, 2; (7117), 5, 1, 0; (7142), 14, 3, 3; (7143), 15, 3, 4; (7163), 10, 2, 1; (7184), 10, 2, 1; (7196), 5, 1, 0; (7224), 10, 2, 1; (7228), 4, 1, 0; (7230), 4, 1, 0; (7235), 15, 3, 4; (7240), 14, 3, 4; (7247), 10, 2, 2; (7257), 9, 2, 1; (7261), 9, 2, 1; (7268), 4, 1, 0; (7275), 5, 1, 0; (7281), 5, 1, 0; (7283), 15, 3, 4; (7288), 9, 2, 2; (7289), 10, 2, 1; (7295), 4, 1, 0; (7296), 9, 2, 1; (7298), 5, 1, 0; (7301), 5, 1, 0; (7311), 15, 3, 4; (7325), 10, 2, 1; (7326), 4, 1, 0; (7329), 15, 3, 2; (7339), 10, 2, 1; (7355), 5, 1, 0; (7370), 5, 1, 0; (7371), 5, 1, 0; (7372), 10, 2, 2; (7375), 4, 1, 0; (7376), 19, 4, 4; (7378), 10, 2, 1; (7381), 14, 3, 3; (7384), 14, 3, 3; (7385), 10, 2, 1; (7389), 10, 2, 1; (7392), 9, 2, 1; (7394), 10, 2, 1; (7395), 10, 2, 1; (7397), 10, 2, 1; (7399), 18, 4, 4; (7402), 5, 1, 0; (7406), 8, 2, 1; (7408), 4, 1, 0; (7409), 15, 3, 2; (7413), 10, 2, 1; (7419), 9, 2, 1; (7420), 10, 2, 1; (7423), 10, 2, 1; (7424), 14, 3, 3; (7425), 10, 2, 1; (7426), 5, 1, 0; (7432), 4, 1, 0; (7445), 8, 2, 1; (7446), 5, 1, 0; (7447), 15, 3, 2; (7452), 13, 3, 3; (7453), 4, 1, 0; (7454), 5, 1, 0; (7456), 10, 2, 1; (7465), 9, 2, 1; (7468), 14, 3, 3; (7469), 5, 1, 0; (7491), 5, 1, 0; (7499), 5, 1, 0; (7503), 15, 3, 2; (7505), 5, 1, 0; (7506), 10, 2, 1; (7519), 4, 1, 0; (7521), 9, 2, 1; (7523), 10, 2, 1; (7526), 9, 2, 1; (7528), 13, 3, 3; (7532), 5, 1, 0; (7533), 10, 2, 1; (7538), 10, 2, 2; (7539), 5, 1, 0; (7545), 5, 1, 0; (7558), 9, 2, 1; (7561), 10, 2, 1; (7569), 5, 1, 0; (7573), 4, 1, 0; (7578), 5, 1, 0; (7581), 10, 2, 1; (7595), 5, 1, 0; (7596), 14, 3, 3; (7597), 15, 3, 2; (7607), 9, 2, 1; (7617), 4, 1, 0; (7618), 10, 2, 1; (7624), 5, 1, 0; (7631), 5, 1, 0; (7638), 5, 1, 0; (7650), 10, 2, 1; (7662), 14, 3, 2; (7674), 10, 2, 1; (7712), 5, 1, 0; (7731), 5, 1, 0; (7744), 4, 1, 0; (7762), 5, 1, 0; (7802), 4, 1, 0; (8228), 4, 1, 0; (8275), 4, 1, 0; (8276), 5, 1, 0; (8291), 5, 1, 0; (8303), 4, 1, 0; (8313), 8, 2, 1; (8325), 9, 2, 1; (8341), 5, 1, 0; (8359), 5, 1, 0; (8368), 4, 1, 0; (8376), 4, 1, 0; (8388), 5, 1, 0; (8407), 4, 1, 0; (8421), 5, 1, 0; (8423), 5, 1, 0; (8424), 5, 1, 0; (8445), 10, 2, 1; (8447), 4, 1, 0; (8448), 4, 1, 0; (8449), 5, 1, 0; (8450), 5, 1, 0; (8451), 4, 1, 0; (8453), 5, 1, 0; (8454), 10, 2, 2; (8456), 5, 1, 0; (8459), 10, 2, 2; (8460), 13, 3, 3; (8462), 12, 3, 3; (8463), 9, 2, 1; (8464), 5, 1, 0; (8465), 4, 1, 0; (8466), 9, 2, 2; (8469), 9, 2, 1; (8470), 5, 1, 0; (8473), 4, 1, 0; (8476), 5, 1, 0; (8478), 9, 2, 1; (8479), 10, 2, 1; (8480), 5, 1, 0; (8481), 18, 4, 4; (8483), 5, 1, 0; (8485), 18, 3, 2; (8488), 5, 1, 0; (8489), 9, 2, 1; (8491), 10, 2, 1; (8492), 5, 1, 0; (8495), 4, 1, 0; (8497), 5, 1, 0; (8498), 19, 4, 4; (8499), 10, 2, 1; (8500), 26, 4, 17; (8501), 9, 2, 1; (8502), 15, 3, 2; (8505), 5, 1, 0; (8506), 4, 1, 0; (8509), 4, 1, 0; (8511), 13, 3, 46; (8512), 9, 2, 1; (8513), 14, 3, 2; (8514), 5, 1, 0; (8516), 9, 2, 1; (8518), 14, 3, 3; (8520), 5, 1, 0; (8523), 5, 1, 0; (8525), 5, 1, 0; (8527), 15, 3,

(8574), 10, 2, 1; (8579), 4, 1, 0; (8582), 5, 1, 0; (8583), 15, 3, 2; (8585), 15, 3, 2; (8586), 5, 1, 0; (8589), 4, 1, 0; (8591), 15, 3, 2; (8592), 5, 1, 0; (8594), 5, 1, 0; (8597), 4, 1, 0; (8602), 10, 2, 1; [46351, 4606, 2183*, 1996/01/22–1998/05/01]

709 W & B Observatory, Cloudcroft

W. Offutt, P.O. Drawer 1130, Cloudcroft, NM 88317, U.S.A.

[offutt@galileo.apo.nmsu.edu]

0.60-m $f/7$ Ritchey-Chrétien + CCD

USNO-SA1.0

1998 DB₁₃, 5, 1, 0; [5, 1, 0*, 1998/04/09]

713 Thornton

R. A. Koff, 1915 W. 101st Ave., Thornton, CO 80221, U.S.A.

[Bob.Koff@worldnet.att.net]

0.20-m $f/10$ Schmidt-Cassegrain + CCD

USNO-SA1.0

1998 HT₃₁, 7, 1, 0; (4780), 5, 2, 2; [12, 2, 0*, 1998/04/29–1998/05/01]

717 Prude Ranch

W. G. Dillon, 4703 Birkenhead Circle, Missouri City, Texas 77459, U.S.A.

[wdillon@compuserve.com]

0.318-m $f/4.5$ reflector + CCD

USNO-A1.0

(4582), 6, 2, 1; (5949), 6, 2, 1; (7299), 5, 2, 1; [17, 3, 0*, 1998/04/22–1998/04/24]

721 Lime Creek

R. Linderholm, R2 Box 79, Cambridge, NE 69022, U.S.A.

[lindh@csb.cambridge.ne.us]

0.25-m $f/3.3$ Schmidt-Cassegrain + CCD

GSC

1994 PC₃₄, 4, 2, 1; 1998 DA, 2, 1, 0; 1998 FL₁, 2, 1, 0; 1998 FG₁₁, 2, 1, 0; 1998 HS₄₂ *, 4, 2, 1; 1998 JA *, 4, 2, 1; [18, 6, 2*, 1998/04/16–1998/05/02]

725 Fair Oaks Ranch

J. V. McClusky, McClusky Observatory, 31789 Sunland, Fair Oaks Ranch, TX

78015, U.S.A. [mcclusky@lonestar.utsa.edu]

0.46-m $f/4.5$ Newtonian reflector + CCD

USNO-SA1.0

1981 DX, 3, 2, 5; 1985 UH₂, 2, 1, 0; 1991 HM, 4, 2, 5; 1993 FL₁₅, 4, 2, 1; 1993 FM₁₆, 4, 2, 4; 1994 LR, 4, 2, 4; 1996 TL₁₀, 2, 1, 0; 1996 UB, 2, 1, 0; 1996 VJ, 3, 2, 4; 1998 CB₂, 4, 2, 1; 1998 GQ₁₀ *, 4, 2, 1; 2604 P-L, 3, 2, 5; (3340), 1, 1, 0; (6644), 2, 1, 0; (8391), 2, 1, 0; (8503), 4, 2, 5; (8577), 4, 2, 4; (8595), 2, 1, 0; [54, 18, 1*, 1998/03/24–1998/04/05]

727 Zeno Observatory, Edmond

T. Stafford, 2947 Village Circle, Edmond, OK 73013, U.S.A.

[tstaffor@aig.vialink.com]

0.15-m $f/6$ refractor + CCD

GSC

1998 DZ₁₂, 7, 3, 10; 1998 FQ₂, 13, 5, 25; (1122), 3, 1, 0; (1862), 3, 1, 0; (2060), 3, 1, 0; (3282), 6, 2, 4; (3380), 3, 1, 0; (4892), 3, 1, 0; (5187), 3, 1, 0; (6572), 6, 2, 4; [50, 10, 0*, 1998/04/06–1998/05/01]

732 Oaxaca

J. Roe, Apdo. No. 221, MX-68000 Oaxaca, Mexico [jamesroe@antequera.com]

0.20-m $f/3.3$ reflector + CCD

GSC

1978 QE, 4, 2, 1; 1988 MF, 4, 2, 1; 1989 UW₂, 4, 2, 1; 1990 TM₁, 6, 2, 1; 1994 LK₁, 4, 2, 1; 1994 NT₁, 3, 2, 1; 1995 WL₇, 4, 2, 1; 1996 XR₂₅, 5, 2, 1; 1997 BL₂, 4, 2, 1; 2550 P-L, 4, 2, 1; (628), 7, 2, 1; (1056), 4, 2, 1; (1601), 7, 2, 1; (1990), 4, 2, 1; (4368), 4, 2, 1; (4629), 4, 2, 1; (4732),

5, 2, 1; (5925), 5, 2, 1; (5949), 4, 2, 1; (6683), 5, 2, 1; (6832), 5, 2, 1; (7520), 3, 1, 0; (7851), 4, 2, 1; [103, 23, 0*, 1998/04/07–1998/05/04]

734 Farpoint Observatory, Eskridge

G. Hug, RTE 1 Box 35c, Eskridge, KS 66423, U.S.A. [frogstar@inlandnet.net]

Observers G. Hug, G. Bell

0.30-m Schmidt-Cassegrain + CCD

GSC

1997 BE₃, 10, 2, 2; 1287 T-1, 10, 2, 2; [20, 2, 0*, 1998/04/24–1998/04/26]

749 Oakwood

J. A. Howell, 4046 Lyman Way, Gainesville, GA 30507, U.S.A.

[andyho@mindspring.com]

0.46-m $f/4.4$ Newtonian reflector + CCD

GSC

(443), 6, 2, 11; (671), 6, 2, 1; (755), 4, 2, 1; (2165), 6, 2, 8; (2624), 6, 2, 1; (3059), 4, 2, 1; (3218), 5, 2, 1; [37, 7, 0*, 1998/04/13–1998/04/26]

750 Hobbs Observatory, Fall Creek

R. Elliott, S475 County Road K, Fall Creek, WI 54742, U.S.A.

[elliottb@uwec.edu]

0.60-m $f/5$ reflector + CCD

GSC

1981 EH₁, 4, 2, 1; 1991 DJ₁, 2, 1, 0; 1998 FX₂, 18, 8, 26; 1998 FM₅, 21, 8, 21; (1521), 3, 1, 0; [48, 5, 0*, 1998/04/02–1998/04/30]

757 High Point

D. K. Chesney, 4210 Lauren Place, High Point, NC 27265, U.S.A.

[dkchesney@aol.com]

0.25-m Schmidt-Cassegrain + CCD

USNO-A1.0

(6398), 2, 1, 0; [2, 1, 0*, 1998/04/12]

758 BCC Observatory, Cocoa

I. P. Griffin, BCC Observatory, 1519 Clearlake Road, Cocoa, FL 32922, U.S.A.

[GRIFFIN.I@a1.brevard.cc.fl.us]

0.30-m $f/5$ Maksutov + CCD

GSC

1985 VG, 2, 1, 0; 1988 MF, 4, 2, 1; 1990 KC₁, 2, 1, 0; 1991 DJ₁, 2, 1, 0; 1991 HC, 2, 1, 0; 1991 OM₁, 4, 2, 1; 1998 DT₁₀, 10, 4, 11; 1998 FA, 7, 4, 20; 1998 FM₅, 3, 1, 0; 1998 HM₃, 4, 1, 0; 3076 T-2, 2, 1, 0; 2390 T-3, 2, 1, 0; [44, 12, 0*, 1998/04/13–1998/05/04]

784 Alfred University Observatory

D. R. DeGraff, Physics and Astronomy, Alfred University, Alfred, NY 14803,

U.S.A. [david@merlin.alfred.edu]

Observers D. R. DeGraff, A. C. Schwartz, R. A. Gutermuth

0.81-m $f/4$ reflector + CCD

USNO-A1.0

1998 HL₃, 1, 1, 0; 1998 HM₃, 7, 1, 0; (5556), 6, 1, 0; [14, 3, 0*, 1998/04/22–1998/04/23]

809 European Southern Observatory

C. Sterken, Astronomy Group, University of Brussels, Pleinlaan 2 1050 Brussels, Belgium [csterken@vub.ac.be] (1)

C. Kouveliotou, NASA Marshall Space Flight Center, ES-62, Huntsville, AL 35812, U.S.A. [kouveliotou@eagles.msfc.nasa.gov] (2)

E. W. Elst, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180 Brussels, Belgium [elst@atmos.oma.be] (4)

Observers G. Pizarro, O. Pizarro, C. Sterken, J. F. Gonzalez
 Measurers E. W. Elst, M. Lundström, J. Lagerros, C. Sterken, P. Vreeswijk,
 T. Galama, P. Groot

1.0-m Schmidt, 3.6-m New Technology Telescope

(1) 1998 FG₁₂₆ *, 10, 3, 2; [10, 1, 1*, 1998/03/18–1998/03/20]

(2) 1998 FO₁₂₆ *, 2, 1, 0; [2, 1, 0*, 1998/03/28]

(4) 1977 EU₁, 6, 2, 1; 1977 RR₆, 6, 2, 1; 1979 TH₂, 3, 1, 0; 1981 EE₂₃, 3, 1, 0; 1981 EG₂₃, 6, 2, 1; 1981 EV₃₁, 6, 2, 1; 1981 EG₄₀, 6, 2, 1; 1981 ET₄₇, 6, 2, 1; 1983 RL, 9, 2, 1; 1984 DZ, 6, 2, 1; 1984 HH₁, 6, 2, 1; 1986 QU₂, 6, 2, 1; 1987 DQ₆, 6, 2, 1; 1987 RO₅, 6, 2, 1; 1988 EA₂, 6, 2, 1; 1989 UE, 3, 1, 0; 1989 UO, 3, 1, 0; 1990 GS, 6, 2, 1; 1991 GM₁₀, 3, 1, 0; 1991 PN₈, 6, 2, 1; 1991 RE₂₀, 6, 2, 1; 1992 SK₂₆, 9, 2, 1; 1993 FD₂₂, 6, 2, 1; 1993 TV₃₄, 3, 1, 0; 1993 WB, 6, 2, 1; 1995 HK, 6, 2, 1; 1995 ST₄₈, 6, 2, 1; 1996 RW, 6, 2, 1; 1996 VN₄, 6, 2, 1; 1996 VS₄, 6, 2, 1; 1996 VB₃₀, 3, 1, 0; 1996 XH₆, 6, 2, 1; 1997 XV₄, 6, 2, 1; 1997 XZ₄, 6, 2, 1; 1997 XK₁₃, 6, 2, 1; 1998 AH₅, 3, 1, 0; 1998 AO₅, 6, 2, 1; 1998 AZ₅, 6, 2, 1; 1998 AB₆, 6, 2, 1; 1998 AC₆, 6, 2, 1; 1998 BA₁₈, 6, 2, 1; 1998 BW₃₃, 6, 2, 1; 1998 BB₃₄, 3, 1, 0; 1998 CR, 6, 2, 1; 1998 CR₁, 6, 2, 1; 1998 CW₂, 3, 1, 0; 1998 CX₂, 6, 2, 1; 1998 CZ₂, 6, 2, 1; 1998 CB₃, 6, 2, 1; 1998 CC₃, 9, 2, 1; 1998 CD₃, 6, 2, 1; 1998 CE₃, 6, 2, 1; 1998 CG₃, 6, 2, 1; 1998 CH₃, 6, 2, 1; 1998 CK₃, 6, 2, 1; 1998 CM₃, 6, 2, 1; 1998 CO₃, 6, 2, 1; 1998 CR₃, 6, 2, 1; 1998 CS₃, 6, 2, 1; 1998 CU₃, 3, 1, 0; 1998 CV₃, 6, 2, 1; 1998 CY₃, 6, 2, 1; 1998 CF₄, 6, 2, 1; 1998 CH₄, 6, 2, 1; 1998 CL₄, 6, 2, 1; 1998 CM₄, 6, 2, 1; 1998 CR₄, 6, 2, 1; 1998 CV₄, 6, 2, 1; 1998 CW₄, 6, 2, 1; 1998 CX₄, 6, 2, 1; 1998 CY₄, 6, 2, 1; 1998 CZ₄, 6, 2, 1; 1998 CA₅, 6, 2, 1; 1998 CC₅, 6, 2, 1; 1998 CE₅, 6, 2, 1; 1998 DT, 6, 2, 1; 1998 DB₂, 6, 2, 1; 1998 DZ₅, 6, 2, 1; 1998 DA₆, 3, 1, 0; 1998 DB₆, 6, 2, 1; 1998 DC₆, 9, 2, 1; 1998 DD₆, 6, 2, 1; 1998 DE₆, 9, 2, 1; 1998 DF₆, 6, 2, 1; 1998 DL₇, 6, 2, 1; 1998 DM₇, 6, 2, 1; 1998 DZ₈, 6, 2, 1; 1998 DS₁₀, 12, 2, 1; 1998 DD₁₁, 6, 2, 1; 1998 DR₁₁, 3, 1, 0; 1998 DS₁₁, 3, 1, 0; 1998 DT₁₁, 6, 2, 1; 1998 DU₁₁, 12, 2, 1; 1998 DZ₁₂, 6, 2, 1; 1998 DL₁₃, 12, 2, 1; 1998 DT₁₄, 6, 2, 1; 1998 DK₁₅, 3, 1, 0; 1998 DL₁₅, 6, 2, 1; 1998 DJ₂₀, 6, 2, 1; 1998 DY₂₀, 6, 2, 1; 1998 DZ₂₀, 6, 2, 1; 1998 DA₂₁, 6, 2, 1; 1998 DC₂₁, 12, 2, 1; 1998 DS₂₁, 3, 1, 0; 1998 DJ₂₄, 6, 2, 1; 1998 DX₂₅, 6, 2, 1; 1998 DY₂₆, 6, 2, 1; 1998 DO₂₇, 6, 2, 1; 1998 DV₃₁, 6, 2, 1; 1998 DM₃₃, 6, 2, 1; 1998 DU₃₃, 6, 2, 1; 1998 DV₃₃, 6, 2, 1; 1998 DX₃₃, 6, 2, 1; 1998 DY₃₃, 6, 2, 1; 1998 DH₃₄, 6, 2, 1; 1998 DN₃₄, 6, 2, 1; 1998 DZ₃₅ *, 6, 2, 1; 1998 DA₃₆ *, 6, 2, 1; 1998 DB₃₆ *, 6, 2, 1; 1998 DE₃₆ *, 6, 2, 1; 1998 EL₃, 6, 2, 1; 1998 EM₇, 6, 2, 1; 1998 EM₁₀, 6, 2, 1; 1998 ES₁₀, 3, 1, 0; 1998 EZ₁₀, 3, 1, 0; 1998 EC₁₁, 6, 2, 1; 1998 EG₁₁, 3, 1, 0; 1998 EA₁₇ *, 6, 2, 1; 1998 EB₁₇ *, 6, 2, 1; 1998 EC₁₇ *, 6, 2, 1; 1998 ED₁₇ *, 6, 2, 1; 1998 EE₁₇ *, 6, 2, 1; 1998 EF₁₇ *, 6, 2, 1; 1998 EG₁₇ *, 6, 2, 1; 1998 EH₁₇ *, 6, 2, 1; 1998 EJ₁₇ *, 6, 2, 1; 1998 EK₁₇ *, 6, 2, 1; 1998 EL₁₇ *, 6, 2, 1; 1998 EM₁₇ *, 6, 2, 1; 1998 EN₁₇ *, 6, 2, 1; 1998 EO₁₇ *, 6, 2, 1; 1998 EP₁₇ *, 6, 2, 1; 1998 EQ₁₇ *, 6, 2, 1; 1998 ER₁₇ *, 6, 2, 1; 1998 ES₁₇ *, 6, 2, 1; 1998 ET₁₇ *, 6, 2, 1; 1998 EU₁₇ *, 6, 2, 1; 1998 EV₁₇ *, 6, 2, 1; 1998 EW₁₇ *, 6, 2, 1; 1998 EX₁₇ *, 6, 2, 1; 1998 EY₁₇ *, 6, 2, 1; 1998 EZ₁₇ *, 6, 2, 1; 1998 EA₁₈ *, 6, 2, 1; 1998 EB₁₈ *, 6, 2, 1; 1998 EC₁₈ *, 6, 2, 1; 1998 ED₁₈ *, 6, 2, 1; 1998 EE₁₈ *, 6, 2, 1; 1998 EF₁₈ *, 6, 2, 1; 1998 EG₁₈ *, 6, 2, 1; 1998 EH₁₈ *, 6, 2, 1; 1998 EJ₁₈ *, 6, 2, 1; 1998 EK₁₈ *, 6, 2, 1; 1998 EL₁₈ *, 6, 2, 1; 1998 EM₁₈ *, 6, 2, 1; 1998 EN₁₈ *, 6, 2, 1; 1998 EO₁₈ *, 6, 2, 1; 1998 EP₁₈ *, 6, 2, 1; 1998 EQ₁₈ *, 6, 2, 1; 1998 ER₁₈ *, 6, 2, 1; 1998 ES₁₈ *, 6, 2, 1; 1998 ET₁₈ *, 6, 2, 1; 1998 EU₁₈ *, 6, 2, 1; 1998 EV₁₈ *, 6, 2, 1; 1998 EW₁₈ *, 6, 2, 1; 1998 EX₁₈ *, 6, 2, 1; 1998 EY₁₈ *, 6, 2, 1; 1998 EZ₁₈ *, 6, 2, 1; 1998 EA₁₉ *, 6, 2, 1; 1998 EB₁₉ *, 6, 2, 1; 1998 EC₁₉ *, 6, 2, 1; 1998 ED₁₉ *, 6, 2, 1; 1998 EE₁₉ *, 6, 2, 1; 1998 EF₁₉ *, 6, 2, 1; 1998 EG₁₉ *, 6, 2, 1; 1998 EH₁₉ *, 6, 2, 1; 1998 EJ₁₉ *, 6, 2, 1; 1998 EK₁₉ *, 6, 2, 1; 1998 EL₁₉ *, 6, 2, 1; 1998 EM₁₉ *, 6, 2, 1; 1998 EN₁₉ *, 6, 2, 1; 1998 EO₁₉ *, 6, 2, 1; 1998 EP₁₉ *, 6, 2, 1; 1998 EQ₁₉ *, 6, 2, 1; 1998 ER₁₉ *, 6, 2, 1; 1998 ES₁₉ *, 6, 2, 1; 1998 ET₁₉ *, 6, 2, 1; 1998 EU₁₉ *, 5, 2, 1; 1998 EV₁₉ *, 6, 2, 1; 1998 EW₁₉ *, 6, 2, 1; 1998 EX₁₉ *, 6, 2, 1; 1998 EY₁₉ *, 6, 2, 1; 1998 EZ₁₉ *, 6, 2, 1; 1998 EA₂₀ *, 6, 2, 1; 1998 EB₂₀ *, 6, 2, 1; 1998 EC₂₀ *, 6, 2, 1; 1998 ED₂₀ *, 6, 2, 1; 1998 EE₂₀ *, 6, 2, 1; 1998 EF₂₀ *, 6, 2, 1; 1998 EG₂₀ *, 6, 2, 1; 1998 EH₂₀ *, 6, 2, 1; 1998 EJ₂₀ *, 6, 2, 1; 1998 EK₂₀ *, 6, 2, 1; 1998 EL₂₀ *, 6, 2, 1; 1998 EM₂₀ *, 6, 2, 1; 1998 EN₂₀ *, 6, 2, 1; 1998 EO₂₀ *, 6, 2, 1; 1998 EP₂₀ *, 6, 2, 1; 1998 EQ₂₀ *, 6, 2, 1; 1998 ER₂₀ *, 6, 2, 1; 1998 ES₂₀ *, 6, 2, 1; 1998 ET₂₀ *, 6, 2, 1; 1998 EV₂₀ *, 6, 2, 1; 1998 EW₂₀ *, 6, 2, 1; 1998 EX₂₀ *, 6, 2, 1; 1998 EY₂₀ *, 6, 2, 1; 1998 EZ₂₀ *, 6, 2, 1; 1998 EA₂₁ *, 6, 2, 1; 1998 EB₂₁ *, 6, 2, 1; 1998 EC₂₁ *, 6, 2, 1; 1998 ED₂₁ *, 6, 2, 1; 1998 EE₂₁ *, 6, 2, 1; 1998 EF₂₁ *, 6, 2, 1; 1998 FY₁₀, 3, 1, 0; 1998 FR₁₁, 3, 1, 0; 1998 FK₁₆, 6, 2, 1; 1998 FL₁₆, 6, 2, 1; 1998 FN₁₆, 6, 2, 1; 1998 FO₁₆, 6, 2, 1; 1998 FP₁₆, 6, 2, 1; 1998 FU₂₀, 3, 1, 0; 1998 FV₂₀, 6, 2, 1; 1998 FW₂₀, 6, 2, 1; 1998 FJ₂₁, 6, 2, 1; 1998 FG₂₃, 3, 1, 0; 1998 FH₂₃, 3, 1, 0; 1998 FJ₂₃, 6, 2, 1; 1998 FL₂₃, 12, 2, 1; 1998 FN₂₃, 6, 2, 1; 1998 FQ₂₃, 3, 1, 0; 1998 FF₂₆, 6, 2, 1; 1998 FK₂₆, 6, 2, 1; 1998 FL₂₆, 6, 2, 1; 1998 FP₂₆, 6, 2, 1; 1998 FQ₂₆, 9, 2, 1; 1998 FT₂₆, 3, 1, 0; 1998 FU₂₆, 6, 2, 1; 1998 FJ₃₇, 6, 2, 1; 1998 FL₇₄, 6, 2, 1; 1998 FO₇₄, 6, 2, 1; 1998 FV₈₃, 6, 2, 1; 1998 FA₈₄, 3, 1, 0; 1998 FF₈₄, 6, 2, 1; 1998 FM₈₅, 12, 2, 1; 1998 FG₈₅, 3, 1, 0; 1998 FC₈₈, 3, 1, 0; 1998 FG₈₈, 6, 2, 1; 1998 GM₆, 6, 2, 1; 7607 P-L, 3, 1, 0; 3219 T-1, 3, 1, 0; 4349 T-1, 6, 2, 1; 4188 T-2, 6, 2, 1; 3224 T-3, 6, 2, 1; 3468 T-3, 6, 2, 1; (55), 12, 2, 1; (84), 6, 2, 1; (158), 6, 2, 1; (327), 6, 2, 1; (332), 6, 2, 1; (706), 6, 2, 1; (711), 6, 2, 1; (1044), 6, 2, 1; (1045), 6, 2, 1; (1142),

6, 2, 1; (1204), 6, 2, 1; (1302), 6, 2, 1; (1532), 6, 2, 1; (1638), 6, 1, 0; (1789), 6, 2, 1; (1809), 6, 2, 1; (1945), 6, 2, 1; (1962), 6, 2, 1; (2072), 12, 2, 1; (2285), 3, 1, 0; (2409), 6, 2, 1; (2416), 6, 2, 1; (2461), 6, 2, 1; (2629), 6, 2, 1; (2803), 6, 2, 1; (2984), 9, 2, 1; (3009), 6, 2, 1; (3027), 6, 2, 1; (3060), 6, 2, 1; (3112), 6, 2, 1; (3294), 12, 2, 1; (3329), 6, 2, 1; (3384), 6, 2, 1; (3389), 12, 2, 1; (3399), 6, 2, 1; (3433), 6, 2, 1; (3436), 6, 2, 1; (3639), 6, 2, 1; (3791), 6, 2, 1; (3836), 6, 2, 1; (3942), 12, 2, 1; (4049), 6, 2, 1; (4250), 6, 2, 1; (4470), 6, 2, 1; (4547), 6, 2, 1; (4550), 3, 1, 0; (4597), 6, 2, 1; (4807), 6, 2, 1; (4830), 3, 1, 0; (4915), 12, 2, 1; (4963), 6, 2, 1; (5072), 6, 2, 1; (5169), 6, 2, 1; (5245), 6, 2, 1; (5395), 3, 1, 0; (5609), 6, 2, 1; (5711), 3, 1, 0; (5850), 9, 2, 1; (5860), 6, 2, 1; (5885), 6, 2, 1; (5972), 6, 2, 1; (6770), 6, 2, 1; (7101), 6, 2, 1; (7220), 6, 2, 1; (7271), 6, 2, 1; (7303), 6, 2, 1; (7348), 6, 2, 1; (7413), 6, 2, 1; (7422), 6, 2, 1; (7431), 6, 2, 1; (7499), 3, 1, 0; (7582), 6, 2, 1; (8327), 6, 2, 1; (8346), 6, 2, 1; (8351), 6, 2, 1; (8358), 6, 2, 1; (8387), 6, 2, 1; (8389), 3, 1, 0; (8390), 6, 2, 1; (8416), 6, 2, 1; (8434), 6, 2, 1; (8436), 6, 2, 1; (8474), 6, 2, 1; (8477), 3, 1, 0; (8479), 6, 2, 1; (8509), 6, 2, 1; (8515), 6, 2, 1; (8526), 6, 2, 1; (8590), 3, 1, 0; [2159, 364, 110*, 1998/02/25–1998/04/03]

816 Rand Observatory

G. R. Viscome, 30 Hyland Avenue, Lake Placid, NY 12946, U.S.A.

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0.37-m $f/6$ reflector + CCD

GSC, USNO-SA1.0

1998 HD₁₄, 3, 1, 0; [3, 1, 0*, 1998/04/26]

834 Buenos Aires-AAAA

R. Mackintosh, Seccion Sistema Solar, Asociacion Argentina Amigos de la
 Astronomia, Av. Patricias Argentinas 550, AR-1405 Capital Federal,
 Argentina [robertom@aaaa.org.ar]

Observers R. Mackintosh, H. Ruggiu

Measurer R. Mackintosh, J. Carozza

0.25-m $f/6.3$ reflector + CCD

USNO-A1.0

(441), 10, 4, 7; (509), 2, 1, 0; (748), 4, 2, 2; (914), 2, 1, 0; (1301), 5, 2, 8; [23, 5, 0*, 1998/01/08–1998/02/13]

844 Los Molinos

N. Sosa, Departamento de Astronomia, Facultad de Ciencias, Montevideo, Uruguay
 [nsosa@fisica.edu.uy]

Observers O. Mendez, J. Scheck, R. Salvo

0.35-m $f/6.4$ reflector + CCD

GSC

(433), 2, 1, 0; [2, 1, 0*, 1998/04/09]

860 Valinhos

P. R. Holvorcem, Departamento de Matematica/IMECC, Universidade Estadual de
 Campiñas, Campiñas, SP, BR-13081-970, Brazil [canis@mpc.com.br]

Observers P. R. Holvorcem, F. Girotto

0.20-m $f/6.3$ Schmidt-Cassegrain + CCD

GSC, USNO-SA1.0

1985 JU₁, 6, 2, 11; 1993 MK, 6, 2, 11; 1994 JF₁, 4, 2, 5; 1998 BP₂₆, 5, 2, 5; 1998 FX₂, 8, 3, 13; 1998 FM₅, 6, 2, 5; 1998 FS₁₁₇, 3, 1, 0; 1998 FT₁₁₇, 6, 2, 2; 1998 FU₁₁₈, 5, 2, 2; 1998 HK₁, 3, 1, 0; 1998 HT₃₁, 8, 2, 2; (416), 3, 1, 0; (433), 6, 2, 5; (2444), 6, 2, 5; (6011), 3, 1, 0; (6717), 2, 1, 0; [80, 16, 0*, 1998/04/07–1998/05/03]

867 Saji Observatory

M. Yamanishi, 1071-1 Takayama, Saji, Yazu-Gun, Tottori-Ken, 689-13 Japan

[KYI03040@niftyserve.or.jp]

Observers M. Yamanishi, A. Miyamoto, M. Aimoto, T. Oribe

1.03-m $f/4.2$ reflector + CCD

GSC

1996 XL₃₂, 3, 1, 0; 1997 AQ₁₆, 3, 1, 0; 1998 HN₅, 3, 1, 0; (416), 3, 1, 0; (3373), 3, 1, 0; [15, 5, 0*, 1997/01/13–1998/04/27]

886 Susono

M. Akiyama, 1655-23, Chabatake, Susono, Shizuoka-Ken, 410-11 Japan

0.25-m $f/6.3$ reflector + CCD

GSC

1989 BZ₄, 4, 2, 1; 1992 YH₂, 2, 1, 0; 1995 OT₂, 2, 1, 0; 1995 QG₂, 2, 1, 0; 1997 AT₁, 2, 1, 0; 1998 FO₁₁, 4, 2, 16; 1998 FP₁₁, 2, 1, 0; 1998 FF₁₆, 2, 1, 0; [20, 8, 0*, 1998/04/03–1998/04/20]

888 Gekko Observatory

T. Kagawa, 1308-222, Kuwahara, Kannami-cho, Tagata-gun, Shizuoka-Ken, 419-010, Japan

0.50-m $f/4.0$ reflector

GSC 1.1

1986 QC₃, 2, 1, 0; 1993 BR₃, 2, 1, 0; 1995 OT₃, 3, 1, 0; 1995 QG₂, 3, 1, 0; 1995 UW₆, 3, 1, 0; 1997 AQ₆, 2, 1, 0; 1998 DQ₁₃, 2, 1, 0; 1998 EP₂, 8, 3, 15; 1998 EX₈, 3, 1, 0; 1998 EN₉, 3, 1, 0; 1998 EP₉, 3, 1, 0; 1998 FO₁₁, 6, 2, 2; 1998 FQ₁₁, 3, 1, 0; 1998 FF₁₆, 5, 2, 10; 1998 GZ₁, 1, 0; 1998 GP₁₀ *, 8, 3, 15; 1998 HW₆, 5, 2, 7; 1998 HX₆, 3, 1, 0; 1998 HY₆ *, 9, 3, 9; (2891), 3, 1, 0; [77, 20, 2*, 1998/03/23–1998/04/29]

900 Moriyama

Y. Ikari, Katube-Cho 626, Moriyama, Shiga-Ken 524, Japan

[ikari@gold.ocn.ne.jp]

0.25-m $f/6.3$ Schmidt-Cassegrain + CCD

GSC

1978 EU₉, 2, 1, 0; 1978 UN₄, 2, 1, 0; 1994 JN₂, 2, 1, 0; 1995 TG₂, 2, 1, 0; 1996 VB₅, 4, 2, 23; [12, 5, 0*, 1998/04/04–1998/04/29]

905 Nachi-Katsuura Observatory

T. Urata, 1-8, Dobayashi 1 Chome, Shimizu, Shizuoka-Ken 424, Japan

[urata@sannet.ne.jp]

Observer Y. Shimizu

Measurer T. Urata

0.40-m $f/3.3$ Baker-Schmidt

GSC

1998 HW₆ *, 3, 1, 0; [3, 1, 1*, 1998/04/19]

910 Caussols-ODAS

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G. Hahn, DLR Institute of Planetary Exploration, Rudower Chaussee 5, D-12489

Berlin, Germany [Gerhard.Hahn@DLR.de]

Observers A. Maury, D. Albanese, G. Hahn, M. Hoffmann

Measurers A. Maury, G. Hahn

0.90-m Schmidt + CCD

GSC

1978 TL₄, 3, 1, 0; 1980 UF₁, 3, 1, 0; 1981 EM₁₇, 3, 1, 0; 1981 EY₃₅, 3, 1, 0; 1981 UE₂₆, 3, 1, 0; 1988 RL₆, 3, 1, 0; 1989 XD₁, 6, 2, 2; 1991 ED₂, 3, 1, 0; 1992 DG₁₀, 3, 1, 0; 1992 UM₂, 3, 1, 0; 1993 FA₂, 3, 1, 0; 1993 QU₄, 3, 1, 0; 1993 TX₂₆, 3, 1, 0; 1994 AS₃, 3, 1, 0; 1995 SO₃₃, 3, 1, 0; 1995 UA₉, 3, 1, 0; 1995 UD₄₅, 3, 1, 0; 1996 PQ₃, 3, 1, 0; 1996 RJ₂, 3, 1, 0; 1996 XX₁₉, 3, 1, 0; 1996 YD₃, 3, 1, 0; 1997 AN₁₂, 3, 1, 0; 1997 AV₁₃, 6, 2, 2; 1997 AS₁₆, 3, 1, 0; 1997 NP₃, 3, 1, 0; 1997 NQ₃, 3, 1, 0; 1997 NO₄, 3, 1, 0; 1997 NQ₄, 3, 1, 0; 1997 NS₄, 3, 1, 0; 1997 NU₄, 3, 1, 0; 1997 NV₄, 3, 1, 0; 1997 NX₄, 3, 1, 0; 1997 NY₄, 3, 1, 0; 1997 NV₁₀, 3, 1, 0; 1997 PE₃, 3, 1, 0; 1997 QK₂, 3, 1, 0; 1997 RD₈, 3, 1, 0; 1997 SQ₂₃, 3, 1, 0; 1997 SU₃₁, 3, 1, 0; 1997 TZ₃, 1, 0; 1997 TA₁, 3, 1, 0; 1997 TC₁, 3, 1, 0; 1997 TH₁, 3, 1, 0; 1997 TK₁, 3, 1, 0; 1997 TL₁, 3, 1, 0; 1997 TM₁, 3, 1, 0; 1997 TN₁, 3, 1, 0; 1997 TO₁, 3, 1, 0; 1997 TP₁, 3, 1, 0; 1997 TS₁, 3, 1, 0; 1997 TT₁, 3, 1, 0; 1997 TU₁, 3, 1, 0; 1997 TW₁, 3, 1, 0; 1997 TX₁, 3, 1, 0; 1997 TY₁, 3, 1, 0; 1997 TA₂, 3, 1, 0; 1997 TB₂, 3, 1, 0; 1997 TD₂, 3, 1, 0; 1997 TE₂, 3, 1, 0; 1997 TG₂, 3, 1, 0; 1997 TH₂, 3, 1, 0; 1997 TJ₂, 3, 1, 0; 1997 TK₂, 3, 1, 0; 1997 TL₂, 3, 1, 0; 1997 TM₂, 3, 1,

0; 1997 TN₂, 3, 1, 0; 1997 TP₂, 3, 1, 0; 1997 TQ₂, 3, 1, 0; 1997 TS₂, 3, 1, 0; 1997 TT₂, 3, 1, 0; 1997 TU₂, 3, 1, 0; 1997 TV₂, 3, 1, 0; 1997 TW₂, 3, 1, 0; 1997 TY₂, 3, 1, 0; 1997 TZ₂, 3, 1, 0; 1997 TC₃, 3, 1, 0; 1997 TE₃, 3, 1, 0; 1997 TF₃, 3, 1, 0; 1997 TJ₃, 3, 1, 0; 1997 TF₁₀, 3, 1, 0; 1997 UU₂₄, 3, 1, 0; 1997 WV₃₆, 3, 1, 0; 1997 WF₃₇, 3, 1, 0; 1997 WX₃₇, 3, 1, 0; 1997 WA₅₇, 3, 1, 0; 1997 YU₅, 3, 1, 0; 1997 YM₇, 3, 1, 0; 1997 YP₉, 3, 1, 0; 1997 YW₁₁, 3, 1, 0; 1997 YD₁₅, 3, 1, 0; 1998 AC₄, 6, 2, 4; 1998 AN₆, 6, 2, 4; 1998 BW₅, 3, 1, 0; 1998 BX₅, 3, 1, 0; 1998 BM₆, 3, 1, 0; 1998 BL₁₁, 3, 1, 0; 1998 BM₂₇, 3, 1, 0; 1998 BN₂₇, 3, 1, 0; 1998 BH₃₁, 3, 1, 0; 1998 BN₃₆, 3, 1, 0; 1998 BL₃₉, 6, 2, 36; 1998 BX₄₄, 3, 1, 0; 1998 BP₄₈ *, 6, 2, 4; 1998 DD₂, 3, 1, 0; 1998 DY₄, 3, 1, 0; 1998 DS₁₅, 3, 1, 0; 1998 DT₁₅, 3, 1, 0; 1998 DU₂₃, 3, 1, 0; 1998 DX₂₅, 3, 1, 0; 1998 DM₃₂, 3, 1, 0; 1998 EW₆, 6, 2, 19; 1998 FQ₂, 3, 1, 0; 1998 FK₃, 3, 1, 0; 1998 FB₆, 3, 1, 0; 1998 FF₉, 6, 2, 2; 1998 FA₁₀, 3, 1, 0; 1998 FH₁₀, 3, 1, 0; 1998 FY₁₄, 3, 1, 0; 1998 FO₁₅, 3, 1, 0; 1998 FJ₂₂, 3, 1, 0; 1998 FA₂₃, 3, 1, 0; 1998 FB₂₃, 3, 1, 0; 1998 FQ₂₅, 3, 1, 0; 1998 FA₂₇, 3, 1, 0; 1998 FG₂₈, 3, 1, 0; 1998 FK₂₈, 3, 1, 0; 1998 FC₂₉, 3, 1, 0; 1998 FB₃₈, 3, 1, 0; 1998 FG₃₈, 3, 1, 0; 1998 FT₄₂, 3, 1, 0; 1998 FE₄₇, 3, 1, 0; 1998 FK₄₇, 3, 1, 0; 1998 FE₄₈, 3, 1, 0; 1998 FJ₄₈, 6, 2, 56; 1998 FL₄₈, 3, 1, 0; 1998 FO₄₈, 3, 1, 0; 1998 FD₄₉, 3, 1, 0; 1998 FL₄₉, 3, 1, 0; 1998 FO₄₉, 3, 1, 0; 1998 FF₅₂, 3, 1, 0; 1998 FV₅₂, 6, 2, 28; 1998 FA₅₃, 3, 1, 0; 1998 FF₅₃, 3, 1, 0; 1998 FT₅₃, 3, 1, 0; 1998 FV₅₃, 3, 1, 0; 1998 FW₅₃, 3, 1, 0; 1998 FB₅₄, 3, 1, 0; 1998 FK₅₄, 3, 1, 0; 1998 FO₅₇, 3, 1, 0; 1998 FA₅₉, 3, 1, 0; 1998 FE₅₉, 3, 1, 0; 1998 FP₆₀, 3, 1, 0; 1998 FM₆₁, 3, 1, 0; 1998 FT₆₃, 3, 1, 0; 1998 FR₆₄, 3, 1, 0; 1998 FP₇₀, 3, 1, 0; 1998 FA₇₃, 3, 1, 0; 1998 FN₁₀₃, 3, 1, 0; 1998 FO₁₀₃, 3, 1, 0; 1998 FO₁₁₉, 3, 1, 0; 1998 FH₁₂₁, 3, 1, 0; 1998 FR₁₂₃, 3, 1, 0; 1998 GJ₁, 3, 1, 0; 1998 HP₅ *, 6, 2, 2; 1998 HQ₅ *, 6, 2, 2; 1998 HR₅ *, 6, 2, 2; 1998 HS₅ *, 6, 2, 2; 1998 HT₅ *, 6, 2, 2; 1998 HU₅ *, 6, 2, 2; 1998 HV₅ *, 6, 2, 2; 1998 HW₅ *, 6, 2, 2; 1998 HX₅ *, 6, 2, 2; 1998 HZ₅ *, 6, 2, 2; 1998 HA₆ *, 6, 2, 2; 1998 HB₆ *, 6, 2, 2; 1998 HC₆ *, 6, 2, 2; 1998 HD₆ *, 6, 2, 2; 1998 HE₆ *, 6, 2, 2; 1998 HF₆ *, 6, 2, 2; 1998 HG₆ *, 6, 2, 2; 1998 HH₆ *, 6, 2, 2; 1998 HJ₆ *, 6, 2, 2; 1998 HK₆ *, 6, 2, 2; 1998 HL₆ *, 6, 2, 2; 1998 HM₆ *, 6, 2, 2; 1998 HN₆ *, 6, 2, 2; 1998 HO₆ *, 6, 2, 2; 1998 HP₆ *, 6, 2, 2; 1998 HQ₆ *, 6, 2, 2; 1998 HR₆ *, 6, 2, 2; 1998 HS₆ *, 9, 3, 3; 1998 HT₆ *, 6, 2, 2; 1998 HU₆ *, 6, 2, 2; 1998 HY₁₈, 3, 1, 0; 4584 P-L, 3, 1, 0; 4716 P-L, 6, 2, 4; 5585 P-L, 3, 1, 0; 4265 T-1, 3, 1, 0; 2115 T-2, 3, 1, 0; (128), 3, 1, 0; (738), 3, 1, 0; (1125), 3, 1, 0; (1211), 3, 1, 0; (1589), 3, 1, 0; (2157), 3, 1, 0; (3716), 6, 2, 2; (3717), 3, 1, 0; (3963), 3, 1, 0; (5097), 3, 1, 0; (5219), 3, 1, 0; (5315), 3, 1, 0; (5924), 6, 2, 2; (6639), 3, 1, 0; (6641), 6, 1, 0; (6739), 3, 1, 0; (7394), 3, 1, 0; (7425), 6, 2, 2; (8277), 3, 1, 0; (8424), 6, 2, 2; [804, 220, 32*, 1997/07/01–1998/04/25]

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Measurers M. E. Fletcher, A. Fitzsimmons, B. Gladman

2.5-m Isaac Newton Telescope + CCD

GSC

(4148), 1, 1, 0; (4985), 1, 1, 0; (6354), 1, 1, 0; (6373), 1, 1, 0; [4, 4, 0*, 1997/10/29–1997/10/30]

952 Marxuquera

J. J. Gómez D., Cardenal Cisneros 55-4-8, E-46700 Gandia, Spain

[astsafor@arrakis.es]

0.25-m $f/6.3$ Schmidt-Cassegrain + CCD

GSC

1991 DJ₁, 4, 1, 0; [4, 1, 0*, 1998/04/24–1998/04/25]

960 Rolvenden

M. Armstrong, Butterfly Cottage, Hastings Road, Rolvenden, Kent TN17 4PN, England [fw04@dial.pipex.com]

0.26-m Schmidt-Cassegrain + CCD

GSC

1998 DN₂₀, 5, 2, 2; [5, 1, 0*, 1998/04/20–1998/04/23]

967 Greens Norton

R. J. Neville, 19 Bradden Way, Greens Norton, Towcester, Northamptonshire NN12 8BY, England [RJNeville@aol.com]

0.21-m $f/4.4$ reflector + CCD

GSC

1998 DN₂₀, 7, 2, 1; (1620), 6, 1, 0; [13, 2, 0*, 1997/11/21–1998/04/26]

970 Chelmsford

N. D. James, 11 Tavistock Road, Chelmsford, Essex CM1 6JL, England

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0.30-m $f/5.25$ reflector + CCD

GSC

1998 FX₂, 4, 1, 0; [4, 1, 0*, 1998/04/03]**ORBITAL ELEMENTS**

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P/1998 G1 (LINEAR)

T	1998 Nov. 16.5333 TT			Marsden	
q	2.135195	(2000.0)		P	Q
n	0.0233046	ω	236.2450	-0.4368879	+0.8477983
a	12.138766	Ω	341.3753	+0.7181855	+0.1275414
e	0.824101	i	109.7339	-0.5416074	-0.5147536
P	42.3				

From 132 observations 1998 Apr. 2–30.

C/1998 G2 (SOHO)

T	1998 Apr. 2.40 TT			Marsden	
q	0.0049	(2000.0)		P	Q
		ω	76.29	+0.19310	-0.98066
		Ω	356.84	-0.96141	-0.18262
e	1.0	i	144.64	+0.19598	+0.07037

From 6 observations 1998 Apr. 2.

C/1998 H1 (Stonehouse)

T	1998 Apr. 14.4335 TT			Marsden	
q	1.487458	(2000.0)		P	Q
		ω	1.3310	-0.7455737	-0.1529878
		Ω	222.1134	-0.6200207	-0.1975884
e	1.0	i	104.7084	-0.2443241	+0.9682735

From 161 observations 1998 Apr. 26–May 3.

C/1998 J1 (SOHO)

T	1998 May 8.901 TT			Marsden	
q	0.17454	(2000.0)		P	Q
		ω	107.577	-0.186546	-0.968612
		Ω	348.442	+0.235032	+0.118368
e	1.0	i	55.085	+0.953918	-0.218584

From 40 observations 1998 May 3–5.

Chronological listing of predicted orbital elements for comets returning to perihelion in 2001:

47P/Ashbrook-Jackson

Epoch 2001 Jan. 11.0 TT = JDT 2451920.5

T	2001 Jan. 6.4952 TT			Nakano	
q	2.305365	(2000.0)		P	Q
n	0.1321448	ω	348.8845	+0.9887736	+0.1490972
a	3.817414	Ω	2.6022	-0.1150102	+0.8014403
e	0.396093	i	12.5134	-0.0953908	+0.5791921
P	7.46				

From 571 observations 1948–1997, mean residual 0''.9. Nongravitational parameters $A_1 = -0.01$, $A_2 = -0.0039$.**41P/Tuttle-Giacobini-Kresák**

Epoch 2001 Jan. 11.0 TT = JDT 2451920.5

T	2001 Jan. 6.9847 TT			Nakano	
q	1.052251	(2000.0)		P	Q
n	0.1815986	ω	62.1802	-0.9113737	+0.3990786
a	3.088359	Ω	141.1038	-0.4109025	-0.8682115
e	0.659285	i	9.2257	-0.0236023	-0.2948646
P	5.43				

From 42 observations 1978–1995, mean residual 1''.2. Nongravitational parameters $A_1 = +0.92$, $A_2 = +0.0544$.**74P/Smirnova-Chernykh**

Epoch 2001 Jan. 11.0 TT = JDT 2451920.5

T	2001 Jan. 15.6452 TT			Nakano	
q	3.545786	(2000.0)		P	Q
n	0.1160234	ω	86.6545	-0.9537942	-0.2784239
a	4.163313	Ω	77.1565	+0.2084280	-0.8838705
e	0.148326	i	6.6523	+0.2164126	-0.3758365
P	8.49				

From 233 observations 1978–1998, mean residual 0''.9.

73P/Schwassmann-Wachmann 3

Epoch 2001 Jan. 11.0 TT = JDT 2451920.5

<i>T</i>	2001 Jan. 27.7623 TT		Marsden	
<i>q</i>	0.937384	(2000.0)	P	Q
<i>n</i>	0.1839902	ω 198.7756	−0.0287113	+0.9821797
<i>a</i>	3.061538	Ω 69.9213	−0.8899238	+0.0595023
<i>e</i>	0.693819	<i>i</i> 11.4058	−0.4552046	−0.1782764
<i>P</i>	5.36			

From 200 observations 1989–1996, mean residual 1″. Nongravitational parameters

$$A_1 = +0.98, A_2 = +0.2047.$$

P/1992 G3 (Mueller 4)

Epoch 2001 Feb. 20.0 TT = JDT 2451960.5

<i>T</i>	2001 Feb. 7.8569 TT		Nakano	
<i>q</i>	2.646960	(2000.0)	P	Q
<i>n</i>	0.1094375	ω 43.6748	−0.9358578	+0.2112987
<i>a</i>	4.328711	Ω 145.3654	−0.2117613	−0.9768849
<i>e</i>	0.388511	<i>i</i> 29.7475	+0.2816509	−0.0323835
<i>P</i>	9.01			

From 31 observations 1992 Apr. 12–July 2, mean residual 0″.9.

44P/Reinmuth 2

Epoch 2001 Feb. 20.0 TT = JDT 2451960.5

<i>T</i>	2001 Feb. 19.9969 TT		Marsden	
<i>q</i>	1.889711	(2000.0)	P	Q
<i>n</i>	0.1486707	ω 46.1014	+0.9471732	+0.3015649
<i>a</i>	3.529007	Ω 296.0692	−0.3179120	+0.8378191
<i>e</i>	0.464520	<i>i</i> 6.9817	−0.0423673	+0.4551019
<i>P</i>	6.63			

From 310 observations 1967–1996, mean residual 1″.0. Nongravitational parameters

$$A_1 = -0.02, A_2 = -0.0024.$$

113P/Spitaler

Epoch 2001 Feb. 20.0 TT = JDT 2451960.5

<i>T</i>	2001 Feb. 25.8772 TT		Nakano	
<i>q</i>	2.127277	(2000.0)	P	Q
<i>n</i>	0.1390330	ω 50.0624	+0.4301056	−0.9024256
<i>a</i>	3.690263	Ω 14.5253	+0.7945534	+0.3651214
<i>e</i>	0.423543	<i>i</i> 5.7766	+0.4285953	+0.2287236
<i>P</i>	7.09			

From 105 observations 1890–1994, mean residual 1″.5.

75P/Kohoutek

Epoch 2001 Feb. 20.0 TT = JDT 2451960.5

<i>T</i>	2001 Feb. 27.3481 TT		Muraoka	
<i>q</i>	1.787299	(2000.0)	P	Q
<i>n</i>	0.1475172	ω 175.6949	+0.0801846	−0.9914479
<i>a</i>	3.547379	Ω 269.6830	+0.9114257	+0.1147488
<i>e</i>	0.496164	<i>i</i> 5.9100	+0.4035760	−0.0621597
<i>P</i>	6.68			

From 81 observations 1975–1988, mean residual 1″.5. Nongravitational parameters

$$A_1 = +3.96, A_2 = +0.8717.$$

110P/Hartley 3

Epoch 2001 Apr. 1.0 TT = JDT 2452000.5

<i>T</i>	2001 Mar. 21.4039 TT		Nakano	
<i>q</i>	2.478306	(2000.0)	P	Q
<i>n</i>	0.1433304	ω 167.9365	−0.1032600	−0.9757603
<i>a</i>	3.616128	Ω 287.7527	+0.8949077	−0.0064704
<i>e</i>	0.314652	<i>i</i> 11.6888	+0.4341400	−0.2187465
<i>P</i>	6.88			

From 146 observations 1988–1995, mean residual 0″.8.

45P/Honda-Mrkos-Pajdušáková

Epoch 2001 Apr. 1.0 TT = JDT 2452000.5

<i>T</i>	2001 Mar. 29.8855 TT		Nakano	
<i>q</i>	0.528413	(2000.0)	P	Q
<i>n</i>	0.1876965	ω 326.1390	+0.5689583	−0.8190127
<i>a</i>	3.021101	Ω 89.0763	+0.7699981	+0.4988743
<i>e</i>	0.825092	<i>i</i> 4.2554	+0.2887723	+0.2834476
<i>P</i>	5.25			

From 135 observations 1980–1996, mean residual 1″.0. Nongravitational parameters

$$A_1 = -0.08, A_2 = -0.0669.$$

97P/Metcalf-Brewington

Epoch 2001 Apr. 1.0 TT = JDT 2452000.5

<i>T</i>	2001 Apr. 10.2420 TT		Nakano	
<i>q</i>	2.605404	(2000.0)	P	Q
<i>n</i>	0.0937402	ω 229.5906	+0.5629811	−0.8257474
<i>a</i>	4.799382	Ω 186.4348	+0.8204145	+0.5634187
<i>e</i>	0.457138	<i>i</i> 17.9545	+0.0998618	+0.0264702
<i>P</i>	10.5			

From 124 observations 1906–1991, mean residual 1″.4. Nongravitational parameters

$$A_1 = +0.67, A_2 = +0.0657.$$

P/1993 X1 (Kushida-Muramatsu)

Epoch 2001 May 11.0 TT = JDT 2452040.5

<i>T</i>	2001 Apr. 29.5500 TT		Marsden	
<i>q</i>	2.752593	(2000.0)	P	Q
<i>n</i>	0.1325601	ω 347.5676	+0.1517769	−0.9875549
<i>a</i>	3.809438	Ω 93.6919	+0.9103534	+0.1234250
<i>e</i>	0.277428	<i>i</i> 2.3673	+0.3849941	+0.0974759
<i>P</i>	7.44			

From 203 observations 1993 Dec. 8–1995 June 23, mean residual 0″.7.

24P/Schaumasse

Epoch 2001 May 11.0 TT = JDT 2452040.5

<i>T</i>	2001 May 2.6576 TT		Marsden	
<i>q</i>	1.205005	(2000.0)	P	Q
<i>n</i>	0.1195028	ω 57.8736	−0.7222141	−0.6619815
<i>a</i>	4.082102	Ω 79.8311	+0.5459378	−0.7235362
<i>e</i>	0.704808	<i>i</i> 11.7515	+0.4246867	−0.1956422
<i>P</i>	8.25			

From 450 observations 1976–1993, mean residual 0″.8. Nongravitational parameters

$$A_1 = +0.12, A_2 = -0.0595.$$

61P/Shajn-Schaldach

Epoch 2001 May 11.0 TT = JDT 2452040.5

<i>T</i>	2001 May 8.9863 TT	Nakano			
<i>q</i>	2.330090	(2000.0)	P	Q	
<i>n</i>	0.1321903	ω 216.6179	+0.9163096	−0.3997472	
<i>a</i>	3.816538	Ω 166.8803	+0.3879654	+0.8711977	
<i>e</i>	0.389475	<i>i</i> 6.0844	+0.0992951	+0.2849856	
<i>P</i>	7.46				

From 98 observations 1971–1994, mean residual 1″.0. Nongravitational parameters

$$A_1 = +3.50, A_2 = -0.1559.$$

51P/Harrington

Epoch 2001 June 20.0 TT = JDT 2452080.5

<i>T</i>	2001 June 5.8895 TT		Marsden	
<i>q</i>	1.568128	(2000.0)	P	Q
<i>n</i>	0.1455691	ω 233.6048	+0.9840776	+0.1196837
<i>a</i>	3.578957	Ω 119.1807	−0.0711333	+0.9427174
<i>e</i>	0.561848	<i>i</i> 8.6562	−0.1628844	+0.3113835
<i>P</i>	6.77			

From 170 observations 1980–1995, mean residual 0″.9. Nongravitational parameters

$$A_1 = +0.72, A_2 = +0.0602.$$

86P/Wild 3

Epoch 2001 June 20.0 TT = JDT 2452080.5

<i>T</i>	2001 June 18.6019 TT		Marsden	
<i>q</i>	2.310290	(2000.0)	P	Q
<i>n</i>	0.1422008	ω 179.1619	−0.3122480	+0.9154034
<i>a</i>	3.635253	Ω 72.6129	−0.8731500	−0.1711726
<i>e</i>	0.364476	<i>i</i> 15.4386	−0.3743130	−0.3643302
<i>P</i>	6.93			

From 67 observations 1980–1997, mean residual 1″.4. Nongravitational parameters

$$A_1 = +0.38, A_2 = +0.1461.$$

P/1994 A1 (Kushida)

Epoch 2001 June 20.0 TT = JDT 2452080.5

T	2001 June 27.7919 TT			Nakano	
q	1.431269	(2000.0)	P	Q	
n	0.1300701	ω 216.0217	−0.2004909	−0.9775087	
a	3.857901	Ω 245.6249	+0.9148194	−0.1628995	
e	0.629003	i 4.1188	+0.3505837	−0.1339424	
P	7.58				

From 289 observations 1994 Jan. 7–July 9, mean residual 0″.7.

16P/Brooks 2

Epoch 2001 July 30.0 TT = JDT 2452120.5

T	2001 July 19.8258 TT		Nakano	
q	1.834900	(2000.0)	P	Q
n	0.1436063	ω 198.1093	+0.9657427	−0.2594492
a	3.611496	Ω 176.9138	+0.2484400	+0.9185973
e	0.491928	i 5.5482	+0.0749572	+0.2981025
P	6.86			

From 223 observations 1980–1995, mean residual 0″.9. Nongravitational parameters

$$A_1 = +0.18, A_2 = -0.1567.$$

82P/Gehrels 3

Epoch 2001 Sept. 8.0 TT = JDT 2452160.5

T	2001 Sept. 3.0692 TT			Nakano	
q	3.626623		(2000.0)	P	Q
n	0.1166700	ω	227.9481	−0.3028796	−0.9528775
a	4.147916	Ω	239.6900	+0.8800945	−0.2728192
e	0.125676	i	1.1272	+0.3656468	−0.1326429
P	8.45				

From 73 observations 1975–1995, mean residual 0″.9.

19P/Borrelly

Epoch 2001 Sept. 8.0 TT = JDT 2452160.5

T	2001 Sept. 14.7334 TT			Nakano	
q	1.358200		(2000.0)	P	Q
n	0.1436218	ω	353.3759	+0.3463368	−0.8007938
a	3.611236	Ω	75.4249	+0.8822066	+0.1008967
e	0.623896	i	30.3247	+0.3190022	+0.5903805
P	6.86				

From 605 observations 1980–1997, mean residual 1″.0. Nongravitational parameters

$$A_1 = +0.12, A_2 = -0.0376.$$

P/1987 Q3 (Helin)

Epoch 2001 Sept. 8.0 TT = JDT 2452160.5

<i>T</i>	2001 Sept. 24.7532 TT			Marsden	
<i>q</i>	2.530788		(2000.0)	P	Q
<i>n</i>	0.0700767	ω	215.4202	+0.9986676	+0.0165677
<i>a</i>	5.826670	Ω	143.5365	+0.0008044	+0.9419507
<i>e</i>	0.565654	<i>i</i>	4.7171	−0.0515991	+0.3353423
<i>P</i>	14.1				

From 24 observations 1987 Aug. 24–1988 Feb. 13, mean residual 1″.0.

(8604)* 1929 PK = 1977 AZ = 1979 SO₄ = 1989 TH₉ = 1995 KW₂

Discovered 1929 Aug. 12 by C. J. Krieger at Lick Observatory, Mount Hamilton.

Id. T. Kobayashi (*MPC* 25526)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i> 225.00467				(2000.0)		Williams	
<i>n</i>		ω		P	Q		
<i>a</i>	2.2262499	Ω 152.73529	+0.94395631	−0.32818919			
<i>e</i>	0.2186032	<i>i</i> 4.40564	+0.32062233	+0.88638385			
<i>P</i>	3.32	<i>H</i> 14.2	+0.07840800	+0.32652033			
			<i>G</i> 0.15	<i>U</i> 2			

Residuals in seconds of arc

1929 08 12	662	0.2−	0.6+	1995 05 22	010	(2.5+	0.5−)	1998 04 05	561	1.3+	0.1−
1929 08 12	662	0.3+	0.7+	1995 05 23	010	(3.1−	2.6+)	1998 04 21	704	0.1+	0.6−
1929 08 13	662	0.5−	0.4−	1995 05 23	010	(0.9−	2.0+)	1998 04 21	704	0.3−	0.6−
1929 08 15	662	0.7+	0.4−	1995 05 23	010	(3.8−	2.4+)	1998 04 21	704	0.8−	0.6−
1929 08 27	662	1.5−	0.0	1996 12 14	658	0.2+	0.2+	1998 04 21	704	0.0	1.5−
1929 08 27	662	0.4+	0.8+	1996 12 14	658	0.2+	0.2+	1998 04 21	704	0.0	0.4−
1977 01 13	095	(6.6+	2.4−)	1996 12 14	658	0.1−	0.1+	1998 04 22	704	0.3−	0.0
1979 09 24	095	2.0+	1.2+	1998 03 02	561	0.4−	0.3−	1998 04 22	704	0.6−	0.1+
1989 10 07	809	0.0	1.3−	1998 03 02	561	0.2−	0.0	1998 04 22	704	0.0	0.5−
1989 10 07	809	0.1+	2.4−	1998 04 04	561	0.9−	0.5−	1998 04 22	704	0.5+	0.1−
1989 10 07	809	0.5−	1.4−	1998 04 04	561	1.2−	0.2−	1998 04 22	704	0.4−	0.8−
1995 05 22	010	(2.4+	0.3+)	1998 04 04	561	0.8−	0.0				
1995 05 22	010	1.1+	1.1+	1998 04 05	561	1.1+	0.2+				

(8605)* 1968 OH = 1986 WF₅

Discovered 1968 July 18 by C. Torres and S. Cofre at Cerro El Roble.
Id. S. Nakano (*MPC* 14779)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i> 248.72221		(2000.0)		P		Q	
<i>n</i>	0.22111520	ω	56.73220	+0.79448251	+0.57463947		
<i>a</i>	2.7084677	Ω	267.44093	−0.60176577	+0.70141799		
<i>e</i>	0.1688187	<i>i</i>	11.34007	−0.08170370	+0.42166607		
<i>P</i>	4.46	<i>H</i>	13.2	<i>G</i> 0.15	<i>U</i> 1		

Residuals in seconds of arc

1968 07 18	805	1.1+	0.1+	1995 08 06	104	0.2+	0.1+	1998 02 28	561	0.8+	0.3+
1968 07 19	805	1.4+	1.4−	1995 08 06	104	0.2+	0.1+	1998 02 28	561	0.1+	0.2−
1968 07 25	805	0.3+	0.9−	1995 08 23	801	0.3+	0.9+	1998 03 31	704	0.1−	0.5−
1968 07 28	805	0.8−	0.5+	1995 08 23	801	0.3+	0.3+	1998 03 31	704	1.2−	0.3+
1968 07 30	805	1.0−	0.1−	1995 08 24	801	0.3+	0.3+	1998 03 31	704	0.8+	0.3+
1968 07 30	805	0.3+	0.8−	1995 08 24	801	0.1+	0.6+	1998 03 31	704	0.9−	0.2−
1968 08 21	805	(0.2+	3.5−)	1995 09 29	801	0.3−	0.4+	1998 03 31	704	0.1−	0.4−
1986 09 09	095	1.2−	0.8+	1995 09 29	801	0.6−	0.2+	1998 04 01	704	0.9+	0.5+
1986 09 13	095	1.8+	1.2−	1995 10 23	801	0.1+	0.1−	1998 04 01	704	0.6−	0.7−
1986 11 27	010	(0.6−	4.2−)	1995 10 23	801	0.1−	0.1−	1998 04 01	704	0.1−	0.3−
1986 11 27	010	(0.9+	4.2−)	1995 10 25	801	0.1−	0.2+	1998 04 01	704	0.0	0.5+
1986 11 27	010	(3.1−	3.4−)	1995 10 25	801	0.2−	0.0	1998 04 01	704	1.0−	0.4+
1991 12 03	691	0.8−	1.1−	1995 10 30	658	1.1−	0.4+	1998 04 03	561	0.1+	0.4+
1991 12 03	691	0.8−	0.8−	1995 10 30	658	1.0−	0.4+	1998 04 03	561	0.3+	0.4+
1991 12 03	691	0.3−	0.9−	1996 12 05	684	1.3+	0.8−	1998 04 03	561	0.3+	0.1+
1995 08 06	104	0.3+	0.3+	1996 12 05	684	1.0+	0.6−				

(8606)* 1971 UG = 1980 RT₃ = 1995 UZ₄₄

Discovered 1971 Oct. 26 by L. Kohoutek at Bergedorf.

Id. S. Nakano (*MPC* 26165)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i> 201.60645		(2000.0)		P		Q	
<i>n</i>	0.20480099	ω	170.67914	+0.88365086	−0.45149730		
<i>a</i>	2.8504582	Ω	216.97882	+0.41517393	+0.87792363		
<i>e</i>	0.0477100	<i>i</i>	11.87110	+0.21631404	+0.15937466		
<i>P</i>	4.81	<i>H</i>	11.7	<i>G</i> 0.15	<i>U</i> 2		

Residuals in seconds of arc

1971 10 12	095	0.7+	0.9−	1995 10 20	376	0.3−	0.1+	1998 04 03	561	0.3−	0.6−
1971 10 16	029	1.0+	1.3−	1995 10 27	376	(2.9+	0.4+)	1998 04 04	426	0.6−	0.5−
1971 10 17	029	1.9+	0.5−	1995 10 27	376	1.0+	0.8+	1998 04 04	426	0.4−	0.3−
1971 10 26	029	0.9−	1.6−	1995 11 11	376	1.3+	1.3+	1998 04 04	426	0.5−	0.5−
1971 10 26	029	1.2−	1.3−	1995 11 11	376	1.3−	0.0	1998 04 05	426	0.6−	0.4−
1971 10 27	095	0.4−	0.9−	1995 11 17	691	0.4−	0.4−	1998 04 05	426	0.5−	0.3−
1971 10 30	029	0.4−	0.2+	1995 11 17	691	0.4−	0.4−	1998 04 05	426	0.3−	0.2−
1971 11 10	029	0.6+	0.2+	1995 11 17	691	0.6−	0.6−	1998 04 22	704	0.5+	0.4−
1971 11 10	029	0.6−	0.4+	1998 03 02	561	(2.6+	1.7−)	1998 04 22	704	1.1+	0.7−
1971 11 19	029	0.1+	0.3+	1998 03 02	561	(2.7+	1.5−)	1998 04 22	704	1.0+	0.5−
1980 09 06	095	0.2−	0.1−	1998 04 03	561	0.4−	0.6−	1998 04 22	704	1.0+	0.4−
1995 10 20	376	0.8+	1.7−	1998 04 03	561	0.2−	0.7−	1998 04 22	704	0.7−	0.7−

(8607)* 1971 UT = 1985 QS₂ = 1996 TG₄₈

Discovered 1971 Oct. 26 by L. Kohoutek at Bergedorf.

Id. G. V. Williams (*MPC* 28293)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i> 159.07038		(2000.0)		P		Q	
<i>n</i>	0.27485802	ω	167.11141	+0.82099111	−0.56687275		
<i>a</i>	2.3427742	Ω	227.63413	+0.51531884	+0.78703205		
<i>e</i>	0.1319124	<i>i</i>	5.28344	+0.24580499	+0.24338415		
<i>P</i>	3.59	<i>H</i>	14.3	<i>G</i> 0.15	<i>U</i> 2		

Residuals in seconds of arc

1971 10 26	029	0.7−	1.8−	1996 10 16	399	0.6−	1.3−	1998 03 31	704	1.5+	1.4+
1971 10 26	029	2.0+	1.6−	1998 02 28	561	0.2−	0.2−	1998 03 31	704	(0.7−	2.2−)
1971 10 30	029	0.1+	0.9+	1998 02 28	561	0.3−	0.1−	1998 03 31	704	(0.3+	4.3−)
1971 11 10	029	0.2−	0.6+	1998 02 28	561	0.1−	0.2+	1998 04 01	704	0.8−	0.5+
1971 11 10	029	0.1−	0.3+	1998 03 04	704	(3.4−	0.4+)	1998 04 01	704	0.8−	0.9+
1971 11 19	029	0.7−	0.4−	1998 03 04	704	(3.3−	0.3−)	1998 04 01	704	(2.2+	0.2+)
1985 08 17	675	0.3−	1.3−	1998 03 04	704	(3.2−	0.6+)	1998 04 01	704	0.8−	0.5−
1985 08 17	675	0.7+	0.1−	1998 03 04	704	(3.7−	0.5+)	1998 04 01	704	0.4−	0.4+
1996 10 09	399	0.5−	1.9+	1998 03 04	704	(3.0−	1.7+)	1998 04 03	561	0.3−	1.1−
1996 10 09	399	1.5+	0.8+	1998 03 31	704	1.7+	0.7−	1998 04 03	561	0.1+	1.2−
1996 10 16	399	0.8−	0.1+	1998 03 31	704	(1.5+	2.9−)	1998 04 03	561	0.1−	1.2−

(8608)* 1976 YO₂ = 1993 VJ₂

Discovered 1976 Dec. 16 by L. I. Chernykh at the Crimean Astrophysical

Observatory.

Id. T. Urata (*MPC* 22807)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i> 125.16918		(2000.0)		P		Q	
<i>n</i>	0.28840802	ω	352.31840	+0.38718894	−0.90318767		
<i>a</i>	2.2688084	Ω	74.75262	+0.85580280	+0.27727744		
<i>e</i>	0.1348919	<i>i</i>	11.07318	+0.34305435	+0.32767248		
<i>P</i>	3.42	<i>H</i>	14.4	<i>G</i> 0.15	<i>U</i> 2		

Residuals in seconds of arc

1976 12 16	095	(0.5−	3.0+)	1993 12 09	385	0.9+	0.7−	1998 02 24	566	1.5−	0.1+
1976 12 18	095	1.6−	2.1+	1993 12 09	385	0.6+	0.4−	1998 04 02	704	0.4+	0.2+
1976 12 20	095	0.4−	0.0	1993 12 09	385	0.4+	0.5−	1998 04 02	704	0.8+	0.1−
1977 01 13	095	1.6+	0.5+	1993 12 17	801	0.5+	1.1−	1998 04 02	704	0.2+	0.1−
1993 11 11	033	0.3−	0.3+	1993 12 17	801	0.7+	0.3+	1998 04 02	704	0.2+	1.0+
1993 11 12	033	0.5−	1.2−	1993 12 18	801	0.7+	0.1+	1998 04 02	704	0.6+	0.9−
1993 11 12	033	0.0	0.6−	1993 12 18	801	(2.6+	0.8−)	1998 04 03	704	0.7+	0.4−
1993 11 13	033	0.2−	0.3+	1995 04 27	691	0.2+	0.8−	1998 04 03	704	0.7+	0.5+
1993 11 14	898	0.7−	0.0	1995 04 27	691	0.3−	0.8−	1998 04 03	704	0.5+	0.3+
1993 11 14	898	0.3+	0.2−	1995 04 27	691	0.1+	0.1+	1998 04 03	704	0.7+	0.5−
1993 11 18	385	0.3−	0.2−	1995 06 03	691	0.0	0.3−	1998 04 03	704	1.3+	0.5−
1993 11 18	385	0.8−	0.5−	1995 06 03	691	0.5−	0.1−	1998 04 22	566	0.0	0.8+
1993 11 18	385	0.3−	0.3+	1995 06 03	691	0.3−	0.1−	1998 04 22	566	0.6−	0.2+
1993 11 21	385	0.0	0.4+	1998 02 24	566	1.8−	0.1−	1998 04 22	566	0.9−	0.5+
1993 11 21	385	0.1+	0.4+	1998 02 24	566	1.7−	0.3−				

(8609)* 1977 QH₃ = 1992 SJ₁₃

Discovered 1977 Aug. 22 by N. S. Chernykh at the Crimean Astrophysical

Observatory.

Id. S. Nakano (*MPC* 21097)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i> 169.61822		(2000.0)		P		Q	
<i>n</i>	0.26341311	ω	278.20956	+0.68658011	−0.71610447		
<i>a</i>	2.4101521	Ω	127.64206	+0.71379642	+0.63104118		
<i>e</i>	0.2879524	<i>i</i>	9.13447	+0.13821152	+0.29829752		
<i>P</i>	3.74	<i>H</i>	13.3	<i>G</i> 0.15	<i>U</i> 1		

Residuals in seconds of arc

1977 08 22	095	0.3+	0.5−	1996 11 19	684	0.0	0.1−	1998 03 01	691	0.5−	0.3−
1977 08 24	095	2.0+	0.9−	1996 11 19	684	0.0	0.2−	1998 03 01	691	0.3−	0.3−
1977 09 07	095	1.6−	0.2−	1996 11 19	684	0.1+	0.2−	1998 03 04	691	0.9−	0.3−
1992 09 04	885	0.5−	1.7+	1996 11 20	684	0.0	0.2−	1998 03 04	691	1.3−	0.3−
1992 09 04	885	0.1−	0.0	1996 11 20	684	0.0	0.1−	1998 03 04	691	1.5−	0.3−
1992 09 22	675	0.0	1.6−	1996 11 20	684	0.0	0.0	1998 04 21	704	0.9+	0.3−
1992 09 22	675	0.1−	0.6+	1996 12 01	684	0.5+	0.0	1998 04 21	704	0.2+	0.2−
1992 09 25	675	(1.6+	4.2−)	1996 12 01	684	0.6+	0.1−	1998 04 21	704	1.6+	0.5+
1992 09 25	675	0.1−	1.3−	1997 02 20	104	0.6−	0.2+	1998 04 21	704	(2.4+	0.5+)
1992 10 02	385	0.7−	0.3+	1997 02 20	104	0.5−	0.2+	1998 04 21	704	1.1+	0.0

1992 10 02 385 0.6+ 0.6+ 1997 02 20 104 0.7- 0.1-
 1992 10 02 385 0.5+ 0.8+ 1998 03 01 691 0.2- 0.1-

(8610)* 1977 UD = 1981 WL₄ = 1981 XT₁ = 1986 AT₁

Discovered 1977 Oct. 22 at the Agassiz Station of the Harvard College Observatory.

Id. M. Kretlow (d, *MPC* 9019), T. Kobayashi (*MPC* 13690)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	128.13076		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.26091829	ω	20.14180	+0.12256134	-0.99052484
<i>a</i>	2.4254912	Ω	62.86118	+0.90076231	+0.08480951
<i>e</i>	0.1671232	<i>i</i>	3.99259	+0.41666050	+0.10801803
<i>P</i>	3.78	<i>H</i>	13.8	<i>G</i> 0.15	<i>U</i> 1

Residuals in seconds of arc

1977 10 12	675	0.7+	1.8-	1981 11 18	330	(2.8-	1.4+)	1996 11 27	327	0.1+	0.3+
1977 10 16	675	1.3+	0.1-	1981 11 27	330	0.8-	0.1-	1996 11 28	327	0.7-	0.3-
1977 10 16	675	0.8+	1.1+	1981 12 01	330	(24.9+	1.5-)	1996 11 28	327	0.2+	0.3-
1977 10 16	675	0.2+	0.5+	1981 12 04	511	0.6-	1.0+	1996 11 28	327	0.4+	0.4+
1977 10 16	675	0.4-	2.4+	1981 12 04	511	0.5-	0.9+	1998 03 25	699	1.1-	0.5+
1977 10 17	675	0.2-	1.0+	1986 01 12	688	0.1-	0.2-	1998 03 25	699	(2.2+	0.1+)
1977 10 17	675	1.2+	0.2-	1986 01 12	688	2.1+	1.9-	1998 03 25	699	0.6+	0.6+
1977 10 17	675	0.9-	1.2+	1988 08 16	675	0.2+	0.1+	1998 04 21	704	0.0	0.5+
1977 10 17	675	0.6+	1.0-	1988 08 16	675	0.9+	0.2-	1998 04 21	704	0.4+	0.0
1977 10 21	675	1.4+	1.1-	1988 09 11	675	0.3+	0.3+	1998 04 21	704	0.2+	0.1+
1977 10 21	675	1.9-	0.7+	1988 09 11	675	0.3+	0.5+	1998 04 21	704	0.0	0.6-
1977 10 21	675	(0.1+	2.6-)	1996 11 26	327	0.3-	0.5+	1998 04 21	704	0.3+	0.1+
1977 10 21	675	1.3-	0.9+	1996 11 26	327	0.5-	0.3+	1998 04 22	704	0.4+	0.4+
1977 10 22	801	0.7-	0.4+	1996 11 26	327	0.2-	0.2+	1998 04 22	704	0.3-	0.4+
1977 10 22	675	1.1-	2.4-	1996 11 26	327	0.4+	0.2-	1998 04 22	704	0.4-	0.5+
1977 10 22	675	0.1-	1.1-	1996 11 27	327	0.1-	0.1+	1998 04 22	704	0.1+	0.0
1977 10 22	675	(2.7+	2.6-)	1996 11 27	327	0.0	0.1+	1998 04 22	704	0.1+	1.2+
1977 10 22	675	0.6-	0.5-	1996 11 27	327	0.2-	0.2-				

(8611)* 1977 UM₄ = 1977 SS₃ = 1977 TA₅ = 1988 TO

Discovered 1977 Oct. 18 by S. J. Bus at Palomar.

Id. G. V. Williams (d, *MPC* 18084), K. Kinoshita (*MPC* 25060)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	264.35837		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.26822342	ω	314.54756	+0.90330102	+0.42873052
<i>a</i>	2.3812496	Ω	20.08080	-0.37978995	+0.81585768
<i>e</i>	0.2217039	<i>i</i>	2.57202	-0.19951655	+0.38802885
<i>P</i>	3.67	<i>H</i>	13.9	<i>G</i> 0.15	<i>U</i> 2

Residuals in seconds of arc

1977 09 22	095	1.1+	1.8+	1996 12 08	691	0.3-	0.0	1998 03 25	566	1.1-	0.4-
1977 10 07	095	(5.1-	0.2-)	1996 12 08	691	0.2-	0.3+	1998 03 25	566	0.8-	0.5-
1977 10 18	675	1.2-	0.3-	1997 01 09	689	0.4+	1.2-	1998 04 01	704	0.7-	0.3-
1977 10 19	675	0.4-	0.0	1997 01 10	689	(2.5+	0.4-)	1998 04 01	704	0.4+	0.5+
1988 10 05	399	0.9-	0.1+	1998 03 20	704	0.1-	0.5-	1998 04 01	704	0.4+	0.6-
1988 10 05	399	1.5+	0.4-	1998 03 20	704	1.3+	0.2-	1998 04 01	704	0.3-	0.5+
1988 10 13	675	1.0-	0.7-	1998 03 20	704	1.0+	0.2-	1998 04 01	704	0.7+	0.6-
1988 10 13	675	1.0-	1.0-	1998 03 20	704	0.3+	0.3-	1998 04 19	704	0.9+	0.6-
1988 10 13	399	0.3+	0.0	1998 03 20	704	0.1-	0.2-	1998 04 19	704	0.3+	0.8-
1988 10 13	399	1.2+	0.3-	1998 03 22	704	0.2-	0.6+	1998 04 19	704	0.6+	0.6-
1988 10 13	399	0.5+	0.1-	1998 03 22	704	1.1-	1.4+	1998 04 19	704	0.1+	1.0-
1988 10 16	399	0.1-	1.0-	1998 03 22	704	0.4-	0.9+	1998 04 20	704	0.5+	0.4-
1988 10 16	399	0.0	1.3-	1998 03 22	704	0.9-	0.2-	1998 04 20	704	0.4+	0.3-
1988 10 16	046	(7.4-	0.9-)	1998 03 22	704	0.7-	0.3-	1998 04 20	704	0.5+	0.7-
1988 10 16	046	(5.7-	1.7-)	1998 03 24	699	0.8-	0.9+	1998 04 20	704	0.1-	0.3-
1988 11 02	399	1.4+	0.6-	1998 03 24	699	0.4-	0.0	1998 04 20	704	(0.1-	2.3-)
1988 11 02	399	0.3+	0.7-	1998 03 24	699	1.2-	0.2+	1998 04 22	704	0.5+	0.2-
1988 11 02	399	0.5+	0.6+	1998 03 25	704	0.2-	0.8-	1998 04 22	704	0.7+	0.3-
1995 10 23	801	0.5-	1.7-	1998 03 25	704	0.1-	0.5-	1998 04 22	704	0.1-	0.5-
1995 10 23	801	0.3-	0.1-	1998 03 25	704	(2.3-	0.3-)	1998 04 22	704	0.7-	0.4+

1995 10 26 801 0.8+ 1.5- 1998 03 25 704 0.9- 0.0 1998 04 22 704 0.2+ 1.1-
 1995 10 26 801 1.0+ 0.7- 1998 03 25 704 (1.2+ 2.2-)
 1996 12 08 691 0.1- 0.2- 1998 03 25 566 1.2- 0.3-

(8612)* 1978 SS₇ = 1989 XK

Discovered 1978 Sept. 26 by L. V. Zhuravleva at the Crimean Astrophysical Observatory.

Id. S. Nakano (*MPC* 15701)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	121.35764		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.27241987	ω	85.97336	+0.21319844	-0.97693562
<i>a</i>	2.3567320	Ω	351.68776	+0.86033406	+0.19352885
<i>e</i>	0.2028987	<i>i</i>	4.74838	+0.46300294	+0.09024066
<i>P</i>	3.62	<i>H</i>	14.8	<i>G</i> 0.15	<i>U</i> 2

Residuals in seconds of arc

1978 09 26	095	1.0-	1.1-	1996 09 15	566	0.1+	0.6+	1998 03 25	704	0.6-	1.0-
1978 10 02	095	0.8+	0.9+	1996 09 15	566	0.2+	0.9+	1998 04 01	704	1.5+	0.6+
1978 10 08	095	0.4-	1.2-	1996 10 14	327	0.3-	1.1-	1998 04 01	704	0.3+	0.0
1978 11 01	095	2.1+	1.3-	1996 10 14	327	0.0	0.7-	1998 04 01	704	0.2-	1.0-
1989 12 01	888	0.5+	0.2-	1996 10 14	327	0.3-	0.5-	1998 04 01	704	0.6-	0.6-
1989 12 01	888	0.2+	0.4+	1998 03 22	704	0.9-	0.6-	1998 04 19	704	0.5+	0.6+
1989 12 02	888	1.0-	0.8+	1998 03 22	704	1.3-	0.1+	1998 04 19	704	1.4+	0.1-
1989 12 02	888	1.1-	0.6+	1998 03 22	704	0.3+	0.8+	1998 04 19	704	0.5+	1.0+
1989 12 04	888	1.1-	0.0	1998 03 22	704	(2.1-	2.7-)	1998 04 19	704	0.2+	1.0+
1989 12 04	888	0.4-	0.1-	1998 03 22	704	0.1+	2.0-	1998 04 20	704	1.7-	1.0+
1989 12 20	888	1.9+	0.3-	1998 03 25	704	0.7-	0.6-	1998 04 20	704	1.4+	0.6+
1989 12 20	888	0.7+	0.2+	1998 03 25	704	0.0	1.0-	1998 04 20	704	0.3-	0.4+
1996 09 15	566	0.5+	0.5+	1998 03 25	704	0.1-	0.9-	1998 04 20	704	0.9-	0.2-

(8613)* 1978 VE₁₀ = 1994 RZ₁₁

Discovered 1978 Nov. 7 by E. F. Helin and S. J. Bus at Palomar.

Id. T. Kobayashi (*MPC* 24733)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	258.33372		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.17587336	ω	267.08106	+0.83539087	+0.54897127
<i>a</i>	3.1550240	Ω	59.62095	-0.49082422	+0.76751204
<i>e</i>	0.2118818	<i>i</i>	1.82234	-0.24741398	+0.33099217
<i>P</i>	5.60	<i>H</i>	13.7	<i>G</i> 0.15	<i>U</i> 1

Residuals in seconds of arc

1978 11 05	675	0.2+	0.1-	1994 09 12	675	0.5+	0.1-	1998 03 20	704	1.1+	0.6+
1978 11 06	675	0.5+	0.5-	1994 09 12	675	0.9-	0.1-	1998 03 20	704	0.8-	1.1+
1978 11 07	675	1.7+	0.4+	1994 10 01	675	1.4+	0.1+	1998 03 22	704	0.0	0.4-
1978 11 29	675	1.9-	0.3+	1994 10 01	675	0.7+	1.1+	1998 03 22	704	0.8+	1.0-
1978 11 30	675	0.2+	0.8-	1996 01 14	608	0.3+	0.0	1998 03 22	704	(1.7-	2.8+)
1989 11 04	675	1.7-	1.6-	1996 01 14	608	0.3+	0.2+	1998 03 22	704	0.1+	0.1-
1989 11 04	675	0.7+	0.1-	1996 01 16	608	0.3+	0.6+	1998 04 20	704	0.7-	1.3+
1994 09 01	033	0.4-	0.1-	1996 01 16	608	0.3-	1.1+	1998 04 20	704	0.3+	1.1-
1994 09 02	033	0.0	0.7+	1998 03 20	704	0.3-	1.6+	1998 04 20	704	0.0	2.0-
1994 09 03	033	1.2-	0.5-	1998 03 20	704	0.0	1.3+	1998 04 20	704	1.0-	1.2-

(8614)* 1978 VP₁₁ = 1989 VN

Discovered 1978 Nov. 7 by E. F. Helin and S. J. Bus at Palomar.

Id. S. Nakano (*MPC* 15552)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	227.87108		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.17499133	ω	259.44178	+0.99193256	+0.11462197
<i>a</i>	3.1656170	Ω	93.96086	-0.08427925	+0.91534526
<i>e</i>	0.1803104	<i>i</i>	3.11119	-0.09469319	+0.38601146
<i>P</i>	5.63	<i>H</i>	12.7	<i>G</i> 0.15	<i>U</i> 1

Residuals in seconds of arc

1978 11 05	675	0.6−	0.0	1994 10 11	608	0.8−	0.3+	1998 03 22	704	0.2+	0.4−
1978 11 06	675	0.3−	0.5+	1995 11 12	608	0.7−	0.1+	1998 03 22	704	1.4−	1.1−
1978 11 07	675	0.5−	1.8+	1995 11 12	608	0.4−	0.2+	1998 03 22	704	0.7+	0.1+
1978 11 08	675	1.2−	0.0	1995 11 13	608	0.7−	0.4−	1998 03 25	704	0.0	0.0
1978 11 30	675	1.5+	0.4−	1995 11 20	608	0.1−	0.3−	1998 03 25	704	0.2−	0.1−
1988 07 13	675	0.6−	1.1−	1995 11 20	608	0.2−	0.3−	1998 03 25	704	0.6−	0.6+
1988 07 13	675	1.7+	1.3−	1995 12 05	608	0.6+	0.2+	1998 03 25	704	0.2+	0.0
1989 10 27	675	0.0	0.8−	1995 12 05	608	0.5+	0.5+	1998 03 25	704	0.4−	0.1+
1989 10 27	675	0.0	1.2−	1995 12 06	608	0.6+	0.8+	1998 04 20	704	0.3+	0.4−
1989 10 29	675	(0.1+	4.1−)	1995 12 06	608	0.3+	0.4+	1998 04 20	704	1.0−	0.4+
1989 10 29	675	(1.5+	3.0−)	1997 02 04	566	0.0	0.9−	1998 04 20	704	(2.4+	0.5+)
1989 11 01	877	(5.2−	1.1−)	1997 02 04	566	0.2−	1.0−	1998 04 20	704	1.3+	0.7+
1989 11 01	877	0.4−	0.7−	1997 02 04	566	0.5−	1.2−	1998 04 20	704	0.2−	1.2−
1989 11 02	877	(1.7−	3.0−)	1998 03 20	704	0.5+	0.2−	1998 04 22	704	1.3+	0.1+
1989 11 02	877	(0.2−	3.1−)	1998 03 20	704	0.8+	1.8+	1998 04 22	704	0.1+	0.8+
1989 11 04	877	(0.7−	5.4−)	1998 03 20	704	0.1−	1.0+	1998 04 22	704	0.1+	1.0+
1989 11 04	877	(5.0−	3.2−)	1998 03 20	704	(2.7+	1.1+)	1998 04 22	704	0.2−	1.1+
1989 11 30	675	0.8+	0.8−	1998 03 20	704	(5.2−	0.5−)	1998 04 22	704	0.2−	1.6−
1989 11 30	675	1.8+	0.2−	1998 03 22	704	1.1−	0.8−				
1994 10 11	608	0.6−	0.4+	1998 03 22	704	0.6−	1.4−				

(8615)* 1979 MB₂ = 1979 OF₁ = 1988 VF₃

Discovered 1979 June 25 by E. F. Helin and S. J. Bus at Siding Spring.

Id. H. Oishi (d, *JAM* 2062), S. Nakano (*MPC* 14014)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

<i>M</i>	119.33356		(2000.0)		P		Q
<i>n</i>	0.24277243	ω	297.97289	+0.18453250		−0.98082770	
<i>a</i>	2.5448946	Ω	141.23143	+0.93322157		+0.15486761	
<i>e</i>	0.2766032	<i>i</i>	5.74197	+0.30829410		+0.11829221	
<i>P</i>	4.06	<i>H</i>	13.4	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1951 08 06	675	0.2+	1.3−	1992 09 25	801	0.5−	0.1−	1998 04 21	704	0.4+	0.1+
1951 08 06	675	0.9+	0.3−	1992 10 01	801	0.4+	0.4−	1998 04 21	704	0.4−	0.1−
1979 06 23	413	0.9−	0.3−	1992 10 01	801	1.2+	1.3−	1998 04 21	704	0.2−	1.3+
1979 06 24	413	0.1+	0.4+	1992 10 21	385	1.5+	0.1−	1998 04 22	691	1.7−	0.3+
1979 06 25	413	0.6−	1.2+	1992 10 21	385	(1.4−	2.6−)	1998 04 22	704	0.3−	0.2−
1979 06 29	413	0.7−	0.3−	1992 10 28	801	0.1+	0.6−	1998 04 22	691	0.3−	0.2+
1979 07 24	675	0.3+	0.7+	1992 10 28	801	(0.5+	2.3−)	1998 04 22	704	1.1+	0.7−
1979 07 25	675	0.5+	0.5+	1992 10 29	801	0.2+	0.4−	1998 04 22	691	1.0−	0.1−
1988 11 08	877	(7.3−	2.9−)	Y 1992 10 29	801	0.1+	0.6−	1998 04 22	704	1.4+	1.0−
1988 11 08	877	1.6−	1.9+	Y 1998 03 24	704	0.9+	0.1−	1998 04 22	704	0.7+	1.0−
1988 11 12	877	1.6+	0.5−	1998 03 24	704	(0.8−	4.3−)	1998 04 22	704	0.4+	1.1−
1988 11 12	877	0.6+	0.4−	1998 03 24	704	0.3+	0.4−	1998 04 27	691	0.8−	0.1−
1988 11 15	877	1.2−	0.8+	1998 03 24	704	0.1+	0.3−	1998 04 27	691	0.8−	0.1−
1988 11 15	877	1.3−	0.0	1998 04 21	704	0.3+	0.1+	1998 04 27	691	0.9−	0.2−
1992 09 25	801	0.5−	0.1−	1998 04 21	704	0.3+	0.4−				

(8616)* 1980 FY₄ = 1974 QB = 1985 VL₄

Discovered 1980 Mar. 16 by C.-I. Lagerkvist at the European Southern Observatory.

Id. H. Oishi (*JAM* 1959, *MPC* 14781)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	241.72290		(2000.0)		P		Q
<i>n</i>	0.27692787	ω	163.22865	+0.98385046		+0.17869300	
<i>a</i>	2.3310859	Ω	186.50412	−0.17291715		+0.93393344	
<i>e</i>	0.1745367	<i>i</i>	5.24145	−0.04623775		+0.30957575	
<i>P</i>	3.56	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1974 08 16	808	0.4−	0.2+	1989 12 29	888	(3.3−	1.3+)	1998 03 25	704	0.9−	0.5+
1974 08 16	808	0.1+	0.2+	1991 04 14	675	0.1−	1.2−	1998 03 25	704	1.0+	0.5−
1974 08 17	808	0.5+	1.5+	1991 04 14	675	0.4−	0.1−	1998 03 25	704	1.2−	0.0
1974 08 17	808	0.4−	0.1−	1991 04 15	675	0.4+	0.6−	1998 03 25	704	1.0−	0.2−

1974 08 18	808	0.4+	0.5+	1991 04 15	675	1.8−	0.2−	1998 04 20	704	1.7+	0.3+
1974 08 18	808	0.8+	1.4−	1991 04 16	675	1.2−	0.7+	1998 04 20	704	0.8+	0.6−
1980 03 16	809	0.2−	0.1−	1995 07 01	801	0.7−	0.0	1998 04 20	704	0.8−	0.1+
1980 03 16	809	0.5−	0.4+	1995 07 01	801	0.8−	0.2−	1998 04 20	704	0.8+	0.7+
1980 03 16	809	0.2−	0.2+	1998 03 20	704	1.4+	0.3−	1998 04 20	704	1.3+	0.0
1980 03 16	809	1.4−	0.5−	1998 03 20	704	0.4−	0.2−	1998 04 22	704	0.1−	0.6+
1980 03 17	809	0.1−	0.2−	1998 03 20	704	(2.6−	4.0+)	1998 04 22	704	1.2+	1.1+
1980 03 17	809	0.5−	0.1+	1998 03 20	704	1.3−	0.5−	1998 04 22	704	0.5+	0.5−
1980 03 17	809	0.1−	1.2+	1998 03 22	704	0.6+	0.1−	1998 04 22	704	0.8+	1.1+
1980 03 17	809	0.2−	0.8−	1998 03 22	704	0.1−	1.8+	1998 04 22	704	1.2+	0.4+
1980 03 23	809	1.5+	1.4−	1998 03 22	704	0.4+	1.0−	1998 04 24	699	0.0	0.3−
1985 11 11	095	0.6−	1.1−	1998 03 22	704	(4.4−	0.4−)	1998 04 24	699	1.2−	0.7+
1989 12 29	888	0.2+	1.2+	1998 03 25	704	0.3−	0.3−	1998 04 24	699	1.4+	1.1−

(8617)* 1980 PW = 1950 TO = 1984 SE₅

Discovered 1980 Aug. 6 by Z. Vávrová at Kleť.

Id. H. Kaneda (*MPC* 16022)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	240.53452		(2000.0)		P		Q
<i>n</i>	0.26142711	ω	54.22099	+0.99397141		−0.09606002	
<i>a</i>	2.4223430	Ω	311.22877	+0.06324530		+0.89611772	
<i>e</i>	0.2144929	<i>i</i>	4.02971	+0.08955926		+0.43329609	
<i>P</i>	3.77	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1950 10 06	024	0.1−	0.4+	1995 06 30	046	0.8+	0.0	1998 03 31	046	0.4−	0.3−
1950 10 06	024	1.2+	0.5+	1995 07 22	046	0.6−	0.2+	1998 03 31	046	0.2−	0.3−
1980 08 06	046	0.4−	0.8−	1995 07 22	046	0.6−	0.3+	1998 03 31	046	0.0	0.0
1980 08 06	046	0.2+	1.3−	1995 07 22	046	0.1−	0.2+	1998 03 31	704	0.6−	0.5+
1980 08 07	046	1.1+	0.1+	1995 07 24	046	0.1−	0.2+	1998 03 31	704	0.9−	0.4−
1980 08 07	046	(6.2+	2.1−)	1995 07 24	046	0.4−	0.2+	1998 03 31	704	0.8+	0.1+
1980 08 14	046	1.2−	0.2−	1995 07 24	046	0.2−	0.2+	1998 03 31	704	1.6−	0.0
1980 08 14	046	1.5−	0.1+	1995 08 22	046	0.2−	0.3+	1998 03 31	704	0.2−	0.5−
1980 08 15	046	(4.2−	2.4−)	1995 08 22	046	0.0	0.0	1998 04 21	704	1.5+	0.0
1980 08 15	046	2.3−	1.3−	1995 08 22	046	0.3−	0.0	1998 04 21	704	0.6+	0.2+
1980 08 17	046	(2.7−	1.6−)	1997 01 16	046	0.0	0.0	1998 04 21	704	0.4+	1.4−
1980 08 17	046	(4.7−	0.2+)	1997 01 16	046	0.2+	0.2+	1998 04 21	704	0.2−	0.0
1984 09 27	675	0.5−	0.2+	1997 01 16	046	0.1+	0.1+	1998 04 21	704	1.4−	0.9+
1984 09 27	675	1.3+	0.8−	1997 01 17	046	0.0	0.1+	1998 04 22	704	0.3+	0.5+
1984 10 26	675	0.0	1.5−	1997 01 17	046	0.1−	0.1−	1998 04 22	704	0.2+	0.4+
1984 10 26	675	0.8+	0.1−	1997 01 18	046	0.3−	0.1+	1998 04 22	704	0.3−	0.1−
1995 06 28	046	0.9+	0.0	1997 01 18	046	0.4−	0.0	1998 04 22	704	0.0	0.4+
1995 06 28	046	1.2+	0.3+	1997 01 18	046	0.2−	0.0	1998 04 22	704	1.4+	0.4−
1995 06 28	046	1.0+	0.0	1997 01 19	046	0.2−	0.3−	1998 04 30	566	0.2+	1.1−
1995 06 30	046	1.1+	0.2+	1997 01 19	046	0.0	0.4−	1998 04 30	566	0.6+	1.0−
1995 06 30	046	1.3+	0.3+	1997 01 19	046	0.1−	0.4−	1998 04 30	566	1.0−	0.8−

(8618)* 1981 DX = 1972 TC₆ = 1994 NG₂

Discovered 1981 Feb. 28 by S. J. Bus at Siding Spring in the course of the U.K. Schmidt-Caltech Asteroid Survey.

Id. B. G. Marsden (*MPC* 23969), L. D. Schmadel (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

<i>M</i>	119.91626		(2000.0)		P		Q
<i>n</i>	0.17211942	ω	164.60582	+0.32782960		−0.93663351	
<i>a</i>	3.2007332	Ω	266.13356	+0.85318735		+0.34964762	
<i>e</i>	0.0089921	<i>i</i>	7.10881	+0.40570815		+0.02154569	
<i>P</i>	5.73	<i>H</i>	12.7	<i>G</i>	0.15	<i>U</i>	1

M.P.C. 31668

1981 02 28	413	1.1+	0.1+	1994 07 10	675	1.3-	1.7-	1998 03 04	704	(3.1-	1.0-)
1981 03 06	413	1.4-	1.3+	1996 01 30	327	0.5-	0.2+	1998 03 28	725	0.9-	0.2-
1981 03 06	413	0.1+	0.7-	1996 01 30	327	0.2+	0.2+	1998 03 28	725	0.9-	0.3-
1981 03 08	413	0.7-	0.8+	1996 01 30	327	0.1+	0.6-	1998 03 31	704	0.4-	0.1-
1981 03 08	413	1.3+	0.4-	1996 01 31	327	0.4-	0.5-	1998 03 31	704	0.9-	1.2-
1981 03 12	413	0.0	0.2+	1996 01 31	327	0.4-	0.1-	1998 03 31	704	0.2-	0.4+
1981 03 12	413	1.0+	0.2-	1996 01 31	327	0.8+	0.3+	1998 03 31	704	0.6-	0.9-
1981 04 07	413	1.2-	2.3+	1998 02 20	426	0.5+	0.4-	1998 03 31	704	0.8-	0.4-
1981 04 07	413	1.1+	0.7+	1998 02 20	426	0.3+	0.7-	1998 04 01	704	0.0	0.9-
1981 04 08	413	0.2-	1.3+	1998 02 20	426	0.2+	1.0-	1998 04 01	704	0.6-	0.9-
1981 04 08	413	1.6+	0.5+	1998 02 24	426	0.5+	0.6-	1998 04 01	704	0.4-	0.1-
1981 04 09	413	0.9-	0.8+	1998 02 24	426	0.5+	0.1-	1998 04 01	704	1.1-	0.3-
1981 04 09	413	0.7+	0.4+	1998 02 24	426	0.4+	1.0-	1998 04 01	704	0.8-	0.0
1981 05 01	413	0.8+	0.8+	1998 02 27	426	0.6+	0.5-	1998 04 02	725	1.2-	0.4-
1981 05 03	413	0.6+	0.5-	1998 02 27	426	0.1+	0.8-	1998 04 18	704	0.6-	1.2-
1989 11 01	675	0.1+	1.0-	1998 02 27	426	0.6+	0.3-	1998 04 18	704	0.1-	0.3-
1993 04 19	675	0.7-	1.2+	1998 03 03	704	0.9+	0.3-	1998 04 18	704	0.1-	0.5-
1993 04 19	675	0.5-	0.1-	1998 03 03	704	0.2-	0.2+	1998 04 18	704	0.5-	0.7-
1994 07 05	010	1.1+	0.4+	1998 03 03	704	0.1-	1.2+				

(8619)* 1981 EH₁ = 1992 CA₁

Discovered 1981 Mar. 6 by H. Debehogne and G. DeSanctis at the European Southern Observatory.

Id. T. Urata (*MPC* 19857)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	57.28297		(2000.0)	P		Q	
<i>n</i>	0.17848691	ω	355.71644	-0.85138941		-0.52160746	
<i>a</i>	3.1241495	Ω	152.61943	+0.48475474		-0.82272895	
<i>e</i>	0.1707383	<i>i</i>	6.91031	+0.20037196		-0.22592637	
<i>P</i>	5.52	<i>H</i>	12.5	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1981 03 06	809	0.8+	0.5-	1992 02 13	303	0.7+	0.0	1995 10 27	801	0.6-	0.2+
1981 03 06	809	0.1+	0.1-	1992 02 22	364	0.3-	0.2+	1996 11 11	689	0.9+	1.6+
1981 03 06	809	0.5+	0.2-	1992 02 22	364	0.7+	0.4+	1996 11 12	801	1.1+	0.0
1981 03 07	809	0.4-	0.6-	1992 02 25	364	0.4+	0.8-	1996 11 12	801	0.1+	1.1-
1981 03 07	809	0.2-	0.7-	1992 02 25	364	0.1+	0.2-	1996 11 12	689	1.5-	0.9-
1981 03 07	809	0.2+	0.8-	1992 02 26	364	0.7-	0.7+	1998 03 24	704	0.3+	0.5-
1981 03 08	809	0.1-	0.8+	1992 02 26	364	0.8-	0.9+	1998 03 24	704	0.3+	0.2-
1981 03 08	809	0.2+	0.8+	1992 02 27	675	0.1-	0.6+	1998 03 24	704	0.2+	0.0
1981 03 08	809	0.4+	0.9+	1992 02 27	675	0.2-	0.5+	1998 03 24	704	0.4+	0.0
1981 03 09	809	0.1+	0.2-	1992 02 28	675	0.3+	0.7+	1998 03 24	704	0.4-	0.6+
1981 03 09	809	0.3+	0.1-	1992 02 28	675	0.5+	0.4+	1998 04 04	699	1.0+	0.2-
1981 03 09	809	0.4+	0.1-	1993 06 18	801	0.2+	0.6+	1998 04 04	699	0.5+	0.3+
1981 03 10	809	0.3-	0.1+	1993 06 18	801	0.2+	0.8+	1998 04 04	699	1.8+	2.0+
1981 03 10	809	0.2-	0.2+	1995 08 25	596	0.1+	0.4-	1998 04 21	704	0.4-	0.4-
1981 03 10	809	0.1-	0.3+	1995 08 26	596	0.9+	0.2-	1998 04 21	704	0.3-	0.6-
1981 03 14	809	0.5-	0.4-	1995 10 15	104	0.1-	0.6-	1998 04 21	704	0.2-	0.6-
1981 03 14	809	0.7-	0.3-	1995 10 15	104	0.1-	0.1+	1998 04 21	704	0.4+	0.3-
1981 03 14	809	0.7-	0.2-	1995 10 15	104	0.2-	0.0	1998 04 21	704	0.7-	0.9-
1992 02 01	364	1.3+	0.7-	1995 10 15	104	0.6+	0.5+	1998 04 23	127	0.9-	0.6-
1992 02 01	364	1.3+	0.1+	1995 10 15	104	0.3+	0.3+	1998 04 23	127	0.7-	0.7-
1992 02 08	364	1.5-	0.2+	1995 10 17	104	0.8-	0.3+	1998 04 23	750	0.7-	0.1-
1992 02 08	364	1.4-	0.4+	1995 10 17	104	0.3+	0.2-	1998 04 23	750	0.2-	0.1+
1992 02 08	364	(2.7-	0.6+)	1995 10 17	104	0.4+	0.7-	1998 04 24	750	0.4-	0.9-
1992 02 08	364	(3.1-	0.5-)	1995 10 23	801	0.5-	0.5-	1998 04 24	750	0.5-	0.4+
1992 02 12	303	0.5-	1.2-	1995 10 23	801	0.1-	0.1-				

(8620)* 1981 EK₅

Discovered 1981 Mar. 2 by S. J. Bus at Siding Spring in the course of the U.K. Schmidt-Caltech Asteroid Survey.

1998 MAY 11

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	333.18256		(2000.0)	P		Q	
<i>n</i>	0.17549564	ω	316.73282	-0.30015118		+0.94805950	
<i>a</i>	3.1595494	Ω	295.54638	-0.84026879		-0.31504327	
<i>e</i>	0.1312888	<i>i</i>	6.70359	-0.45150596		-0.04394216	
<i>P</i>	5.62	<i>H</i>	13.6	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1981 02 09	413	0.3+	0.5+	1984 11 21	675	1.6-	0.4-	1998 04 18	704	0.6-	0.2+
1981 02 14	413	1.3-	1.6-	1997 03 04	118	0.3-	0.1+	1998 04 18	704	0.5-	0.7+
1981 03 02	413	1.1-	0.7-	1997 03 04	118	0.1+	0.5+	1998 04 18	704	0.2-	0.1-
1981 03 02	413	2.1+	0.1-	1997 03 04	118	0.4-	0.0	1998 04 18	704	(7.0-	6.2+)
1981 03 07	413	1.7-	0.7+	1997 03 05	118	0.3+	0.0	1998 04 19	704	0.5+	0.1+
1981 03 07	413	1.4+	0.5-	1997 03 05	118	0.3+	0.0	1998 04 19	704	1.0+	1.7-
1981 03 10	413	2.0-	0.4+	1997 03 05	118	0.2+	0.0	1998 04 19	704	0.0	0.9-
1981 03 10	413	(3.4+	0.5-)	1998 03 31	704	0.8-	0.7+	1998 04 19	704	1.1+	0.6+
1981 03 12	413	2.0-	0.9+	1998 03 31	704	0.6-	0.1+	1998 04 19	704	0.2-	0.8+
1981 03 12	413	2.1+	0.0	1998 03 31	704	0.3-	0.0	1998 04 19	704	0.3+	0.3-
1981 04 07	413	(2.9-	0.8+)	1998 03 31	704	0.3-	1.4+	1998 04 19	704	0.2-	0.2+
1981 04 07	413	0.5+	0.2-	1998 03 31	704	0.9+	0.8+	1998 04 19	704	1.1+	1.2-
1981 04 08	413	0.6-	0.5+	1998 04 01	704	0.5-	0.4-	1998 04 19	704	0.2+	0.2-
1981 04 08	413	1.2+	0.7+	1998 04 01	704	0.3-	0.8+	1998 04 20	704	0.5-	0.9-
1981 04 09	413	0.6-	0.3-	1998 04 01	704	0.1-	0.6+	1998 04 20	704	0.5+	0.5-
1981 04 09	413	1.4+	0.4-	1998 04 01	704	0.6-	0.8+	1998 04 20	704	0.7+	0.3-
1981 05 03	413	0.1-	0.6-	1998 04 01	704	1.3-	0.8+	1998 04 20	704	0.2+	1.5-
1984 11 19	675	1.6+	0.2-	1998 04 18	704	0.5+	0.6-	1998 04 20	704	(0.6+	2.6-)

(8621)* 1981 EK₇ = 1989 UG₇

Discovered 1981 Mar. 1 by S. J. Bus at Siding Spring in the course of the U.K. Schmidt-Caltech Asteroid Survey.

Id. S. Nakano (*MPC* 15879)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>	289.66404		(2000.0)	P		Q	
<i>n</i>	0.17631071	ω	74.91570	+0.44830825		+0.89245738	
<i>a</i>	3.1498044	Ω	221.83754	-0.84639934		+0.40569117	
<i>e</i>	0.1462462	<i>i</i>	4.33287	-0.28745063		+0.19731829	
<i>P</i>	5.59	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1978 11 30	675	0.2+	0.1+	1992 03 09	809	1.9-	1.4+	1998 04 01	704	0.7+	0.4-
1978 12 01	675	0.3-	0.1+	1992 04 07	809	0.3+	1.8+	1998 04 01	704	0.6+	0.1-
1981 02 09	413	0.4-	0.5+	1993 05 14	809	0.9+	1.7-	1998 04 18	704	1.1+	0.8-
1981 03 01	413	1.4+	0.8-	1993 05 14	809	1.0+	1.5-	1998 04 18	704	0.7+	0.4+
1981 03 07	413	1.4+	0.1-	1993 05 14	809	0.0	1.7-	1998 04 18	704	1.1+	0.2+
1981 03 07	413	1.1+	0.8-	1993 05 23	809	1.3-	1.1+	1998 04 18	704	0.1-	0.6-
1981 03 11	413	1.8-	0.2+	1993 05 23	809	0.0	1.3+	1998 04 18	704	0.6+	0.7-
1981 03 11	413	0.3-	1.0-	1993 05 23	809	0.1-	0.7+	1998 04 20	704	1.4+	0.2+
1981 03 15	413	1.3-	1.2-	1994 09 27	691	0.8-	0.7-	1998 04 20	704	0.1+	0.3+
1981 03 15	413	0.4+	2.1-	1994 09 27	691	0.4-	0.4-	1998 04 20	704	0.3+	0.7+
1981 04 05	413	1.6-	1.3-	1998 03 20	704	0.5+	0.2+	1998 04 20	704	0.8+	1.3-
1981 04 05	413	0.5-	1.8-	1998 03 20	704	0.5+	1.5+	1998 04 20	704	0.8-	1.4+
1981 04 06	413	(2.4-	0.6+)	1998 03 20	704	0.7+	0.3-	1998 04 22	704	0.1-	0.1+
1981 04 06	413	0.0	1.1-	1998 03 20	704	1.3+	0.5-	1998 04 22	704	0.2-	1.1+
1981 04 07	413	1.5-	0.5+	1998 03 20	704	(2.2-	0.2-)	1998 04 22	704	0.2+	0.0
1981 04 07	413	0.2+	0.1-	1998 03 22	704	0.7+	0.6+	1998 04 22	704	0.6-	1.3+
1981 04 12	413	0.6-	0.6+	1998 03 22	704	0.4-	0.4-	1998 04 22	704	0.4+	1.3+
1981 04 12	413	(3.0+	2.3-)	1998 03 22	704	0.4-	0.3-	1998 04 23	691	0.9-	0.9+
1981 04 30	413	(4.5+	3.4-)	1998 03 22	704	1.8-	0.8+	1998 04 23	691	1.0-	0.5+
1981 05 02	413	0.1-	1.4-	1998 03 24	566	0.5+	0.4+	1998 04 23	691	1.0-	0.5+
1989 10 23	033	1.6+	0.9-	1998 03 24	566	0.4+	0.1-	1998 04 29	691	1.1-	0.4+
1989 10 23	033	0.2+	0.8+	1998 03 24	566	0.1-	0.3+	1998 04 29	691	1.0-	0.3+
1989 10 25	033	0.4+	0.8+	1998 04 01	704	1.0+	0.2-	1998 04 29	691	0.7-	0.1+
1989 10 25	033	0.5+	0.9+	1998 04 01	704	0.3+	1.0+				
1989 10 27	033	1.0-	0.3-	1998 04 01	704	0.8+	0.4-				

1998 MAY 11

M.P.C. 31669

(8622)* 1981 EM₈

Discovered 1981 Mar. 1 by S. J. Bus at Siding Spring in the course of the U.K. Schmidt-Caltech Asteroid Survey.

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18013490	ω	92.41207	+0.97231963	+0.22443431		
<i>a</i>	3.1050658	Ω	254.62374	−0.23206473	+0.89520098		
<i>e</i>	0.1659296	<i>i</i>	3.86485	−0.02721201	+0.38502525		
<i>P</i>	5.47	<i>H</i>	12.9	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1978 10 28	675	0.2+	1.6−	1981 04 12	413	1.3+	1.1−	1998 04 19	691	0.9−	0.0
1978 10 29	675	0.4+	1.1−	1981 04 30	413	0.2−	1.8−	1998 04 19	691	0.8−	0.0
1981 02 09	413	0.8−	0.7+	1981 05 02	413	1.3+	1.1−	1998 04 21	704	0.4+	0.5+
1981 02 13	413	1.2+	0.2+	1997 03 11	704	0.6+	0.7+	1998 04 21	704	0.6−	0.6−
1981 03 01	413	1.3−	0.2+	1997 03 11	704	1.8+	0.1+	1998 04 21	704	1.2+	0.8−
1981 03 01	413	(2.7−	1.2−)	1997 03 12	704	1.2−	1.1+	1998 04 21	704	0.2+	0.6−
1981 03 07	413	1.6−	0.8+	1997 03 12	704	0.1+	1.2+	1998 04 21	704	0.7+	1.1−
1981 03 11	413	0.1−	1.2−	1998 04 01	704	(2.2−	0.1+)	1998 04 22	704	0.2−	1.2−
1981 03 15	413	2.0−	0.2+	1998 04 01	704	0.3−	0.3−	1998 04 22	704	0.3+	0.5−
1981 03 15	413	0.5+	0.9−	1998 04 01	704	1.2−	0.2−	1998 04 22	704	1.6+	1.0+
1981 04 06	413	(3.5−	0.8+)	1998 04 01	704	0.3−	1.8+	1998 04 22	704	0.4+	0.7+
1981 04 06	413	0.0	0.4−	1998 04 19	691	0.9−	0.5+	1998 04 22	704	0.1+	0.0

(8623)* 1981 EQ₉

Discovered 1981 Mar. 1 by S. J. Bus at Siding Spring in the course of the U.K. Schmidt-Caltech Asteroid Survey.

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17684672	ω	338.15999	−0.99090602	+0.12810691		
<i>a</i>	3.1434366	Ω	209.29322	−0.10761995	−0.93815638		
<i>e</i>	0.1155576	<i>i</i>	4.82526	−0.08076638	−0.32163835		
<i>P</i>	5.57	<i>H</i>	13.9	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1978 10 04	675	(3.1−	0.6−)	1981 04 06	413	1.9−	0.1+	1998 03 27	910	0.4+	1.3−
1978 10 04	675	1.5+	0.9−	1981 04 06	413	0.6+	1.3−	1998 04 01	704	0.2−	0.6−
1978 10 05	675	1.5−	1.8−	1981 04 07	413	1.0−	0.8−	1998 04 01	704	0.1+	0.0
1978 10 05	675	0.7+	2.3+	1981 04 07	413	0.3+	1.8−	1998 04 01	704	0.1−	1.0−
1978 10 27	675	1.1−	0.2−	1981 04 12	413	1.0−	1.0−	1998 04 01	704	0.7+	1.2−
1978 10 28	675	0.9−	0.4−	1981 04 12	413	0.4+	1.7−	1998 04 21	704	0.6−	0.4+
1978 10 29	675	1.4−	0.2+	1981 05 02	413	0.7+	0.2+	1998 04 21	704	1.2−	0.4+
1981 02 09	413	0.3+	1.0+	1981 05 03	413	0.2−	0.6−	1998 04 21	704	0.1−	0.1+
1981 02 13	413	1.0+	0.6+	1989 10 02	807	0.8+	0.6−	1998 04 21	704	0.6−	1.0+
1981 03 01	413	0.8−	1.2+	1989 10 04	807	0.7+	0.4+	1998 04 21	704	0.2−	1.6+
1981 03 01	413	1.2+	0.2−	1989 10 28	807	1.2+	0.1+	1998 04 22	704	0.1+	0.5−
1981 03 07	413	0.0	0.5+	1989 10 31	807	0.3+	0.4−	1998 04 22	704	0.4+	0.4+
1981 03 07	413	0.1−	0.4+	1992 02 28	675	(1.1−	2.7+)	1998 04 22	704	0.4−	1.7+
1981 03 11	413	0.2−	0.3+	1992 02 28	675	0.4+	1.3+	1998 04 22	704	1.0+	1.1+
1981 03 11	413	0.6+	0.4−	1992 03 05	809	(2.8−	4.2+)	1998 04 22	704	0.1−	0.5−
1981 03 15	413	0.3−	0.1−	1992 03 09	809	0.2−	0.5−	1998 04 28	566	0.5−	0.6+
1981 03 15	413	0.3+	0.1−	1992 04 07	809	0.2+	1.4+	1998 04 28	566	0.0	0.4+
1981 04 05	413	1.6−	0.4+	1998 03 27	910	1.4+	0.7−	1998 04 28	566	0.4−	0.3+
1981 04 05	413	1.2+	0.8−	1998 03 27	910	0.3+	1.0−				

(8624)* 1981 ES₉

Discovered 1981 Mar. 1 by S. J. Bus at Siding Spring in the course of the U.K. Schmidt-Caltech Asteroid Survey.

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17509918	ω	30.06023	−0.63353025	+0.77169076		
<i>a</i>	3.1643169	Ω	200.79322	−0.73757982	−0.62420792		
<i>e</i>	0.0379969	<i>i</i>	9.07154	−0.23369947	−0.12189275		
<i>P</i>	5.63	<i>H</i>	13.4	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1981 02 02	413	0.2+	0.9+	1981 04 12	413	0.1−	0.2+	1998 03 20	704	1.4+	0.1−
1981 02 13	413	1.0+	1.3−	1981 05 02	413	0.3−	0.0	1998 03 20	704	0.7+	0.6−
1981 02 14	413	0.3+	0.7+	1981 05 03	413	0.5−	0.2−	1998 03 20	704	1.0−	1.6−
1981 03 01	413	1.7−	2.1+	1989 10 02	807	0.8+	0.3−	1998 04 01	704	0.1−	0.1+
1981 03 01	413	0.9+	0.3−	1989 10 04	807	0.1+	0.9−	1998 04 01	704	0.7+	0.4+
1981 03 07	413	0.2+	0.4−	1989 10 28	807	0.0	1.9−	1998 04 01	704	0.3−	0.3+
1981 03 07	413	0.1−	0.1+	1989 10 31	807	0.2+	1.3−	1998 04 01	704	0.0	0.1−
1981 03 11	413	0.6−	0.5+	1992 02 28	675	0.0	0.1−	1998 04 01	704	0.8−	0.9−
1981 03 11	413	1.5+	0.7−	1992 02 28	675	1.4+	0.3+	1998 04 19	704	0.3+	1.2−
1981 03 15	413	0.5−	0.0	1992 04 07	809	1.4−	0.5+	1998 04 19	704	0.0	0.6−
1981 03 15	413	0.3+	0.6−	1995 10 27	046	0.5−	0.1−	1998 04 19	704	0.9−	0.4+
1981 04 05	413	0.7+	1.6−	1995 10 27	046	0.2−	0.0	1998 04 19	704	0.1+	0.3−
1981 04 05	413	0.6+	1.2−	1995 10 27	046	0.8−	0.3−	1998 04 19	704	0.3−	0.2+
1981 04 06	413	2.2−	1.3+	1995 10 27	046	0.5+	0.4+	1998 04 20	704	0.1−	0.4+
1981 04 06	413	0.1−	0.3−	1995 10 27	046	0.1−	0.4+	1998 04 20	704	0.9−	1.1+
1981 04 07	413	0.1+	1.4−	1995 10 27	046	1.1+	0.2+	1998 04 20	704	0.1+	1.5+
1981 04 07	413	(0.9+	2.6−)	1998 03 20	704	0.3+	0.0	1998 04 20	704	0.4−	0.5−
1981 04 12	413	0.1−	0.2+	1998 03 20	704	0.8+	0.6−	1998 04 20	704	(2.2−	0.8+)

(8625)* 1981 EX₁₅ = 1949 SE = 1978 NH₅

Discovered 1981 Mar. 1 by S. J. Bus at Siding Spring in the course of the U.K. Schmidt-Caltech Asteroid Survey.

Id. C. M. Bardwell (*MPC* 11839, *MPC* 21930)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.23440332	ω	57.87307	+0.90659509	−0.42059184		
<i>a</i>	2.6051148	Ω	326.96228	+0.36275495	+0.81844123		
<i>e</i>	0.0803294	<i>i</i>	3.62447	+0.21562513	+0.39147983		
<i>P</i>	4.20	<i>H</i>	14.4	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1949 09 23	024	(35.1−	13.4−)	1981 04 08	413	1.5−	0.1−	1998 03 25	704	0.3+	1.4+
1953 10 01	675	0.1−	0.1−	1981 04 08	413	(5.5−	0.8+)	1998 03 25	704	0.1−	1.2−
1953 10 01	675	0.4−	0.5+	1981 04 09	413	0.8−	0.1−	1998 03 25	704	0.4−	0.5−
1954 12 22	675	0.4−	0.4−	1981 04 09	413	0.6+	0.3−	1998 04 01	704	1.2−	1.1+
1954 12 22	675	(3.3+	1.3−)	1981 05 01	413	1.5+	0.3−	1998 04 01	704	(0.9+	2.5+)
1978 07 10	675	(2.0−	7.7−)	Y 1981 05 03	413	1.2+	0.3−	1998 04 01	704	(0.4−	2.5+)
1978 07 11	675	(4.6+	2.0+)	Y 1985 02 20	675	0.2+	0.0	1998 04 01	704	1.8+	1.4−
1978 07 13	675	(4.1+	1.4+)	Y 1985 02 22	675	0.5−	0.5+	1998 04 21	552	1.3−	0.7−
1981 02 12	413	1.6+	1.7−	1991 09 13	675	0.8+	0.6−	1998 04 21	552	0.4+	0.1+
1981 03 01	413	0.9−	0.3+	1998 03 22	704	(0.7+	2.5+)	1998 04 22	704	0.5+	0.4−
1981 03 01	413	0.9+	0.3+	1998 03 22	704	0.0	0.9+	1998 04 22	704	1.0−	0.8−
1981 03 06	413	0.8−	0.4+	1998 03 22	704	(0.7−	2.4+)	1998 04 22	704	0.4−	1.8−
1981 03 08	413	1.3−	0.5+	1998 03 22	704	0.0	0.4+	1998 04 22	704	0.3+	1.2+
1981 03 08	413	1.9+	0.2+	1998 03 25	704	0.5−	1.1+	1998 04 22	704	0.1−	0.5+

(8626)* 1981 EC₁₈ = 1992 EL₂₆ = 1994 PH₃₇

Discovered 1981 Mar. 2 by S. J. Bus at Siding Spring in the course of the U.K. Schmidt-Caltech Asteroid Survey.

Id. G. V. Williams (*MPC* 24557)

Id. S. Nakano (<i>MPC</i> 13157)											
Epoch 1998 July 6.0 TT = JDT 2451000.5											
					Nakano						
<i>M</i>	172.17940			(2000.0)		P		Q			
<i>n</i>	0.22817306		ω	188.23482		+0.99643661		−0.08330892			
<i>a</i>	2.6523233		Ω	176.46293		+0.08428461		+0.97757873			
<i>e</i>	0.1960106		<i>i</i>	12.33516		+0.00319156		+0.19338937			
<i>P</i>	4.32		<i>H</i>	12.7		<i>G</i>	0.15		<i>U</i>	2	
Residuals in seconds of arc											
1981 02 09	413	0.0	1.7−	1981 04 11	413	2.0+	1.3−	1998 03 03	704	0.8+	0.0
1981 02 09	413	0.5+	1.1−	1981 04 26	413	(2.0+	2.7−)	1998 03 03	699	0.2−	0.6+
1981 02 13	413	0.1−	0.3+	1981 05 02	413	0.5−	1.3−	1998 03 03	699	1.1+	0.3−
1981 03 02	413	1.6−	1.1+	1987 08 21	033	0.5+	1.1−	1998 03 03	699	0.2+	0.2+
1981 03 02	413	(4.0+	2.6−)	1987 08 22	033	0.5+	0.7−	1998 03 03	704	0.7+	0.9−

Epoch 1998 July 6.0 TT = JDT 2451000.5					Williams						
M	322.84030		(2000.0)		P		Q				
n	0.28579165	ω	231.95147		-0.58536337		+0.81076679				
a	2.2826344	Ω	2.22484		-0.72100107		-0.51906252				
e	0.1413417	i	3.88988		-0.37081961		-0.27061285				
P	3.45	H	14.4		G	0.15	U		2		
Residuals in seconds of arc											
1953 02 15	675	1.0-	0.6+	1981 03 29	413	0.1+	0.2-	1989 10 31	807	0.6+	0.3-
1953 02 15	675	0.5+	0.5+	1981 04 07	413	0.3-	0.5+	1995 03 31	689	0.2+	0.3+
1979 11 22	675	0.8-	0.2+	1981 04 07	413	0.2+	0.2+	1995 04 01	689	0.1+	0.2+
1979 11 24	675	1.4-	0.5-	1981 04 08	413	1.1-	1.3+	1995 04 03	689	0.2+	0.2+
1979 11 25	675	0.3+	0.2+	1981 04 08	413	1.2+	0.5+	1996 10 09	358	1.0-	0.6+
1981 02 09	413	0.2-	1.3-	1981 04 11	413	0.4+	0.6+	1996 10 09	358	(1.5-	2.1+)
1981 02 13	413	0.5+	1.2-	1981 04 26	413	1.6+	0.7-	1996 10 10	358	0.1+	0.8+
1981 03 02	413	1.3-	0.3-	1981 05 02	413	0.8-	1.1-	1996 10 10	358	0.1-	1.2-
1981 03 02	413	0.3+	1.4-	1988 03 19	809	0.7-	0.6+	1996 10 29	327	0.5+	0.2+
1981 03 06	413	0.9-	0.8-	1988 03 19	809	0.2-	0.5+	1996 10 29	327	0.6+	0.3+
1981 03 06	413	1.2+	0.5-	1988 03 20	809	0.6-	0.3+	1996 10 29	327	0.6+	0.1+
1981 03 08	095	0.0	1.5-	1988 03 20	809	0.3-	0.9+	1996 10 29	327	0.2+	0.2+
1981 03 11	413	0.5-	0.5-	1988 03 20	809	0.2-	1.1+	1998 01 28	566	0.8+	0.3+
1981 03 11	413	1.0+	1.4-	1988 03 25	809	0.5+	0.3+	1998 01 28	566	0.6+	0.4+
1981 03 15	413	1.7-	0.7+	1988 03 25	809	0.2-	0.9+	1998 01 28	566	0.8+	0.5+
1981 03 15	413	2.3+	0.5-	1988 03 26	809	0.1+	0.3+	1998 04 21	910	0.8-	0.5+

1998 MAY 11

M.P.C. 31671

1981 03 16 413 0.4- 0.6- 1988 03 26 809 0.5+ 0.6+ 1998 04 21 910 0.8- 0.5+
 1981 03 29 413 1.2- 0.4- 1989 10 28 807 0.2+ 0.0 1998 04 21 910 1.0- 0.5+

(8631)* 1981 EK₄₁

Discovered 1981 Mar. 2 by S. J. Bus at Siding Spring in the course of the
 U.K. Schmidt-Caltech Asteroid Survey.

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	262.10148	(2000.0)	P	Q	
<i>n</i>	0.29077455	ω 125.46007	+0.73897556	+0.67336963	
<i>a</i>	2.2564815	Ω 192.26408	-0.64693814	+0.70004563	
<i>e</i>	0.0334010	<i>i</i> 5.97222	-0.18811208	+0.23771718	
<i>P</i>	3.39	<i>H</i> 14.9	<i>G</i> 0.15	<i>U</i> 1	

Residuals in seconds of arc

1981 02 12	413	1.7-	2.2+	1992 08 02	801	0.5+	0.3+	1998 03 22	704	0.2+	0.0
1981 02 12	413	0.2-	1.9+	1992 08 02	801	0.3+	0.4+	1998 03 22	704	0.0	0.9+
1981 03 02	413	0.2+	0.5+	1992 08 03	801	1.3-	0.1+	1998 03 22	704	0.5-	0.2+
1981 03 02	413	0.2-	0.4+	1992 08 03	801	1.9+	1.5+	1998 03 26	566	1.5+	1.0+
1981 03 06	413	0.8-	1.5+	1995 05 28	801	1.0-	0.3-	1998 03 26	566	2.0+	0.7-
1981 03 06	413	0.5-	0.6+	1995 05 28	801	0.6-	0.3-	1998 03 26	566	0.6-	0.9-
1981 03 11	413	0.1-	0.2+	1995 05 31	801	0.8-	0.1+	1998 03 26	470	0.4-	0.0
1981 03 11	413	1.7+	0.6-	1995 05 31	801	0.8-	0.2-	1998 03 26	470	1.8+	1.0+
1981 03 15	413	1.5+	0.2-	1996 11 04	610	1.1-	0.4-	1998 04 01	704	0.0	0.0
1981 04 05	413	1.0-	1.5+	1996 11 04	610	1.4-	0.6+	1998 04 01	704	0.2+	0.5+
1981 04 05	413	(5.4+	3.8-)	1996 11 04	610	0.1+	0.6-	1998 04 01	704	0.1+	0.2+
1981 04 06	413	0.0	0.9+	1996 11 04	610	0.2+	0.1-	1998 04 01	704	0.1-	1.1-
1981 04 06	413	1.2+	1.0-	1996 11 05	610	0.3+	0.4+	1998 04 01	704	0.3-	0.0
1981 04 07	413	1.0-	0.3+	1998 03 18	470	1.1+	0.0	1998 04 19	704	0.2+	1.2-
1981 04 07	413	(3.6+	3.5-)	1998 03 18	470	1.3+	0.0	1998 04 19	704	0.2-	1.4-
1981 04 26	413	1.0+	2.3-	1998 03 18	470	1.0+	0.2-	1998 04 19	704	0.0	0.8-
1981 05 01	413	1.3+	0.9-	1998 03 20	704	0.2+	0.5-	1998 04 19	704	0.3-	0.9-
1989 10 29	807	0.8+	1.2-	1998 03 20	704	0.8-	0.3+	1998 04 19	704	0.1-	1.9-
1989 11 01	807	0.8+	0.9-	1998 03 20	704	0.6-	0.7+	1998 04 20	704	0.1+	0.3-
1991 02 10	675	0.1-	1.0-	1998 03 20	704	0.1-	0.8+	1998 04 20	704	1.9-	0.2+
1991 02 10	675	0.3+	0.2-	1998 03 20	704	0.8-	1.3+	1998 04 20	704	0.4-	0.1-
1991 03 13	675	1.3-	1.3-	1998 03 22	704	0.0	0.2+	1998 04 20	704	0.5-	0.7-
1991 03 13	675	0.1-	0.3-	1998 03 22	704	0.1-	0.2+	1998 04 20	704	0.0	0.6-

(8632)* 1981 FR

Discovered 1981 Mar. 28 at the Agassiz Station of the Harvard College
 Observatory.

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	297.89396	(2000.0)	P	Q	
<i>n</i>	0.23214502	ω 104.70843	+0.22959495	+0.97327126	
<i>a</i>	2.6219826	Ω 178.53196	-0.95429880	+0.22620405	
<i>e</i>	0.1550019	<i>i</i> 12.18024	-0.19131116	+0.03968357	
<i>P</i>	4.25	<i>H</i> 13.8	<i>G</i> 0.15	<i>U</i> 2	

Residuals in seconds of arc

1981 02 09	413	0.1+	1.5+	1981 04 07	413	1.0+	1.0-	1998 03 20	704	0.2-	0.1-
1981 02 13	413	1.2+	0.4-	1981 04 07	413	(3.5+	2.3-)	1998 03 20	704	0.4-	0.8-
1981 03 02	413	0.4-	1.6+	1981 04 08	413	0.7-	1.0+	1998 03 20	704	0.1+	0.6-
1981 03 02	413	0.7-	0.3-	1981 04 11	413	0.6-	0.7+	1998 03 20	704	0.3-	0.7-
1981 03 03	413	0.6-	1.5+	1981 04 11	413	0.7-	0.4-	1998 03 20	704	0.7+	0.4-
1981 03 03	413	0.3-	0.4+	1981 04 26	413	(0.6-	3.8-)	1998 03 22	704	0.3-	0.2+
1981 03 07	413	1.1-	0.7+	1981 05 02	413	0.2-	2.0-	1998 03 22	704	0.5-	0.7+
1981 03 07	413	1.2+	1.1-	1991 09 12	675	0.7-	0.5+	1998 03 22	704	0.6-	0.2+
1981 03 11	413	1.4-	1.0+	1991 09 12	675	0.4+	1.0-	1998 03 22	704	0.9+	0.3+
1981 03 11	413	0.7+	1.1-	1991 09 14	675	0.3+	1.1-	1998 03 22	704	0.7-	1.1-
1981 03 16	413	0.3-	0.3-	1995 08 23	557	0.2+	0.3-	1998 04 19	704	0.1+	0.3-
1981 03 16	413	1.5+	0.9-	1995 08 23	557	0.0	0.2+	1998 04 19	704	0.4+	1.1-
1981 03 28	801	1.0+	0.0	1998 03 19	104	0.3-	0.0	1998 04 19	704	0.0	0.3-
1981 03 29	413	0.6-	0.9+	1998 03 19	104	0.1+	0.3-	1998 04 19	704	0.6+	0.4+
1981 03 29	413	1.3+	0.2-	1998 03 19	104	0.5+	0.6-	1998 04 19	704	0.6-	1.3+

(8633)* 1981 FC₁ = 1953 GF₂ = 1992 ES₂₀

Discovered 1981 Mar. 16 by S. J. Bus at Siding Spring in the course of the
 U.K. Schmidt-Caltech Asteroid Survey.

Id. E. Bowell (*MPC* 23857), G. V. Williams (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	63.97109	(2000.0)	P	Q	
<i>n</i>	0.17697920	ω 140.05506	-0.75003956	-0.66138095	
<i>a</i>	3.1418677	Ω 358.52150	+0.56047784	-0.63238624	
<i>e</i>	0.1723102	<i>i</i> 8.89053	+0.35114847	-0.40331487	
<i>P</i>	5.57	<i>H</i> 13.0	<i>G</i> 0.15	<i>U</i> 1	

Residuals in seconds of arc

1953 04 15	675	0.1-	0.1+	1995 10 27	691	0.2+	0.0	1998 04 14	423	0.2+	0.9+
1953 04 15	675	0.8+	0.9+	1995 10 27	691	0.1-	0.1+	1998 04 18	423	0.4+	0.4-
1981 02 02	413	0.0	1.0-	1995 10 27	691	0.2+	0.2+	1998 04 18	423	1.0+	0.2-
1981 02 13	413	0.3+	0.9+	1996 12 01	689	0.9+	0.4+	1998 04 20	704	0.9+	0.2+
1981 03 16	413	(4.5+	3.7-)	1998 03 18	470	0.0	1.0-	1998 04 20	704	0.5+	1.1-
1981 03 29	413	0.1-	0.5-	1998 03 19	470	1.3-	0.3+	1998 04 20	704	0.0	0.7-
1981 04 07	413	0.1-	0.0	1998 03 25	704	0.2-	0.5+	1998 04 20	704	1.3+	0.4-
1981 04 08	413	1.4-	0.1-	1998 03 25	704	0.7+	0.6+	1998 04 20	704	0.7-	1.8-
1981 04 08	413	0.8+	0.3-	1998 03 25	704	0.0	0.6+	1998 04 21	704	0.2+	0.1-
1981 04 11	413	1.5-	0.2-	1998 03 25	704	0.3-	1.2+	1998 04 21	704	0.0	0.7+
1981 04 11	413	0.8+	1.0-	1998 03 25	704	0.6+	1.0+	1998 04 21	704	0.5+	0.4-
1981 04 30	413	0.3+	0.6-	1998 03 26	470	0.4+	0.0	1998 04 21	704	0.1-	0.1-
1981 05 02	413	0.4+	0.5+	1998 03 26	470	0.4-	1.0+	1998 04 21	704	0.5-	0.6-
1992 03 02	809	1.0+	0.5+	1998 04 01	704	0.4-	0.4+	1998 04 22	704	0.2+	0.5-
1992 03 05	809	1.4-	0.0	1998 04 01	704	0.5+	0.7+	1998 04 22	704	0.3+	0.1+
1992 04 06	809	0.9-	0.5+	1998 04 01	704	0.1-	0.1-	1998 04 22	704	0.1+	0.4+
1995 10 22	691	0.5-	0.3+	1998 04 01	704	0.7-	0.1-	1998 04 22	704	0.4-	0.1-
1995 10 22	691	0.5-	0.2+	1998 04 01	704	1.9-	0.2+	1998 04 22	704	0.4-	0.1-
1995 10 22	691	0.4-	0.1+	1998 04 14	423	0.8+	0.9+				

(8634)* 1981 GG = 1979 WE₈

Discovered 1981 Apr. 5 by E. Bowell at the Anderson Mesa Station of the
 Lowell Observatory.

Id. S. J. Bus (*MPC* 10544)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	25.84415	(2000.0)	P	Q	
<i>n</i>	0.22865099	ω 128.39267	-0.95130868	-0.27174164	
<i>a</i>	2.6486261	Ω 36.50628	+0.14522573	-0.81147507	
<i>e</i>	0.1805259	<i>i</i> 14.15601	+0.27188467	-0.51736320	
<i>P</i>	4.31	<i>H</i> 13.7	<i>G</i> 0.15	<i>U</i> 1	

Residuals in seconds of arc

1955 04 14	675	1.4-	0.2+	1992 11 26	675	0.5-	0.5-	1998 02 15	587	1.0+	1.0-
1955 04 14	675	0.9-	0.3+	1994 03 16	801	0.2-	0.4+	1998 02 17	587	0.0	0.3-
1979 11 22	675	0.7+	0.6-	1994 03 16	801	0.4-	0.3+	1998 02 17	587	1.0+	0.3+
1979 11 24	675	0.9+	1.0-	1994 03 21	801	1.3-	0.4-	1998 02 26	699	2.0+	0.8+
1979 11 25	675	0.7+	0.2-	1994 03 21	801	1.2-	0.6-	1998 02 26	699	0.2-	1.1+
1981 04 05	688	(3.0+	1.1-)	1994 05 11	801	0.3-	0.1+	1998 02 26	699	0.0	1.4+
1981 04 05	688	0.2-	1.0-	1994 05 13	801	0.1-	0.5+	1998 02 27	689	1.2-	0.1-
1981 04 10	688	2.0+	0.9-	1994 05 13	801	0.6-	0.9+	1998 03 09	689	0.9-	0.0
1981 04 10	688	0.5+	0.8-	1996 10 20	104	0.3-	0.1-	1998 03 19	689	1.4-	0.0
1981 05 03	688	(3.3+	0.1+)	1996 10 20	104	0.6-	0.0	1998 04 27	689	0.9-	0.4+
1981 05 03	688	1.6+	1.7-	1996 10 20	104	0.4+	0.1+				
1992 11 26	675	0.0	0.2+	1998 02 15	587	1.5+	0.9-				

(8635)* 1985 PG₂ = 1974 VA₁ = 1987 DC₅ = 1989 TJ

Discovered 1985 Aug. 13 by N. S. Chernykh at the Crimean Astrophysical
 Observatory.

Id. S. Nakano (*MPC* 15412), G. V. Williams (*MPC* 22809)

Epoch 1998 July 6.0 TT = JDT 2451000.5						Nakano					
M	92.67391	(2000.0)				P			Q		
n	0.25915104	ω	335.94915		+0.77683116			-0.62679044			
a	2.4365056	Ω	63.00304		+0.58820508			+0.68793273			
e	0.1716390	i	3.89696		+0.22482912			+0.36589931			
P	3.80	H	14.0	G	0.15	U	1				
Residuals in seconds of arc											
1974 11 12	095	0.8−	0.2−	1989 10 03	809	0.6−	0.9−	1993 11 13	801	0.2−	0.1−
1985 08 13	095	1.6−	0.7−	1989 10 03	809	0.9−	1.2−	1993 11 13	801	0.2−	0.2−
1985 08 17	095	0.0	0.7−	1989 10 03	809	1.3−	1.4−	1995 04 06	691	0.5−	0.3−
1985 08 24	095	0.6−	0.6−	1989 10 06	807	1.5+	0.4−	1995 04 06	691	0.7−	0.6−
1987 02 23	010	1.7+	0.6+	1989 10 07	809	0.0	0.3−	1995 04 09	691	0.4−	0.3−
1987 02 23	010	0.3+	0.8+	1989 10 07	809	0.9+	0.2−	1995 04 09	691	0.3−	0.2+
1987 02 23	010	1.7+	0.3+	1989 10 07	809	0.1+	0.1−	1995 04 09	691	0.4−	0.5−
1989 09 26	809	0.3−	1.0+	1989 10 08	809	1.2+	0.9+	1995 04 23	691	0.9−	1.2−
1989 09 26	809	0.4−	0.8+	1989 10 08	809	0.0	1.2+	1995 04 23	691	0.3+	0.5−
1989 09 26	809	0.1+	0.4+	1989 10 08	809	0.3+	1.3+	1995 04 23	691	0.3−	0.8−
1989 09 28	809	0.0	2.1+	1989 10 28	807	2.2+	0.1−	1997 10 25	596	0.2+	0.2−
1989 09 28	809	0.7−	2.0+	1989 11 02	675	0.4+	0.2−	1997 10 26	596	0.3+	0.4−
1989 09 28	809	0.7−	1.8+	1989 11 02	675	0.1+	0.5−	1997 10 26	596	0.6+	0.2−
1989 09 29	675	0.7+	1.7−	1989 11 05	675	0.4−	0.4−	1998 04 14	704	0.6−	0.0
1989 09 29	675	0.9+	1.1−	1989 11 05	675	0.6+	0.7−	1998 04 14	704	0.1−	0.1−
1989 10 02	071	(7.9+	2.2+)	1993 11 11	801	0.4−	0.5−	1998 04 14	704	1.3−	0.6+
1989 10 02	807	1.3+	0.3−	1993 11 11	801	0.1−	0.4−	1998 04 14	704	0.3+	0.2−
1989 10 03	071	(7.9+	6.8+)	1993 11 12	033	1.0−	0.7−				
1989 10 03	071	(7.3+	6.4+)	1993 11 12	033	1.1−	0.3−				

(8636)* 1985 UH₂ = 1996 XA₃₃

Discovered 1985 Oct. 17 at Caussols.

Id. G. V. Williams (*MPC* 28840)

Epoch 1998 July 6.0 TT = JDT 2451000.5						Williams					
<i>M</i>	220.06882	(2000.0)			P		Q				
<i>n</i>	0.27498454	ω	292.85740		+0.99846027		+0.02263861				
<i>a</i>	2.3420556	Ω	65.87669		+0.00060139		+0.90846024				
<i>e</i>	0.1044350	<i>i</i>	3.18083		−0.05546823		+0.41735774				
<i>P</i>	3.58	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	2				
Residuals in seconds of arc											
1985 10 17	010(33.4−	5.5−)	1996 12 18	327	0.9+	0.2−	1998 04 04	691	0.2−	0.3−	
1985 10 18	010(32.6−	2.8−)	1996 12 18	327	1.0+	0.1+	1998 04 04	691	0.4−	0.2−	
1985 10 18	095	0.6+	1.8+	1996 12 18	327	0.8+	0.1−	1998 04 04	691	0.2−	0.5−
1985 10 20	049	0.3+	0.4−	1996 12 24	327	0.3+	0.1+	1998 04 19	704	0.4+	0.4−
1985 10 20	049	0.2−	0.5−	1996 12 24	327	0.1+	0.2+	1998 04 19	704	0.1+	0.2−
1985 10 24	049	1.2−	1.0−	1996 12 24	327	0.3+	0.2+	1998 04 19	704	0.9−	0.5−
1985 10 24	049	0.0	0.7−	1996 12 25	327	0.1+	0.2+	1998 04 19	704	0.2−	0.3−
1985 11 12	095	0.6+	0.3+	1996 12 25	327	1.0−	0.3−	1998 04 20	704	0.5+	0.1−
1992 09 03	809	0.5+	1.0−	1996 12 25	327	0.0	0.2+	1998 04 20	704	0.3−	0.1+
1996 12 03	894	0.5+	0.3+	1996 12 26	327	0.0	0.5+	1998 04 20	704	0.4+	0.1+
1996 12 03	894	0.6−	0.2+	1996 12 26	327	0.3−	0.4−	1998 04 20	704	0.4−	0.6−
1996 12 06	894	0.5+	0.4−	1996 12 26	327	0.7−	0.8−	1998 04 20	704	0.1+	0.3−
1996 12 07	894	0.8−	0.1+	1998 02 26	566	0.3−	0.1+	1998 04 22	704	0.9+	0.9−
1996 12 07	894	0.3+	0.3−	1998 02 26	566	0.6−	0.0	1998 04 22	704	0.6+	0.1−
1996 12 08	894	(2.7−	0.9+)	1998 02 26	566	0.8−	0.0	1998 04 22	704	0.0	0.3+
1996 12 08	894	1.5−	0.0	1998 04 04	725	0.2+	1.3+	1998 04 22	704	0.8+	0.3+
1996 12 11	894	0.1+	0.1+	1998 04 04	725	0.5−	0.2+	1998 04 22	704	0.3−	0.0

(8637)* 1986 CS₁ = 1988 RV₃ = 1990 GH₁

Discovered 1986 Feb. 6 by H. Debehogne at the European Southern Observatory.

Id. S. Nakano (*MPC* 14022), G. V. Williams (*MPC* 21256)

Epoch 1998 July 6.0 TT = JDT 2451000.5						Nakano					
<i>M</i>	130.26809		(2000.0)		P	Q					
<i>n</i>	0.25969797		ω	285.20477	−0.09091868		−0.99581467				
<i>a</i>	2.4330835		Ω	169.99779	+0.93305091		−0.08845315				
<i>e</i>	0.1430710		<i>i</i>	3.07719	+0.34806578		−0.02300389				
<i>P</i>	3.80		<i>H</i>	15.2	<i>G</i>	0.15	<i>U</i>		1		
Residuals in seconds of arc											
1986 02 06	809	2.0−	0.1+	1986 02 14	809	0.1−	0.1+	1988 11 05	807	0.3−	0.9−
1986 02 06	809	1.6−	0.1−	1986 02 14	809	0.0	0.0	1988 11 06	807	0.0	0.1−
1986 02 06	809	1.6−	0.0	1986 02 15	809	0.2+	0.6−	1988 11 07	807	0.5−	0.6−
1986 02 08	809	0.2+	0.1−	1986 02 15	809	0.3+	0.5−	1990 03 17	033	1.1+	0.0
1986 02 08	809	0.5+	0.0	1986 02 15	809	0.5+	0.5−	1990 04 04	809	(1.1−	3.6−)
1986 02 08	809	0.6+	0.1−	1986 02 17	809	0.6−	0.2−	1990 04 04	809	(0.8−	2.5−)
1986 02 09	809	0.4−	0.1−	1986 02 17	809	0.5−	0.1+	1990 04 04	809	(3.4−	2.5−)
1986 02 09	809	0.1−	0.1−	1986 02 17	809	0.4−	0.1+	1992 10 23	010	0.8−	0.9+
1986 02 09	809	0.1+	0.0	1988 09 08	033	0.1−	0.3−	1992 10 23	010	1.2−	0.7−
1986 02 10	809	0.2−	0.5+	1988 09 09	033	0.5+	0.0	1992 10 25	675	0.6+	0.8+
1986 02 10	809	0.1+	0.4+	1988 09 09	033	0.8+	0.4+	1992 10 25	675	1.0+	0.3+
1986 02 10	809	0.2+	0.5+	1988 09 10	033	0.3−	0.6−	1998 03 22	691	0.9−	0.3−
1986 02 12	809	0.4−	0.1−	1988 09 10	033	0.6−	0.9−	1998 03 22	691	1.4−	0.1−
1986 02 12	809	0.4−	0.1−	1988 09 11	033	0.3−	0.2+	1998 03 22	691	0.7−	0.7−
1986 02 12	809	0.5−	0.1−	1988 09 11	675	0.5+	0.1−	1998 04 22	704	0.3+	0.2−
1986 02 12	809	1.2+	0.0	1988 09 11	675	0.8+	0.1−	1998 04 22	704	1.7+	0.7−
1986 02 12	809	1.3+	0.0	1988 09 15	675	0.2+	1.7−	1998 04 22	704	0.7−	0.2−
1986 02 12	809	1.5+	0.0	1988 09 15	675	0.0	0.2+	1998 04 22	704	1.4+	0.4−
1986 02 13	809	0.3+	0.8−	1988 10 04	807	0.5+	0.1+	1998 04 22	704	1.0−	0.9+
1986 02 13	809	0.3+	0.7−	1988 10 05	807	0.8+	1.0−	1998 04 30	566	0.3−	0.9−
1986 02 13	809	0.3+	0.7−	1988 10 08	807	(0.5+	2.3−)	1998 04 30	566	0.1+	0.1−
1986 02 14	809	0.2−	0.3+	1988 11 04	807	0.3−	0.2+	1998 04 30	566	0.1−	0.2+

(8638)* 1986 QY = 1988 BH₁

Discovered 1986 Aug. 26 by H. Debehogne at the European Southern Observatory.

Id. S. Nakano (*MPC* 12942)

Epoch 1998 July 6.0 TT = JDT 2451000.5						Nakano					
<i>M</i> 141.23074			(2000.0)			P			Q		
<i>n</i>	0.21773612	ω	59.48053			+0.27670485			−0.96069957		
<i>a</i>	2.7364177	Ω	14.50625			+0.84857791			+0.23346313		
<i>e</i>	0.1485583	<i>i</i>	5.07389			+0.45094342			+0.15017090		
<i>P</i>	4.53	<i>H</i>	12.9			<i>G</i>	0.15		<i>U</i>	1	
Residuals in seconds of arc											
1986 08 26	809	1.3−	0.0	1986 09 05	809	0.1+	0.1−	1991 10 07	675	0.1−	0.4−
1986 08 26	809	1.1−	0.2−	1986 09 06	809	0.3−	0.3+	1998 04 01	704	0.7−	0.6+
1986 08 26	809	1.0−	0.2−	1986 09 06	809	0.2−	0.1+	1998 04 01	704	0.8−	0.1+
1986 08 27	809	0.6−	0.5+	1986 09 06	809	0.2−	0.2+	1998 04 01	704	1.6−	0.5−
1986 08 27	809	0.4−	0.6+	1986 09 07	809	0.4−	0.5−	1998 04 01	704	0.2+	0.4−
1986 08 27	809	0.4−	0.5+	1986 09 07	809	0.4−	0.7−	1998 04 01	704	1.4−	0.9−
1986 08 29	809	0.9+	1.4+	1986 09 07	809	0.4−	0.7−	1998 04 04	426	0.1+	0.1+
1986 08 29	809	1.0+	1.2+	1986 09 07	809	0.4−	0.6−	1998 04 04	426	0.3+	0.1+
1986 08 29	809	0.9+	1.1+	1986 09 07	809	0.3−	0.7−	1998 04 04	426	0.4+	0.5+
1986 09 02	809	1.0+	0.5+	1986 09 07	809	0.4−	0.7−	1998 04 05	426	1.1−	0.6+
1986 09 02	809	0.7+	0.7+	1986 09 09	809	1.5−	1.6−	1998 04 05	426	0.4−	0.5+
1986 09 02	809	0.9+	0.8+	1986 09 09	809	1.3−	1.8−	1998 04 05	426	0.4−	0.2+
1986 09 03	809	0.9+	1.0+	1986 09 09	809	1.3−	1.9−	1998 04 21	704	0.4+	0.4+
1986 09 03	809	0.7+	0.8+	1988 01 12	033	0.2+	0.4−	1998 04 21	704	1.2+	1.6−
1986 09 03	809	0.8+	0.8+	1988 01 12	033	0.9−	0.2−	1998 04 21	704	0.1−	0.9−
1986 09 04	809	0.8+	0.4+	1988 01 21	511	(3.5−	1.0+)	1998 04 21	704	0.9+	0.7−
1986 09 04	809	1.1+	0.5+	1988 01 21	511	(0.2−	2.3+)	1998 04 21	704	1.2+	1.0−
1986 09 04	809	1.3+	0.5+	1988 01 21	511	1.0+	1.8+	1998 04 22	704	0.3+	0.1+
1986 09 05	809	0.0	0.0	1991 09 13	801	0.4−	0.5−	1998 04 22	704	0.3−	0.3+
1986 09 05	809	0.2+	0.2−	1991 09 13	801	0.6−	0.4−	1998 04 22	704	0.7+	0.3+
1986 09 05	809	0.2+	0.4−	1991 10 07	801	1.2+	0.4−	1998 04 22	704	0.2+	0.0

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1986 09 05 809 0.1- 0.0 1991 10 07 801 1.1+ 0.4- 1998 04 22 704 0.2- 0.2-
 1986 09 05 809 0.0 0.1- 1991 10 07 675 0.1- 1.0-

(8639)* 1986 VB₁ = 1994 BZ₃

Discovered 1986 Nov. 3 by A. Mrkos at Kletř.

Id. B. G. Marsden (*MPC* 23122)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Marsden					
<i>M</i>	173.06478	(2000.0)		P	Q		
<i>n</i>	0.29631087	ω	156.48348	+0.54905072	-0.83114105		
<i>a</i>	2.2282863	Ω	260.10676	+0.75194188	+0.53719827		
<i>e</i>	0.1387465	<i>i</i>	5.12625	+0.36486534	+0.14360562		
<i>P</i>	3.33	<i>H</i>	14.9	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1986 11 03	046	1.6+	1.3+	1996 11 05	046	0.1-	0.1-	1998 03 26	046	0.4-	0.3+
1986 11 04	046	(4.2+	1.9+)	1996 11 06	400	0.4-	0.4+	1998 03 26	046	0.4-	0.1-
1986 11 07	046	2.1-	0.4+	1996 11 06	400	1.4+	1.2+	1998 03 26	046	1.0-	0.5-
1986 11 07	046	1.1+	0.3-	1996 11 10	046	0.1+	0.2-	1998 03 30	046	0.6-	0.4-
1986 11 09	046	1.2-	0.3-	1996 11 10	046	0.0	0.0	1998 03 30	046	0.5+	0.2-
1986 11 09	046	0.8+	1.1-	1996 11 10	046	0.0	0.1-	1998 03 30	046	0.6-	0.2+
1986 12 05	801	0.4-	0.1+	1996 11 15	801	0.2+	1.8-	1998 03 30	046	0.2-	0.0
1993 12 16	691	0.5+	1.7+	1996 11 15	801	0.6+	1.9-	1998 04 21	704	0.8+	0.4+
1993 12 16	691	(3.2-	0.3-)	1996 12 04	046	0.0	0.2-	1998 04 21	704	0.0	0.9+
1993 12 16	691	1.7-	0.6+	1996 12 04	046	0.3-	0.2-	1998 04 21	704	0.8+	1.0-
1994 01 16	010	0.5+	0.6+	1996 12 04	046	0.0	0.1-	1998 04 21	704	0.2+	0.5-
1994 01 16	010	0.6+	0.2-	1996 12 05	046	0.1-	0.4+	1998 04 21	704	0.4-	0.1-
1994 01 17	010	0.3+	0.6-	1996 12 05	046	0.4-	0.2+	1998 04 22	704	0.4+	0.5+
1994 01 17	010	0.6-	0.9-	1996 12 05	046	0.2-	0.2+	1998 04 22	704	0.5-	0.6-
1994 01 17	010	0.4+	0.8-	1997 01 13	566	0.3+	0.9+	1998 04 22	704	0.5+	0.1+
1996 11 05	046	0.1-	0.0	1997 01 13	566	0.5-	0.7+	1998 04 22	704	0.1+	0.4+
1996 11 05	046	0.1-	0.0	1997 01 13	566	0.4-	0.0	1998 04 22	704	0.1-	0.6-

(8640)* 1986 VX₅

Discovered 1986 Nov. 6 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams					
<i>M</i>	215.09745	(2000.0)		P	Q		
<i>n</i>	0.21633967	ω	266.97790	+0.94195989	-0.32365449		
<i>a</i>	2.7481806	Ω	111.89245	+0.33334915	+0.87010281		
<i>e</i>	0.1385950	<i>i</i>	5.51745	+0.03987379	+0.37171075		
<i>P</i>	4.56	<i>H</i>	13.1	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1986 11 06	688	0.1-	0.7+	1997 03 04	704	0.1+	0.2+	1998 04 21	704	0.0	0.5+
1986 11 06	688	0.0	0.1-	1997 03 05	704	0.0	0.6-	1998 04 22	704	0.2-	0.7+
1986 11 27	033	0.6+	0.5-	1997 03 06	704	0.5+	0.1+	1998 04 22	704	0.2-	0.1+
1986 11 28	033	0.2+	1.0-	1997 03 06	704	0.3+	0.0	1998 04 22	704	0.7-	0.7-
1986 11 29	033	0.1-	0.6-	1998 03 24	704	1.1+	0.7-	1998 04 22	704	0.8+	0.1+
1993 03 23	675	0.1-	0.1+	1998 03 24	704	0.3+	1.0+	1998 04 22	704	0.1+	0.5-
1993 03 23	675	0.1+	0.0	1998 03 24	704	0.9-	0.6-	1998 04 22	704	0.3+	0.6-
1997 01 09	411	0.8-	0.4-	1998 03 24	704	1.6-	0.5-	1998 04 22	704	0.7-	0.5+
1997 01 09	411	0.5-	0.5-	1998 04 21	704	0.1+	1.1-	1998 04 22	704	0.2+	0.9-
1997 01 10	411	0.0	0.9+	1998 04 21	704	0.5+	0.5+	1998 04 22	704	0.8+	0.2+
1997 01 10	411	0.3-	0.7+	1998 04 21	704	0.1+	0.4+				
1997 03 04	704	0.9+	0.1+	1998 04 21	704	0.4-	0.2+				

(8641)* 1987 BM₁ = 1990 VT₉ = 1996 YE₃

Discovered 1987 Jan. 27 by P. Jensen at Brorfelde.

Id. G. V. Williams (*MPC* 28841)

M.P.C. 31673

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams					
<i>M</i>	67.40051	(2000.0)		P	Q		
<i>n</i>	0.18903124	ω	48.29971	-0.76203300	-0.59746781		
<i>a</i>	3.0068631	Ω	93.48804	+0.49456788	-0.78589829		
<i>e</i>	0.1164260	<i>i</i>	14.48574	+0.41798124	-0.15936155		
<i>P</i>	5.21	<i>H</i>	12.7	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1987 01 27	054	0.4+	1.3-	1993 04 15	691	1.2-	1.3-	1998 04 02	704	0.0	0.7+
1987 02 18	054	1.6-	1.3-	1993 04 15	691	1.1-	1.4-	1998 04 02	704	0.3+	0.8+
1987 02 19	054	0.8-	0.3+	1994 07 09	675	0.1-	1.6-	1998 04 03	704	0.8+	0.3+
1987 02 19	054	1.1-	1.1+	1996 12 20	327	(2.3-	0.7-)	1998 04 03	704	0.2-	1.0+
1987 02 22	054	1.9+	0.3-	1996 12 20	327	0.3-	1.4-	1998 04 03	704	0.4-	0.4+
1987 02 22	054	(0.2-	2.9+)	1996 12 20	327	0.1-	0.1+	1998 04 03	704	0.2-	0.5+
1987 02 23	054	1.0+	0.5-	1996 12 26	327	0.0	0.2-	1998 04 03	704	0.2+	0.7+
1990 11 12	413	0.4+	0.6+	1996 12 26	327	0.1-	0.3+	1998 04 23	566	0.9+	0.1-
1990 11 12	413	(2.6+	0.6+)	1996 12 26	327	0.1+	0.2-	1998 04 23	566	0.8+	0.0
1993 04 15	691	1.0-	1.1-	1998 04 02	704	0.3+	0.4-	1998 04 23	566	1.0+	0.2+

(8642)* 1988 RZ₁₁ = 1994 UH₁

Discovered 1988 Sept. 14 by S. J. Bus at Cerro Tololo.

Id. S. Nakano (*MPC* 24228)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Nakano					
<i>M</i>	263.53368	(2000.0)		P	Q		
<i>n</i>	0.17489933	ω	340.15533	+0.97493373	+0.22221114		
<i>a</i>	3.1667269	Ω	7.03433	-0.18972364	+0.85667218		
<i>e</i>	0.3056260	<i>i</i>	5.26832	-0.11622896	+0.46554805		
<i>P</i>	5.64	<i>H</i>	12.8	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1988 09 13	675	0.2+	0.8-	1994 10 25	399	0.5-	0.2-	1997 04 09	046	0.2+	0.6-
1988 09 13	675	0.0	0.5-	1994 10 26	399	0.6-	0.6-	1997 04 09	046	0.1-	0.3+
1988 09 14	807	0.6-	0.3+	1994 10 26	399	1.2-	1.2-	1998 04 01	704	0.0	1.8+
1988 09 15	807	0.1+	0.1-	1994 11 30	675	0.2+	0.2+	1998 04 01	704	0.9+	1.3+
1988 09 15	095	(3.0-	3.3+)	1994 11 30	675	0.0	0.2+	1998 04 01	704	0.4-	1.4-
1988 09 15	095	0.8-	0.1-	1994 12 02	675	0.4-	0.5+	1998 04 01	704	0.6+	1.8-
1988 09 16	675	0.3+	0.5-	1994 12 02	675	0.1-	0.8+	1998 04 21	704	1.7+	1.8-
1988 09 16	675	0.6+	0.7-	1997 04 07	046	0.4-	0.1-	1998 04 21	704	0.6-	0.5+
1988 10 06	807	0.3+	0.3+	1997 04 07	046	0.4-	0.6-	1998 04 21	704	0.7-	0.4+
1988 10 07	807	0.1-	0.5-	1997 04 07	046	0.3-	0.7-	1998 04 21	704	0.7-	1.2+
1988 11 04	807	1.5+	0.2+	1997 04 07	046	0.1+	0.6-	1998 04 21	704	0.2-	1.2+
1988 11 06	807	1.2+	0.1+	1997 04 08	046	0.1-	0.3-	1998 04 22	704	1.6+	2.0+
1992 04 28	691	1.6-	0.0	1997 04 08	046	0.1-	1.0-	1998 04 22	704	0.3+	1.2-
1992 04 28	691	0.6-	0.0	1997 04 08	046	0.9+	0.5-	1998 04 22	704	0.9-	0.6-
1992 04 28	691	1.2-	0.1+	1997 04 08	046	0.1-	0.6-	1998 04 22	704	0.0	0.0
1994 10 25	399	1.2+	1.2+	1997 04 09	046	0.5+	0.4-	1998 04 22	704	0.2+	0.6+

(8643)* 1988 SC = 1951 TH = 1982 FE₄

Discovered 1988 Sept. 16 by E. W. Elst at Haute Provence.

Id. T. Urata (*MPC* 23122)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams					
<i>M</i>	74.11870	(2000.0)		P	Q		
<i>n</i>	0.23923204	ω	70.16937	+0.32880773	-0.94439344		
<i>a</i>	2.5699410	Ω	0.65075	+0.76050365	+0.26318028		
<i>e</i>	0.1554896	<i>i</i>	12.97511	+0.55992828	+0.19712222		
<i>P</i>	4.12	<i>H</i>	13.2	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1951 10 04	760	(6.5+	2.2+)	1988 09 15	511	0.0	0.7-	1994 02 02	898	0.4+	0.6-
1951 10 05	760	2.0-	1.7+	1988 09 15	511	0.7-	0.4+	1994 02 09	385	0.6+	0.3+
1951 10 05	760	0.1+	0.7+	1988 09 15	095	(3.0-	0.7+)	1994 02 09	385	0.4+	0.3+
1982 03 31	675	1.4-	0.7-	1988 09 15	095	(8.4+	2.3+)	1994 02 09	385	0.3+	0.1+
1982 03 31	675	1.1-	0.9-	1988 09 16	511	1.6-	1.1-	1994 02 10	675	(0.2-	2.2-)
1988 09 10	675	0.7+	0.8-	1988 09 16	511	(3.3+	0.8-)	1994 02 10	675	0.7-	2.0-

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1988 09 10	675	0.7+	1.3-	1988 09 16	675	1.1+	2.0+	1994 02 15	675	0.1+	1.6-
1988 09 11	675	0.0	0.8+	1988 09 16	675	0.6+	1.5+	1994 02 15	675	0.2+	1.3-
1988 09 11	675	0.7-	0.7+	1988 09 17	511	(1.2-	2.5-)	1997 12 30	566	0.1+	0.8+
1988 09 12	675	0.9+	0.6-	1988 09 17	511	0.3+	0.9+	1997 12 30	566	0.1+	0.7+
1988 09 12	675	1.3+	1.1-	1988 10 07	675	0.7+	1.0-	1997 12 30	566	0.0	0.9+
1988 09 12	511	0.6-	0.2-	1988 10 07	675	0.7+	2.1-	1998 02 19	689	1.6-	0.2-
1988 09 13	511	(4.2+	1.5+)	1988 10 09	675	2.3+	1.5-	1998 03 08	689	0.2-	0.2+
1988 09 13	511	(4.7+	3.2+)	1988 10 09	675	1.8+	1.7-				
1988 09 15	511	2.4-	0.3-	1994 02 02	898	0.3-	0.0				

(8644)* 1988 SD = 1980 KX = 1981 UK₁₅ = 1992 UN₆

Discovered 1988 Sept. 16 by E. W. Elst at Haute Provence.

Id. S. Nakano (*MPC* 21259)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>	273.31996		(2000.0)	P		Q	
<i>n</i>	0.26911690	ω	296.46543	+0.63929306		+0.76866625	
<i>a</i>	2.3759761	Ω	13.33987	-0.66841939		+0.56922708	
<i>e</i>	0.1717901	<i>i</i>	5.31385	-0.38015774		+0.29177515	
<i>P</i>	3.66	<i>H</i>	13.7	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1980 05 17	095	0.2-	0.3-	1988 09 16	675	0.0	2.2+	1998 03 20	704	0.1-	0.0
1981 10 23	095	(3.8+	4.6+)	1988 09 17	511	1.3-	2.2-	1998 03 20	704	0.2+	0.5-
1988 09 09	026	(5.3-	1.2-)	1988 09 17	511	0.0	0.8+	1998 03 20	704	0.3+	0.0
1988 09 10	675	0.4+	0.2-	1988 10 07	675	0.3+	1.2-	1998 03 20	704	0.1+	0.0
1988 09 10	675	0.4+	0.6-	1988 10 07	675	0.3+	1.6-	1998 03 22	704	0.5-	0.0
1988 09 11	675	0.5-	1.7+	1988 10 09	675	1.0+	1.4-	1998 03 22	704	1.2-	0.4+
1988 09 11	675	1.4-	1.0+	1988 10 09	675	0.9+	0.6-	1998 03 22	704	1.1-	0.1-
1988 09 12	675	0.6+	0.0	1992 10 21	675	0.8+	0.3+	1998 03 22	704	0.7-	0.4-
1988 09 12	675	0.4+	0.6-	1992 10 27	372	(3.7-	1.1+)	1998 03 22	704	1.2-	0.3-
1988 09 12	511	1.3+	0.1+	1992 10 27	372	2.1-	0.2-	1998 04 19	704	1.0+	0.1+
1988 09 13	511	(5.0+	2.5+)	1992 10 28	400	0.1+	0.0	1998 04 19	704	0.7+	0.5+
1988 09 13	511	(5.9+	3.9+)	1992 10 28	400	1.4-	1.2+	1998 04 19	704	1.1+	0.1+
1988 09 15	511	1.5-	0.0	1992 11 01	400	0.5+	0.7-	1998 04 19	704	0.9+	0.2+
1988 09 15	511	0.7-	0.7-	1992 11 01	400	1.4+	0.7-	1998 04 19	704	1.2+	0.4+
1988 09 15	511	0.8+	1.1+	1992 11 01	372	0.4+	0.2-	1998 05 02	566	0.2-	1.0-
1988 09 15	095	1.3-	1.0+	1992 11 01	372	1.9+	1.2+	1998 05 02	566	0.4-	1.1-
1988 09 15	095	0.9+	0.6+	1992 11 16	400	0.8-	0.3-	1998 05 02	566	0.3-	0.6-
1988 09 16	511	0.6+	1.5-	1992 11 16	400	0.9-	0.2-				
1988 09 16	511	(3.1+	0.9+)	1998 03 20	704	0.5-	0.1+				

(8645)* 1988 TN = 1992 UB₆

Discovered 1988 Oct. 5 by S. Ueda and H. Kaneda at Kushiro.

Id. S. Nakano (*MPC* 21259)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>	195.50538		(2000.0)	P		Q	
<i>n</i>	0.26007197	ω	18.32418	+0.85643697		-0.51584750	
<i>a</i>	2.4307503	Ω	12.78989	+0.46136650		+0.74703597	
<i>e</i>	0.0605863	<i>i</i>	5.29323	+0.23163910		+0.41933117	
<i>P</i>	3.79	<i>H</i>	13.1	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1988 09 08	033	0.6-	0.6-	1994 03 12	399	1.5-	0.6-	1998 03 25	704	0.8+	0.3+
1988 09 08	033	0.6-	0.8-	1994 03 12	399	0.2-	2.1-	1998 03 25	704	0.3+	0.4-
1988 09 09	033	0.2-	0.3-	1994 03 14	675	0.8+	0.2+	1998 03 25	699	0.5+	0.2-
1988 09 10	033	0.2-	1.0-	1994 04 03	675	0.4+	0.4-	1998 03 25	704	0.0	0.2+
1988 09 11	033	0.0	0.2-	1994 04 03	691	1.3-	1.3-	1998 03 25	699	0.8+	0.3+
1988 10 05	399	0.2+	0.2+	1994 04 03	675	0.6-	0.7+	1998 03 25	699	1.4+	0.1+
1988 10 05	399	0.7-	0.5+	1994 04 03	691	1.3-	1.1-	1998 03 25	704	0.7+	0.6-
1988 10 05	399	2.0+	1.3-	1994 04 03	691	1.4-	0.9-	1998 04 01	704	0.8+	0.3+
1988 10 07	675	0.5+	1.6-	1994 04 04	675	0.3+	0.0	1998 04 01	704	0.7+	0.6+
1988 10 07	675	0.4+	1.4-	1994 04 04	675	2.0+	0.7-	1998 04 01	704	0.5+	0.4-
1988 10 13	675	0.2-	0.1-	1994 04 09	801	0.1-	0.2+	1998 04 01	704	0.1-	0.0
1988 10 13	399	(3.1+	0.8+)	1994 04 09	801	0.7+	0.2+	1998 04 01	704	0.0	0.4-
1988 10 13	399	1.2-	0.1+	1994 04 11	399	(2.7-	2.5-)	1998 04 04	699	1.6+	0.1-

1988 10 13	399	1.7+	0.5-	1994 04 11	399	(2.4-	1.5-)	1998 04 04	699	0.7+	0.6+
1988 10 16	399	0.9-	0.2+	1994 04 13	399	2.1-	0.4-	1998 04 04	699	1.2+	0.4+
1988 10 16	399	0.5-	1.3+	1994 04 13	399	1.8-	2.0+	1998 04 04	888	0.5+	0.3+
1988 10 16	399	(2.9+	0.0)	1994 04 15	801	0.6+	0.4-	1998 04 04	888	0.5+	0.4+
1988 10 16	399	0.6-	0.9+	1994 04 15	801	0.1+	0.4-	1998 04 04	888	0.7+	0.5+
1988 10 16	399	0.5+	0.5-	1996 11 12	801	0.6+	0.1-	1998 04 20	704	0.3-	0.8+
1988 10 19	399	1.8+	0.5-	1996 11 12	801	1.7+	1.9-	1998 04 20	704	0.3-	1.7-
1988 10 31	399	2.0+	0.8-	1996 12 08	886	1.4-	1.3+	1998 04 20	704	(0.0	2.6+)
1988 10 31	399	(0.7+	2.7-)	1996 12 08	886	0.8-	0.3-	1998 04 20	704	1.0-	0.6-
1992 10 28	399	1.6-	0.2-	1996 12 09	801	1.1+	1.4-	1998 04 20	704	0.8-	0.5+
1992 10 28	399	0.3+	0.4-	1996 12 09	801	0.8+	1.2-	1998 04 21	704	0.5-	0.6+
1992 11 02	399	0.8-	0.8+	1996 12 15	399	0.5-	1.1+	1998 04 21	704	1.1-	0.7+
1992 11 02	399	1.2-	1.2+	1996 12 15	399	1.6-	0.9+	1998 04 21	704	0.3-	0.1+
1992 11 18	399	0.0	1.2+	1996 12 28	886	0.1-	1.1+	1998 04 21	704	0.6-	0.6+
1992 11 18	399	1.7+	1.7+	1996 12 28	886	1.0-	0.4+	1998 04 21	704	0.3-	0.5+
1992 11 21	399	0.2-	0.4+	1997 01 07	801	1.0+	0.0	1998 04 22	704	0.2-	0.3+
1992 11 21	399	0.5-	0.5+	1997 01 07	801	1.2+	0.7-	1998 04 22	704	1.7-	0.4+
1994 03 11	399	(2.7-	1.1-)	1997 01 09	399	(2.3-	2.0+)	1998 04 22	704	0.9-	0.6+
1994 03 11	399	1.8-	1.0-	1997 01 09	399	1.8-	0.8+	1998 04 22	704	0.1-	0.5+
1994 03 12	801	0.7+	1.9-	1997 01 28	689	1.3+	0.2-	1998 04 22	704	0.5-	1.4+
1994 03 12	801	0.7+	1.5-	1998 03 25	704	1.0+	0.0				

(8646)* 1988 TB₁ = 1991 KH₂ = 1992 WC₄

Discovered 1988 Oct. 13 by S. Ueda and H. Kaneda at Kushiro.

Id. S. Nakano (*MPC* 21260)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>	224.73944		(2000.0)	P		Q	
<i>n</i>	0.25999219	ω	144.72730	+0.99282106		+0.11203075	
<i>a</i>	2.4312476	Ω	208.92589	-0.11957912		+0.93752558	
<i>e</i>	0.1495981	<i>i</i>	4.96941	+0.00267769		+0.32938565	
<i>P</i>	3.79	<i>H</i>	14.4	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1954 12 21	675	0.2-	0.5+	1988 11 03	033	0.2+	0.3-	1998 03 27	910	1.3+	0.8-
1954 12 21	675	0.3-	0.3-	1988 11 04	033	0.5+	0.3+	1998 03 28	910	1.8+	0.9-
1988 10 07	675	0.2+	1.3-	1991 05 17	809	1.2+	0.2-	1998 03 28	910	1.6+	0.5-
1988 10 07	675	0.5+	1.7-	1991 05 17	809	0.3-	0.1+	1998 03 28	910	1.4+	0.8-
1988 10 13	675	0.3-	0.9+	1991 05 17	809	0.1-	0.0	1998 04 01	704	0.6+	0.2-
1988 10 13	675	0.1+	0.2-	1992 11 21	399	1.1-	1.3+	1998 04 01	704	0.5-	0.9+
1988 10 13	399	0.1-	0.0	1992 11 21	399	(2.1-	2.2+)	1998 04 01	704	0.5-	1.2+
1988 10 13	399	(3.6+	0.3+)	1992 11 27	399	0.4-	0.7-	1998 04 01	704	0.4+	0.6-
1988 10 13	399	(2.7+	0.1+)	1992 11 27	399	0.5-	1.6-	1998 04 01	704	0.6-	2.0-
1988 10 16	399	0.4+	0.1+	1995 06 29	801	1.3-	0.2-	1998 04 19	704	0.5-	0.4+
1988 10 16	399	0.7+	1.1+	1995 06 29	801	0.4-	1.1-	1998 04 19	704	0.3-	1.2+
1988 10 19	399	0.7-	0.4-	1998 03 20	704	0.0	0.2+	1998 04 19	704	0.8-	1.2+
1988 10 19	399	(1.4-	2.3-)	1998 03 20	704	0.1+	0.4-	1998 04 19	704	(0.1-	3.2+)
1988 10 19	399	0.0	0.5-	1998 03 20	704	0.8-	1.3+	1998 04 19	704	0.1-	0.2-
1988 10 31	399	(2.8+	3.2+)	1998 03 20	704	0.0	0.6+	1998 04 20	704	0.1-	1.9-
1988 10 31	399	(4.7+	1.1+)	1998 03 20	704	1.4-	1.2-	1998 04 20	704	0.9-	0.2-
1988 10 31	399	0.9+	0.7-	1998 03 23	691	1.1-	0.2+	1998 04 20	704	0.1+	0.1+
1988 11 02	399	(2.4+	1.1-)	1998 03 23	691	0.9-	0.4+	1998 04 20	704	0.1-	0.9-
1988 11 02	399	1.3+	0.1+	1998 03 23	691	1.0-	0.4+	1998 04 20	704	0.4-	0.3-
1988 11 02	399	(2.7+	2.4+)	1998 03 26	910	1.1+	1.1-				
1988 11 03	033	0.2-	0.1-	1998 03 27	910	1.1+	0.7-				

1998 MAY 11

M.P.C. 31675

Residuals in seconds of arc

1979 11 14	095	0.1+	0.6-	1998 03 03	704	0.2+	1.7-	1998 04 18	704	0.2+	0.4+
1989 09 02	511	0.9+	1.4-	1998 03 03	704	0.1-	2.1+	1998 04 18	704	1.8+	1.0+
1989 09 02	511	0.4+	0.5-	1998 03 03	704	1.3-	0.8+	1998 04 18	704	0.9+	0.2-
1989 09 02	511	0.7+	0.5-	1998 03 03	704	1.5+	1.0+	1998 04 18	704	0.1-	1.6-
1989 09 04	511	0.1+	0.6-	1998 03 25	704	0.2-	0.1-	1998 04 19	704	0.4+	0.6-
1989 09 04	511	0.4+	0.9-	1998 03 25	704	0.0	0.7-	1998 04 19	704	0.4+	0.3-
1989 09 08	511	1.8-	1.8+	1998 03 25	704	(0.2-	2.6-)	1998 04 19	704	0.9-	0.6-
1989 09 08	511	(1.2-	2.4+)	1998 03 25	704	0.1+	0.1-	1998 04 19	704	0.1-	0.1-
1989 10 02	071	1.1+	1.0-	1998 03 25	704	0.0	0.2+	1998 04 20	704	0.2+	0.6-
1989 10 02	071	0.4-	0.0	1998 03 31	704	0.3-	0.0	1998 04 20	704	0.0	0.5-
1994 01 05	399	(2.4-	2.1+)	1998 03 31	704	1.8-	0.9-	1998 04 20	704	0.3+	0.8-
1994 01 05	399	0.3-	1.4+	1998 03 31	704	0.3+	0.7+	1998 04 20	704	0.6+	0.5-
1994 01 07	408	0.2+	1.5+	1998 03 31	704	0.1+	0.3-	1998 04 20	704	0.5+	0.3-
1994 01 07	408	0.3+	0.4-	1998 03 31	704	0.1-	1.0+	1998 04 22	704	0.3+	0.4+
1994 01 08	408	1.7+	0.6-	1998 04 01	704	0.3-	1.2+	1998 04 22	704	0.8+	1.0-
1994 01 08	408	0.3+	1.7-	1998 04 01	704	1.0-	0.9-	1998 04 22	704	0.3+	0.7-
1994 01 19	691	0.4-	0.4-	1998 04 01	704	1.3-	0.3+	1998 04 22	704	0.2+	0.8+
1994 01 19	691	0.8-	0.6-	1998 04 01	704	0.9-	0.3-	1998 04 22	704	0.7-	0.5-
1994 01 19	691	1.3-	0.6-	1998 04 01	704	1.3-	0.2+				

(8648)* 1989 RJ = 1991 GX₅

Discovered 1989 Sept. 2 by E. W. Elst at Haute Provence.

Id. B. G. Marsden (*MPC* 18432)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Marsden			
<i>M</i>	165.89752	(2000.0)	<i>P</i>	<i>Q</i>	
<i>n</i>	0.28992448	ω	215.91556	+0.46339187	-0.88568911
<i>a</i>	2.2608901	Ω	206.51322	+0.82728718	+0.44398343
<i>e</i>	0.2411067	<i>i</i>	3.68414	+0.31759077	+0.13577009
<i>P</i>	3.40	<i>H</i>	14.0	<i>G</i>	0.15

Residuals in seconds of arc

1988 05 10	675	0.8+	0.1-	1991 04 19	809	0.5-	0.5-	1998 03 22	327	0.4-	0.5-
1989 09 02	511	0.1-	2.0-	1991 04 19	809	1.1-	0.2-	1998 04 18	327	0.5+	0.2+
1989 09 02	511	0.2-	1.7-	1991 04 19	809	0.9-	0.7-	1998 04 18	327	0.2+	0.3-
1989 09 02	511	0.9+	1.7-	1991 04 19	675	(0.1-	2.5-)	1998 04 18	327	0.2-	0.8-
1989 09 04	511	1.1-	0.4+	1991 04 19	675	0.4+	0.7-	1998 04 21	704	0.5-	0.8-
1989 09 08	511	1.0-	1.5-	1991 05 15	675	0.1+	1.1-	1998 04 21	704	0.4+	0.9-
1989 09 08	511	1.4+	1.8+	1991 05 15	675	0.9+	0.3-	1998 04 21	704	1.6-	0.2+
1989 10 02	071	(2.6+	2.5+)	1991 05 17	675	0.0	1.3-	1998 04 21	704	0.6-	0.7-
1989 10 02	071	1.5+	0.5+	1991 05 17	675	1.2+	0.5+	1998 04 21	704	1.6+	1.6+
1991 04 08	809	0.7-	1.3+	1994 02 15	675	0.5-	1.2-	1998 04 22	704	0.0	0.7-
1991 04 08	809	0.3-	0.7+	1994 02 15	675	0.4-	1.6-	1998 04 22	704	0.9+	0.8+
1991 04 08	809	0.6-	1.8+	1994 03 14	675	0.2-	0.9-	1998 04 22	704	1.0+	0.2-
1991 04 10	809	1.0+	0.5+	1994 03 14	675	0.1+	1.3-	1998 04 22	704	0.5-	0.0
1991 04 10	809	0.3+	2.0+	1998 03 22	327	0.5-	0.5-	1998 04 22	704	0.8-	0.8-
1991 04 10	809	0.2+	1.0+	1998 03 22	327	0.6-	0.3-				

(8649)* 1989 SS₂ = 1992 PR₄

Discovered 1989 Sept. 26 by E. W. Elst at the European Southern Observatory.

Id. E. Bowell (*MPC* 20817)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	324.26031	(2000.0)	<i>P</i>	<i>Q</i>	
<i>n</i>	0.30076821	ω	135.43251	+0.18712424	+0.98058720
<i>a</i>	2.2062163	Ω	145.22899	-0.92752463	+0.19601447
<i>e</i>	0.1120755	<i>i</i>	5.89714	-0.32354687	+0.00520293
<i>P</i>	3.28	<i>H</i>	15.2	<i>G</i>	0.15

Residuals in seconds of arc

1988 03 18	675	0.6-	0.8-	1989 10 07	809	1.9+	0.1+	1998 03 24	704	0.2-	0.1-
1988 03 18	675	0.6-	1.9-	1989 10 07	809	0.8+	0.4+	1998 03 24	704	0.3-	0.0
1989 09 26	809	2.3+	2.0-	1989 11 02	675	0.2+	0.4-	1998 03 24	704	0.5-	0.0
1989 09 26	809	0.8+	1.7-	1989 11 02	675	1.7+	0.3+	1998 04 04	699	0.4+	1.4-
1989 09 26	809	0.5+	2.3-	1989 11 05	675	0.3+	0.5+	1998 04 04	699	0.1-	1.5-

1989 09 28	809	0.5+	1.0-	1989 11 05	675	0.2-	0.5-	1998 04 04	699	0.1+	1.3-
1989 09 28	809	0.3+	0.9-	1992 08 02	675	0.0	0.4+	1998 04 21	704	0.2-	1.1-
1989 09 28	809	1.5-	2.5-	1992 08 02	675	0.5+	1.5+	1998 04 21	704	1.2-	1.4-
1989 09 29	675	1.5-	2.3-	1992 08 06	675	0.4+	0.2+	1998 04 21	704	0.0	1.4-
1989 09 29	675	0.0	0.6+	1992 08 06	675	0.7-	0.6-	1998 04 21	704	0.3-	1.1-
1989 10 03	809	0.9-	2.4-	1997 01 15	599	0.0	1.2-	1998 04 21	704	0.4-	1.4-
1989 10 03	809	0.8-	2.3-	1997 01 15	599	0.6-	1.1-	1998 04 28	566	0.4-	0.9-
1989 10 03	809	0.3-	2.4-	1998 03 24	704	0.7-	0.9-	1998 04 28	566	0.8-	0.9-
1989 10 07	809	2.3+	0.4+	1998 03 24	704	0.2+	0.7-	1998 04 28	566	0.1-	0.8-

(8650)* 1989 TJ₂ = 1994 CV₈

Discovered 1989 Oct. 5 by A. Mrkos at Kletř.

Id. G. V. Williams (*MPC* 23337)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	151.20858	(2000.0)	<i>P</i>	<i>Q</i>	
<i>n</i>	0.28711097	ω	109.21215	+0.28562807	-0.95699601
<i>a</i>	2.2756364	Ω	324.06730	+0.84358019	+0.27619821
<i>e</i>	0.1306359	<i>i</i>	4.96088	+0.45474066	+0.08873098
<i>P</i>	3.43	<i>H</i>	14.2	<i>G</i>	0.15

Residuals in seconds of arc

1989 10 03	399	0.9-	0.8-	1996 08 21	046	0.8-	0.6-	1996 12 04	046	0.3+	0.7+
1989 10 03	399	(2.3+	3.1-)	1996 08 23	046	0.7-	0.4-	1996 12 04	046	0.1+	0.7+
1989 10 05	046	(0.7+	4.8-)	1996 08 23	046	0.6-	0.1+	1996 12 05	046	0.8+	0.5+
1989 10 05	046	(1.3+	5.3-)	1996 08 23	046	0.6-	0.1+	1996 12 05	046	0.9+	0.8+
1989 10 22	046	2.1+	2.4-	1996 10 04	046	0.7-	0.8+	1996 12 05	046	0.0	0.9+
1989 10 22	046	0.7+	1.0-	1996 10 04	046	0.7-	0.8+	1998 03 24	046	0.2+	0.4-
1989 10 23	046	0.5-	0.9-	1996 10 04	046	0.8-	0.7+	1998 03 24	046	0.1+	0.1-
1989 10 23	046	0.0	0.0	1996 10 09	046	0.4-	0.2+	1998 03 24	046	0.4-	0.2-
1989 10 24	046	2.3+	1.2-	1996 10 09	046	0.4-	0.2+	1998 03 26	046	0.3+	0.3-
1989 10 24	046	0.5+	0.7-	1996 10 09	046	0.1-	0.2+	1998 03 26	046	0.1+	0.0
1989 10 28	046	(2.4+	3.5-)	1996 11 03	563	1.0+	0.8-	1998 03 26	046	0.3+	0.0
1989 10 28	046	(5.6+	1.4+)	1996 11 03	563	0.5+	0.1+	1998 04 09	046	0.1-	1.0-
1994 01 12	691	1.5-	0.5-	1996 11 03	563	0.7-	0.5+	1998 04 09	046	0.5-	0.3-
1994 01 12	691	1.1-	0.4-	1996 11 03	563	1.0+	0.3-	1998 04 09	046	0.5-	0.6-
1994 02 08	303	1.7+	0.3+	1996 11 05	046	0.0	0.2+	1998 04 21	046	0.1-	0.4+
1994 02 08	303	0.2+	0.6-	1996 11 05	046	0.0	0.3+	1998 04 21	046	0.1+	0.4+
1994 02 08	303	0.6-	0.5-	1996 11 05	046	0.0	0.2+	1998 04 21	046	0.3+	0.2+
1994 02 09	303	0.9+	0.3-	1996 11 10	046	0.1-	0.5+	1998 04 30	566	0.1-	0.3+
1994 02 10	303	1.5-	0.3-	1996 11 10	046	0.3-	0.3+	1998 04 30	566	0.2+	0.0
1996 08 21	046	0.9-	0.7-	1996 11 10	046	0.0	0.3+	1998 04 30	566	0.1+	0.2+
1996 08 21	046	1.3-	0.6-	1996 12 04	046	0.2+	0.8+				

(8651)* 1989 YU₅ = 1940 RA₁ = 1975 YO = 1982 YK = 1982 YH₄

Discovered 1989 Dec. 29 by E. W. Elst at Haute Provence.

Id. H. Kaneda (*MPC* 16435)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	215.63788	(2000.0)	<i>P</i>	<i>Q</i>	
<i>n</i>	0.28365891	ω	105.45597	+0.95332216	-0.29986438
<i>a</i>	2.2940617	Ω	272.00356	+0.26164694	+0.87898070
<i>e</i>	0.2779189	<i>i</i>	2.03403	+0.15072406	+0.37077524
<i>P</i>	3.47	<i>H</i>	14.5	<i>G</i>	0.15

Residuals in seconds of arc (or two decimals in units of degrees)

1940 09 07	119	(0.03+	0.01-)	X	1992 07 25	010	0.4+	0.9-	1998 04 01	704	(0.7+	2.5+)
1975 12 24	330	0.3-	0.3+		1992 07 25	010	0.1-	0.2-	1998 04 01	704	0.0	1.8-
1982 12 16	511	1.0-	1.9+		1992 07 26	010	0.0	1.2-	1998 04 01	704	1.4-	0.6-
1982 12 23	095	2.2+	0.7+		1992 07 26	010	0.3-	0.5-	1998 04 21	704	0.1-	0.7-
1989 12 29	511	0.4-	0.7-		1992 07 26	010	0.0	0.7+	1998 04 21	704	0.8+	0.6+
1989 12 29	511	1.0-	0.5+		1992 07 27	010	1.5+	0.5-	1998 04 21	704	0.1+	0.6

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1990 01 04	511	0.2+	1.1-	1998 03 25	704	0.8+	0.0	1998 04 22	704	0.6-	0.8-
1990 01 24	033	0.2+	0.1-	1998 03 25	704	0.3+	0.2-	1998 04 22	704	(4.8-	0.5+)
1990 01 24	033	0.7+	0.4-	1998 03 25	704	(6.9-	2.6-)				
1992 07 25	010	0.1-	1.2-	1998 04 01	704	(2.2+	0.7-)				

(8652)* 1990 EA₅ = 1990 GQ = 1979 MC₁ = 1991 SW₁

Discovered 1990 Mar. 2 by E. W. Elst at the European Southern Observatory.

Id. G. V. Williams (d, *MPC* 16553; *MPC* 20018), E. Bowell (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	310.47871		(2000.0)	P	Q		
<i>n</i>	0.25425934	ω	350.35955	+0.39802079	+0.91697730		
<i>a</i>	2.4676569	Ω	303.09039	-0.83951048	+0.35218747		
<i>e</i>	0.1682218	<i>i</i>	1.85068	-0.36986700	+0.18739427		
<i>P</i>	3.88	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1949 12 22	675	1.2-	0.8-	1991 09 10	675	(1.5-	2.2-)	1998 04 01	704	0.2-	0.1-
1949 12 22	675	0.3-	0.2+	1991 09 10	675	1.3-	0.2-	1998 04 01	704	0.8-	0.1-
1979 06 22	805	0.1+	0.5+	1991 09 16	675	0.4+	0.3-	1998 04 01	704	0.2+	0.8-
1979 06 22	805	0.4+	0.9-	1991 09 16	675	0.8+	0.4+	1998 04 20	704	0.4-	0.1+
1990 03 02	809	0.4+	1.1-	1991 09 16	675	0.7+	0.2-	1998 04 20	704	0.6-	1.8-
1990 03 02	809	1.1+	0.8-	1991 09 16	675	0.4+	0.3+	1998 04 20	704	0.6+	0.3+
1990 03 02	809	1.8+	1.2-	1991 09 17	675	0.5-	1.0-	1998 04 20	704	1.1-	0.2+
1990 03 04	809	0.8-	0.9-	1991 09 17	675	1.1+	0.1+	1998 04 20	704	0.9-	0.2+
1990 03 04	809	0.7-	0.7-	1998 03 25	699	1.1+	0.6+	1998 04 21	704	0.4-	0.1+
1990 03 04	809	0.8-	1.2-	1998 03 25	699	0.7+	0.1+	1998 04 21	704	1.0-	0.7+
1990 04 15	809	(3.6+	2.6-)	1998 03 25	699	1.1+	0.5+	1998 04 21	704	0.5-	0.6+
1990 04 16	809	(2.4+	1.6-)	1998 03 25	704	0.2+	0.2+	1998 04 21	704	0.2+	0.1-
1990 04 16	809	0.7-	1.4-	1998 03 25	704	0.3+	0.4+	1998 04 21	704	(2.3-	0.1+)
1990 04 16	809	(3.5+	0.3-)	1998 03 25	704	0.6+	0.0	1998 04 22	704	0.4-	0.0
1990 04 17	809	1.1+	0.4-	1998 03 25	704	1.5+	0.5+	1998 04 22	704	0.9-	0.2+
1990 04 17	809	0.4+	0.4-	1998 03 25	704	0.0	1.5+	1998 04 22	704	0.6-	0.1+
1991 08 08	675	0.3-	1.2-	1998 04 01	704	0.1+	0.1-	1998 04 22	704	1.4-	0.6+
1991 08 08	675	0.8+	0.5-	1998 04 01	704	0.2+	0.3+	1998 04 22	704	0.5-	0.4+

(8653)* 1990 KE = 1991 PL₁₁

Discovered 1990 May 20 by R. H. McNaught at Siding Spring.

Id. E. Bowell (*MPC* 19504)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	210.64964		(2000.0)	P	Q		
<i>n</i>	0.23354211	ω	178.56314	+0.98857495	-0.14385247		
<i>a</i>	2.6115154	Ω	190.04963	+0.13559195	+0.97914578		
<i>e</i>	0.1061784	<i>i</i>	14.94807	+0.06583606	+0.14345734		
<i>P</i>	4.22	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1953 10 01	675	0.7-	0.5+	1991 09 15	675	0.3+	0.9-	1998 03 24	699	1.2-	0.6+
1953 10 01	675	0.6+	0.9+	1991 09 15	675	0.3+	0.3-	1998 03 25	704	0.9-	0.5-
1990 05 19	413	(6.9-	3.1+)	1991 09 17	675	0.0	0.9-	1998 03 25	704	0.2+	0.1-
1990 05 19	413	(5.3+	0.8-)	1991 09 17	675	0.7+	1.3-	1998 03 25	704	0.2-	0.6-
1990 05 20	413	0.6-	0.3+	1998 03 20	704	0.0	0.2-	1998 03 25	704	0.6-	0.5-
1990 05 20	413	0.8+	0.8+	1998 03 20	704	0.0	0.7-	1998 03 25	704	0.6-	0.7-
1990 05 26	413	0.0	0.3+	1998 03 20	704	0.8+	0.5-	1998 04 20	704	0.1-	0.6-
1990 05 26	413	1.5+	0.4-	1998 03 20	704	1.1+	0.2-	1998 04 20	704	0.1-	0.0
1990 05 29	413	0.9-	1.4+	1998 03 20	704	0.1-	1.3-	1998 04 20	704	0.1+	0.2-
1990 05 29	413	1.3-	0.6+	1998 03 22	704	0.6-	0.2-	1998 04 20	704	0.4-	0.5+
1991 08 09	675	(16.5-	0.5-)	1998 03 22	704	0.6-	0.6-	1998 04 20	704	0.1+	0.1+
1991 08 10	675	0.7-	0.5-	1998 03 22	704	0.5-	0.0	1998 04 22	704	0.1+	0.1-
1991 09 13	675	0.8+	0.6-	1998 03 22	704	0.4-	0.3-	1998 04 22	704	0.9+	0.5-
1991 09 13	675	0.4+	0.7-	1998 03 22	704	0.5-	0.6-	1998 04 22	704	0.4+	0.4-
1991 09 14	675	0.2-	1.2-	1998 03 24	699	0.3+	0.1-	1998 04 22	704	0.0	0.1-
1991 09 14	675	0.6-	0.4-	1998 03 24	699	1.6+	0.1+	1998 04 22	704	0.8+	0.4-

(8654)* 1990 KC₁ = 1977 CE₃ = 1984 YK₅

Discovered 1990 May 20 by R. H. McNaught at Siding Spring.

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Id. E. Bowell (*MPC* 18295), G. V. Williams (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	45.64223		(2000.0)	P	Q		
<i>n</i>	0.23953472	ω	58.63711	-0.95938275	-0.16017657		
<i>a</i>	2.5677756	Ω	111.25654	+0.08532013	-0.94937168		
<i>e</i>	0.0927503	<i>i</i>	14.42881	+0.26889627	-0.27025337		
<i>P</i>	4.11	<i>H</i>	13.4	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1954 08 27	675	0.5-	0.0	1990 05 29	413	1.1-	0.4-	1998 04 02	704	0.0	0.7-
1954 08 27	675	0.4-	0.1-	1990 05 29	413	(4.0+	0.7+)	1998 04 02	704	0.4+	0.2-
1977 02 12	675	0.3+	0.1-	1994 03 20	413	0.5-	0.7-	1998 04 03	704	0.3-	0.3-
1977 02 13	675	0.3+	0.1-	1994 03 20	413	0.6-	0.5-	1998 04 03	704	0.4-	0.4+
1984 12 28	095	0.4-	0.7+	1996 12 16	566	0.5+	0.1-	1998 04 03	704	0.1-	0.3+
1990 05 20	413	1.7+	0.4-	1996 12 16	566	0.0	0.0	1998 04 03	704	0.1-	0.9+
1990 05 20	413	1.4+	0.2-	1996 12 16	566	0.5+	0.5-	1998 04 03	704	0.4-	0.8+
1990 05 26	413	(2.3-	1.6-)	1998 02 19	689	0.2-	0.5-	1998 05 04	758	0.5-	0.8+
1990 05 26	413	(0.9+	2.6-)	1998 04 02	704	0.2-	0.0	1998 05 04	758	0.4+	0.2+

(8655)* 1990 QJ₁ = 1990 TF₅ = 1980 RD

Discovered 1990 Aug. 22 by H. E. Holt at Palomar.

Id. H. Kaneda (*MPC* 17639)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	105.91053		(2000.0)	P	Q		
<i>n</i>	0.29665625	ω	53.27010	+0.95432177	-0.29502311		
<i>a</i>	2.2265565	Ω	323.82095	+0.24222564	+0.85650897		
<i>e</i>	0.1631205	<i>i</i>	4.58973	+0.17491910	+0.42350178		
<i>P</i>	3.32	<i>H</i>	14.1	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1976 05 21	413	0.9+	0.6-	1990 09 20	675	0.5-	0.2-	1995 03 04	801	1.7-	0.4-
1976 06 28	413	0.2+	0.9-	1990 09 20	675	0.6-	0.4+	1995 03 04	801	0.6-	0.3-
1980 09 10	552	(3.5+	6.9+)	1990 10 09	413	0.5-	0.3+	1996 06 04	689	0.5-	0.3-
1980 09 10	552	0.3-	1.7-	1990 10 09	413	0.2-	2.0+	1997 12 06	704	0.6-	0.1+
1980 09 12	552	0.4+	0.8-	1990 10 11	413	0.0	1.1+	1997 12 06	704	1.0-	0.5-
1980 09 12	552	0.7+	0.5-	1992 03 01	809	1.0-	1.7+	1997 12 06	704	1.2+	0.3-
1990 08 22	675	1.3+	1.6-	1992 03 03	809	1.2-	0.5-	1997 12 06	704	1.4+	0.4+
1990 08 22	675	0.4+	1.1-	1992 03 06	809	1.8+	1.8-	1998 01 08	699	0.5-	0.3-
1990 08 28	675	0.7+	1.3-	1992 04 07	809	0.3-	1.3-	1998 01 08	699	0.0	0.2-
1990 08 28	675	0.3+	0.5-	1995 01 31	596	0.4-	0.6-	1998 01 08	699	1.1+	0.2-
1990 09 15	675	0.4-	0.0	1995 01 31	596	0.4-	0.7-				
1990 09 15	675	0.1+	0.1-	1995 01 31	596	0.1-	0.8-				

(8656)* 1990 QY₈ = 1951 WW₂ = 1993 FL₃₁

Discovered 1990 Aug. 16 by E. W. Elst at the European Southern Observatory.

Id. K. Ichikawa (*MPC* 24229)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	117.54527		(2000.0)	P	Q		
<i>n</i>	0.19758774	ω	316.93890	+0.15351002	-0.98648238		
<i>a</i>	2.9194164	Ω	124.15197	+0.92438421	+0.12285757		
<i>e</i>	0.1219154	<i>i</i>	3.97272	+0.34921127	+0.10843674		
<i>P</i>	4.99	<i>H</i>	13.4	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1951 11 28	675	0.6+	0.3-	1998 03 20	704	0.7-	0.0	1998 04 05	557	0.6+	0.4-
1951 11 28	675	0.4-	0.1-	1998 03 20	704	0.2-	0.1+	1998 04 17	557	0.0	0.3+
1990 08 16	809	(1.1+	3.1-)	1998 03 20	704	0.0	0.5+	1998 04 17	557	0.3+	0.4+
1990 08 16	809	(0.5+	4.4-)	1998 03 20	704	0.5-	0.2-	1998 04 17	557	0.6+	0.0
1990 08 16	809	(0.4-	3.2-)	1998 03 20	704	0.0	0.2+	1998 04 17	557	0.6+	0.2-
1990 08 18	809	(1.8+	3.0-)	1998 03 22	704	0.5-	0.2+	1998 04 18	691	1.4-	0.6+
1990 08 18	809	(1.0+	2.5-)	1998 03 22	704	0.1+	0.0	1998 04 18	691	1.3-	0.2+
1990 08 18	809	(1.0+	2.4-)	1998 03 22	704	0.5-	0.8+	1998 04 18	691	1.4-	0.3+
1990 08 24	809	(2.5+	3.8-)	1998 03 22	704	0.0	0.5+	1998 04 20	704	0.1+	0.5-

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1990 08 24	809	(2.3+ 5.0-)	1998 03 22	704	1.1- 0.6+	1998 04 20	704	1.0+ 0.6+
1990 08 24	809	(1.3+ 4.6-)	1998 03 24	566	0.1- 0.4-	1998 04 20	704	1.0+ 0.3-
1990 08 26	809	0.1+ 0.7-	1998 03 24	566	0.8- 0.5-	1998 04 20	704	0.7+ 0.4-
1990 08 26	809	0.6+ 0.8-	1998 03 24	566	1.0- 1.0-	1998 04 20	691	0.4- 0.3+
1990 08 26	809	0.3+ 1.4-	1998 03 26	557	0.0 0.0	1998 04 20	704	0.1+ 0.1+
1993 03 19	809	0.7+ 0.1+	1998 03 26	557	0.1+ 0.4-	1998 04 20	691	0.4- 0.1+
1993 03 20	809	0.5+ 1.6+	1998 03 26	557	0.2+ 0.0	1998 04 20	691	0.1- 0.3+
1993 03 24	809	0.0 0.3-	1998 03 31	557	0.0 0.4-	1998 04 22	704	1.0+ 0.0
1993 03 25	691	1.2- 0.4-	1998 03 31	557	0.2+ 0.5-	1998 04 22	704	0.3+ 0.3+
1993 03 25	691	1.1- 0.4-	1998 03 31	557	0.1- 0.5-	1998 04 22	704	1.2+ 0.4+
1993 03 25	691	1.0- 0.3-	1998 03 31	557	0.3+ 0.3-	1998 04 22	704	0.5+ 0.4-
1993 04 16	413	(1.0+ 10.8+)	1998 03 31	557	0.4+ 0.5-	1998 04 22	704	0.9+ 0.7-
1996 12 07	886	1.1+ 0.2-	1998 04 01	557	0.7+ 0.8-	1998 04 29	691	0.2- 0.1-
1996 12 07	886	0.0 0.8-	1998 04 01	557	0.0 0.3-	1998 04 29	691	0.3+ 0.1-
1996 12 28	886	0.0 0.4-	1998 04 05	557	0.3+ 0.4-	1998 04 29	691	0.2- 0.2-
1996 12 28	886	1.3- 0.2+	1998 04 05	557	0.8+ 0.3-			

(8657)* 1990 QE₉ = 1995 SX₁₆

Discovered 1990 Aug. 16 by E. W. Elst at the European Southern Observatory.

Id. G. V. Williams (*MPC* 25956)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	155.96907	(2000.0)		P		Q	
<i>n</i>	0.20277170	ω	58.37981	+0.62425454		-0.78121240	
<i>a</i>	2.8694445	Ω	352.98925	+0.70619360		+0.56630326	
<i>e</i>	0.0608958	<i>i</i>	1.72190	+0.33406117		+0.26269335	
<i>P</i>	4.86	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1990 08 16	809	0.8+ 1.1+	1995 09 18	809	0.2+ 0.2+	1998 03 29	120	0.4- 0.9+
1990 08 16	809	0.3+ 0.0	1995 09 18	691	1.5- 0.8+	1998 03 30	120	0.3- 0.4+
1990 08 16	809	0.2- 0.3-	1995 09 18	691	1.7- 0.7+	1998 03 30	120	0.1+ 0.1+
1990 08 18	809	0.9+ 0.5+	1995 09 18	691	1.6- 0.6+	1998 04 01	704	0.3+ 0.4-
1990 08 18	809	0.1- 0.5+	1995 09 19	809	1.7+ 0.2+	1998 04 01	704	1.3+ 0.8+
1990 08 18	809	0.2- 0.4+	1995 09 19	809	0.9+ 0.7+	1998 04 01	704	0.7+ 0.8-
1990 08 24	809	0.9+ 1.2-	1995 09 20	809	0.7+ 0.4+	1998 04 01	704	0.7+ 0.4-
1990 08 24	809	0.6+ 0.8-	1995 09 23	691	1.8- 1.0+	1998 04 04	699	0.2- 0.3-
1990 08 24	809	0.2+ 1.3-	1995 09 23	691	1.7- 0.9+	1998 04 04	699	0.1- 0.3+
1990 08 26	809	0.1+ 1.8-	1995 09 23	691	1.6- 0.7+	1998 04 04	699	1.0+ 0.2-
1990 08 26	809	0.2+ 1.0-	1995 09 28	327	0.2- 0.8+	1998 04 19	704	(0.1+ 2.2+)
1990 08 26	809	0.3+ 0.3-	1995 09 28	327	0.2+ 0.5+	1998 04 19	704	0.2+ 0.5+
1990 08 29	675	0.1+ 1.1-	1995 09 29	327	0.1+ 0.6+	1998 04 19	704	0.2- 0.5+
1990 08 29	675	0.1+ 1.8-	1995 09 29	327	0.5+ 0.2+	1998 04 19	704	1.0- 0.7-
1990 09 11	809	0.3+ 0.8+	1995 09 29	327	0.1- 0.4+	1998 04 20	704	0.5+ 0.6+
1990 09 11	809	0.8+ 0.5+	1996 12 07	411	0.2+ 0.1+	1998 04 20	704	0.1+ 0.5+
1990 09 11	809	1.2+ 0.3+	1996 12 07	411	0.2- 0.1-	1998 04 20	704	0.1+ 0.4+
1990 09 12	809	1.1- 0.2-	1998 03 20	704	0.6- 0.3+	1998 04 20	704	0.5+ 0.3+
1990 09 12	809	0.8- 0.3-	1998 03 20	704	0.4+ 0.2+	1998 04 20	704	2.0- 0.5+
1990 09 12	809	0.6- 0.3-	1998 03 20	704	0.7+ 0.6+	1998 04 22	704	0.2+ 0.1-
1990 09 13	809	0.4- 0.4+	1998 03 20	704	0.6+ 0.8-	1998 04 22	704	0.1+ 0.5+
1990 09 13	809	0.3- 0.2+	1998 03 20	704	0.8+ 0.5-	1998 04 22	704	1.0- 0.8+
1990 09 13	809	0.1- 0.3+	1998 03 22	704	0.5- 0.5+	1998 04 22	704	0.8+ 0.8+
1990 09 20	372	0.0 1.5-	1998 03 22	704	0.1+ 0.4+	1998 04 22	704	0.1- 0.1+
1990 09 20	372	(3.6- 1.5-)	1998 03 22	704	0.6+ 0.3-	1998 04 29	566	0.4- 0.3-
1995 08 25	809	0.4- 1.2+	1998 03 22	704	0.4- 0.0	1998 04 29	566	0.6- 0.3-
1995 08 25	809	(2.8- 1.2-)	1998 03 22	704	0.4- 0.5-	1998 04 29	566	0.0 0.2-
1995 08 26	809	0.2+ 1.1+	1998 03 29	120	0.3+ 0.8+			
1995 09 01	809	0.5+ 0.7+	1998 03 29	120	0.6+ 0.8+			

(8658)* 1990 RG₃ = 1985 RH₂ = 1993 FZ₄₈ = 1996 XX₂₅

Discovered 1990 Sept. 14 by H. E. Holt at Palomar.

Id. S. Nakano (*MPC* 28844)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

M	193.77942		(2000.0)	P	Q
n	0.20191578	ω	196.31597	+0.94230529	-0.33475005
a	2.8775477	Ω	183.24299	+0.31052419	+0.87606255
e	0.0546471	i	1.79417	+0.12504183	+0.34706889
P	4.88	H	12.9	G 0.15	U 1

Residuals in seconds of arc

1985 09 13	675	(3.4- 1.6+)	1996 12 13	411	0.3+ 0.5-	1998 03 25	704	0.1- 0.2+
1985 09 14	675	(2.3- 12.2+)	1996 12 13	411	0.2+ 0.7-	1998 03 25	704	0.2- 0.5+
1990 09 14	675	1.3+ 1.8-	1996 12 14	411	0.0 0.4-	1998 03 25	704	0.2+ 0.4+
1990 09 14	675	1.2+ 1.9-	1996 12 14	411	0.5- 0.0	1998 03 25	566	0.7- 0.9-
1990 09 18	675	1.3+ 2.0-	1996 12 20	411	0.2+ 0.6-	1998 03 25	566	0.8- 0.6-
1990 09 18	675	(3.4+ 1.2-)	1996 12 20	411	0.0 0.4-	1998 03 25	566	1.1- 1.0-
1990 09 22	809	1.2- 0.0	1996 12 29	411	0.1- 0.1+	1998 04 19	704	0.6+ 0.1+
1990 09 22	809	0.7- 0.2-	1996 12 29	411	0.4- 0.1+	1998 04 19	704	0.9+ 0.5-
1990 09 22	809	0.2- 0.0	1998 03 22	704	0.9- 0.1+	1998 04 19	704	0.0 0.7-
1990 09 23	809	0.7- 0.6-	1998 03 22	704	0.0 0.3+	1998 04 19	704	1.2+ 0.6-
1990 09 23	809	0.5- 0.4-	1998 03 22	704	1.0- 0.2+	1998 04 20	704	0.5+ 0.0
1990 09 23	809	0.1- 0.4-	1998 03 22	704	0.3- 0.9-	1998 04 20	704	0.3+ 1.1-
1990 09 24	809	0.3- 0.6-	1998 03 22	704	1.1- 0.8-	1998 04 20	704	0.7+ 1.1-
1990 09 24	809	0.1+ 0.5-	1998 03 22	699	0.7- 1.3+	1998 04 20	704	0.3+ 1.2-
1990 09 24	809	0.4+ 0.2-	1998 03 22	699	0.2- 0.1+	1998 04 20	704	0.2- 0.8-
1990 09 29	809	0.5+ 1.1+	1998 03 22	699	0.1- 0.3-	1998 04 22	704	0.1+ 0.2-
1990 09 29	809	0.5+ 1.1+	1998 03 24	699	0.1+ 0.3-	1998 04 22	704	0.2+ 0.3+
1990 09 29	809	0.6+ 0.9+	1998 03 24	699	1.2- 0.6+	1998 04 22	704	0.2+ 0.1-
1993 03 19	809	0.2+ 0.3-	1998 03 24	699	0.5+ 0.2+	1998 04 22	704	0.2- 0.6+
1993 03 20	809	0.4+ 1.0+	1998 03 25	704	0.3- 0.6+	1998 04 22	704	0.5+ 0.5-
1993 03 24	809	0.3- 0.3+	1998 03 25	704	0.4+ 0.2-			

(8659)* 1990 SE₁₁ = 1995 UY₆

Discovered 1990 Sept. 17 by H. E. Holt at Palomar.

Id. T. Urata (*MPC* 25956)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	279.39365	(2000.0)		P		Q	
<i>n</i>	0.21217945	ω	1.14711	+0.69305811		+0.71302751	
<i>a</i>	2.7839868	Ω	312.73783	-0.66254136		+0.57201369	
<i>e</i>	0.1475900	<i>i</i>	8.30779	-0.28409402		+0.40545297	
<i>P</i>	4.65	<i>H</i>	12.9	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1990 09 17	675	0.2- 0.2-	1997 02 01	691	0.2- 0.1+	1998 03 22	699	0.2+ 0.5+
1990 09 17	675	0.3- 0.3-	1997 02 01	691	0.2- 0.2+	1998 03 22	699	0.1+ 0.5+
1990 09 18	675	0.5- 0.3-	1997 02 01	691	0.1- 0.1-	1998 03 31	704	0.1- 0.0
1990 09 18	675	0.2- 0.6-	1997 02 06	691	0.2+ 0.0	1998 03 31	704	0.5- 1.1-
1990 09 20	675	1.0+ 0.0	1997 02 06	691	0.5+ 0.1+	1998 03 31	704	0.5- 1.1+
1990 09 20	675	0.7- 0.4+	1997 02 06	691	0.1+ 0.1+	1998 03 31	704	1.8+ 0.8-
1990 10 12	413	0.4- 0.1+	1998 03 03	704	0.3- 0.1+	1998 03 31	704	(5.0+ 2.3+)
1990 10 12	413	1.4+ 1.0+	1998 03 03	704	1.6- 1.3+	1998 04 01	704	0.3+ 0.7-
1995 10 25	905	0.2- 0.4-	1998 03 03	704	0.5- 0.0	1998 04 01	704	0.3+ 0.2-
1995 10 25	905	0.7+ 0.1+	1998 03 03	704	1.1- 1.2+	1998 04 01	704	0.5+ 0.8-
1995 10 27	905	1.1- 0.7-	1998 03 03	704	1.0- 0.2-	1998 04 01	704	0.7+ 1.1-
1995 10 27	905	0.9+ 0.4-	1998 03 22	699	0.3+ 0.6+	1998 04 01	704	0.1+ 1.7-

(8660)* 1990 TM₁ = 1979 YC₇ = 1996 VW₈

Discovered 1990 Oct. 15 by K. Endate and K. Watanabe at Kitami.

Id. G. V. Williams (*MPC* 28584)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	173.83900	(2000.0)		P		Q	
<i>n</i>	0.16768187	ω	243.35647	+0.85848033		+0.49974616	
<i>a</i>	3.2569567	Ω	86.46234	-0.41988598		+0.81386169	
<i>e</i>	0.0487431	<i>i</i>	6.62641	-0.29446103		+0.29645054	
<i>P</i>	5.88	<i>H</i>	10.9	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1979 12 18	095	0.5−	1.5−	1990 10 24	809	0.6−	0.1+	1996 11 07	400	0.5−	0.3+
1990 10 15	400	(0.7−	2.3+)	1990 10 24	400	(1.5+	2.7+)	1996 11 08	400	0.2−	1.0+
1990 10 15	400	(3.4+	2.0+)	1990 10 24	400	(0.5−	3.7+)	1996 11 08	400	0.3−	1.0−
1990 10 16	809	1.0+	0.8−	1990 11 10	385	0.4−	1.0−	Y 1996 12 02	399	1.7−	1.3+
1990 10 16	809	0.8+	0.8−	1990 11 10	385	(2.2−	1.0−)	Y 1996 12 02	399	(3.2−	1.6+)
1990 10 16	809	0.1+	1.6−	1990 11 13	400	(0.5+	2.9+)	1998 02 28	689	0.3+	0.1−
1990 10 19	809	0.5+	0.1+	1990 11 13	400	(1.0+	2.9+)	1998 03 09	689	0.0	1.4+
1990 10 19	809	0.5+	1.2−	1991 12 27	691	0.6−	0.4+	1998 04 14	732	1.2+	0.2−
1990 10 19	809	0.1−	0.7+	1991 12 27	691	0.5−	0.3+	1998 04 14	732	1.4+	1.3−
1990 10 19	400	0.1−	0.3+	1991 12 27	691	0.3−	0.4+	1998 04 14	732	(1.6+	3.7−)
1990 10 19	400	1.4+	1.8+	1993 04 14	675	0.1+	0.1−	1998 04 15	732	(2.8+	1.3+)
1990 10 24	809	0.5+	0.8+	1993 04 14	675	0.9−	0.2−	1998 04 15	732	0.3+	0.4+
1990 10 24	809	0.5+	0.0	1996 11 07	400	1.3−	0.0	1998 04 15	732	0.3+	0.8−

(8661)* 1990 TA₁₃ = 1969 US = 1974 TM₁ = 1992 CB₁

Discovered 1990 Oct. 14 by F. Börngen and L. D. Schmadel at Tautenburg.

Id. K. Ichikawa (*MPC* 20507)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams		Q	
<i>M</i>	109.06665		(2000.0)	<i>P</i>		<i>Q</i>	
<i>n</i>	0.18937504	ω	85.50161	−0.54998017		−0.82728304	
<i>a</i>	3.0032228	Ω	38.59277	+0.67479062		−0.52098829	
<i>e</i>	0.0433295	<i>i</i>	10.58292	+0.49211729		−0.21017603	
<i>P</i>	5.20	<i>H</i>	12.6	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1969 10 16	095	(0.3−	3.6−)	1995 09 23	033	0.8+	0.3−	1997 03 27	689	1.4+	1.4−
1974 10 12	808	0.3−	0.8+	1995 09 24	033	0.7+	0.1−	1998 03 26	113	0.3−	0.2+
1974 10 12	808	0.1−	1.0+	1995 09 25	033	0.7+	0.3−	1998 03 26	113	0.0	0.6+
1990 10 14	033	0.8+	0.3−	1995 10 17	114	(5.6−	0.9+)	1998 03 26	113	1.2−	0.1+
1990 10 15	033	0.7+	0.1+	1995 10 17	114	(2.2−	0.4+)	1998 04 01	113	0.7+	0.6+
1990 10 15	033	0.0	0.4−	1995 10 18	114	(2.6−	0.5+)	1998 04 01	113	1.8+	0.5−
1990 10 18	033	1.1−	0.3−	1995 10 18	114	1.3−	1.3+	1998 04 21	113	0.5−	0.6+
1990 10 18	033	0.8−	0.6−	1995 10 19	114	(3.6−	0.3+)	1998 04 22	704	0.1+	0.1−
1992 02 13	376	(0.5−	2.8+)	1995 10 23	033	0.7+	0.0	1998 04 22	704	0.1+	0.1+
1992 02 13	376	(1.8+	3.8+)	1995 10 23	033	1.3+	0.2+	1998 04 22	704	0.5+	0.7−
1992 02 25	376	(2.2+	0.8−)	1995 10 24	114	0.5−	0.3+	1998 04 22	704	0.3+	0.2−
1992 02 25	376	0.4+	0.1+	1995 10 24	033	0.2−	0.6+	1998 04 22	704	0.3−	0.3−
1992 02 27	376	1.2−	1.4+	1995 10 25	114	1.2−	0.6−	1998 04 22	113	0.2+	0.5+
1992 02 27	376	0.5+	0.3+	1995 10 27	114	1.4−	0.0	1998 04 22	113	0.9−	0.6+

(8662)* 1990 UT₁₀ = 1992 CY

Discovered 1990 Oct. 22 by S. Ueda and H. Kaneda at Kushiro.

Id. S. Nakano (*MPC* 22054)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano		Q	
<i>M</i>	156.74058		(2000.0)	<i>P</i>		<i>Q</i>	
<i>n</i>	0.18985825	ω	269.79475	+0.64554068		−0.76358588	
<i>a</i>	2.9981250	Ω	139.98655	+0.70944062		+0.59245633	
<i>e</i>	0.1574586	<i>i</i>	1.30319	+0.28279187		+0.25677246	
<i>P</i>	5.19	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1990 10 10	400	0.3−	1.4+	1995 12 14	327	0.4+	0.6−	1998 03 24	704	0.1−	0.3−
1990 10 10	400	0.7−	1.4+	1995 12 14	327	0.1−	1.0−	1998 03 25	704	1.0+	0.3+
1990 10 11	400	1.7+	1.9+	1995 12 15	327	0.6+	0.5−	1998 03 25	704	0.3+	0.8+
1990 10 11	400	(0.2+	2.3+)	1995 12 15	327	0.8+	0.6−	1998 03 25	704	0.6+	0.4+
1990 10 19	399	0.3−	0.1+	1995 12 15	327	0.9+	0.5−	1998 03 25	704	1.0+	0.6+
1990 10 19	399	(3.3−	0.4−)	1995 12 16	327	0.4+	0.5−	1998 03 25	704	0.3+	1.0−
1990 10 22	399	(0.0	3.0−)	1995 12 16	327	0.1−	0.1+	1998 04 20	704	0.5+	0.4+
1990 10 22	399	1.1−	0.2−	1995 12 16	327	0.8+	0.2−	1998 04 20	704	0.3+	0.2−
1990 10 22	399	0.1+	1.8−	1997 02 03	691	0.5−	0.5−	1998 04 20	704	0.2+	0.8−
1992 02 06	303	1.6+	0.2−	1997 02 03	691	0.4−	0.1−	1998 04 20	704	0.1+	1.4−
1992 02 07	303	1.5−	0.5−	1997 02 03	691	0.5−	0.2−	1998 04 20	704	0.1−	0.5−
1993 03 24	675	2.0−	0.8−	1997 02 07	691	0.0	0.3−	1998 04 21	704	0.3−	0.4−
1993 03 24	675	0.7+	0.8+	1997 02 07	691	0.8−	1.5+	1998 04 21	704	0.0	0.3+

1995 09 20	399	0.7−	0.7+	1997 02 07	691	1.6+	0.6+	1998 04 21	704	0.3−	1.0+
1995 09 20	399	1.4−	1.5+	1998 03 22	704	0.9−	0.8−	1998 04 21	704	0.3+	0.5+
1995 09 21	399	0.1+	0.7−	1998 03 22	704	2.0+	0.4+	1998 04 21	704	1.1+	0.0
1995 09 21	399	0.1+	0.9−	1998 03 22	704	0.5+	0.9+	1998 04 22	704	0.8−	0.3−
1995 11 23	801	0.5−	0.7−	1998 03 22	704	0.6+	0.2−	1998 04 22	704	0.6−	0.2−
1995 12 12	327	2.1+	0.6−	1998 03 24	704	1.1−	1.2−	1998 04 22	704	1.7−	0.5−
1995 12 12	327	0.1−	1.3−	1998 03 24	704	0.3+	0.3−	1998 04 22	704	1.1−	0.8−
1995 12 12	327	0.1+	0.7−	1998 03 24	704	0.4−	0.8+	1998 04 22	704	0.4−	1.0−
1995 12 14	327	0.3+	1.2−	1998 03 24	704	0.9−	0.1+				

(8663)* 1991 DJ₁ = 1992 OB₁₀ = 1993 VO₂

Discovered 1991 Feb. 18 by E. F. Helin at Palomar.

Id. T. Kobayashi (*MPC* 22954)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams		Q	
<i>M</i>	74.28899		(2000.0)	<i>P</i>		<i>Q</i>	
<i>n</i>	0.29248247	ω	41.53473	−0.76813341		−0.63242959	
<i>a</i>	2.2476886	Ω	98.95402	+0.55750988		−0.73743668	
<i>e</i>	0.1129541	<i>i</i>	5.81135	+0.31488697		−0.23710749	
<i>P</i>	3.37	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1991 02 18	675	0.0	0.6−	1993 11 18	411	0.5+	0.4−	1998 04 04	750	0.3−	0.8−
1991 02 18	675	0.3+	0.4+	1993 11 18	411	0.2+	0.8−	1998 04 20	704	0.2+	0.2−
1991 02 19	675	0.3+	1.8+	1993 11 22	411	0.6−	1.2−	1998 04 20	704	0.4+	1.3−
1991 02 19	675	0.3+	1.4+	1993 11 22	411	0.1−	0.1−	1998 04 20	704	0.5−	0.4+
1991 02 20	675	0.3+	0.7+	1993 12 04	411	0.9+	0.3+	1998 04 20	704	1.0+	0.3+
1992 07 30	809	(6.3+	2.3+)	1993 12 04	411	0.8+	0.3+	1998 04 20	704	0.0	0.4−
1992 07 30	809	(6.0+	2.5+)	1993 12 04	411	0.2+	0.4+	1998 04 21	704	0.1+	0.2−
1992 07 30	809	(6.5+	2.8+)	1993 12 14	411	0.3+	0.3+	1998 04 21	704	0.1+	0.5−
1992 07 31	809	0.3+	1.2+	1993 12 14	411	0.1−	0.0	1998 04 21	704	0.6−	0.6−
1992 07 31	809	0.2+	1.2+	1993 12 14	411	0.2+	0.1+	1998 04 21	704	0.1−	0.1−
1992 07 31	809	0.2+	1.2+	1995 06 30	608	0.0	0.1−	1998 04 21	704	0.2−	0.8−
1992 08 01	809	0.6−	0.1+	1995 06 30	608	0.2−	0.3−	1998 04 23	127	0.2−	0.1+
1992 08 01	809	0.3−	0.2+	1995 07 07	608	0.4−	0.7+	1998 04 23	127	0.2−	0.1−
1992 08 01	809	0.1+	0.4+	1995 07 07	608	0.4−	0.3+	1998 04 24	758	0.5+	0.0
1992 08 03	809	0.0	0.0	1998 03 24	704	0.3+	0.3−	1998 04 24	758	0.2+	0.4+
1992 08 03	809	0.2+	0.3−	1998 03 24	704	0.0	0.6−	1998 04 24	952	0.2−	1.3+
1992 08 03	809	0.2+	0.3−	1998 03 24	704	0.2+	0.8−	1998 04 25	952	1.3−	0.8+
1993 11 15	411	1.9−	1.2+	1998 03 24	704	0.6−	0.4−	1998 04 25	952	0.3+	1.4+
1993 11 15	411	1.2−	0.9+	1998 03 24	704	0.3+	0.0	1998 04 25	952	0.9+	1.2+
1993 11 18	411	0.2+	0.2−	1998 04 04	750	0.5−	0.2−				

(8664)* 1991 GR₁ = 1988 RK₁₄ = 1994 CE₁₉ = 1996 XW₃₃

Discovered 1991 Apr. 10 by E. F. Helin at Palomar.

Id. E. Howell (*MPC* 28845), G. V. Williams (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams		Q	
<i>M</i>	338.49100		(2000.0)	<i>P</i>		<i>Q</i>	
<i>n</i>	0.27079602	ω	98.03271	−0.48261427		+0.87266648	
<i>a</i>	2.3661442	Ω	142.81276	−0.84422884		−0.44090083	
<i>e</i>	0.0954991	<i>i</i>	7.07148	−0.23315472		−0.20990397	
<i>P</i>	3.64	<i>H</i>	14.1	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1988 09 10	675	0.0	0.2+	1994 02 13	691	0.3+	0.5+	1998 02 27	566	0.2−	0.0
1988 09 10	675	1.0−	0.2+	1994 02 13	691	0.1+	0.2+	1998 03 03	699	0.9−	0.5+
1988 09 12	675	0.5+	0.6+	1994 02 13	691	0.2+	0.3+	1998 03 03	699	0.5+	0.4+
1988 09 12	675	0.4+	0.4+	1996 12 04	691	0.3−	0.1+	1998 03 03	699	1.1+	0.2+
1991 04 10	675	0.9−	1.1−	1996 12 04	691	0.2−	0.1+	1998 04 17	689	0.7−	0.2+
1991 04 10	675	0.9−	1.2−	1996 12 04	691	0.2−	0.2+	1998 04 19	704	1.0+	0.3+
1991 04 12	675	1.6−	0.5−	1998 02 24	557	0.6−	0.1−	1998 04 19	704	0.7+	0.6+
1991 04 12	675	0.3−	0.6−	1998 02 24	557	0.5−	0.1+	1998 04 19	704	1.1+	0.5+
1991 05 08	675	1.2+	0.6+	1998 02 27	557	0.3−	0.0	1998 04 19	704	0.2+	0.7−
1991 05 08	675	1.0+	1.0+	1998 02 27	557	0.2−	0.1−	1998 04 19	704	0.0	1.2−
1991 05 10	675	0.4+	0.9+	1998 02 27	566	0.3−	0.1+				
1991 05 10	675	0.3+	1.1+	1998 02 27	566	0.2−	0.0				

1998 MAY 11

M.P.C. 31679

(8665)* 1991 GA₉ = 1978 UY₅Discovered 1991 Apr. 8 by E. W. Elst at the European Southern Observatory.
Id. K. Ichikawa (*MPC* 25214)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	64.82151	(2000.0)	P	Q	
<i>n</i>	0.27246672	ω 280.34391	−0.60064793	−0.79832289	
<i>a</i>	2.3564618	Ω 206.72206	+0.76625451	−0.55923212	
<i>e</i>	0.0833243	<i>i</i> 5.56667	+0.22820186	−0.22347260	
<i>P</i>	3.62	<i>H</i> 14.5	<i>G</i> 0.15	<i>U</i> 1	

Residuals in seconds of arc

1978 10 27	675	0.1−	0.5−	1991 04 19	675	0.8+	0.5−	1996 10 11	566	0.5+	0.5−
1978 10 28	675	0.9+	0.4−	1991 05 15	675	0.5+	0.3+	1998 03 03	704	0.3+	0.1−
1978 10 29	675	0.7−	1.4−	1991 05 15	675	1.2+	0.8+	1998 03 03	704	0.8+	0.0
1991 03 26	809	0.4−	0.8+	1991 05 17	675	0.7+	0.3−	1998 03 03	704	0.9+	1.0+
1991 03 26	809	0.6−	0.1−	1991 05 17	675	0.7+	1.3+	1998 03 03	704	0.5+	0.5+
1991 03 26	809	0.9−	0.8−	1995 06 22	327	0.9+	0.4−	1998 03 03	704	1.2+	0.7+
1991 04 08	809	1.2+	0.9−	1995 06 22	327	1.4+	1.0−	1998 03 04	704	1.7−	0.5−
1991 04 08	809	0.5+	1.0−	1995 06 22	327	0.8−	0.4+	1998 03 04	704	0.5−	1.1−
1991 04 08	809	(0.5+	2.5−)	1995 06 22	327	0.6−	0.4−	1998 03 04	704	1.4−	1.3−
1991 04 15	675	0.5−	1.0+	1995 06 26	327	0.8+	0.1+	1998 03 04	704	1.6−	0.6−
1991 04 15	675	1.3−	0.8+	1995 06 26	327	0.1−	0.0	1998 04 18	704	(2.5+	1.6−)
1991 04 19	809	0.4+	1.9−	1995 06 26	327	1.9−	0.1+	1998 04 18	704	0.9+	1.0+
1991 04 19	809	1.8−	0.8−	1995 06 26	327	1.0−	0.0	1998 04 18	704	(2.4+	0.3+)
1991 04 19	809	(0.3+	2.2−)	1996 10 11	566	0.6+	0.6−	1998 04 18	704	0.4−	0.1−
1991 04 19	675	0.6+	1.7−	1996 10 11	566	0.4+	0.6−				

(8666)* 1991 GG₁₀ = 1977 DH = 1977 DH₁₁

Discovered 1991 Apr. 9 by F. Börngen at Tautenburg.

Id. H. Kaneda (*MPC* 18826)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	116.43336	(2000.0)	P	Q	
<i>n</i>	0.28647456	ω 345.73995	−0.20142476	−0.97745392	
<i>a</i>	2.2790053	Ω 115.84819	+0.90543263	−0.21047118	
<i>e</i>	0.1446829	<i>i</i> 4.03587	+0.37365737	−0.01690305	
<i>P</i>	3.44	<i>H</i> 14.8	<i>G</i> 0.15	<i>U</i> 1	

Residuals in seconds of arc

1977 02 17	801	(0.2−	6.9+)	1996 10 08	691	0.1−	0.3−	1998 04 01	113	0.7+	0.0
1977 02 22	801	1.2+	2.3+	1996 10 09	691	0.1−	0.0	1998 04 01	113	0.6+	0.2−
1991 04 09	033	0.9−	0.4+	1996 10 09	691	0.1−	0.2+	1998 04 20	113	1.7−	0.5+
1991 04 09	033	0.8−	0.4+	1996 10 09	691	0.2−	0.3+	1998 04 20	113	1.4−	0.4+
1991 04 11	033	1.5−	0.0	1996 10 12	691	0.6−	0.4+	1998 04 21	704	0.4+	0.3+
1991 04 11	033	0.9+	0.7−	1996 10 12	691	0.8−	0.5+	1998 04 21	704	0.4+	0.1−
1991 04 12	033	0.8+	1.1−	1996 10 12	691	0.5−	0.1+	1998 04 21	704	0.3−	0.1+
1991 04 13	033	0.2−	0.2−	1996 10 18	566	0.8+	0.2+	1998 04 21	704	0.2+	0.4+
1992 08 27	675	(2.5+	0.4+)	1996 10 18	566	1.1+	0.2+	1998 04 21	704	0.6+	0.7+
1992 08 27	675	0.4−	0.8+	1996 10 18	566	0.8+	0.3+	1998 04 21	113	1.9−	0.8+
1994 01 07	691	0.6−	1.0−	1998 03 24	704	0.3+	0.2+	1998 04 21	113	0.4−	0.7+
1994 01 07	691	0.3+	0.7−	1998 03 24	704	0.4−	0.7+	1998 04 22	704	0.6−	0.3+
1994 01 07	691	1.1−	1.0+	1998 03 24	704	0.3+	1.1−	1998 04 22	704	0.1+	0.0
1994 02 14	033	0.6+	0.8−	1998 03 24	704	0.5−	0.2−	1998 04 22	704	0.2+	0.2+
1994 02 14	033	0.6+	0.3+	1998 03 24	113	1.8+	0.0	1998 04 22	704	0.3−	0.0
1994 02 15	033	0.2+	0.2+	1998 03 24	113	1.2+	0.2−	1998 04 22	704	0.4+	0.4+
1994 02 16	033	0.2+	0.3+	1998 03 26	113	(3.1+	2.5−)	1998 04 30	566	0.6+	0.5−
1996 10 08	691	0.9−	0.1−	1998 03 26	113	0.9+	0.1−	1998 04 30	566	0.3+	0.4−
1996 10 08	691	0.0	0.4+	1998 04 01	113	0.2+	0.1+	1998 04 30	566	1.0+	1.0−

(8667)* 1991 GH₁₀ = 1995 KF₃

Discovered 1991 Apr. 9 by F. Börngen at Tautenburg.

Id. G. V. Williams (*MPC* 29098)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	99.79418	(2000.0)	P	Q	
<i>n</i>	0.26240016	ω 10.79007	+0.46231357	−0.88177169	
<i>a</i>	2.4163508	Ω 51.74101	+0.80442066	+0.37269807	
<i>e</i>	0.1020575	<i>i</i> 6.83973	+0.37305973	+0.28909312	
<i>P</i>	3.76	<i>H</i> 14.3	<i>G</i> 0.15	<i>U</i> 1	

Residuals in seconds of arc

1989 11 04	675	0.6+	1.6−	1998 01 25	566	0.7+	0.1−	1998 02 18	113	0.6−	0.1+
1991 04 09	033	0.9−	0.3+	1998 01 27	113	0.9−	0.6+	1998 02 18	113	0.1−	0.2−
1991 04 09	033	0.2−	0.5+	1998 01 27	113	0.8−	0.6+	1998 02 20	113	0.2−	0.1+
1991 04 11	033	0.6−	0.9+	1998 01 27	113	1.0−	0.9+	1998 02 20	113	0.6−	0.0
1991 04 11	033	1.0+	0.1+	1998 01 27	113	0.8−	0.5+	1998 02 20	113	0.4−	0.2+
1991 04 12	033	0.5−	0.6−	1998 01 28	113	1.1−	0.3+	1998 02 21	113	0.5−	0.2+
1991 04 13	033	0.7+	0.2−	1998 01 28	113	1.3−	0.7+	1998 02 21	113	0.2−	0.2−
1991 04 19	675	1.2+	0.1−	1998 01 29	566	0.6+	0.2−	1998 02 23	113	0.1+	0.0
1991 04 19	675	0.3+	0.3+	1998 01 29	566	0.2+	0.2−	1998 02 23	113	0.1−	0.2−
1995 05 25	691	0.3−	0.2+	1998 01 29	566	0.1+	0.1−	1998 02 26	098	0.5+	1.5−
1995 05 25	691	0.3+	0.0	1998 01 31	113	0.1−	0.6+	1998 02 26	098	0.9+	1.8−
1995 05 25	691	0.3+	0.1−	1998 01 31	113	0.4−	0.4+	1998 02 27	098	0.9+	0.6+
1995 05 26	691	0.9−	0.3−	1998 01 31	113	0.1−	1.0+	1998 02 27	098	0.6−	0.4−
1995 05 26	691	0.7−	0.6−	1998 02 02	098	0.7+	0.2+	1998 02 28	113	0.7+	0.4−
1995 05 26	691	0.7−	0.5−	1998 02 02	098	0.8+	1.1−	1998 02 28	113	0.2+	0.3+
1995 05 31	691	0.1+	0.0	1998 02 04	113	0.3−	0.0	1998 03 01	557	0.3+	0.5−
1995 05 31	691	0.4+	0.2−	1998 02 04	113	0.3−	0.5+	1998 03 01	557	1.1+	0.1+
1996 09 10	566	0.3−	0.6+	1998 02 04	113	0.1+	0.4+	1998 03 04	557	1.2+	0.2−
1996 09 10	566	0.1−	0.9+	1998 02 10	113	0.2+	0.0	1998 03 04	557	1.1+	0.3−
1996 09 10	566	0.2−	0.8+	1998 02 10	113	1.5−	1.7+	1998 03 25	113	1.4+	0.4−
1998 01 25	566	0.6+	0.1−	1998 02 10	113	0.9−	0.3−	1998 03 25	113	1.0+	0.3+
1998 01 25	566	0.5+	0.1−	1998 02 18	113	0.3−	0.1+	1998 03 25	113	1.4+	0.8−

(8668)* 1991 HM = 1981 UN₂₆

Discovered 1991 Apr. 16 by S. Otomo and O. Muramatsu at Kiyosato.

Id. S. J. Bus (*MPC* 20508)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	296.14051	(2000.0)	P	Q	
<i>n</i>	0.26136218	ω 192.88861	−0.34283956	+0.92534810	
<i>a</i>	2.4227441	Ω 57.27505	−0.84390880	−0.22770854	
<i>e</i>	0.0969742	<i>i</i> 11.09134	−0.41264872	−0.30311665	
<i>P</i>	3.77	<i>H</i> 13.7	<i>G</i> 0.15	<i>U</i> 2	

Residuals in seconds of arc

1981 10 25	675	0.1+	0.5+	1991 05 10	894	0.4+	0.2+	Y	1998 02 22	566	0.2+	0.3+
1981 10 26	675	0.4−	0.2+	1991 05 10	894	1.4−	1.0+	Y	1998 02 22	566	0.2+	0.3+
1991 04 16	894	0.5−	0.4+	1991 05 17	894	0.6+	1.5+		1998 03 28	725	0.1−	0.0
1991 04 16	894	0.1−	1.3−	1991 05 17	894	1.6+	1.6−	Y	1998 03 28	725	0.0	0.4−
1991 05 03	894	0.6−	0.3+	1996 10 20	104	0.2−	0.7+		1998 04 02	725	0.1−	0.3−
1991 05 03	894	1.0+	0.2−	1996 10 20	104	0.4−	0.6+		1998 04 02	725	0.2−	0.0
1991 05 05	894	1.1+	1.4+	Y	1996 10 20	104	0.4−	0.4+				
1991 05 05	894	0.8−	0.2+	1998 02 22	566	0.0	0.3+					

(8669)* 1991 NS₁ = 1987 MR

Discovered 1991 July 13 by H. E. Holt at Palomar.

Id. H. Kaneda (*MPC* 19028)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	305.91666	(2000.0)	P	Q	
<i>n</i>	0.25982481	ω 126.80221	+0.49976833	+0.86604936	
<i>a</i>	2.4322916	Ω 173.14018	−0.82691555	+0.48180196	
<i>e</i>	0.1743754	<i>i</i> 6.62904	−0.25776400	+0.13351170	
<i>P</i>	3.79	<i>H</i> 13.9	<i>G</i> 0.15	<i>U</i> 1	

Residuals in seconds of arc

1987 06 26	675(36.5+	5.1−)	1994 03 05	596	(2.0−	4.2−)	1998 03 25	704	0.3+	0.2−
1987 06 28	675(44.4+	4.8−)	1994 03 06	596	0.3+	0.2−	1998 03 25	704	0.5−	0.5+

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1991 07 13	675	0.8−	0.1+	1994 03 06	596	1.1−	0.6+	1998 03 25	704	0.2+	0.1+
1991 07 13	675	0.4−	0.3−	1994 03 06	596	(0.8−	4.1−)	1998 03 25	704	0.6+	0.4−
1991 07 19	675	1.9−	0.9−	1994 04 03	675	(1.2−	2.6−)	1998 03 25	704	0.1+	1.3+
1991 07 19	675	0.9+	2.0−	1994 04 03	675	0.1+	0.0	1998 04 19	691	0.6−	0.2+
1991 08 05	675	0.5+	0.8+	1994 04 04	675	0.5+	1.7−	1998 04 19	691	0.8−	0.4+
1991 08 05	675	0.7−	0.0	1994 04 04	675	0.2−	0.4−	1998 04 19	691	0.7−	0.6+
1991 08 06	033	0.1+	0.9+	1995 08 22	801	0.2+	0.2−	1998 04 21	704	0.1−	0.1+
1991 08 06	033	0.2−	1.9+	1995 08 22	801	0.6+	0.4−	1998 04 21	704	0.0	0.4+
1991 08 07	033	0.2−	0.3+	1995 08 25	801	0.1+	0.2−	1998 04 21	704	0.5+	0.4+
1991 08 11	033	0.0	0.2+	1995 08 25	801	0.0	0.2−	1998 04 21	704	0.7+	0.3−
1991 08 12	033	1.9+	0.8+	1995 09 19	809	1.0+	0.1+	1998 04 21	704	0.1+	0.6−
1991 09 13	675	0.6+	0.5−	1995 09 20	809	1.1+	0.2+	1998 04 21	104	0.8+	0.3+
1991 09 13	675	0.1−	0.1−	1995 09 20	684	0.1+	0.1−	1998 04 21	104	0.8+	0.3+
1991 09 13	675	0.2−	1.2−	1995 09 20	684	0.2−	0.1−	1998 04 21	104	0.7+	0.3+
1991 09 13	675	0.9+	0.4−	1995 09 26	098	0.8+	1.9−	1998 04 22	704	0.6+	0.1−
1991 09 14	675	0.2+	0.9−	1995 09 26	098	1.8+	0.5+	1998 04 22	704	0.0	0.6−
1991 09 14	675	0.5−	0.2−	1995 09 27	691	2.0−	0.2+	1998 04 22	704	1.0+	0.8−
1994 03 04	596	(0.2+	3.3−)	1995 09 27	691	1.3−	0.2+	1998 04 22	704	0.1+	0.0
1994 03 04	596	(2.0−	2.2−)	1995 09 27	691	1.5−	0.7+	1998 04 27	689	0.3+	1.3+
1994 03 04	596	(3.7−	0.5−)	1995 10 23	801	0.1−	0.7+	1998 04 27	691	1.2−	0.1−
1994 03 05	596	(2.1+	4.5−)	1995 10 23	801	0.3−	0.5+	1998 04 27	691	1.1−	0.2−
1994 03 05	596	0.6−	2.0−	1995 10 25	801	0.2−	0.2+	1998 04 27	691	1.1−	0.1−
1994 03 05	596	(1.4−	2.7−)	1995 10 25	801	0.4−	0.3+				

(8670)* 1991 OM₁ = 1969 RG₁ = 1985 XB₂

Discovered 1991 July 18 by H. Debehogne at the European Southern Observatory.

Id. S. Nakano (*MPC* 25639)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
				P		Q	
<i>M</i>	339.10669	(2000.0)					
<i>n</i>	0.26647676	ω	333.35732	−0.01357870		+0.99961642	
<i>a</i>	2.3916438	Ω	295.85633	−0.91254662		−0.02225675	
<i>e</i>	0.2017081	<i>i</i>	1.53702	−0.40874722		+0.01648164	
<i>P</i>	3.70	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1969 09 13	095	0.1−	0.7+	1995 08 31	411	0.2+	0.7+	1998 04 18	423	0.2+	1.0−
1985 12 14	675	(22.3−	4.1+)	1995 09 01	411	0.9+	0.8+	1998 04 21	704	0.4+	0.6−
1985 12 14	675	(18.1−	3.0+)	1995 09 01	411	0.0	0.6−	1998 04 21	704	0.1−	0.4−
1991 07 18	809	0.2−	0.3+	1995 09 01	411	0.0	0.5−	1998 04 21	704	0.1−	0.1+
1991 07 18	809	0.3+	0.4+	1998 03 08	689	0.7−	0.3−	1998 04 21	704	0.6−	0.7+
1991 07 18	809	0.6+	0.4+	1998 04 01	704	0.1−	0.1−	1998 04 21	704	0.2−	0.3+
1991 07 19	809	0.3−	0.3−	1998 04 01	704	0.4−	0.5+	1998 04 22	704	0.9+	0.7+
1991 07 19	809	0.3−	0.6−	1998 04 01	704	0.7−	0.2+	1998 04 22	704	0.1+	0.8−
1991 07 21	809	1.3−	0.0	1998 04 01	704	1.1−	1.1+	1998 04 22	704	0.1−	0.7+
1991 07 21	809	0.8−	0.0	1998 04 01	704	0.5−	1.0+	1998 04 22	704	0.3−	0.3−
1991 07 21	809	0.2−	0.1−	1998 04 04	699	0.2+	0.3−	1998 04 22	704	0.3+	0.1+
1991 08 05	809	1.3+	0.1−	1998 04 04	699	0.0	0.8−	1998 04 23	758	0.7+	0.1−
1991 08 05	809	0.1+	0.3−	1998 04 04	699	0.3+	0.2−	1998 04 23	758	0.4+	0.1−
1991 08 05	809	0.5+	0.3+	1998 04 04	426	0.0	0.1−	1998 04 24	758	(0.3+	2.2−)
1994 03 04	033	0.7+	0.7+	1998 04 04	426	0.2+	0.1−	1998 04 24	758	(1.4+	2.8−)
1994 03 04	033	1.1+	0.9+	1998 04 04	426	0.1−	0.1−	1998 04 26	423	0.5+	0.2−
1994 03 10	691	1.0−	0.0	1998 04 05	426	0.2+	0.2−	1998 04 26	423	0.4+	0.1−
1994 03 10	691	0.5−	0.0	1998 04 05	426	0.0	0.0	1998 04 26	423	0.4+	0.2+
1995 08 31	411	1.1−	0.3+	1998 04 05	426	0.0	0.0				

(8671)* 1991 PW = 1976 UE₁₉ = 1996 XC₂₇

Discovered 1991 Aug. 5 by H. E. Holt at Palomar.
Id. G. V. Williams (*MPC* 28845)

1998 MAY 11

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
				P		Q	
<i>M</i>	286.39446	(2000.0)					
<i>n</i>	0.25726593	ω	53.80167	+0.79245466		+0.60694706	
<i>a</i>	2.4483934	Ω	268.75182	−0.57716541		+0.71427116	
<i>e</i>	0.2150286	<i>i</i>	3.45538	−0.19721994		+0.34847091	
<i>P</i>	3.83	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1976 10 24	381	0.2−	0.4+	1996 12 04	691	0.2+	0.2−	1998 04 20	704	0.2+	0.6−
1976 10 24	381	0.1−	0.4+	1996 12 04	691	0.0	0.4−	1998 04 20	704	0.5+	0.8+
1991 08 05	675	0.1+	1.1−	1996 12 04	691	0.4−	0.4−	1998 04 20	704	0.3−	0.8+
1991 08 05	675	0.2+	0.1+	1996 12 15	691	0.2−	0.1−	1998 04 21	704	0.6−	0.3−
1991 08 06	809	0.6+	1.5+	1996 12 15	691	0.1+	0.1+	1998 04 21	704	0.1+	0.1−
1991 08 06	809	0.9+	1.0+	1996 12 15	691	0.1+	0.7−	1998 04 21	704	0.7+	0.8+
1991 08 06	809	0.7−	1.0+	1998 03 25	704	0.1+	1.3+	1998 04 21	704	0.7+	0.3−
1991 08 07	046	(2.1−	1.4−)	1998 03 25	704	2.0−	0.2+	1998 04 21	704	0.8+	0.8−
1991 08 07	046	0.9−	1.3−	1998 03 25	704	0.9−	1.0−	1998 04 22	704	(0.8−	2.2−)
1991 08 08	675	0.1−	0.3−	1998 03 25	704	(4.3−	0.2+)	1998 04 22	704	0.2−	0.3−
1991 08 08	675	0.3+	0.2+	1998 04 01	704	0.6+	0.4−	1998 04 22	704	0.3−	0.6+
1991 09 13	675	0.2−	0.4−	1998 04 01	704	0.6+	0.4+	1998 04 22	704	0.2−	1.2−
1991 09 13	675	0.2−	1.2−	1998 04 01	704	0.1+	1.0−	1998 04 22	704	0.8−	1.8+
1991 09 14	675	0.5−	0.7−	1998 04 01	704	0.5+	1.8−				
1991 09 14	675	0.4−	0.4−	1998 04 20	704	0.1+	0.8+				

(8672)* 1991 PW₁₆ = 1976 UD₁₆

Discovered 1991 Aug. 6 by E. W. Elst at the European Southern Observatory.

Id. B. G. Marsden (*MPC* 19312)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
				P		Q	
<i>M</i>	313.28162	(2000.0)					
<i>n</i>	0.25591617	ω	147.17009	+0.24312411		+0.96914863	
<i>a</i>	2.4569948	Ω	136.86244	−0.90224382		+0.24128202	
<i>e</i>	0.1583867	<i>i</i>	3.39713	−0.35615552		+0.05033808	
<i>P</i>	3.85	<i>H</i>	14.4	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1971 05 13	675	1.3+	1.1+	1995 08 25	809	(1.4−	3.0−)	1998 03 22	704	0.7+	1.0+
1971 05 14	675	1.3+	0.8−	1995 08 26	809	(2.3+	1.4+)	1998 03 22	699	0.1−	1.2+
1971 05 16	675	0.5−	0.3−	1995 08 27	809	0.5−	0.5−	1998 03 22	699	0.0	0.2+
1976 10 22	381	0.1+	0.2+	1995 08 27	809	0.1+	0.3−	1998 03 22	699	0.7−	0.3−
1976 10 22	381	0.4−	0.0	1995 08 28	809	0.2−	0.1−	1998 03 25	704	0.7−	0.5+
1976 10 24	381	1.3−	0.2−	1995 08 29	809	(3.0−	4.4−)	1998 03 25	704	1.0−	0.0
1982 01 30	675	0.8−	1.0−	1995 08 30	809	(1.8−	2.8−)	1998 03 25	704	0.7−	0.3−
1982 01 31	675	0.1+	0.4+	1995 08 30	809	0.6+	1.2−	1998 03 25	704	1.0−	1.3−
1991 08 06	809	0.4−	0.1−	1995 08 31	809	1.0+	1.1−	1998 03 25	704	1.0−	0.2−
1991 08 06	809	0.3−	0.6+	1995 09 20	809	0.4−	0.9−	1998 04 20	704	0.5−	1.4+
1991 08 06	809	0.7−	0.7+	1995 09 22	809	0.4−	1.2−	1998 04 20	704	0.6−	0.9−
1991 08 10	675	0.1−	0.3−	1995 09 22	809	0.1+	0.9−	1998 04 20	704	0.2+	0.5−
1991 08 10	675	0.3+	0.2+	1995 09 23	809	0.8+	0.8+	1998 04 20	704	0.1+	1.0−
1991 09 04	809	0.3+	0.1+	1995 09 24	809	1.0+	1.7+	1998 04 20	704	1.0+	0.3−
1991 09 04	809	0.3−	0.9+	1995 09 29	809	0.2+	1.0−	1998 04 22	704	0.4+	0.6−
1991 09 04	809	0.4−	0.1−	1998 03 20	704	1.1+	0.8+	1998 04 22	704	0.4+	1.1−
1991 09 06	809	0.5−	1.0−	1998 03 20	704	0.8−	0.9+	1998 04 22	704	0.7+	0.4−
1991 09 06	809	0.3−	1.0−	1998 03 20	704	1.2+	1.4+	1998 04 22	704	0.4+	0.2−
1991 09 06	809	0.4+	0.1−	1998 03 20	704	0.5−	0.2+	1998 04 22	704	0.6+	0.6−
1991 09 07	809	0.4+	1.9+	1998 03 20	704	(2.2−	0.1−)	1998 05 03	691	0.4−	0.5−
1991 09 07	809	1.4−	0.5+	1998 03 22	704	0.1+	1.0−	1998 05 03	691	0.6−	0.3−
1991 09 07	809	0.3−	0.2+	1998 03 22	704	0.1+	0.4+	1998 05 03	691	0.4−	1.6−
1995 08 24	809	1.3+	0.1−	1998 03 22	704	0.5+	1.2+				
1995 08 25	809	1.7+	1.5+	1998 03 22	704	0.1−	0.0				

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	190.74264	(2000.0)	P	Q
<i>n</i>	0.21862296	ω 192.77414	+0.99626786	+0.08099743
<i>a</i>	2.7290125	Ω 162.49682	-0.06787140	+0.94862622
<i>e</i>	0.0671558	<i>i</i> 5.69192	-0.05332759	+0.30585572
<i>P</i>	4.51	<i>H</i> 13.5	<i>G</i> 0.15	<i>U</i> 2

Residuals in seconds of arc

1964 10 09	330	(3.1- 2.4+)	1997 01 10	684	0.1+ 0.4+	1998 03 04	704	(2.4- 0.3+)
1982 09 27	095	0.2- 0.6+	1997 01 12	684	0.3- 0.4+	1998 03 04	704	(2.3- 0.4+)
1991 09 11	675	0.8+ 0.2+	1997 01 12	684	0.2- 0.4+	1998 03 22	704	0.1+ 0.1+
1991 09 11	675	0.5+ 0.2-	1997 01 16	684	0.3- 0.1+	1998 03 22	704	0.5+ 0.6-
1991 09 13	675	0.3+ 1.0-	1997 01 16	684	0.2+ 0.1+	1998 03 22	704	0.5+ 0.0
1991 09 13	675	0.5+ 1.2-	1998 02 26	699	0.8+ 1.4-	1998 03 22	704	0.7+ 0.5+
1991 09 16	675	0.2+ 1.2-	1998 02 26	699	(2.8+ 0.9-)	1998 03 22	704	0.3+ 0.3+
1991 09 16	675	0.2- 1.5-	1998 02 26	699	0.8+ 1.1-	1998 03 26	566	0.3- 0.2+
1991 10 03	691	0.9+ 0.6+	1998 03 03	704	0.2- 0.7-	1998 03 26	566	0.0 0.2+
1991 10 03	691	0.9- 0.8+	1998 03 03	704	0.9- 0.2-	1998 03 26	566	0.4- 0.0
1991 10 03	691	1.2- 0.7+	1998 03 03	704	0.6+ 0.1+	1998 03 27	566	0.1- 0.1-
1991 10 07	675	0.8+ 0.5+	1998 03 03	704	0.1- 0.3-	1998 03 27	566	0.1- 0.1-
1991 10 07	675	0.2+ 0.9-	1998 03 03	704	0.5- 0.2+	1998 03 27	566	0.1- 0.1+
1991 10 08	675	0.3- 1.2-	1998 03 04	704	1.1- 1.1-			
1997 01 10	684	0.2+ 0.4+	1998 03 04	704	1.8- 0.1+			

(8674)* 1991 VA₁ = 1988 DU₄ = 1990 ON

Discovered 1991 Nov. 4 by S. Ueda and H. Kaneda at Kushiro.

Id. H. Kaneda (*MPC* 20642)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

<i>M</i>	131.23248	(2000.0)	P	Q
<i>n</i>	0.17040540	ω 67.44390	+0.66154943	+0.73242108
<i>a</i>	3.2221603	Ω 244.99915	-0.73660699	+0.59443342
<i>e</i>	0.1144107	<i>i</i> 10.23077	-0.14057912	+0.33197631
<i>P</i>	5.78	<i>H</i> 12.3	<i>G</i> 0.15	<i>U</i> 1

Residuals in seconds of arc

1988 02 25	413	0.6+ 0.0	1991 12 04	399	0.5+ 0.7+	1997 11 26	566	0.9+ 0.0
1988 02 25	413	0.2- 1.5+	1991 12 04	399	0.2- 1.0+	1997 11 26	566	0.4+ 1.7-
1990 07 18	675	0.2+ 0.5+	1996 08 25	563	0.8+ 0.2-	1997 12 04	704	0.1- 0.1+
1990 07 18	675	0.7- 0.6+	1996 08 25	563	(0.4- 2.5-)	1997 12 04	704	(2.3+ 0.2-)
1990 07 21	675	0.6- 1.3+	1996 08 25	563	0.2+ 0.8-	1997 12 04	704	0.8- 0.0
1990 07 21	675	0.5+ 0.8+	1996 08 25	563	0.7- 0.3+	1997 12 04	704	0.2- 0.4-
1991 11 04	399	0.9+ 0.8+	1996 08 25	563	0.2+ 1.4-	1997 12 04	704	0.5+ 0.9-
1991 11 04	399	0.7- 0.7+	1996 09 14	709	0.3- 0.2-	1998 02 23	327	0.2+ 0.3+
1991 11 05	399	0.8+ 0.4+	1996 09 14	709	0.3- 0.4-	1998 02 23	327	0.2- 0.0
1991 11 05	399	1.7- 1.7+	1996 09 14	709	0.1- 0.2-	1998 02 23	327	0.0 0.2-
1991 11 11	399	0.8- 0.5-	1996 09 14	709	0.6+ 0.2+			
1991 11 11	399	(2.7- 1.9-)	1997 11 26	566	0.2+ 0.3-			

(8675)* 1991 YZ = 1987 BS = 1990 US₁₁

Discovered 1991 Dec. 30 by S. Ueda and H. Kaneda at Kushiro.

Id. H. Kaneda (*MPC* 19685)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

<i>M</i>	30.74699	(2000.0)	P	Q
<i>n</i>	0.18823764	ω 213.03271	-0.98092956	-0.15474013
<i>a</i>	3.0153084	Ω 317.56302	+0.19335994	-0.83833690
<i>e</i>	0.0443539	<i>i</i> 10.03780	-0.01972644	-0.52273008
<i>P</i>	5.24	<i>H</i> 12.6	<i>G</i> 0.15	<i>U</i> 2

Residuals in seconds of arc

1987 01 26	033	0.2- 1.5+	1998 02 27	566	0.1- 0.5-	1998 03 31	704	0.3- 0.1-
1987 01 27	033	0.4+ 0.6+	1998 02 27	566	0.4- 0.2-	1998 04 01	704	0.4+ 0.2+
1987 01 28	033	1.0+ 0.2+	1998 03 03	704	0.2- 1.0-	1998 04 01	704	0.4+ 0.4+
1990 10 17	095	(2.3+ 7.4-)	1998 03 03	704	0.3+ 0.3-	1998 04 01	704	0.7+ 0.8+
1990 10 17	095	0.1+ 0.1-	1998 03 03	704	0.0 0.6-	1998 04 01	704	0.7+ 0.4+

1991 12 09	399	0.5+ 0.3+	1998 03 03	704	0.2- 1.0-	1998 04 01	704	0.6+ 0.1+
1991 12 09	399	0.7+ 0.2+	1998 03 03	704	(3.6- 1.4-)	1998 04 18	704	1.2+ 1.9-
1991 12 14	399	1.6- 1.1+	1998 03 04	704	(2.1- 0.3-)	1998 04 18	704	1.8- 1.2+
1991 12 14	399	1.3- 1.1+	1998 03 04	704	(3.0- 0.5+)	1998 04 18	704	0.3- 0.0
1991 12 30	399	1.7+ 1.1-	1998 03 04	704	(2.4- 0.1-)	1998 04 18	704	0.2- 0.1+
1991 12 30	399	1.0- 0.7-	1998 03 04	704	(2.7- 0.2-)	1998 04 18	704	1.0- 0.3+
1992 01 02	399	0.6+ 1.4-	1998 03 04	704	(2.2- 0.2+)	1998 04 19	704	0.5+ 1.0-
1992 01 02	399	1.2- 0.7-	1998 03 31	704	0.3+ 0.5+	1998 04 19	704	0.2+ 0.5-
1992 01 14	399	0.3- 1.0+	1998 03 31	704	0.1+ 1.0+	1998 04 19	704	0.0 0.2-
1992 01 14	399	1.3+ 1.3-	1998 03 31	704	0.3- 0.3-	1998 04 19	704	0.1+ 0.4+
1998 02 27	566	0.4- 0.4-	1998 03 31	704	0.4- 0.7+	1998 04 19	704	0.6- 0.7+

(8676)* 1992 CT₂ = 1990 SA₁₃

Discovered 1992 Feb. 2 by E. W. Elst at the European Southern Observatory.

Id. B. G. Marsden (*MPC* 20341), A. Lowe (unpublished)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

<i>M</i>	119.13936	(2000.0)	P	Q
<i>n</i>	0.18509853	ω 195.96798	+0.40705080	-0.91225280
<i>a</i>	3.0493041	Ω 230.03602	+0.84444667	+0.39498889
<i>e</i>	0.1335487	<i>i</i> 3.43139	+0.34816586	+0.10852925
<i>P</i>	5.32	<i>H</i> 13.1	<i>G</i> 0.15	<i>U</i> 1

Residuals in seconds of arc

1990 09 21	809	0.0 0.4+	1995 08 17	596	0.1+ 0.2+	1998 03 22	704	0.4- 0.2-
1990 09 21	809	0.1+ 0.5+	1995 08 17	596	0.5- 0.4+	1998 03 22	704	(2.2+ 0.2-)
1990 09 21	809	0.1+ 0.5+	1995 08 18	596	0.1- 0.3+	1998 03 22	704	0.6+ 0.6-
1990 09 22	809	0.4- 0.2+	1995 08 18	596	0.3- 0.6+	1998 03 22	704	0.8+ 0.5-
1990 09 22	809	0.3- 0.1+	1995 08 18	596	0.4- 0.5+	1998 03 22	704	0.0 1.1-
1990 09 22	809	0.3+ 0.1+	1998 03 03	704	0.8+ 0.1+	1998 04 01	704	0.5+ 0.9-
1992 01 30	809	0.3- 0.5-	1998 03 03	704	0.9+ 0.4-	1998 04 01	704	0.0 0.4+
1992 01 30	809	0.1- 0.7-	1998 03 03	704	0.6+ 0.6+	1998 04 01	704	(1.3+ 2.1-)
1992 01 30	809	0.7- 0.1-	1998 03 03	704	0.7- 0.2+	1998 04 01	704	(1.3+ 2.1-)
1992 02 02	809	1.4+ 0.7+	1998 03 03	704	0.2- 1.9+	1998 04 01	704	0.6+ 1.1-
1992 02 02	809	0.0 0.7+	1998 03 04	704	1.1- 1.3+	1998 04 18	704	0.7+ 0.9-
1992 02 02	809	0.2- 1.2+	1998 03 04	704	(2.3- 0.1+)	1998 04 18	704	0.8+ 0.2+
1992 02 06	809	0.1+ 0.0	1998 03 04	704	0.7- 1.0+	1998 04 18	704	0.3+ 0.2-
1992 02 06	809	0.2- 1.1+	1998 03 04	704	1.8- 0.5+	1998 04 18	704	0.2- 0.2+
1992 02 06	809	0.5- 0.1+	1998 03 04	704	1.9- 0.9+	1998 04 18	704	(3.6- 1.4-)
1992 02 12	809	0.9+ 0.1-	1998 03 20	704	1.4+ 0.6+	1998 04 19	704	0.2+ 0.2-
1992 02 12	809	0.0 0.6-	1998 03 20	704	0.3+ 1.2+	1998 04 19	704	0.7- 0.5-
1992 02 12	809	0.6- 0.3-	1998 03 20	704	0.5+ 0.3+	1998 04 19	704	0.0 0.5+
1995 08 17	596	0.0 0.7+	1998 03 20	704	0.7+ 0.4-	1998 04 19	704	0.3+ 1.5+
1995 08 17	596	0.5- 0.8+	1998 03 20	704	0.4+ 0.7-	1998 04 19	704	0.7- 0.6+

(8677)* 1992 ES₅ = 1997 CC₁₉

Discovered 1992 Mar. 2 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.

Id. T. B. Spahr (*MPC* 30450)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	236.78917	(2000.0)	P	Q
<i>n</i>	0.19137601	ω 222.72171	+0.99213709	-0.01671254
<i>a</i>	2.9822523	Ω 137.75012	+0.04943132	+0.96279712
<i>e</i>	0.0925479	<i>i</i> 10.63056	-0.11498063	+0.26970799
<i>P</i>	5.15	<i>H</i> 13.0	<i>G</i> 0.15	<i>U</i> 1

Residuals in seconds of arc

1992 03 02	809	1.2+ 0.0	1995 12 18	566	0.7+ 1.2-	1997 02 06	327	0.7+ 0.3+
1992 03 05	809	0.7+ 0.8+	1997 01 09	691	1.2- 0.1-	1998 03 26	557	0.3+ 0.4-
1992 03 07	809	0.8- 0.3-	1997 01 09	691	1.2- 0.3-	1998 03 26	557	0.2- 1.2-
1992 04 04	809	0.5+ 0.2-	1997 01 09	691	1.0- 0.3-	1998 03 27	557	0.3+ 0.4+
1993 06 14	691	0.2- 0.0	1997 02 01	327	0.4+ 0.5+	1998 03 27	557	0.3- 0.5-
1993 06 14	691	1.4- 0.3+	1997 02 01	327	0.3+ 0.5+	1998 03 27	557	0.3- 0.2-
1993 06 14	691	0.0 0.3-	1997 02 01	327	0.2+ 0.3+	1998 04 24	566	0.5+ 0.1-
1995 12 18	566	0.3+ 0.8-	1997 02 06	327	0.1+ 0.6+	1998 04 24	566	0.6+ 0.8-
1995 12 18	566	0.2+ 1.1-	1997 02 06	327	0.5- 0.2+	1998 04 24	566	0.2- 0.7-

(8678)* 1992 ER₆ = 1995 WY₁

Discovered 1992 Mar. 1 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.

Id. S. Nakano (*MPC* 26171)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Nakano			
<i>M</i>	312.08073	(2000.0)	P	Q	
<i>n</i>	0.17561441	ω 210.73809	−0.02053273	+0.99605219	
<i>a</i>	3.1581248	Ω 58.21422	−0.89539426	+0.02011014	
<i>e</i>	0.1107256	<i>i</i> 5.83130	−0.44480054	−0.08646162	
<i>P</i>	5.61	<i>H</i> 13.1	<i>G</i> 0.15	<i>U</i> 1	

Residuals in seconds of arc

1992 03 01	809	0.5+	0.8+	1995 12 01	887	0.2−	0.8−	1998 04 20	704	0.0	0.6−
1992 03 04	809	0.1+	0.7+	1995 12 19	566	1.1+	0.0	1998 04 20	704	0.5−	0.3−
1992 03 09	809	0.3+	0.3+	1995 12 19	566	0.5+	0.4+	1998 04 20	704	0.2+	0.6+
1994 09 12	675	0.8+	0.4−	1995 12 19	566	0.5+	0.8+	1998 04 20	704	1.0+	1.1−
1994 09 12	675	0.1+	0.9−	1998 03 22	704	1.2+	0.8−	1998 04 20	704	(3.0−	0.6+)
1994 09 12	675	0.4−	0.0	1998 03 22	704	0.0	0.1−	1998 04 21	691	0.9−	0.2+
1994 09 12	675	0.2+	0.9−	1998 03 22	704	0.5−	0.6−	1998 04 21	691	0.8−	0.1+
1994 10 01	675	0.9+	0.8−	1998 03 22	704	0.6−	1.6−	1998 04 21	691	1.1−	0.1+
1995 11 16	369	0.1−	0.8−	1998 03 22	704	(4.3−	0.3+)	1998 04 22	704	0.0	0.5−
1995 11 16	369	0.8+	0.2+	1998 03 25	704	0.5+	1.1−	1998 04 22	704	0.3−	0.4+
1995 11 16	369	0.6+	0.9−	1998 03 25	704	0.1+	0.0	1998 04 22	704	0.1−	0.2+
1995 11 18	369	0.2−	0.7+	1998 03 25	704	0.0	1.1−	1998 04 22	704	0.1+	1.0+
1995 11 18	369	0.9−	0.6−	1998 03 25	704	0.4−	0.0	1998 04 22	704	0.4−	1.0−
1995 11 18	369	0.2−	0.2−	1998 03 25	704	(0.7−	2.9−)	1998 04 29	691	1.5−	0.1+
1995 11 28	691	0.7−	0.6−	1998 04 19	704	0.5+	0.1−	1998 04 29	691	1.4−	0.3+
1995 11 28	691	0.3−	0.2−	1998 04 19	704	0.0	0.2−	1998 04 29	691	1.6−	0.3+
1995 11 28	691	0.4−	0.7−	1998 04 19	704	1.8+	0.9−				
1995 12 01	887	0.6+	0.4−	1998 04 19	704	1.1+	0.7+				

(8679)* 1992 EG₈ = 1979 SY₆ = 1979 TY

Discovered 1992 Mar. 2 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.

Id. T. B. Spahr (*MPC* 30450)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	176.17951	(2000.0)	P	Q	
<i>n</i>	0.18635017	ω 214.95096	+0.81631561	−0.57760611	
<i>a</i>	3.0356348	Ω 180.33142	+0.53298815	+0.75331058	
<i>e</i>	0.1754517	<i>i</i> 0.77769	+0.22260381	+0.31447473	
<i>P</i>	5.29	<i>H</i> 13.1	<i>G</i> 0.15	<i>U</i> 2	

Residuals in seconds of arc

1979 09 23	095	0.8+	1.0−	1998 03 24	704	(0.5+	2.6−)	1998 04 01	704	0.9−	0.1+
1979 10 14	095	0.2−	0.0	1998 03 24	704	0.7+	0.3+	1998 04 20	704	1.0−	0.4+
1992 02 25	675	1.7−	0.5+	1998 03 24	704	1.4+	1.4+	1998 04 20	704	1.2−	0.2−
1992 02 25	675	0.9+	1.1−	1998 03 24	704	0.1+	1.6−	1998 04 20	704	0.7+	1.0−
1992 03 02	809	0.5−	0.9+	1998 03 24	704	0.0	0.2+	1998 04 20	704	(2.2+	2.3+)
1992 03 04	809	0.7+	0.7+	1998 03 24	704	0.0	0.6+	1998 04 20	704	(2.7−	1.9+)
1992 03 07	809	0.0	1.2+	1998 03 24	704	0.6+	0.4−	1998 04 21	704	1.0−	1.2−
1992 04 06	809	0.2+	0.4−	1998 03 24	704	0.9−	1.5−	1998 04 21	704	0.6+	0.9+
1995 09 30	691	0.0	0.3−	1998 03 24	704	0.6−	1.3+	1998 04 21	704	0.2−	1.0+
1995 09 30	691	0.1+	0.4−	1998 03 24	704	(4.0−	0.6−)	1998 04 21	704	0.5+	1.4+
1995 09 30	691	0.1+	0.3−	1998 03 25	704	0.7+	1.5−	1998 04 21	704	0.4+	0.2+
1997 01 16	691	0.1+	0.5−	1998 03 25	704	1.3+	1.5−	1998 04 22	704	1.0−	1.5−
1997 01 16	691	0.3+	0.5−	1998 03 25	704	0.1+	1.9−	1998 04 22	704	0.2+	1.2−
1997 01 16	691	0.0	0.7−	1998 03 25	704	1.4−	0.5+	1998 04 22	704	1.1−	0.7−
1998 03 24	704	1.2−	1.1+	1998 04 01	704	(1.2+	2.2+)	1998 04 22	704	0.6−	1.8+
1998 03 24	704	1.2+	0.7−	1998 04 01	704	0.6+	1.2+	1998 04 22	704	(3.0−	2.0−)
1998 03 24	704	0.6+	0.9+	1998 04 01	704	0.4+	1.6−				

(8680)* 1992 EJ₉ = 1990 VK₁₄ = 1995 SE₅

Discovered 1992 Mar. 2 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.

Id. S. Nakano (*MPC* 25730)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Nakano			
<i>M</i>	154.97980	(2000.0)	P	Q	
<i>n</i>	0.17702304	ω 2.12432	+0.77561932	−0.62815199	
<i>a</i>	3.1413490	Ω 37.02522	+0.57758770	+0.66671712	
<i>e</i>	0.1550914	<i>i</i> 5.90646	+0.25457244	+0.40114007	
<i>P</i>	5.57	<i>H</i> 13.1	<i>G</i> 0.15	<i>U</i> 2	

Residuals in seconds of arc

1990 11 14	095	(2.5+	2.0+)	1995 10 24	801	0.6+	0.8−	1998 03 25	691	1.2−	0.2−
1990 11 14	095	(2.4+	3.6−)	1995 10 27	801	0.3−	1.6−	1998 03 25	691	0.9−	0.2−
1992 03 02	809	0.5+	0.1+	1998 03 18	691	1.4−	0.2−	1998 03 25	691	1.1−	0.2−
1992 03 05	809	0.7−	0.6+	1998 03 18	691	1.6−	0.3−	1998 03 25	699	0.3+	0.4−
1992 03 07	809	0.7+	0.0	1998 03 18	691	1.5−	0.2−	1998 03 25	699	0.9+	0.3+
1992 04 04	809	0.0	0.4+	1998 03 20	704	0.1−	0.7−	1998 03 25	699	1.9+	0.1−
1993 05 25	691	0.3+	0.3+	1998 03 20	704	1.4+	1.1−	1998 04 04	691	1.7−	0.5−
1993 05 25	691	0.0	0.2−	1998 03 20	704	0.8+	1.3−	1998 04 04	691	1.6−	0.3−
1993 05 25	691	0.1−	0.1−	1998 03 20	704	1.5+	0.2−	1998 04 04	691	1.8−	0.2−
1995 09 20	400	0.1−	0.2−	1998 03 20	704	(4.3−	0.1−)	1998 04 20	704	0.1+	0.4+
1995 09 20	400	0.4+	0.4−	1998 03 22	704	0.5−	0.1+	1998 04 20	704	2.0+	1.7+
1995 09 21	400	0.0	0.7−	1998 03 22	704	0.6+	1.0−	1998 04 20	704	0.3−	0.0
1995 09 21	400	1.7+	0.2+	1998 03 22	704	0.9+	0.7−	1998 04 20	704	1.0+	1.5+
1995 10 24	801	0.1−	0.6−	1998 03 22	704	0.5−	0.9−	1998 04 20	704	0.3−	0.5−

(8681)* 1992 EN₉ = 1990 WR₁₅ = 1997 AS₄

Discovered 1992 Mar. 2 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.

Id. K. Ichikawa (*MPC* 29100)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	175.09328	(2000.0)	P	Q	
<i>n</i>	0.18469494	ω 239.70677	+0.85402089	−0.51980356	
<i>a</i>	3.0537446	Ω 151.59620	+0.49135373	+0.79249228	
<i>e</i>	0.1681458	<i>i</i> 2.56332	+0.17093810	+0.31899882	
<i>P</i>	5.34	<i>H</i> 12.7	<i>G</i> 0.15	<i>U</i> 2	

Residuals in seconds of arc

1990 11 21	372	0.1+	0.7+	1997 01 07	411	0.2−	0.7+	1998 03 24	699	1.1−	1.0−
1990 11 21	372	0.2−	0.0	1997 01 07	411	0.2−	0.8+	1998 03 24	699	1.2−	0.2−
1992 02 25	675	0.5+	0.6−	1997 01 11	411	0.2+	0.3+	1998 03 25	704	0.5−	0.2+
1992 02 25	675	0.8+	1.7−	1997 01 11	411	0.3+	0.6+	1998 03 25	704	0.0	0.1+
1992 02 27	675	0.1−	1.5−	1997 01 16	411	0.3+	0.0	1998 03 25	704	0.0	0.4−
1992 02 27	675	0.9−	0.1+	1997 01 16	411	1.0+	0.5+	1998 03 25	704	0.7−	0.5+
1992 02 28	675	0.3−	0.8−	1997 01 27	411	0.6+	0.2−	1998 03 25	704	0.2−	0.5−
1992 02 28	675	0.0	0.2−	1997 01 27	411	0.1+	0.0	1998 04 20	704	1.5+	0.8−
1992 03 02	809	(2.5+	0.7−)	1998 03 20	704	0.0	0.0	1998 04 20	704	0.2+	1.3−
1992 03 04	809	0.7−	0.1+	1998 03 20	704	(2.4+	0.2+)	1998 04 20	704	0.5+	0.3−
1992 03 07	809	0.1+	0.1−	1998 03 20	704	0.4+	1.0+	1998 04 20	704	1.5+	1.6−
1992 04 06	809	0.9−	0.7+	1998 03 20	704	0.6+	0.4−	1998 04 20	704	1.5−	1.7+
1995 09 27	071	(0.1−	3.0+)	1998 03 20	704	(4.3−	1.8−)	1998 04 22	704	1.1+	0.4+
1995 09 28	071	(2.8−	5.9+)	1998 03 22	704	1.2+	1.2+	1998 04 22	704	0.8+	1.1+
1996 11 12	691	0.6−	0.1+	1998 03 22	704	(2.0+	0.9+)	1998 04 22	704	0.2−	1.1+
1996 11 12	691	0.6−	0.1+	1998 03 22	704	0.6+	0.5−	1998 04 22	704	0.1−	0.8+
1996 11 12	691	0.6−	0.0	1998 03 22	704	(2.6−	0.6−)	1998 04 22	704	0.7+	1.1+
1997 01 06	411	0.0	0.5−	1998 03 22	704	0.7−	0.8+				
1997 01 06	411	0.1−	0.4+	1998 03 24	699	1.7−	0.3−				

(8682)* 1992 ER₉ = 1994 PF₁₇

Discovered 1992 Mar. 2 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.

Id. B. G. Marsden (*MPC* 24391)

1998 MAY 11

M.P.C. 31683

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

<i>M</i>	281.71205		(2000.0)		P		Q				
<i>n</i>	0.17658903	ω	154.04547		+0.42785115		+0.90378736				
<i>a</i>	3.1464939	Ω	141.28332		−0.83218052		+0.39846385				
<i>e</i>	0.1414402	<i>i</i>	0.96859		−0.35273073		+0.15618886				
<i>P</i>	5.58	<i>H</i>	13.0		<i>G</i>	0.15	<i>U</i>	1			
Residuals in seconds of arc											
1992 02 25	675	0.0	0.1+	1994 09 03	809	(0.8+	2.6+)	1998 03 20	704	0.4−	1.4−
1992 02 25	675	0.8+	1.1−	1994 09 04	809	1.5+	0.5+	1998 03 20	704	0.2−	0.9−
1992 02 27	675	1.1−	1.1−	1994 09 04	809	0.3+	0.6+	1998 03 20	704	0.3+	0.8−
1992 02 27	675	0.2−	0.7+	1994 09 04	809	0.1−	0.8+	1998 03 20	704	0.9−	0.7−
1992 02 28	675	0.1+	0.8+	1994 09 30	675	1.2+	0.2−	1998 03 22	704	0.5−	0.8−
1992 02 28	675	0.4−	0.2+	1994 09 30	675	1.1+	0.1−	1998 03 22	704	0.0	1.6−
1992 03 02	809	0.3−	1.4+	1995 11 20	560	(0.4+	2.9−)	1998 03 22	704	0.3−	0.3−
1992 03 04	809	0.9+	0.0	1995 11 20	560	(0.2+	2.4−)	1998 03 22	704	0.4−	0.2+
1992 03 07	809	0.9+	0.7+	1995 11 24	596	0.0	0.7−	1998 03 22	684	0.3+	0.7−
1992 04 06	809	0.0	0.7+	1995 11 24	596	0.2−	0.2−	1998 03 22	684	0.4+	0.8−
1994 08 10	809	1.5+	0.9−	1995 11 24	596	0.1−	0.5−	1998 03 22	704	1.0−	0.2+
1994 08 10	809	0.0	1.2−	1997 02 03	691	0.4+	0.9−	1998 04 19	704	0.2+	0.6+
1994 08 10	809	0.4−	1.4−	1997 02 03	691	0.3−	0.1−	1998 04 19	704	0.5+	0.4+
1994 08 11	809	0.5−	0.5−	1997 02 03	691	0.5−	0.1+	1998 04 19	704	0.7−	0.8+
1994 08 11	809	1.5−	1.1−	1997 02 04	566	0.4+	0.5−	1998 04 19	704	0.9−	1.2+
1994 08 11	809	1.2−	0.7−	1997 02 04	566	0.4+	0.5−	1998 04 24	699	0.6+	0.5−
1994 09 03	809	(1.5+	2.3+)	1997 02 04	566	0.1−	0.3−	1998 04 24	699	0.3+	0.2+
1994 09 03	809	(0.9+	2.1+)	1998 03 20	704	0.1−	0.8−	1998 04 24	699	0.0	0.4+

(8683)* 1992 EE₁₃ = 1990 WX

Discovered 1992 Mar. 2 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.
Id. K. Ichikawa (*MPC* 24106)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	65.83346		(2000.0)		P		Q				
<i>n</i>	0.17135599	ω	299.63580		−0.54465609		−0.83861806				
<i>a</i>	3.2102327	Ω	183.40033		+0.80983976		−0.52333030				
<i>e</i>	0.1535672	<i>i</i>	8.07911		+0.21796628		−0.15114608				
<i>P</i>	5.75	<i>H</i>	13.7		<i>G</i>	0.15	<i>U</i>	1			
Residuals in seconds of arc											
1990 11 18	809	0.1+	0.1+	1998 03 04	704	1.9−	1.1+	1998 03 24	704	1.0+	0.9−
1990 11 18	809	1.1+	0.3+	1998 03 04	704	(3.6−	1.1−)	1998 03 24	704	0.1+	0.3+
1990 11 18	809	1.6−	0.4−	1998 03 20	704	0.6+	0.2−	1998 03 24	704	0.9+	0.3−
1990 11 20	809	0.2+	0.0	1998 03 20	704	0.1−	0.5+	1998 03 24	704	0.5−	0.0
1990 11 20	809	0.7−	0.3+	1998 03 20	704	0.2+	0.7+	1998 03 25	566	0.2+	0.5−
1990 11 20	809	0.8+	0.4−	1998 03 20	704	0.5+	0.1+	1998 03 25	566	0.5+	0.1−
1992 02 28	675	1.2+	1.0+	1998 03 20	704	0.5+	0.1+	1998 03 25	566	0.1+	0.1+
1992 02 28	675	0.7+	0.2+	1998 03 22	704	0.6+	0.0	1998 04 19	704	0.3+	0.4−
1992 03 02	809	0.3+	0.6+	1998 03 22	704	0.4−	0.0	1998 04 19	704	1.4−	0.1+
1992 03 05	809	0.3−	0.4+	1998 03 22	704	0.7−	0.1+	1998 04 19	704	0.7−	1.1−
1992 03 09	809	1.0−	1.0−	1998 03 22	704	0.4+	0.6+	1998 04 19	704	1.1−	1.2−
1992 04 07	809	0.4−	1.2+	1998 03 22	704	0.3−	0.4−	1998 04 20	704	0.5−	0.4−
1994 06 16	691	0.0	0.4+	1998 03 24	704	0.6+	0.3+	1998 04 20	704	0.2+	1.0−
1994 06 16	691	0.2−	0.7+	1998 03 24	704	0.2−	0.1+	1998 04 20	704	0.1−	0.6+
1994 06 16	691	0.0	0.7+	1998 03 24	704	0.2−	0.5+	1998 04 20	704	1.5−	1.4−
1998 03 04	704	(2.3−	0.6+)	1998 03 24	704	0.0	1.2+	1998 04 20	704	(0.7−	2.4−
1998 03 04	704	(3.5−	0.4+)	1998 03 24	704	0.1−	0.1−				
1998 03 04	704	(2.5−	0.1−)	1998 03 24	704	1.9+	0.3−				

(8684)* 1992 FO₃ = 1982 BP₉ = 1993 QY₁

Discovered 1992 Mar. 30 by F. Börngen at Tautenburg.
Id. K. Ichikawa (*MPC* 28299)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	143.47980		(2000.0)		P		Q				
<i>n</i>	0.30920604	ω	203.60408		+0.87773217		−0.47914788				
<i>a</i>	2.1658950	Ω	185.02689		+0.44296665		+0.81293964				
<i>e</i>	0.0422500	<i>i</i>	1.23203		+0.18266577		+0.33097803				
<i>P</i>	3.19	<i>H</i>	15.1		<i>G</i>	0.15	<i>U</i>	1			
Residuals in seconds of arc											
1982 01 19	095	0.2+	1.6−	1998 01 07	699	0.8+	0.4+	1998 02 04	113	0.7+	0.6+
1989 04 01	675	0.8+	1.5−	1998 01 20	704	1.5+	0.8−	1998 02 04	113	0.7−	0.6+
1989 04 01	675	2.2−	0.8−	1998 01 20	704	1.3+	1.2−	1998 02 04	113	0.1−	0.2+
1992 03 30	033	0.2+	0.1−	1998 01 20	704	1.0+	0.4−	1998 02 18	113	0.3−	0.0
1992 03 31	033	0.3−	0.4−	1998 01 20	704	0.8+	0.5−	1998 02 18	113	0.4−	0.1−
1992 04 02	033	0.3+	0.3+	1998 01 20	704	0.3+	0.4−	1998 02 18	113	0.4+	0.9+
1992 04 03	033	0.1+	0.4+	1998 01 25	905	0.2−	1.5−	1998 02 20	113	0.1+	0.5+
1993 08 16	010	0.1+	1.5−	1998 01 25	905	0.0	0.2−	1998 02 20	113	0.2−	0.2−
1993 08 16	010	0.1+	1.0−	1998 01 27	113	1.0−	0.4+	1998 02 20	113	0.9−	0.1−
1993 08 16	010	0.5+	1.1−	1998 01 27	113	0.8−	0.5+	1998 02 21	113	0.7−	0.6−
1993 08 17	010	0.1+	1.1−	1998 01 27	113	1.4−	0.4+	1998 02 21	113	0.1+	0.0
1996 08 19	566	0.2+	0.6+	1998 01 27	113	0.6−	0.2+	1998 02 23	113	0.6−	0.2−
1996 08 19	566	0.2+	1.1+	1998 01 27	113	1.5−	0.0	1998 02 23	113	0.3+	0.6−
1996 08 19	566	0.3+	0.6+	1998 01 31	113	0.9−	0.5+	1998 02 28	113	0.6+	1.0−
1998 01 07	699	1.4+	0.2+	1998 01 31	113	1.0−	0.6+	1998 02 28	113	1.9+	0.9+
1998 01 07	699	0.3+	0.4+	1998 01 31	113	0.1−	0.4+				

(8685)* 1992 GG₃

Discovered 1992 Apr. 4 by E. W. Elst at the European Southern Observatory.

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	320.37705		(2000.0)			P		Q			
<i>n</i>	0.30050202	ω	310.04702			−0.82827663		+0.56010512			
<i>a</i>	2.2075190	Ω	264.02142			−0.50922255		−0.76399357			
<i>e</i>	0.0464848	<i>i</i>	0.89266			−0.23377385		−0.32030623			
<i>P</i>	3.28	<i>H</i>	14.6			<i>G</i>	0.15	<i>U</i>	2		
Residuals in seconds of arc											
1992 04 04	809	0.0	0.0	1995 02 22	411	0.8+	0.3+	1998 01 20	704	0.0	0.3−
1992 04 04	809	0.5−	0.1−	1995 02 22	411	0.3+	0.1+	1998 01 20	704	0.5+	0.1−
1992 04 04	809	0.2−	0.8−	1995 03 05	399	1.8+	0.7+	1998 01 20	704	0.3+	0.6−
1992 04 06	809	0.9−	0.1−	1995 03 05	399	1.4+	0.5+	1998 01 20	704	0.3+	0.6−
1992 04 06	809	1.1−	0.2+	1995 03 06	399	0.5−	0.5−	1998 01 22	704	0.3+	0.4−
1992 04 06	809	1.0−	0.1−	1995 03 06	399	(0.0	2.3−)	1998 01 22	704	0.0	0.5−
1992 04 25	809	0.0	0.6+	1996 08 12	566	0.3+	0.1−	1998 01 22	704	0.6+	0.9−
1992 04 25	809	0.2+	0.1+	1996 08 12	566	0.3+	1.2−	1998 01 22	704	0.4−	0.4−
1992 04 25	809	0.1+	1.3−	1996 08 12	566	0.3+	1.2−	1998 01 27	012	0.3−	0.5+
1993 10 10	809	(0.9−	2.3+)	1996 08 20	566	0.5+	0.7−	1998 01 27	012	0.7−	0.8+
1993 10 10	809	0.1−	1.6+	1996 08 20	566	0.5+	0.4−	1998 01 27	012	1.5−	0.4+
1993 10 10	809	1.5−	1.4+	1996 08 20	566	0.6+	0.9−	1998 02 01	012	0.9−	0.3+
1993 10 22	809	1.7+	0.2+	1998 01 07	699	0.6−	0.1−	1998 02 02	012	0.7−	0.2−
1993 10 22	809	0.0	1.0−	1998 01 07	699	0.6−	0.9−	1998 02 02	012	0.8−	0.2+
1993 10 22	809	0.5−	0.1−	1998 01 07	699	0.3−	1.2−	1998 02 04	012	0.2−	0.1+
1995 02 21	411	(0.0	2.2−)	1998 01 20	704	0.6+	0.6−	1998 02 04	012	0.4−	0.2−
1995 02 21	411	1.6+	1.0−	1998 01 20	704	0.3+	0.0				

(8686)* 1992 OX₁ = 1996 QL₁

Discovered 1992 July 26 by E. W. Elst at the European Southern Observatory.

Id. B. G. Marsden (*MPC* 28073)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

M	179.74622		(2000.0)	P	Q
n	0.28669284	ω	268.30969	+0.69919228	−0.70903251
a	2.2778484	Ω	136.83177	+0.69760114	+0.64854812
e	0.0937836	i	7.70021	+0.15646982	+0.27687224
P	3.44	H	14.0	G 0.15	U 2

Residuals in seconds of arc

1989 11 22	675	0.2+	0.2+	1996 08 24	658	0.2-	0.2+	1998 03 24	704	0.3-	0.6-
1989 11 22	675	0.1+	1.8-	1996 08 25	658	0.8+	0.1-	1998 03 24	704	0.7-	0.3-
1992 06 28	675	1.3+	0.5+	1996 08 25	658	0.6+	0.0	1998 03 24	704	0.5-	0.2-
1992 06 28	675	1.4+	0.8+	1996 08 25	658	0.3+	0.2-	1998 03 24	704	0.0	0.1-
1992 07 24	809	0.1-	0.5+	1996 09 09	104	0.4-	0.2-	1998 03 24	704	1.0-	0.0
1992 07 24	809	0.1-	1.9-	1996 09 09	104	0.4-	0.5+	1998 04 04	699	0.2-	0.8-
1992 07 24	809	1.0-	0.4+	1996 09 09	104	0.2+	0.7+	1998 04 04	699	0.5+	0.5+
1992 07 26	809	0.1-	0.8-	1996 09 09	104	0.1-	0.8+	1998 04 04	699	0.1+	0.0
1992 07 26	809	0.2-	0.8-	1996 09 21	696	0.2+	0.3-	1998 04 21	704	0.3+	0.0
1992 07 26	809	0.0	0.1-	1996 09 21	696	0.1+	0.4-	1998 04 21	704	0.4-	0.5-
1992 07 30	809	0.9+	0.4+	1996 09 21	696	0.1+	0.4-	1998 04 21	704	0.2-	0.7-
1992 07 30	809	0.4-	0.1-	1996 11 10	801	0.1-	1.5-	1998 04 21	704	0.4+	1.3-
1992 07 30	809	0.5-	0.2-	1996 11 10	801	0.4+	0.8-	1998 04 21	704	0.4+	0.4+
1996 08 24	658	0.3-	0.4+	1996 11 12	801	0.1-	0.0				
1996 08 24	658	0.1-	0.2+	1996 11 12	801	0.4-	0.1+				

(8687)* 1992 PV = 1994 BC₄

Discovered 1992 Aug. 8 by E. W. Elst at Caussols.

Id. B. G. Marsden (*MPC* 23124)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	190.70933		(2000.0)	P	Q
<i>n</i>	0.27912184	ω	174.47189	+0.95680614	-0.29024444
<i>a</i>	2.3188545	Ω	202.42260	+0.26502675	+0.89444623
<i>e</i>	0.0711576	<i>i</i>	2.51512	+0.11951081	+0.34018247
<i>P</i>	3.53	<i>H</i>	15.0	<i>G</i>	0.15
				<i>U</i>	1

Residuals in seconds of arc

1992 07 26	809	1.1+	1.2-	1996 10 05	327	0.1+	0.5-	1996 11 28	327	0.1+	0.7+
1992 07 26	809	1.0+	0.4-	1996 10 05	327	0.2+	0.2-	1996 11 29	327	0.8+	0.3-
1992 07 26	809	0.5+	0.5-	1996 10 06	691	1.5-	0.2+	1996 11 29	327	0.1+	0.8-
1992 07 30	809	(0.1-	2.2-)	1996 10 06	691	1.4-	0.3+	1996 11 29	327	0.2+	0.2-
1992 07 30	809	0.3+	1.8-	1996 10 23	327	0.2+	0.3-	1998 03 04	704	(3.0-	0.6-)
1992 07 30	809	(1.1+	2.0-)	1996 10 23	327	0.2+	0.2-	1998 03 04	704	(1.7-	2.9-)
1992 08 01	010	1.4-	1.7+	1996 10 23	327	0.0	0.1-	1998 03 04	704	(3.7-	1.5-)
1992 08 08	010	(3.5-	0.6+)	1996 11 02	327	0.2+	1.0-	1998 03 04	704	(8.7-	2.2-)
1992 08 08	010	(4.1-	1.0-)	1996 11 02	327	0.2+	0.1+	1998 03 20	704	0.3+	0.1+
1992 08 09	010	1.2-	1.6+	1996 11 02	327	0.1-	0.8-	1998 03 20	704	0.1+	0.6-
1992 08 09	010	(2.3-	0.3+)	1996 11 02	327	0.1-	0.4-	1998 03 20	704	1.3+	0.2-
1992 08 09	010	(2.3-	1.2+)	1996 11 09	327	0.3+	0.0	1998 03 20	704	0.5-	0.8-
1993 12 16	691	(3.9-	0.6-)	1996 11 09	327	0.7+	0.1-	1998 03 20	704	1.2-	1.5-
1993 12 16	691	(3.7-	0.8-)	1996 11 09	327	0.4+	0.2-	1998 03 22	704	1.0+	1.6-
1993 12 16	691	(4.0-	0.8-)	1996 11 20	327	0.1+	0.8+	1998 03 22	704	0.0	0.6+
1994 01 16	010	0.8+	0.5-	1996 11 20	327	0.1+	1.7-	1998 03 22	704	0.2+	0.3-
1994 01 16	010	1.6+	0.8+	1996 11 20	327	0.9+	0.6-	1998 03 22	704	0.6-	0.6-
1994 01 17	010	0.1+	1.0+	1996 11 27	327	0.4-	0.8+	1998 03 22	704	0.3-	0.1+
1994 01 17	010	0.4-	0.5+	1996 11 27	327	0.8-	0.3+	1998 04 01	704	0.6-	1.7-
1994 01 17	010	0.7+	1.2-	1996 11 27	327	0.0	0.6+	1998 04 01	704	(0.3-	2.5-)
1994 01 31	010	0.1+	0.6+	1996 11 27	327	0.6-	0.5+	1998 04 01	704	1.3-	1.0+
1994 01 31	010	0.3-	0.4+	1996 11 27	327	0.1+	0.3-	1998 04 01	704	(3.4-	2.4-)
1994 01 31	010	1.8-	1.6+	1996 11 27	327	0.5-	0.4-	1998 04 18	704	1.2-	0.1-
1996 10 03	327	0.2+	0.4-	1996 11 27	327	0.1-	0.1+	1998 04 18	704	0.8+	0.6-
1996 10 03	327	0.6+	0.2+	1996 11 27	327	0.1-	0.5-	1998 04 18	704	0.3-	0.4+
1996 10 03	327	0.9+	0.2+	1996 11 28	327	0.6-	0.8-	1998 04 18	704	(3.8-	1.6+)
1996 10 05	327	0.6+	0.1-	1996 11 28	327	0.3+	0.1+				

(8688)* 1992 PV₁

Discovered 1992 Aug. 8 by E. W. Elst at Caussols.

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	254.51095		(2000.0)	P	Q
<i>n</i>	0.28765907	ω	176.15068	+0.84895151	+0.52721345
<i>a</i>	2.2727448	Ω	151.93685	-0.48690698	+0.80712007
<i>e</i>	0.1736780	<i>i</i>	4.44155	-0.20543352	+0.26571257
<i>P</i>	3.43	<i>H</i>	14.6	<i>G</i>	0.15
				<i>U</i>	2

Residuals in seconds of arc

1992 06 28	675	0.7-	0.6-	1992 08 09	010	0.0	0.3-	1998 03 20	704	0.1+	0.0
1992 06 28	675	0.0	0.5-	1992 08 09	010	0.2-	0.8-	1998 03 20	704	0.4-	0.0
1992 07 24	809	1.2+	1.4+	1992 08 09	010	0.5-	0.7-	1998 03 20	704	0.1+	0.3-
1992 07 24	809	0.7+	0.7+	1994 01 14	411	0.2-	0.3-	1998 03 22	704	0.1+	0.1+
1992 07 24	809	0.7-	1.1+	1994 01 14	411	0.3+	1.2+	1998 03 22	704	0.5-	0.2+
1992 07 26	809	(1.5+	3.0+)	1994 01 14	411	0.5+	0.3-	1998 03 22	704	0.8+	0.7+
1992 07 26	809	(1.0+	2.7+)	1994 01 15	411	0.6-	0.2-	1998 03 22	704	0.1-	0.1-
1992 07 26	809	(0.6+	2.1+)	1994 01 15	411	0.3+	0.4+	1998 03 22	704	0.5-	0.1+
1992 07 30	809	0.6+	0.4+	1997 02 12	327	0.1-	0.5+	1998 04 19	704	0.4+	0.7+
1992 07 30	809	0.3+	1.3+	1997 02 12	327	0.2-	0.0	1998 04 19	704	0.1-	1.3+
1992 07 30	809	0.3+	1.1+	1997 02 12	327	0.2+	0.2+	1998 04 19	704	0.4+	0.3-
1992 08 04	675	0.6-	0.1-	1998 02 26	566	(1.3+	2.9-)	1998 04 19	704	(1.3+	2.1+)
1992 08 05	675	0.0	0.2-	1998 02 26	566	(0.2-	3.1-)	1998 04 19	704	0.5-	1.8+
1992 08 05	675	0.3+	0.4-	1998 02 26	566	0.3+	1.2-	1998 04 24	684	0.0	0.2-
1992 08 07	675	0.4-	0.2+	1998 03 08	327	0.4-	0.8-	1998 04 24	684	0.0	0.3-
1992 08 07	675	0.5-	0.2+	1998 03 08	327	0.1-	1.0-	1998 04 25	684	0.6+	0.3-
1992 08 08	010	0.7+	0.1-	1998 03 08	327	0.4-	0.9-	1998 04 25	684	0.6+	0.3-
1992 08 08	010	0.1-	0.9-	1998 03 20	704	0.3-	0.3+				
1992 08 08	010	0.6-	1.5-	1998 03 20	704	0.0	0.2+				

(8689)* 1992 PU₃ = 1972 TY₆ = 1982 SP₉ = 1996 XF₉

Discovered 1992 Aug. 5 by H. E. Holt at Palomar.

Id. E. Bowell (*MPC* 29100), G. V. Williams (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	262.50093		(2000.0)	P	Q
<i>n</i>	0.29209486	ω	247.80333	+0.88921906	+0.45600063
<i>a</i>	2.2496767	Ω	85.05082	-0.40496051	+0.82198795
<i>e</i>	0.1625600	<i>i</i>	2.11580	-0.21282963	+0.34117331
<i>P</i>	3.37	<i>H</i>	14.9	<i>G</i>	0.15
				<i>U</i>	1

Residuals in seconds of arc

1972 10 06	095	2.0+	2.0-	1996 12 11	046	0.3+	0.0	1998 03 20	704	0.1-	0.6-
1982 09 20	095	1.5-	1.2-	1996 12 11	046	0.2+	0.1+	1998 03 20	704	(4.2-	0.1+)
1992 08 02	675	0.8+	0.6-	1996 12 12	046	0.1-	0.3+	1998 03 22	704	0.1-	0.4-
1992 08 02	675	0.0	0.2+	1996 12 12	046	0.2-	0.1+	1998 03 22	704	0.9+	1.6-
1992 08 05	675	0.3+	1.2-	1996 12 12	046	0.1-	0.1+	1998 03 22	704	0.8-	1.8-
1992 08 05	675	0.2+	0.4-	1996 12 16	046	0.3+	0.3-	1998 03 22	704	(2.5-	1.6-)
1992 08 06	675	0.3-	1.0-	1996 12 16	046	0.4+	0.5-	1998 03 25	704	0.2-	0.6+
1992 08 06	675	0.9+	0.2+	1996 12 20	327	0.4+	0.1+	1998 03 25	704	0.2-	0.3+
1992 08 06	675	0.5-	0.7-	1996 12 20	327	0.1+	0.2-	1998 03 25	704	1.2-	0.9+
1992 08 06	675	0.1+	0.3+	1996 12 20	327	0.5+	0.3-	1998 03 25	704	1.1-	0.2+
1992 08 24	675	0.6+	0.6+	1996 12 21	046	1.0-	0.0	1998 03 25	704	0.2-	1.1-
1992 08 24	675	0.1-	0.2+	1996 12 21	046	0.5-	0.1-	1998 03 25	566	0.8-	0.5+
1996 12 06	046	0.3+	0.2+	1996 12 21	046	0.5-	0.7-	1998 03 25	566	0.8-	0.3-
1996 12 06	046	0.2+	0.0	1996 12 28	046	0.1+	0.2+	1998 03 25	566	0.8-	0.1+
1996 12 06	046	0.4+	0.1+	1996 12 28	046	0.6+	0.1+	1998 04 20	704	0.3+	0.6-
1996 12 06	046	0.4+	0.2-	1996 12 28	046	0.0	0.1-	1998 04 20	704	0.1+	0.2+
1996 12 06	046	0.6+	0.0	1997 01 12	046	0.8-	1.5-	1998 04 20	704	0.0	0.5-
1996 12 09	046	0.6+	0.7+	1997 01 12	046	0.4-	1.3-	1998 04 20	704	1.3+	1.3-
1996 12 09	046	0.7-	1.0+	1997 01 12	046	0.3+	1.4-	1998 04 22	704	0.2-	0.3-
1996 12 09	046	0.8-	0.1-	1998 03 20	704	0.7+	0.3-	1998 04 22	704	(3.3+	1.4-)
1996 12 11	046	0.2-	0.2+	1998 03 20	704	0.6+	0.3+	1998 04 22	704	(2.8+	0.3+)
1996 12 11	046	0.0	0.3+	1998 03 20	704	(0.6+	2.5+)	1998 04 22	704	(2.1-	0.2-)

1998 MAY 11

M.P.C. 31685

Residuals in seconds of arc

1989 12 30	413	(5.1+ 2.9-)	1994 03 10	589	0.0	0.2-	1996 11 06	587	0.5+	0.7+
1989 12 31	413	0.0	1994 03 10	589	0.3+	0.7-	1998 03 02	910	1.0+	0.9+
1989 12 31	413	1.1-	1994 03 10	589	0.3+	0.2-	1998 03 02	910	1.0+	0.6+
1990 01 25	372	0.8-	1994 03 10	589	0.8+	0.1-	1998 03 02	910	1.1+	0.6+
1990 01 25	372	(0.1+ 3.8-)	1994 03 11	589	0.4+	0.7+	1998 03 24	704	0.3+	0.2+
1992 09 24	691	0.1+	1994 03 11	589	1.0+	0.3+	1998 03 24	704	0.5-	1.5+
1992 09 24	691	0.2+	1994 03 17	589	0.0	0.3-	1998 03 24	704	1.6-	0.2+
1992 09 24	691	0.1+	1994 03 17	589	0.1+	0.3-	1998 03 24	704	(3.2- 0.6+)	
1992 09 26	691	0.5-	1994 04 06	589	0.1+	0.1+	1998 04 21	704	(1.5- 2.6+)	
1992 09 26	691	0.3-	1994 04 06	589	0.5+	0.4+	1998 04 21	704	(2.6- 0.6-)	
1992 09 26	691	0.5-	1994 04 06	589	0.7+	0.1+	1998 04 21	704	1.7-	0.6+
1992 09 29	691	0.5-	1996 11 03	587	1.1-	0.4-	1998 04 21	704	0.9+	0.3-
1992 09 29	691	0.1+	1996 11 03	587	0.1-	1.1+	1998 04 21	704	(2.2- 1.2-)	
1992 09 29	691	0.2-	1996 11 05	691	0.1-	0.1+	1998 04 22	704	(2.3- 0.6+)	
1994 03 09	589	0.3-	1996 11 05	691	0.1-	0.1+	1998 04 22	704	0.3-	1.2+
1994 03 09	589	0.3+	1996 11 05	691	0.1+	0.1+	1998 04 22	704	0.7-	0.1-
1994 03 09	589	0.7+	1996 11 06	587	0.2+	0.2+	1998 04 22	704	(3.3- 0.4-)	

(8691)* 1992 UZ₁ = 1931 WB = 1996 WT

Discovered 1992 Oct. 21 by Y. Kushida and O. Muramatsu at Yatsugatake South Base Observatory.

Id. G. V. Williams (*MPC* 28586)

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams					
<i>M</i>	185.18546	(2000.0)	<i>P</i>		<i>Q</i>			
<i>n</i>	0.25789776	ω 74.91890	+0.91328062		-0.40038774			
<i>a</i>	2.4443929	Ω 308.62500	+0.32712704		+0.83049862			
<i>e</i>	0.1537782	<i>i</i> 5.50062	+0.24270644		+0.38724890			
<i>P</i>	3.82	<i>H</i> 13.9	<i>G</i> 0.15		<i>U</i> 2			

Residuals in seconds of arc

1931 11 19	024	0.2-	1.4+	1996 11 17	683	0.2-	0.2-	1998 03 04	704	(2.6- 1.1+)
1992 09 30	675	0.3+	0.3-	1996 11 18	700	0.1-	1.3+	1998 03 04	704	1.4- 0.1-
1992 09 30	675	0.9+	0.4-	1996 11 18	700	0.4-	1.4+	1998 03 26	566	0.3+ 0.1-
1992 10 21	896	0.2+	0.7+ Y	1996 11 18	683	1.6+	0.7-	1998 03 26	566	0.2- 0.0
1992 10 21	896	0.5+	0.6+ Y	1996 11 18	683	1.4+	0.7-	1998 03 26	566	0.0 0.1-
1992 10 24	896	(0.9+ 4.3+)	Y	1996 11 18	683	1.6+	0.6-	1998 03 31	704	0.3+ 0.1-
1992 10 31	896	1.2-	0.0	1996 11 18	683	0.3-	0.1-	1998 03 31	704	0.2+ 0.2+
1992 10 31	896	0.2-	1.0+	1996 11 18	683	0.4-	0.2-	1998 03 31	704	0.6+ 1.1-
1992 11 21	896	0.9-	0.3-	1996 11 18	683	0.3-	0.0	1998 03 31	704	0.5+ 0.8+
1992 11 29	896	(2.7+ 0.5+)	Y	1996 11 19	700	0.2-	0.0	1998 04 01	704	0.6+ 0.1+
1992 11 29	896	(2.6+ 1.1-)		1996 11 19	700	0.7-	0.1+	1998 04 01	704	0.3+ 0.7+
1996 11 13	825	0.4+	0.6+	1996 11 19	700	0.3-	0.5+	1998 04 01	704	0.2+ 0.1-
1996 11 13	825	0.2-	0.6-	1996 11 20	683	0.2-	0.3-	1998 04 01	704	0.8+ 0.6+
1996 11 13	825	0.3+	0.7-	1996 11 20	683	0.4-	0.3-	1998 04 01	704	0.6- 0.6-
1996 11 13	825	0.0	0.2-	1996 11 20	683	0.3-	0.2-	1998 04 18	704	0.4+ 0.5+
1996 11 14	825	0.2+	0.1-	1997 01 09	689	0.9+	0.3+	1998 04 18	704	0.5+ 0.2+
1996 11 14	825	0.4+	0.1+	1997 01 10	689	0.2+	0.5+	1998 04 18	704	0.8+ 0.0
1996 11 17	700	0.6-	0.0	1998 03 03	704	1.0-	0.5-	1998 04 18	704	0.1+ 0.1+
1996 11 17	700	0.1-	0.1-	1998 03 03	704	0.9-	0.2-	1998 04 19	704	0.3+ 0.4+
1996 11 17	700	0.2-	0.6-	1998 03 03	704	1.5-	0.8-	1998 04 19	704	0.7+ 0.5+
1996 11 17	683	0.6-	0.4-	1998 03 03	704	1.1-	1.0-	1998 04 19	704	0.5+ 1.0+
1996 11 17	683	0.6-	0.4-	1998 03 03	704	0.3+	0.3-	1998 04 19	704	(2.4+ 1.9+)
1996 11 17	683	0.5-	0.2-	1998 03 04	704	(3.2- 0.5-)		1998 04 19	704	0.6+ 1.3+
1996 11 17	683	0.3-	0.2+	1998 03 04	704	0.9-	0.4-			

(8692)* 1992 WH = 1981 UP₂₉

Discovered 1992 Nov. 16 by S. Ueda and H. Kaneda at Kushiro.
Id. S. Nakano (*MPC* 22237)

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Nakano					
<i>M</i>	289.35385	(2000.0)	<i>P</i>		<i>Q</i>			
<i>n</i>	0.27288375	ω 76.34276	+0.64913651		+0.75709242			
<i>a</i>	2.3540604	Ω 234.37932	-0.72825336		+0.59056011			
<i>e</i>	0.1269928	<i>i</i> 5.20238	-0.21970171		+0.27937399			
<i>P</i>	3.61	<i>H</i> 13.9	<i>G</i> 0.15		<i>U</i> 1			

Residuals in seconds of arc

1981 10 24	675	0.4-	1.1+	1998 03 25	699	0.2-	0.9+	1998 04 20	704	0.1-	0.5-
1981 10 25	675	0.4+	0.3+	1998 03 25	699	0.7+	0.1-	1998 04 20	704	0.8-	0.7+
1981 10 26	675	0.5-	0.1+	1998 03 25	704	0.3-	0.2+	1998 04 20	704	0.8-	0.4+
1988 09 11	675	0.1-	0.2-	1998 03 25	699	0.4+	0.2+	1998 04 20	704	0.3-	0.0
1988 09 11	675	0.1+	0.4+	1998 03 25	704	0.1+	0.4-	1998 04 20	704	0.5-	0.4+
1992 10 25	675	0.9+	1.1+	1998 03 25	704	0.2-	0.6+	1998 04 21	704	0.2+	0.3-
1992 10 25	675	0.9+	1.1-	1998 03 25	704	0.4-	0.3+	1998 04 21	704	0.2-	0.5+
1992 10 28	400	(0.2- 2.6-)		1998 03 31	704	0.3+	0.1+	1998 04 21	704	0.3-	0.6+
1992 10 28	400	(0.2+ 3.7-)		1998 03 31	704	0.8+	0.7+	1998 04 21	704	0.1-	1.1+
1992 11 16	399	0.5+	0.6+	1998 03 31	704	0.6+	0.4+	1998 04 21	704	0.4+	0.5+
1992 11 16	399	0.1+	0.8-	1998 03 31	704	0.2+	0.3-	1998 04 22	704	0.2+	0.8-
1992 11 18	399	0.4-	1.0-	1998 03 31	704	0.4-	1.6-	1998 04 22	704	0.3-	0.7-
1992 11 18	399	0.9-	0.2-	1998 04 01	704	0.1-	0.5-	1998 04 22	704	0.3+	1.1-
1992 11 27	691	0.2-	0.0	1998 04 01	704	0.6+	0.8+	1998 04 22	704	0.6+	0.5-
1992 11 27	691	0.5-	0.3+	1998 04 01	704	1.0+	1.3+	1998 04 22	704	0.6-	1.2-
1992 11 27	691	0.3-	0.2+	1998 04 01	704	0.3-	0.9-				
1998 03 25	704	0.6+	0.1+	1998 04 01	704	0.7-	0.3+				

(8693)* 1992 WH₁ = 1958 RF = 1988 SB₄

Discovered 1992 Nov. 16 by K. Endate and K. Watanabe at Kitami.

Id. T. Kobayashi (*MPC* 23240)

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Nakano					
<i>M</i>	219.01728	(2000.0)	<i>P</i>		<i>Q</i>			
<i>n</i>	0.26405223	ω 238.57574	+0.98848607		-0.11768008			
<i>a</i>	2.4062615	Ω 128.00919	+0.14266295		+0.93431063			
<i>e</i>	0.1578460	<i>i</i> 6.93347	-0.05042401		+0.33647443			
<i>P</i>	3.73	<i>H</i> 12.8	<i>G</i> 0.15		<i>U</i> 1			

Residuals in seconds of arc

1955 12 12	675	0.7+	0.3-	1994 02 15	675	0.2+	0.9-	1998 03 27	426	0.0	0.3-
1955 12 12	675	0.0	0.6-	1994 02 17	411	0.4-	0.4+	1998 03 27	426	0.2-	0.3-
1958 09 13	760	0.2-	1.2-	1994 02 17	411	0.2+	0.3+	1998 03 27	426	0.1+	0.3-
1988 09 10	675	0.4+	0.4-	1995 05 27	801	0.1+	0.1+	1998 03 28	426	0.1-	0.0
1988 09 10	675	0.5+	0.8-	1995 05 27	801	0.1+	0.2-	1998 03 28	426	0.1-	0.4-
1988 09 16	095	(2.4+ 5.1-)		1995 06 28	801	0.1-	1.0-	1998 03 28	426	0.4-	0.1-
1988 09 16	095	(1.0+ 2.6-)		1995 06 28	801	0.3+	0.8+	1998 04 20	704	0.3-	0.5+
1992 10 26	675	0.2-	0.0	1995 06 29	801	0.3+	0.5+	1998 04 20	704	0.0	0.1-
1992 10 26	675	0.1+	0.4+	1995 06 29	801	0.2-	0.2+	1998 04 20	704	0.4+	0.3+
1992 11 16	400	0.3-	0.1+	1997 02 26	689	0.4+	1.4+	1998 04 20	704	0.1-	0.7+
1992 11 16	400	0.4+	0.6+	1998 03 08	689	0.5-	0.5+	1998 04 20	704	0.3+	0.1+
1992 11 17	400	0.5-	0.1+	1998 03 24	704	0.2-	0.3-	1998 04 21	704	0.5-	0.2+
1992 11 17	400	(2.9+ 1.5+)		1998 03 24	704	0.1-	0.3-	1998 04 21	704	1.0+	1.0+
1992 11 27	675	0.2-	0.3+	1998 03 24	704	0.0	1.2-	1998 04 21	704	1.2+	0.4+
1992 11 27	675	0.0	0.4-	1998 03 24	704	0.7+	1.4-	1998 04 21	704	0.1-	0.0
1992 11 27	400	1.3+	0.2-	1998 03 24	704	2.0-	0.5+	1998 04 21	704	0.1+	0.0
1992 11 27	400	1.0-	1.7-	1998 03 25	704	0.3+	1.0-	1998 05 02	566	0.4-	0.6+
1992 12 15	400	0.4-	0.4-	1998 03 25	704	0.7+	0.6-	1998 05 02	566	0.5-	0.5+
1992 12 15	400	0.2-	1.3+	1998 03 25	704	(2.3+ 0.8-)		1998 05 02	566	0.3+	0.5+
1994 02 15	675	1.2-	1.0-	1998 03 25	704	0.1-	0.9-				

(8694)* 1993 CO = 1976 UM₂ = 1978 EB₂ = 1981 UN₁₆ = 1986 TC₁₃
= 1988 AV₅

Discovered 1993 Feb. 10 by S. Ueda and H.

Epoch 1998 July 6.0 TT = JDT 2451000.5					Nakano						
<i>M</i>	79.66175		(2000.0)		P		Q				
<i>n</i>	0.19721262	ω	37.53793		+0.15948119		−0.98672557				
<i>a</i>	2.9231173	Ω	43.30949		+0.89457147		+0.13132413				
<i>e</i>	0.0739032	<i>i</i>	2.55963		+0.41750165		+0.09553339				
<i>P</i>	5.00	<i>H</i>	11.9		<i>G</i>	0.15	<i>U</i>	1			
Residuals in seconds of arc											
1976 10 26	095	1.0+	1.0−	1994 05 10	691	1.0−	0.3−	1998 02 24	566	0.6+	0.9−
1978 03 05	095	0.1−	0.4+	1994 05 10	691	0.8−	0.5−	1998 02 24	566	0.7+	0.8−
1981 10 24	095	(0.5+	3.5+)	1994 06 08	675	0.2+	0.2+	1998 02 24	566	0.7+	0.9−
1986 10 05	095	1.4−	1.6−	1994 06 08	675	0.1−	0.5−	1998 02 26	610	0.6+	1.0+
1988 01 15	399	0.2−	2.1−	1995 08 24	801	1.2+	1.5−	1998 02 26	610	0.5+	0.2+
1988 01 15	399	1.4−	0.6−	1995 08 26	801	1.3+	0.2−	1998 02 26	610	0.5+	1.2−
1988 01 15	399	0.1−	1.4−	1995 08 26	801	1.3+	1.2−	1998 03 01	327	0.0	0.3−
1988 01 15	399	0.1+	0.1+	1996 11 10	801	0.4+	0.9−	1998 03 01	327	0.0	0.3−
1988 01 17	399	0.1−	0.4+	1996 11 11	801	0.8−	0.1+	1998 03 01	327	0.3+	0.3−
1988 01 17	399	0.9+	0.9−	1996 11 12	689	1.0−	1.6+	1998 03 01	327	0.1+	0.1−
1988 01 17	399	2.0+	0.2−	1998 01 08	699	0.7+	0.7+	1998 03 01	327	0.1+	0.2−
1991 10 07	675	0.2+	1.9−	1998 01 08	699	0.5+	1.0+	1998 03 01	327	0.0	0.3−
1991 10 07	675	1.0+	0.5−	1998 01 08	699	1.2+	0.5+	1998 03 03	699	0.3+	0.1−
1993 02 10	399	0.8−	1.4+	1998 02 21	732	2.0−	0.4−	1998 03 03	699	1.1−	0.1−
1993 02 10	399	1.0−	0.7+	1998 02 21	732	0.1−	0.2−	1998 03 03	699	0.2−	0.0
1993 02 13	399	0.1−	0.8+	1998 02 21	732	1.0−	1.3−	1998 03 03	758	0.1−	1.0−
1993 02 13	399	0.6+	1.6+	1998 02 22	732	0.4−	0.1+	1998 03 03	758	0.3−	1.0−
1993 02 21	399	1.1+	1.0−	1998 02 22	732	0.5−	0.5+	1998 03 04	758	1.3+	0.8+
1993 02 21	399	1.0−	0.6−	1998 02 22	732	1.9−	0.5−	1998 03 04	758	0.1−	1.0+
1994 05 03	691	0.7−	0.3−	1998 02 23	327	0.0	0.3−	1998 03 05	327	0.2+	0.4+
1994 05 03	691	0.7−	0.1−	1998 02 23	327	0.1−	0.3−	1998 03 05	327	0.3+	0.5+
1994 05 03	691	0.7−	0.1−	1998 02 23	327	0.1+	0.2−	1998 03 05	327	0.2+	0.4+

(8695)* 1993 FW₈ = 1990 SQ₂₃ = 1995 UX₂₇

Discovered 1993 Mar. 17 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.
Id. K. Ichikawa (*MPC* 27915)

Epoch 1998 July 6.0 TT = JDT 2451000.5									
Williams									
<i>M</i>	210.68241		(2000.0)		P		Q		
<i>n</i>	0.20084384	ω	305.12103		+0.99756917		−0.05519084		
<i>a</i>	2.8877774	Ω	58.07799		+0.06800551		+0.90423180		
<i>e</i>	0.0446239	<i>i</i>	2.87290		−0.01519873		+0.42346052		
<i>P</i>	4.91	<i>H</i>	14.2		<i>G</i>	0.15	<i>U</i>	1	

Residuals in seconds of arc											
1990 09 25	809	0.0	1.4+	1995 10 26	691	0.1−	0.0	1998 03 25	704	1.0−	1.6+
1990 09 25	809	0.3+	0.2+	1995 10 26	691	0.0	0.1+	1998 03 25	704	(2.7−	1.0+)
1990 09 25	809	0.0	1.3+	1995 10 26	691	0.1−	0.2−	1998 03 25	704	1.7−	1.0−
1993 03 17	809	0.2−	1.9+	1997 01 01	817	0.4+	0.6−	1998 03 25	704	(3.0−	2.1+)
1993 03 18	809	0.7+	1.3+	1997 01 01	817	1.6−	0.3+	1998 03 25	704	(2.8−	2.8−)
1993 03 19	809	0.7+	0.8−	1997 01 01	817	0.7−	0.5+	1998 04 20	704	0.1−	1.4−
1993 03 23	809	1.3−	1.8+	1997 01 01	817	0.8+	0.0	1998 04 20	704	1.3+	0.9−
1993 03 23	691	(0.6−	2.5−)	1997 01 11	566	0.3+	0.1−	1998 04 20	704	1.5+	0.5−
1993 03 23	691	1.0−	0.3−	1997 01 11	566	0.6+	0.1−	1998 04 20	704	0.8+	0.2−
1993 03 23	691	1.1−	0.5−	1997 01 11	566	0.7+	0.0	1998 04 22	704	1.1+	0.8+
1993 04 16	413	1.8+	0.6+	1998 03 22	704	0.3+	0.1−	1998 04 22	704	0.4−	1.8+
1995 10 20	691	0.7−	0.1−	1998 03 22	704	0.7−	0.5+	1998 04 22	704	0.4+	1.9−
1995 10 20	691	0.6−	0.0	1998 03 22	704	0.5−	0.1+	1998 04 22	704	(2.0+	0.6+)
1995 10 20	691	0.4−	0.0	1998 03 22	704	0.2−	0.4+	1998 04 22	704	0.7+	0.1+

(8696)* 1993 FM₁₆ = 1994 LB₆

Discovered 1993 Mar. 17 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.
Id. B. G. Marsden (*MPC* 23980)

Epoch 1998 July 6.0 TT = JDT 2451000.5						Marsden					
<i>M</i>	99.44985		(2000.0)			P		Q			
<i>n</i>	0.16860282		ω		341.43446	+0.65465142		−0.74975130			
<i>a</i>	3.2450856		Ω		67.55039	+0.70610077		+0.56093622			
<i>e</i>	0.1165562		<i>i</i>		5.99084	+0.26991335		+0.35103212			
<i>P</i>	5.85		<i>H</i>		13.3	<i>G</i>	0.15	<i>U</i>	1		
Residuals in seconds of arc											
1993 03 17	809	0.7−	1.2−	1994 06 04	809	0.0	0.5+	1998 02 19	699	0.3+	1.2+
1993 03 18	809	0.3−	0.0	1994 06 04	809	0.1+	0.1+	1998 02 22	566	0.0	0.4+
1993 03 23	809	0.6+	0.0	1996 10 08	566	0.4+	0.6−	1998 02 22	566	0.0	0.1+
1993 04 16	413	0.6−	0.8−	1996 10 08	566	0.1+	0.5−	1998 02 22	566	0.2−	0.1+
1994 06 03	809	0.2+	1.4−	1996 10 08	566	0.5+	0.2−	1998 03 24	725	0.1−	0.5−
1994 06 03	809	0.8−	0.9+	1996 12 01	689	0.1+	1.2−	1998 03 24	725	0.3−	0.2−
1994 06 03	809	0.4−	0.8−	1998 02 19	699	0.2+	0.4−	1998 03 28	725	0.0	0.5−
1994 06 04	809	0.6+	0.1−	1998 02 19	699	0.5+	0.5+	1998 03 28	725	0.3−	0.1−

(8697)* 1993 FT₂₃ = 1978 RU₃ = 1042 T-1

Discovered 1993 Mar. 21 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.

Id. G. V. Williams (*MPC* 23525, *MPC* 31536)

Epoch 1998 July 6.0 TT = JDT 2451000.5					Williams						
<i>M</i>	255.35391		(2000.0)		P		Q				
<i>n</i>	0.18021794	ω	15.87692		+0.57236184		+0.81983913				
<i>a</i>	3.1041119	Ω	289.04086		−0.75420048		+0.51852638				
<i>e</i>	0.1620100	<i>i</i>	0.98809		−0.32184401		+0.24288719				
<i>P</i>	5.47	<i>H</i>	13.4		<i>G</i>	0.15	<i>U</i>	1			
Residuals in seconds of arc											
1971 03 24	675	(0.4+	3.0−)	1996 12 08	327	0.1−	0.3−	1998 03 20	704	0.5−	0.8−
1971 03 25	675	0.3+	0.5−	1996 12 08	327	0.1+	0.4+	1998 03 20	704	1.0+	0.3−
1971 03 25	675	0.4−	0.7−	1996 12 08	327	0.2−	0.3−	1998 03 20	704	(2.3+	0.8−)
1971 03 26	675	0.3+	1.5−	1998 03 03	704	0.2−	0.0	1998 03 20	704	1.8+	1.0−
1971 03 27	675	0.6−	0.6+	1998 03 03	704	1.4+	0.1+	1998 03 20	704	1.6+	0.4−
1971 03 27	675	1.4−	2.0−	1998 03 03	704	0.4−	0.0	1998 03 22	704	0.4+	0.1−
1978 09 03	095	0.3−	0.8+	1998 03 03	704	0.1−	1.7+	1998 03 22	704	0.5−	0.3+
1993 03 21	809	0.1−	0.4+	1998 03 03	704	0.1+	0.1+	1998 03 22	704	0.8+	1.5+
1993 03 22	809	0.5+	0.3+	1998 03 04	704	1.5−	0.5−	1998 03 22	704	1.6+	0.5+
1993 03 26	809	0.3+	0.1−	1998 03 04	704	1.5−	0.9+	1998 03 24	566	0.8−	0.1+
1993 03 27	809	0.0	0.7+	1998 03 04	704	1.9−	0.1+	1998 03 24	566	0.3+	0.5+
1993 04 16	413	0.1−	0.4+	1998 03 04	704	(2.8−	0.9−)	1998 03 24	566	0.2+	0.9+

(8698)* 1993 FT₄₁ = 1981 UX₁₄ = 1988 DF₁ = 1990 RW₆

Discovered 1993 Mar. 19 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.

Id. G. V. Williams (*MPC* 23528)

Epoch 1998 July 6.0 TT = JDT 2451000.5						Williams					
<i>M</i>	122.16499		(2000.0)			P		Q			
<i>n</i>	0.20533302	ω	93.13135			−0.08405504		−0.99646075			
<i>a</i>	2.8455323	Ω	1.69103			+0.90248397		−0.07648726			
<i>e</i>	0.0603020	<i>i</i>	1.64108			+0.42244222		−0.03486636			
<i>P</i>	4.80	<i>H</i>	13.0			<i>G</i>	0.15	<i>U</i>	1		
Residuals in seconds of arc											
1981 10 23	095	(3.9+	0.8+)	1993 04 15	691	0.9−	0.6−	1998 04 01	704	1.4+	0.3+
1988 02 18	809	0.3−	1.2−	1993 04 15	691	0.9−	0.9−	1998 04 01	704	0.6+	0.8−
1988 02 18	809	0.7−	1.3−	1993 04 21	413	(2.3−	2.9+)	1998 04 01	704	0.2−	0.1−
1990 08 26	809	0.1+	0.4−	1996 12 30	886	0.2−	0.6−	1998 04 01	704	0.0	0.1−
1990 08 26	809	0.0	0.6−	1996 12 30	886	0.5−	0.8−	1998 04 21	704	0.6−	0.2+
1990 08 26	809	0.1+	1.0−	1996 12 31	886	0.2+	0.0	1998 04 21	704	0.4−	0.6+
1990 09 13	809	0.3−	0.9−	1996 12 31	886	0.1+	0.7−	1998 04 21	704	0.6+	0.0
1990 09 13	809	0.2+	0.9−	1998 03 06	910	0.7+	1.2−	1998 04 21	704	0.8−	0.1+
1990 09 13	809	0.5+	0.9−	1998 03 06	910	1.0+	1.3−	1998 04 21	704	0.6−	0.5+
1990 09 14	809	0.5+	1.0−	1998 03 06	910	0.7+	1.0−	1998 04 22	704	0.2−	0.4+

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1990 09 14	809	0.9+	0.8-	1998 03 25	704	0.6+	0.8-	1998 04 22	704	0.5-	0.0
1990 09 14	809	1.1+	0.7-	1998 03 25	704	1.0-	0.8-	1998 04 22	704	0.9-	1.0+
1993 03 19	809	0.1+	0.0	1998 03 25	704	0.7+	0.6+	1998 04 22	704	1.0-	0.5+
1993 03 20	809	0.8+	0.0	1998 03 25	704	0.8+	0.1-	1998 04 22	704	0.1-	0.5+
1993 03 24	809	1.8+	0.0	1998 03 25	699	1.2+	0.6-	1998 04 22	104	0.5-	0.0
1993 03 28	691	(1.5- 2.3-)		1998 03 25	699	0.3-	0.4+	1998 04 22	104	0.5-	0.0
1993 03 28	691	1.6-	1.0-	1998 03 25	704	0.2+	0.5+	1998 04 22	104	0.2-	0.0
1993 04 15	691	1.1-	0.7-	1998 04 01	704	0.5+	0.4-	1998 04 27	689	0.7-	0.5+

(8699)* 1993 FO₄₈ = 1995 SJ₅₃

Discovered 1993 Mar. 19 at the European Southern Observatory in the course of the Uppsala-ESO Survey of Asteroids and Comets.

Id. G. V. Williams (*MPC* 25961)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	305.81907		(2000.0)		P		Q
n	0.20049871	ω	2.57739		+0.13853271		+0.99035180
a	2.8910903	Ω	275.38557		-0.90869779		+0.12571848
e	0.1094876	i	0.19934		-0.39379819		+0.05829384
P	4.92	H	14.1	G	0.15	U	1

Residuals in seconds of arc

1993 03 19	809	0.0	0.4-	1997 01 12	566	0.3-	0.0	1998 04 19	704	(1.7+ 3.3-)	
1993 03 20	809	0.0	0.4+	1998 03 20	704	0.5-	0.3+	1998 04 19	704	0.1-	0.0
1993 03 24	809	0.4+	0.5-	1998 03 20	704	0.8+	0.8+	1998 04 20	704	0.5-	0.3-
1993 04 17	413	0.3-	0.7+	1998 03 20	704	0.2+	0.4+	1998 04 20	704	1.2-	0.9-
1995 09 28	327	0.1+	0.2-	1998 03 20	704	1.1+	0.2+	1998 04 20	704	0.7-	1.0+
1995 09 28	327	0.0	0.4+	1998 03 20	704	(7.1-	0.7-)	1998 04 20	704	0.3-	0.1+
1995 09 28	327	0.1-	0.1-	1998 04 01	704	0.3-	0.6-	1998 04 22	704	0.4-	1.3+
1995 09 28	327	0.3-	0.2+	1998 04 01	704	1.1-	0.9+	1998 04 22	704	0.6-	1.1+
1995 09 29	327	0.1-	0.3+	1998 04 01	704	0.2-	0.1-	1998 04 22	704	0.2+	0.9+
1995 09 29	327	0.3+	0.3-	1998 04 01	704	0.2-	0.6-	1998 04 22	704	1.9+	0.4-
1995 09 29	327	0.1-	0.3+	1998 04 01	704	0.2+	0.0	1998 04 22	704	0.4-	1.4-
1997 01 12	566	0.2+	0.2-	1998 04 19	704	0.2+	0.1-				
1997 01 12	566	0.1+	0.1-	1998 04 19	704	0.4+	1.2+				

(8700)* 1993 JL₁ = 1975 ED₁ = 1990 WV₁₄

Discovered 1993 May 14 by E. W. Elst at the European Southern Observatory.

Id. K. Ichikawa (*MPC* 22958), G. V. Williams (*MPC* 28589)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	51.28175		(2000.0)		$\mathbf{P}$		$\mathbf{Q}$
n	0.17315524	ω	341.78479		-0.78761550		-0.61613597
a	3.1879557	Ω	160.17680		+0.56756685		-0.72936503
e	0.1581581	i	1.04555		+0.23985347		-0.29732662
P	5.69	H	13.2	G	0.15	U	1

Residuals in seconds of arc

1975 03 06	095	1.3+	0.9-	1996 12 06	905	0.4-	1.1-	1998 03 26	566	0.7-	0.7-
1975 03 15	095	0.7-	1.2+	1996 12 06	905	0.7-	1.4-	1998 03 26	566	0.2-	0.8-
1990 11 23	095	0.0	1.8-	1996 12 07	905	0.9-	1.1-	1998 03 26	566	0.6-	0.5-
1990 11 23	095	(1.7+ 2.4-)		1998 03 08	699	0.7-	1.5+	1998 03 28	423	0.2+	0.3-
1993 05 14	809	0.1-	1.6-	1998 03 08	699	0.0	0.8+	1998 03 28	423	0.5+	0.5-
1993 05 14	809	0.1-	1.4-	1998 03 08	699	0.1-	0.4+	1998 03 28	423	0.2-	0.1+
1993 05 14	809	1.2-	0.6-	1998 03 20	704	0.1+	0.9+	1998 03 28	423	0.6+	0.1+
1993 05 15	809	(0.2- 3.2-)		1998 03 20	704	0.3+	0.5+	1998 04 19	704	1.0+	1.4-
1993 05 15	809	(0.1- 2.1-)		1998 03 20	704	0.3+	0.2+	1998 04 19	704	0.1-	1.1-
1993 05 15	809	0.4-	1.2-	1998 03 20	704	0.5+	0.0	1998 04 19	704	0.3+	0.8-
1993 05 23	809	1.4-	0.9+	1998 03 20	704	0.6-	0.9+	1998 04 19	704	0.6-	1.4-
1993 05 23	809	0.1+	0.5-	1998 03 22	704	0.4+	1.1+	1998 04 19	704	0.5-	1.5-
1993 05 23	809	0.4-	0.1-	1998 03 22	704	(4.0+ 2.1-)		1998 04 19	360	0.3+	0.7-
1995 12 14	327	0.4+	0.6-	1998 03 22	704	(2.8- 0.7-)		1998 04 19	360	0.2+	0.7-
1995 12 14	327	0.7+	0.4-	1998 03 22	704	1.2-	0.6+	1998 04 19	360	0.2+	0.6-
1995 12 14	327	1.2+	0.9-	1998 03 22	704	0.8-	0.9+	1998 04 20	704	0.2+	1.0-
1995 12 15	327	0.8+	0.7-	1998 03 25	699	0.2+	0.9+	1998 04 20	704	0.4+	0.7-
1995 12 15	327	0.8+	1.2-	1998 03 25	699	0.4+	0.8+	1998 04 20	704	0.3-	0.6-

1995 12 15	327	0.6+	1.1-	1998 03 25	699	0.5+	0.5+	1998 04 20	704	0.0	1.2-
1995 12 16	327	0.8+	0.8-	1998 03 26	566	0.6-	0.5-	1998 04 20	704	1.0+	1.5-
1995 12 16	327	1.0+	1.6-	1998 03 26	566	0.4-	0.5-				
1995 12 16	327	0.9+	0.2-	1998 03 26	566	0.4-	0.8-				

(8701)* 1993 LG₂ = 1994 PQ

Discovered 1993 June 15 by H. E. Holt at Palomar.

Id. B. G. Marsden (*MPC* 23981)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	266.47644		(2000.0)		P		Q
n	0.17457520	ω	119.02754		+0.75605161		+0.65325454
a	3.1706455	Ω	200.27241		-0.63382460		+0.71529404
e	0.1310681	i	6.72122		-0.16325544		+0.24821954
P	5.65	H	12.7	G	0.15	U	1

Residuals in seconds of arc

1988 08 13	675	0.5-	0.4+	1998 03 20	704	0.2+	0.7+	1998 04 18	704	1.0+	0.4+
1988 08 13	675	0.0	0.9+	1998 03 20	704	(0.2+ 2.3+)		1998 04 18	704	0.8+	0.5+
1993 05 27	010	0.1-	0.7-	1998 03 22	704	0.0	0.1+	1998 04 18	704	0.2+	0.1-
1993 05 27	010	1.1-	0.8-	1998 03 22	704	0.0	0.6+	1998 04 18	704	0.3+	0.4-
1993 05 28	010	0.9-	0.5-	1998 03 22	704	0.4-	0.3+	1998 04 18	704	0.1-	0.6-
1993 05 29	010	0.3-	0.6+	1998 03 22	704	0.0	0.3-	1998 04 20	704	0.2+	0.2+
1993 05 29	010	0.9+	0.3+	1998 03 22	704	0.1-	0.5+	1998 04 20	704	0.6+	0.0
1993 05 29	010	0.3-	0.1-	1998 03 22	699	0.2+	0.1-	1998 04 20	704	0.1-	0.1+
1993 06 15	675	(1.8+ 3.5-)		1998 03 22	699	0.8-	0.7+	1998 04 20	704	0.6+	0.6+
1993 06 15	675	(2.3+ 2.3-)		1998 03 22	699	(1.6+ 2.3+)		1998 04 20	704	0.3+	0.3-
1993 06 16	675	1.8+	1.6-	1998 03 24	699	0.2+	0.4+	1998 04 22	704	0.3-	0.5-
1994 08 13	398	0.2-	0.2+	1998 03 24	699	1.0-	0.4+	1998 04 22	704	0.4+	0.1-
1994 08 13	398	0.7-	0.2+	1998 03 24	699	0.1+	0.1+	1998 04 22	704	0.0	0.1-
1994 08 14	398	0.4+	0.5+	1998 03 25	704	0.2-	0.2+	1998 04 22	704	0.1-	0.5+
1994 08 14	398	0.3+	0.0	1998 03 25	704	0.7+	0.1+	1998 04 22	704	0.5+	0.5+
1994 08 14	398	0.2-	0.5+	1998 03 25	704	1.8-	0.9+	1998 05 01	566	0.3+	0.3-
1998 03 03	704	0.6+	0.1-	1998 03 25	704	1.0+	1.7+	1998 05 01	566	0.2+	0.2-
1998 03 03	704	0.6-	1.0-	1998 03 25	704	(7.2- 2.5+)		1998 05 01	566	0.2+	0.1-
1998 03 03	704	0.1-	0.8-	1998 04 01	704	0.2-	0.0	1998 05 02	566	0.1-	0.1+
1998 03 03	704	1.4-	0.5-	1998 04 01	704	0.0	0.5+	1998 05 02	566	0.1+	0.2-
1998 03 20	704	0.0	0.1-	1998 04 01	704	0.8-	0.3-	1998 05 02	566	0.0	0.1+
1998 03 20	704	0.3+	0.4+	1998 04 01	704	0.6+	0.2-				
1998 03 20	704	0.1+	0.2+	1998 04 01	704	0.7-	0.7-				

(8702)* 1993 VX₃ = 1986 RP₆ = 1986 TP₈

Discovered 1993 Nov. 14 by M. Hirasawa and S. Suzuki at Nyukasa.

Id. G. V. Williams (*MPC* 23126)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	135.32840		(2000.0)		P		Q	
n	0.30004433	ω	196.88986		+0.23291844		-0.97008326	
a	2.2097634	Ω	239.68772		+0.90116276		+0.24176394	
e	0.0992124	i	4.54876		+0.36558813		+0.02210582	
P	3.28	H	14.0		G	0.15	U	2

Residuals in seconds of arc

1953 09 07	675	0.9+	0.8-	1998 03 03	704	0.6-	0.6+	1998 04 04	699	0.2+	1.8-
1953 09 07	675	0.4-	0.5-	1998 03 03	704	1.9+	0.0	1998 04 04	699	0.6-	0.1-
1986 09 06	095	1.5-	2.2-	1998 03 03	704	0.2-	0.4-	1998 04 18	704	0.9+	0.4-
1986 10 02	095	1.8+	1.2+	1998 03 03	704	0.9-	0.5+	1998 04 18	704	0.5+	0.2-
1993 11 14	408	(1.4+ 5.0-)		1998 03 25	367	0.1-	0.3+	1998 04 18	704	0.4+	0.4-
1993 11 14	408	(0.1+ 2.2-)		1998 03 25	367	0.4+	0.4+	1998 04 18	704	0.4+	0.9-
1993 11 15	408	1.4+	0.5+	1998 03 25	566	0.8-	1.6-	1998 04 19	704	0.6+	0.5+
1993 11 15	408	0.7+	0.1-	1998 03 25	566	0.8-	1.5-	1998 04 19	704	0.7+	0.2+
1993 12 09	408	1.4+	0.5-	1998 03 25	566	0.8-	1.6-	1998 04 19	704	0.5-	0.2+
1993 12 09	408	(2.5+ 0.5-)		1998 03 31	704	0.4-	0.1-	1998 04 19	704	0.4+	0.7-

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1993 12 18	408	0.3+	0.6-	1998 04 01	704	0.3-	0.0	1998 04 20	704	0.1+	0.1-
1993 12 18	408	0.0	1.1-	1998 04 01	704	0.9-	0.3+	1998 04 22	704	0.6+	0.3-
1994 01 12	691	0.8-	0.1-	1998 04 01	704	1.4-	0.6+	1998 04 22	704	0.0	0.2+
1994 01 12	691	0.2+	0.3+	1998 04 01	704	0.5-	0.0	1998 04 22	704	0.1+	0.3+
1994 01 12	691	1.7-	0.0	1998 04 01	704	1.0-	1.3+	1998 04 22	704	0.1-	0.0
1998 03 03	704	0.1+	0.3+	1998 04 04	699	0.2-	0.9-	1998 04 22	704	0.2-	0.8+

(8703)* 1993 XP₁ = 1989 VC₃

Discovered 1993 Dec. 15 by T. Kobayashi at Oizumi.

Id. S. Nakano (*MPC* 23127)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	37.68817		(2000.0)	P	Q
n	0.27774128	ω	16.41782	-0.97849521	-0.20209940
a	2.3265323	Ω	151.82103	+0.17806215	-0.92859604
e	0.0429949	i	5.01335	+0.10412011	-0.31123180
P	3.55	H	14.4	G 0.15	U 2

Residuals in seconds of arc

1953 10 01	675	0.5-	0.1+	1996 10 09	327	0.9+	0.2-	1998 03 22	704	0.2-	0.6-
1953 10 01	675	0.9+	0.0	1996 10 09	327	0.4+	0.7+	1998 03 22	704	0.1-	0.2+
1989 11 03	809	(2.6-	0.8+)	1998 02 21	691	0.8-	0.4-	1998 03 22	704	0.5+	0.3+
1989 11 03	809	2.1-	0.5+	1998 02 21	691	0.9-	0.4-	1998 03 22	704	0.3+	0.8+
1989 11 03	809	1.5-	1.4+	1998 02 21	691	0.9-	0.4-	1998 03 22	704	0.3+	0.6-
1993 12 15	411	0.0	0.2+	1998 03 01	809	0.9+	0.3-	1998 03 22	704	0.2+	0.3+
1993 12 15	411	0.6-	0.4-	1998 03 01	809	1.0+	0.6-	1998 03 22	704	0.3+	0.3+
1993 12 17	411	1.2-	0.1-	1998 03 01	809	1.8+	0.9-	1998 03 22	704	0.3+	0.4+
1993 12 17	411	0.2+	0.1+	1998 03 02	809	1.8+	0.5+	1998 03 22	704	0.5-	0.3+
1993 12 17	411	1.0-	1.6-	1998 03 02	809	1.8+	0.3+	1998 03 22	704	0.2+	0.3+
1993 12 23	411	0.7+	0.0	1998 03 02	809	1.6+	0.6+	1998 03 24	566	0.6-	0.3-
1993 12 23	411	0.2+	0.8-	1998 03 03	367	0.2+	0.3+	1998 03 24	566	0.6-	0.2-
1993 12 23	411	0.2+	0.2-	1998 03 03	367	0.3-	0.9+	1998 03 24	566	0.8-	0.2-
1994 01 04	411	1.1+	0.8+	1998 03 20	704	0.1+	0.6-	1998 04 19	704	0.2-	0.3-
1994 01 04	411	0.4-	0.7-	1998 03 20	704	0.9-	0.1-	1998 04 19	704	0.0	1.2+
1994 01 04	411	0.9+	0.0	1998 03 20	704	0.3-	0.7+	1998 04 19	704	(2.6-	1.2-)
1994 01 19	411	1.0+	0.4+	1998 03 20	704	0.6-	0.3+	1998 04 19	704	1.2-	0.1-
1996 10 09	327	0.3+	0.3+	1998 03 20	704	1.3-	0.2+	1998 04 19	704	1.4-	0.8+

(8704)* 1993 YJ = 1986 QJ

Discovered 1993 Dec. 17 by T. Kobayashi at Oizumi.

Id. T. Kobayashi (*MPC* 22965)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	201.09146		(2000.0)	P	Q
n	0.30644800	ω	91.52641	+0.87932666	-0.47310615
a	2.1788710	Ω	296.71257	+0.40914390	+0.80895014
e	0.1805269	i	3.48899	+0.24369220	+0.34895593
P	3.22	H	14.7	G 0.15	U 2

Residuals in seconds of arc

1986 08 25	809	0.1-	0.8+	1993 12 23	411	0.2-	0.1+	1997 01 25	327	0.4+	0.3+
1986 08 25	809	0.2+	0.7+	1993 12 23	411	0.3-	0.3+	1998 03 25	704	0.9-	0.6-
1986 08 25	809	0.6+	0.8+	1993 12 23	411	0.0	0.1-	1998 03 25	704	0.6+	0.4+
1986 08 26	809	0.3+	0.6+	1994 01 07	675	1.0+	0.7-	1998 03 25	704	0.2-	1.0-
1986 08 26	809	0.3+	0.5+	1994 01 07	411	0.5+	0.2-	1998 03 25	704	1.1-	2.1+
1986 08 26	809	0.5+	0.5+	1994 01 07	411	0.9+	0.5+	1998 03 25	704	(6.5-	1.3-)
1986 08 27	809	1.7+	0.9-	1994 01 07	411	0.6-	1.8-	1998 04 20	704	0.2-	0.9+
1986 08 27	809	1.8+	0.9-	1994 01 09	675	0.1-	1.9+	1998 04 20	704	0.3-	0.4-
1986 08 27	809	1.8+	0.6-	1994 01 09	675	1.6+	1.2+	1998 04 20	704	1.3+	1.3+
1986 08 27	809	2.1-	0.9-	1996 12 27	327	0.2+	0.7+	1998 04 20	704	(2.7-	1.4-)
1986 08 28	809	1.9-	0.9-	1996 12 27	327	0.2-	0.1+	1998 04 21	704	1.0+	1.7+
1986 08 28	809	1.7-	0.7-	1996 12 27	327	0.9-	0.1-	1998 04 21	704	1.3+	1.1-
1986 08 29	809	0.7-	1.0+	1997 01 02	327	0.3-	0.3-	1998 04 21	704	1.1+	0.4+
1986 08 29	809	0.2+	1.1+	1997 01 02	327	0.2+	0.6-	1998 04 21	704	0.8-	0.7+
1986 08 29	809	1.8-	1.1+	1997 01 02	327	0.0	0.2-	1998 04 21	704	1.6-	0.4-
1993 12 17	411	0.2-	0.8+	1997 01 05	327	0.1+	0.2-	1998 04 22	704	0.6-	1.2-
1993 12 17	411	0.2-	0.5+	1997 01 05	327	0.3-	0.3-	1998 04 22	704	0.4-	1.6-

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1993 12 18	411	0.3-	0.7+	1997 01 05	327	0.3-	0.4-	1998 04 22	704	1.3+	0.2+
1993 12 18	411	0.9-	0.5-	1997 01 25	327	1.5+	0.3-	1998 04 22	704	(3.1-	0.9-)
1993 12 18	411	0.9-	0.4+	1997 01 25	327	0.7+	0.2+				

(8705)* 1994 AL₃ = 1995 KS₁

Discovered 1994 Jan. 8 by H. Shiozawa and T. Urata at Fujieda.

Id. T. Urata (*MPC* 25332)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	105.38166		(2000.0)		P		Q
n	0.27592918	ω	274.94265		-0.22221312		-0.97487785
a	2.3367072	Ω	187.94622		+0.93269286		-0.20796874
e	0.0557409	i	6.35977		+0.28408687		-0.07976322
P	3.57	H	14.1	G	0.15	U	1

Residuals in seconds of arc

1994 01 08	898	1.4+	0.8-	1996 10 11	385	0.3-	0.6-	1998 03 22	704	0.0	0.5+
1994 01 08	898	(2.8+	1.6+)	1996 10 11	385	0.1+	0.8-	1998 03 24	704	0.1+	0.3-
1994 01 16	898	(2.9+	0.8-)	1996 10 15	385	0.3+	0.1+	1998 03 24	704	0.3+	0.2-
1994 01 16	898	(5.5+	5.3-)	1996 10 15	385	0.4-	0.1+	1998 03 24	704	0.5+	0.0
1994 01 21	898	0.0	0.8-	1996 10 15	385	0.3+	0.5-	1998 03 24	704	0.2+	0.4+
1994 01 21	898	1.6-	0.6+	1996 11 11	801	0.1-	0.5+	1998 03 24	704	0.1+	0.6+
1994 01 22	898	(0.5+	2.7+)	1996 11 11	801	1.0+	1.9+	1998 03 24	704	0.4+	0.3-
1994 01 22	898	0.7-	0.8+	1996 11 14	801	0.2+	0.8-	1998 03 24	704	1.3+	0.1+
1994 01 29	385	1.6+	1.0+	1996 11 14	385	0.0	0.7-	1998 03 24	704	0.1-	0.3+
1994 01 29	385	0.6+	0.4+	1996 11 14	385	0.2+	0.2-	1998 03 24	704	0.3+	0.3-
1994 01 29	385	0.1-	0.3+	1996 11 14	385	0.4-	0.8-	1998 03 24	704	0.4-	0.1+
1994 02 07	385	0.8-	0.1-	1998 03 20	704	0.4+	0.1+	1998 04 19	704	0.4-	0.4-
1994 02 07	385	0.0	0.5-	1998 03 20	704	0.1-	0.7+	1998 04 19	704	0.5-	0.7-
1994 02 07	385	0.3-	0.7-	1998 03 20	704	0.1+	0.7+	1998 04 19	704	0.3-	0.3-
1994 02 18	385	0.3-	0.5-	1998 03 20	704	0.3+	0.2-	1998 04 19	704	1.4-	0.4-
1994 02 18	385	0.0	0.6-	1998 03 20	704	0.4-	0.3+	1998 04 20	704	0.0	1.1-
1995 05 27	385	0.6-	1.9-	1998 03 22	704	0.8+	0.4+	1998 04 20	704	0.1+	0.6-
1995 05 27	385	0.0	1.8-	1998 03 22	704	0.8+	0.3+	1998 04 20	704	0.9+	0.7+
1995 06 05	385	1.0-	0.9+	1998 03 22	704	0.1+	0.2-	1998 04 20	704	0.6-	0.5-
1995 06 05	385	0.3-	0.8+	1998 03 22	704	0.4+	0.2+	1998 04 20	704	0.2+	0.7-
1995 06 29	801	1.0+	1.0+	1998 03 22	704	1.0-	0.1-	1998 04 24	699	1.0-	0.9+
1995 06 29	801	0.5+	0.5-	1998 03 22	704	0.9+	0.2-	1998 04 24	699	0.3+	0.4-
1995 07 01	801	0.1+	0.2+	1998 03 22	704	0.5-	0.0	1998 04 24	699	0.3-	1.3-
1995 07 01	801	0.4+	0.4+	1998 03 22	704	1.5-	0.4-				
1996 10 11	385	0.5-	0.1-	1998 03 22	704	0.3-	1.2+				

(8706)* 1994 CM

Discovered 1994 Feb. 3 by T. Kobayashi at Oizumi.

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	29.32029		(2000.0)	$\mathbf{P}$	$\mathbf{Q}$
n	0.20507679	ω	45.99770	+0.19228489	-0.97791849
a	2.8479020	Ω	33.17467	+0.85212364	+0.12500753
e	0.0853013	i	8.60431	+0.48673588	+0.16747702
P	4.81	H	13.1	G 0.15	U 2

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(8707)* 1994 CE₂ = 1991 JX₆ = 1991 NW₂

Discovered 1994 Feb. 12 by T. Kobayashi at Oizumi.

Id. T. Kobayashi (*MPC* 23344)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

<i>M</i>	280.40199		(2000.0)		P		Q	
<i>n</i>	0.26989638	ω	271.08933		+0.65048447		+0.75949267	
<i>a</i>	2.3713993	Ω	39.49123		-0.69278841		+0.59676062	
<i>e</i>	0.0546589	<i>i</i>	0.57573		-0.31131041		+0.25893560	
<i>P</i>	3.65	<i>H</i>	13.9		<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1991 05 12	809	(3.0+ 0.2-)	1996 11 16	411	0.2- 0.2+	1998 04 01	704	0.1- 1.0-
1991 05 12	809	1.5+ 0.7+	1996 11 21	411	0.2- 0.4-	1998 04 01	704	0.1- 0.5-
1991 05 12	809	1.9+ 0.7+	1996 11 21	411	0.5+ 0.3+	1998 04 01	704	0.3+ 0.6-
1991 07 04	809	1.1- 1.2+	1996 12 19	411	0.5- 0.4-	1998 04 01	704	1.1- 0.8-
1991 07 04	809	0.4- 1.2+	1996 12 19	411	0.3- 0.2+	1998 04 01	704	0.7- 1.6-
1991 07 04	809	0.4+ 1.0+	1998 03 22	704	0.8+ 0.1+	1998 04 02	358	1.0- 1.5-
1991 07 05	809	0.7- 1.2+	1998 03 22	704	0.4+ 0.2-	1998 04 02	358	0.5+ 1.2-
1991 07 05	809	0.3- 1.2+	1998 03 22	704	0.2+ 0.8+	1998 04 02	358	1.7+ 1.4-
1991 07 05	809	0.4- 1.2+	1998 03 22	704	0.3+ 0.8+	1998 04 19	367	0.1- 0.6-
1992 10 22	675	0.8+ 0.6+	1998 03 22	704	0.1- 0.3+	1998 04 19	367	0.4- 0.2-
1992 10 22	675	0.0 0.5-	1998 03 24	704	0.4- 0.0	1998 04 20	704	1.3- 0.3+
1994 02 12	411	0.7- 0.5+	1998 03 24	704	0.9+ 0.5+	1998 04 20	704	0.7- 1.0-
1994 02 12	411	0.7+ 2.1+	1998 03 24	704	0.6+ 0.9+	1998 04 20	704	0.2- 0.2+
1994 02 13	411	0.2- 0.6+	1998 03 24	704	0.3+ 0.2+	1998 04 20	704	0.1- 0.1+
1994 02 13	411	0.9+ 0.6+	1998 03 24	704	0.1- 0.9-	1998 04 20	704	0.9- 0.1-
1994 02 13	411	1.4+ 1.6+	1998 03 25	699	0.6+ 0.5+	1998 04 21	704	0.5- 0.1-
1994 02 15	675	0.1- 0.2-	1998 03 25	699	0.4+ 0.3+	1998 04 21	704	0.4- 0.2-
1994 02 15	675	1.9+ 0.8-	1998 03 25	699	0.4- 0.4+	1998 04 21	704	0.4+ 0.5-
1994 02 17	411	0.8+ 0.2-	1998 03 25	704	(0.5+ 3.5-)	1998 04 21	704	0.0 0.8-
1994 02 17	411	0.5+ 0.3+	1998 03 25	704	(4.5- 1.3+)	1998 04 21	704	0.5- 0.5-
1994 02 17	411	0.6- 1.2-	1998 03 25	704	0.3- 0.1-	1998 04 22	704	0.2- 0.4-
1994 03 02	411	1.1- 1.6+	1998 03 25	704	0.2- 0.6+	1998 04 22	704	0.1- 0.8-
1994 03 02	411	0.0 1.1+	1998 03 25	704	0.1+ 0.1+	1998 04 22	704	0.1- 0.2-
1994 03 02	411	0.4- 1.1+	1998 03 31	358	(3.0- 0.5-)	1998 04 22	704	1.1- 0.1-
1996 11 16	411	0.1- 0.2+	1998 03 31	358	(1.8+ 4.4-)	1998 04 22	704	0.1+ 0.3-

(8708)* 1994 DD = 1984 YB₇ = 1996 RJ₂₃

Discovered 1994 Feb. 17 by S. Otomo at Kiyosato.

Id. G. V. Williams (*MPC* 28074)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	25.06638		(2000.0)		P		Q	
<i>n</i>	0.22667361	ω	348.25616		-0.55670013		-0.82994247	
<i>a</i>	2.6640073	Ω	135.55889		+0.76624271		-0.52965691	
<i>e</i>	0.1490746	<i>i</i>	2.92947		+0.32086925		-0.17509727	
<i>P</i>	4.35	<i>H</i>	13.5		<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1984 12 28	010	0.2- 0.3+	1994 03 10	894	(0.3+ 2.9-)	1998 01 04	732	2.2+ 0.5+
1994 02 07	809	(2.9+ 1.1+)	1994 03 10	894	0.6- 0.8-	1998 01 05	732	0.2+ 2.1-
1994 02 07	809	1.9+ 0.1+	1994 03 15	894	1.3- 0.2-	1998 01 05	732	1.4+ 1.4-
1994 02 07	809	1.4+ 0.1-	1994 03 15	894	1.8+ 0.1+	1998 01 05	732	0.6+ 0.1+
1994 02 12	809	0.3+ 1.5+	1996 09 14	691	1.0- 0.1-	1998 01 06	732	0.0 0.1-
1994 02 12	809	0.1- 0.8+	1996 09 14	691	0.9- 0.4-	1998 01 06	732	0.1- 1.2-
1994 02 12	809	0.3- 0.7+	1996 09 17	566	0.6+ 0.0	1998 01 06	732	(2.5+ 2.4-)
1994 02 15	675	(0.5+ 3.9-)	1996 09 17	566	0.7+ 0.4+	1998 04 14	704	1.3- 1.1+
1994 02 15	675	0.1+ 0.5-	1996 09 17	566	0.4+ 0.4+	1998 04 14	704	2.3+ 1.7+
1994 02 17	894	0.6- 0.4+	1996 09 21	691	0.1+ 0.0	1998 04 14	704	(1.5+ 3.6+)
1994 02 17	894	1.2+ 2.1-	1996 09 21	691	0.1+ 0.2-	1998 04 14	704	0.9- 1.5+
1994 02 18	894	0.3- 0.5-	1996 09 21	691	0.1- 0.2-	1998 04 14	704	2.7- 1.4+
1994 02 18	894	0.3- 0.2+	1998 01 03	732	0.1- 0.5-	1998 04 16	704	0.3- 2.1+
1994 03 01	894	1.4- 0.9-	1998 01 03	732	0.6- 1.3-	1998 04 16	704	1.2+ 0.1-
1994 03 01	894	1.0- 0.8-	1998 01 03	732	0.7- 0.6-	1998 04 16	704	2.2- 0.6-
1994 03 04	894	0.9- 0.8-	1998 01 04	732	0.6+ 1.2+	1998 04 16	704	1.6- 2.6+
1994 03 04	894	0.5- 2.0-	1998 01 04	732	1.1- 0.9+			

(8709)* 1994 JF₁

Discovered 1994 May 14 by C. S. Shoemaker at Palomar.

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	354.92970		(2000.0)		P		Q	
<i>n</i>	0.24347402	ω	153.33423		+0.05235284		+0.99722325	
<i>a</i>	2.5400034	Ω	119.62515		-0.92675672		+0.06827237	
<i>e</i>	0.4810318	<i>i</i>	3.49298		-0.37199619		-0.02974334	
<i>P</i>	4.05	<i>H</i>	16.9		<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1990 09 23	413	(6.1- 2.9-)	1994 06 03	111	0.1+ 1.6+	1994 08 28	413	0.3- 0.3-
1990 09 23	413	1.1- 1.8-	1994 06 03	111	0.1- 2.0+	1994 09 17	413	0.2+ 1.1+
1994 05 14	675	0.1+ 1.9-	1994 06 04	675	0.3- 0.5+	1994 09 17	413	0.0 0.0
1994 05 14	675	1.1- 0.5-	1994 06 04	675	0.0 0.3+	1994 09 18	413	1.0+ 0.2+
1994 05 15	675	(2.9+ 4.0-)	1994 06 07	675	0.5+ 0.6+	1994 09 18	413	0.7+ 0.3+
1994 05 15	675	0.2- 1.2-	1994 06 07	675	0.7- 0.5+	1998 02 28	561	0.8+ 0.3-
1994 05 16	675	0.3+ 1.5-	1994 06 08	557	0.3+ 0.3-	1998 02 28	561	0.4+ 0.0
1994 05 16	675	0.0 0.5-	1994 06 08	557	1.0+ 0.4-	1998 02 28	561	1.7+ 0.2+
1994 05 22	817	0.4- 0.2-	1994 06 08	557	0.9+ 0.5-	1998 03 22	360	0.4+ 0.3+
1994 05 22	817	0.8- 0.5+	1994 06 08	557	0.6+ 0.6-	1998 03 22	360	0.4+ 0.0
1994 05 22	693	0.4- 0.1+	1994 06 09	801	0.6+ 0.2+	1998 03 22	360	0.5+ 0.1+
1994 05 22	693	0.4- 0.1+	1994 06 09	801	0.6+ 0.0	1998 04 15	860	0.8- 0.5+
1994 05 22	693	0.3- 0.2+	1994 06 17	413	0.4+ 0.3-	1998 04 17	557	0.4- 0.5-
1994 05 28	817	0.3- 0.2-	1994 06 17	413	0.4+ 0.2-	1998 04 17	557	0.1+ 0.1-
1994 05 28	817	0.4- 0.3+	1994 06 18	413	0.5+ 0.2-	1998 04 17	557	0.1- 0.3-
1994 05 29	587	0.8+ 0.7+	1994 06 18	413	0.5+ 0.2-	1998 04 17	557	0.6- 0.5-
1994 05 29	587	0.8- 1.4+	1994 06 20	413	0.6- 0.6-	1998 04 17	557	1.1- 0.8-
1994 05 30	557	0.3- 0.8+	1994 06 20	413	0.2+ 0.1-	1998 04 17	557	0.1+ 0.8-
1994 05 30	557	0.3- 0.6+	1994 07 11	104	0.0 0.9+	1998 04 17	557	0.5- 0.5-
1994 05 30	557	0.6- 0.8+	1994 07 11	104	0.2- 0.1+	1998 04 20	860	0.2- 1.5+
1994 05 30	557	0.5- 0.9+	1994 07 11	104	0.1- 1.0-	1998 04 20	860	0.0 0.4+
1994 05 31	587	0.4+ 0.3+	1994 07 11	104	0.5- 1.5-	1998 04 20	860	0.2- 0.3+
1994 05 31	111	0.9+ 0.9-	1994 07 12	801	0.2- 0.2+	1998 04 20	704	0.7+ 0.6+
1994 05 31	111	1.3+ 0.4-	1994 07 12	801	0.6- 0.1+	1998 04 20	704	1.0+ 0.4+
1994 05 31	111	1.8+ 0.4-	1994 07 13	801	0.3- 0.1-	1998 04 20	704	0.3- 0.0
1994 06 01	587	0.3+ 0.3-	1994 07 13	360	0.1- 0.1-	1998 04 20	704	0.1+ 0.3-
1994 06 01	111	(3.9+ 0.3-)	1994 07 13	360	0.2- 0.1-	1998 04 20	704	0.8- 0.2+
1994 06 01	111	(4.0+ 0.3-)	1994 07 25	413	0.7- 0.2-	1998 04 21	704	0.6- 0.2-
1994 06 01	658	0.3- 0.3-	1994 07 25	413	0.8- 0.3+	1998 04 21	704	1.3- 0.3+
1994 06 01	658	0.2- 0.3-	1994 08 15	413	0.2- 0.3-	1998 04 21	704	1.1- 1.0-
1994 06 02	675	1.8+ 1.4-	1994 08 15	413	0.1- 0.4-	1998 04 21	704	0.9- 1.2-
1994 06 02	675	0.7+ 1.1-	1994 08 17	413	0.5+ 0.3-	1998 04 21	704	0.2- 0.2-
1994 06 02	360	1.1- 1.5+	1994 08 17	413	0.8+ 0.0	1998 04 21	108	0.5+ 1.4-
1994 06 02	360	1.2- 1.3+	1994 08 26	413	0.1- 0.5-	1998 04 21	108	0.1+ 1.6-
1994 06 03	111	1.2- 1.6+	1994 08 27	413	0.3- 0.7-	1998 04 21	108	0.9+ 0.8+
1994 06 03	111	1.4+ 1.3+	1994 08 27	413	0.3- 0.5-			

(8710)* 1994 JK₉

Discovered 1994 May 15 by C. P. de Saint-Aignan at Palomar.

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	7.78873		(2000.0)		P		Q	
<i>n</i>	0.23380291	ω	132.31858		-0.83253609		+0.49110104	
<i>a</i>	2.6095729	Ω	78.61618		-0.55320489		-0.71270866	
<i>e</i>	0.1615372	<i>i</i>	15.15735		-0.02912044		-0.50086539	
<i>P</i>	4.22	<i>H</i>	13.9		<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1954 11 23	675	0.2+ 0.0	1997 01 09	327	0.2- 0.1+	1998 04 03	704	0.2- 0.2+
1989 01 10	675	0.3- 0.4-	1997 01 09	327	0.3- 0.0	1998 04 03	704	0.5- 0.2+
1989 01 10	675	0.2+ 0.5-	1997 02 01	327	0.2+ 0.2-	1998 04 08	689	0.6+ 0.5-
1992 11 28	675	0.5- 0.0	1997 02 01	327	0.2- 0.0	1998 04 22	145	1.2+

M.P.C. 31690

1994 05 16	675	0.2−	0.3−	1998 04 02	704	0.6+	0.4+	1998 04 25	566	0.1−	0.2−
1994 05 16	675	0.3−	0.2−	1998 04 02	704	0.2−	1.0+	1998 04 25	566	0.0	0.3−
1994 06 07	675	0.6−	1.1−	1998 04 02	704	0.3+	0.2−	1998 04 25	566	0.3−	0.1−
1994 06 07	675	0.4−	0.1+	1998 04 03	704	0.2+	0.9+	1998 04 26	566	0.0	0.7−
1996 12 01	689	1.4+	1.1−	1998 04 03	704	0.2+	0.7+	1998 04 26	566	0.6+	0.4−
1997 01 09	327	0.2+	0.3+	1998 04 03	704	0.5+	1.1+	1998 04 26	566	0.4+	0.5−

(8711)* 1994 LL

Discovered 1994 June 5 by C. W. Hergenrother at the University of Arizona's Catalina Station.

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.22210805	ω	19.00786	−0.95937679	−0.15501107		
<i>a</i>	2.7003902	Ω	148.93461	+0.16074182	−0.98698295		
<i>e</i>	0.0618338	<i>i</i>	27.18231	+0.23185825	+0.04285123		
<i>P</i>	4.44	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1994 06 02	675	(0.9−	2.7−)	1994 07 09	693	0.4−	0.1−	1996 12 16	696	0.5+	0.0
1994 06 02	675	0.9+	0.9−	1994 07 09	693	0.6+	0.3−	1997 02 01	696	0.7−	0.2+
1994 06 05	693	0.6−	1.3+	1994 08 27	413	0.0	0.2+	1997 02 01	696	0.6−	0.1−
1994 06 05	693	0.9−	0.7+	1994 08 27	413	0.1−	0.0	1997 02 01	696	0.6−	0.2+
1994 06 06	693	1.3−	0.7+	1995 08 30	608	0.2−	0.4−	1998 03 08	696	0.4−	0.1−
1994 06 06	693	0.0	1.8−	1995 08 30	608	0.4−	0.7−	1998 03 08	696	0.3−	0.1−
1994 06 07	693	1.0+	1.5+	1995 09 07	608	1.0+	0.1−	1998 03 08	696	0.5−	0.0
1994 06 07	693	0.2+	0.2+	1995 09 07	608	0.2+	0.0	1998 03 28	596	0.1−	0.7−
1994 06 12	693	1.1+	0.1−	1995 09 14	608	0.5−	0.3−	1998 03 28	596	1.3−	0.5−
1994 06 12	693	0.2−	1.7−	1995 09 14	608	0.3−	0.3−	1998 04 25	566	0.8+	0.3−
1994 07 08	693	0.7−	0.2+	1996 12 16	696	0.7+	0.0	1998 04 25	566	0.7+	0.1−
1994 07 08	693	0.9+	1.2+	1996 12 16	696	0.5+	0.2+	1998 04 25	566	0.7+	0.6−

(8712)* 1994 TH₂ = 1978 WC₅ = 1991 BS₁

Discovered 1994 Oct. 2 by K. Endate and K. Watanabe at Kitami.

Id. K. Ichikawa (*MPC* 24234)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17730926	ω	187.98602	+0.40476816	+0.91343338		
<i>a</i>	3.1379674	Ω	105.89874	−0.83650509	+0.38863235		
<i>e</i>	0.1283172	<i>i</i>	2.52990	−0.36935345	+0.12084850		
<i>P</i>	5.56	<i>H</i>	12.1	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1978 11 29	675	1.2−	0.9+	1994 10 03	400	1.7−	0.6−	1998 04 05	426	0.1−	0.1+
1978 11 30	675	0.5−	0.9+	1994 10 07	400	0.6+	0.0	1998 04 05	426	0.0	0.1+
1988 09 11	675	0.4+	0.4+	1994 10 07	400	(1.2−	3.3−)	1998 04 21	704	0.2+	0.1−
1988 09 11	675	0.8+	0.3+	1994 10 26	400	0.6+	0.3−	1998 04 21	704	0.9−	0.2+
1991 01 16	675	0.6+	1.1+	1994 10 26	400	0.9+	0.4−	1998 04 21	704	0.8+	0.1+
1991 01 16	675	0.4−	0.0	1994 11 01	400	0.1−	0.3+	1998 04 21	704	0.3−	1.5+
1991 01 18	511	1.5+	2.0−	1994 11 01	400	1.2−	0.9+	1998 04 21	704	0.1−	0.2+
1991 01 18	511	0.7−	0.9−	1994 11 07	675	0.4−	0.6+	1998 04 22	704	0.1−	1.2−
1991 01 18	511	1.2+	1.6−	1994 11 07	675	0.3−	0.1+	1998 04 22	704	0.1−	1.0−
1991 01 19	511	(2.6−	1.4−)	1996 01 16	566	0.2+	0.7+	1998 04 22	704	0.2−	0.7−
1991 01 19	511	(3.5−	1.5−)	1996 01 16	566	0.0	0.5+	1998 04 22	704	0.3−	0.7−
1991 01 20	511	1.9−	1.3−	1996 01 16	566	0.6+	0.5+	1998 04 22	704	0.1+	0.3−
1991 01 20	511	0.3+	1.6−	1997 03 10	689	0.2−	1.9+	1998 04 28	566	0.5−	0.4−
1994 09 11	675	1.1+	1.8−	1998 04 04	426	0.0	0.0	1998 04 28	566	0.2−	0.3−
1994 10 02	400	1.5+	1.4−	1998 04 04	426	0.0	0.0	1998 04 28	566	0.1−	0.7−
1994 10 02	400	0.1−	1.6−	1998 04 04	426	0.2−	0.2−				
1994 10 03	400	0.0	1.2−	1998 04 05	426	0.1+	0.1+				

(8713)* 1995 BT₂ = 1988 BH₃ = 1990 SS₂₈ = 1997 UD₁₅

Discovered 1995 Jan. 26 by K. Endate and K. Watanabe at Kitami.

Id. T. Urata (*MPC* 30874)

1998 MAY 11

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29137095	ω	358.32121	+0.30154282	−0.95118412		
<i>a</i>	2.2534013	Ω	74.12454	+0.87557013	+0.24896227		
<i>e</i>	0.1268275	<i>i</i>	3.91856	+0.37742399	+0.18239120		
<i>P</i>	3.38	<i>H</i>	13.6	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1988 01 21	511	(1.8−	2.5+)	1995 02 08	400	0.1+	0.5+	1997 11 29	704	0.4−	0.0
1988 01 21	511	(2.6+	0.6+)	1995 02 08	400	0.7+	0.2+	1997 11 29	704	0.3−	0.4+
1988 01 22	511	0.1+	0.4−	1997 10 27	888	0.7−	0.1−	1997 12 04	704	0.1+	0.2+
1988 01 22	511	0.6−	1.2+	1997 10 27	888	0.6+	0.5+	1997 12 04	704	0.8+	0.4+
1990 09 24	095	0.9+	0.3+	1997 10 31	888	0.4−	0.8−	1997 12 04	704	0.1−	0.4+
1990 09 24	095	0.0	1.0−	1997 11 02	888	0.5+	0.6−	1997 12 04	704	0.2+	0.3−
1992 04 27	691	0.4−	0.1−	1997 11 02	888	0.1−	0.5−	1997 12 04	704	0.1−	0.3−
1992 04 27	691	0.0	0.4−	1997 11 10	385	0.9−	0.3+	1997 12 05	704	0.4+	0.2−
1992 04 27	691	0.4−	0.2−	1997 11 10	385	0.4−	0.2+	1997 12 05	704	0.5+	0.1−
1995 01 26	400	0.8+	1.1−	1997 11 10	385	0.3−	0.1−	1997 12 05	704	0.7+	0.6−
1995 01 26	400	(2.8+	3.6−)	1997 11 29	704	1.5−	1.3+	1997 12 05	704	1.0+	0.1−
1995 01 28	400	0.6−	0.1+	1997 11 29	704	0.0	0.9+	1997 12 05	704	0.3−	0.0
1995 01 28	400	0.5−	0.2−	1997 11 29	704	0.5−	0.3−	1998 02 01	689	1.4+	1.8−

(8714)* 1995 OT = 1985 SG₆ = 1985 US₆ = 1985 VZ₅

Discovered 1995 July 24 by Y. Shimizu and T. Urata at the Nachi-Katsuura

Observatory.

Id. T. Urata (*MPC* 25535)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.28593247	ω	268.85474	+0.53057836	+0.84670489		
<i>a</i>	2.2818849	Ω	33.28710	−0.74607265	+0.48873163		
<i>e</i>	0.2047161	<i>i</i>	4.14990	−0.40232102	+0.21031461		
<i>P</i>	3.45	<i>H</i>	14.2	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1985 09 21	095	1.9−	0.4+	1997 01 31	385	(2.7−	0.2+)	1998 04 19	888	0.0	0.3−
1985 10 18	095	0.1−	2.2+	1997 01 31	385	1.0−	0.0	1998 04 20	704	0.5−	0.6−
1985 11 12	095	(2.4−	3.0+)	1998 03 03	910	0.5−	0.8+	1998 04 20	704	0.4−	0.2+
1992 10 21	675	1.3+	1.4+	1998 03 03	910	0.4−	0.9+	1998 04 20	704	0.9+	0.2+
1992 10 21	675	1.0+	0.4+	1998 03 03	910	0.4−	0.6+	1998 04 20	704	0.0	0.3−
1995 07 24	905	0.1−	0.6−	1998 03 25	699	0.4+	0.9+	1998 04 20	704	0.5+	1.5+
1995 07 24	905	0.0	0.9−	1998 03 25	699	0.4+	0.4+	1998 04 21	704	0.0	0.3+
1995 07 26	905	0.1−	0.4+	1998 03 25	699	0.2+	0.8+	1998 04 21	704	0.3+	0.1+
1995 07 26	905	0.1+	0.3−	1998 03 25	704	(5.2−	0.1+)	1998 04 21	704	0.2+	0.1+
1995 07 30	905	0.3−	0.7−	1998 03 25	704	1.5+	0.1−	1998 04 21	704	0.2+	0.1+
1995 07 30	905	0.4−	0.4+	1998 03 25	704	0.8−	0.4−	1998 04 21	704	0.4−	0.3+
1995 08 20	905	0.4−	0.9+	1998 03 25	704	0.3−	0.2−	1998 04 22	704	0.4+	0.6−
1995 08 20	905	0.2+	0.4+	1998 04 03	886	1.8+	0.4+	1998 04 22	704	0.3+	0.5+
1995 08 26	905	0.7−	0.5−	1998 04 03	886	(2.8−	0.2+)	1998 04 22	704	0.3−	0.5−
1995 08 26	905	0.6+	1.2+	1998 04 19	888	0.2−	0.1−	1998 04 22	704	0.1+	0.4−
1997 01 13	385	1.8−	0.1−	1998 04 19	888	0.1−	0.2−	1998 04 22	704	0.4+	0.2−

(8715)* 1995 OX₁ = 1981 UY₂₉

Discovered 1995 July 26 by Y. Shimizu and T. Urata at the Nachi-Katsuura

Observatory.

Id. T. Urata (*MPC* 28855)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	286.21841		(2000.0) <th>$\mathbf{P}$</th> <th>$\mathbf{Q}$</th>	$\mathbf{P}$	$\mathbf{Q}$
n	0.27494842	ω	249.98518	+0.76208003	+0.63992825
a	2.3422607	Ω	70.09587	-0.54793126	+0.71853483
e	0.2207278	i	6.02056	-0.34497154	+0.27239591
P	3.58	H	14.2	G 0.15	U 1

Residuals in seconds of arc

1981 10 28	095	1.1+	1.9-	1997 01 09	385	0.1+	0.1-	1998 03 25	704	0.8+	0.3-
1992 11 25	691	0.7-	0.0	1997 01 09	385	0.4+	0.2+	1998 03 25	704	1.2+	1.9-
1992 11 25	691	0.3-	0.2+	1997 01 13	385	0.4-	0.5+	1998 03 25	704	0.5+	0.4+
1995 07 26	905	0.2+	0.1-	1997 01 28	385	0.1+	0.3-	1998 03 25	704	0.1-	0.1+
1995 07 26	905	0.6-	0.2-	1997 01 31	385	1.0+	0.0	1998 04 20	704	0.3-	0.4+
1995 07 30	905	0.1+	0.1-	1997 02 02	118	0.6-	0.1-	1998 04 20	704	0.1+	0.4+
1995 07 30	905	0.6-	0.2-	1997 02 02	118	1.0-	0.4+	1998 04 20	704	0.3-	0.2-
1995 08 01	905	0.2-	0.1-	1997 02 03	118	0.6+	0.4-	1998 04 20	704	0.3+	0.1-
1995 08 01	905	1.6+	0.1-	1997 02 03	118	0.3+	0.3-	1998 04 20	704	0.8-	0.7+
1995 08 18	905	(2.4+ 1.5-)		1998 03 24	704	0.2+	0.3-	1998 04 22	704	1.2-	0.6+
1995 08 25	905	(2.3- 0.1-)		1998 03 24	704	1.1-	0.0	1998 04 22	704	0.9+	0.2+
1995 08 25	905	1.5-	0.4+	1998 03 24	704	0.1-	1.0-	1998 04 22	704	0.7-	0.9-
1995 10 21	385	0.7+	0.2-	1998 03 24	704	0.4-	0.1-	1998 04 22	704	0.3+	0.0
1995 10 21	385	(2.4+ 0.0)		1998 03 24	704	0.1-	0.2+	1998 04 22	704	0.2-	1.3-
1995 10 21	385	1.4+	0.2+	1998 03 25	704	0.1+	0.8+				

(8716)* 1995 SB₂ = 1990 VF₁₆ = 1994 KB

Discovered 1995 Sept. 23 by V. S. Casulli at Colleverde di Guidonia.

Id. E. Bowell (*MPC* 27919), G. V. Williams (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	77.86550		(2000.0)	$\mathbf{P}$	$\mathbf{Q}$
n	0.17631333	ω	279.57657	-0.66475648	-0.73711188
a	3.1497732	Ω	213.13005	+0.74244156	-0.63379091
e	0.1176536	i	12.84574	+0.08294187	-0.23446782
P	5.59	H	13.1	G 0.15	U 1

Residuals in seconds of arc

1990 11 14	675	0.9+	1.7+	1995 10 16	596	0.3+	0.1-	1998 03 18	596	0.1+	0.9+
1990 11 14	675	0.2-	0.7+	1995 10 16	596	0.7+	0.5-	1998 04 01	704	0.2+	0.2+
1994 05 17	691	1.7-	0.4+	1995 10 16	596	0.3+	0.1-	1998 04 01	704	0.4+	0.9+
1994 05 17	691	1.5-	0.4+	1995 10 17	596	0.2+	0.4+	1998 04 01	704	0.7+	0.3+
1995 09 23	596	0.1+	0.3-	1995 10 17	596	0.9+	0.1-	1998 04 01	704	0.1+	0.6+
1995 09 23	596	0.5+	0.4-	1995 10 17	596	0.0	0.4-	1998 04 03	596	0.6-	0.2-
1995 09 23	596	0.1-	0.4-	1995 10 18	596	0.3+	0.4+	1998 04 03	596	0.4-	0.3-
1995 09 25	596	0.7-	0.6+	1995 10 18	596	0.2-	0.4-	1998 04 03	596	0.8-	0.1+
1995 09 25	596	0.0	0.7+	1995 10 18	596	0.4+	0.2-	1998 04 20	596	(2.7- 0.5+)	
1995 09 25	596	1.3-	0.5+	1995 10 21	596	1.2+	0.3+	1998 04 20	596	(2.6- 0.8+)	
1995 09 25	596	0.5-	0.7+	1995 10 21	596	0.3-	1.0-	1998 04 21	704	0.3+	0.2-
1995 09 26	596	0.8-	1.6+	1995 10 21	596	0.0	0.1-	1998 04 21	704	1.0+	0.3+
1995 09 26	596	0.2+	1.3+	1995 10 24	596	0.5-	0.5-	1998 04 21	704	0.3+	0.0
1995 09 26	596	0.2-	1.0+	1995 10 24	596	0.9-	0.1-	1998 04 21	704	1.3+	0.2+
1995 09 28	596	0.7-	0.9+	1995 10 24	596	0.4-	0.5-	1998 04 21	704	0.9+	0.0
1995 09 28	596	1.0-	1.4+	1995 11 18	596	0.0	0.5-	1998 04 21	596	1.2-	0.6+
1995 09 28	596	0.5-	0.5+	1995 11 18	596	0.5-	0.2-	1998 04 21	596	0.5-	0.0
1995 09 28	596	0.2-	0.1+	1996 11 03	596	0.2-	0.5-	1998 04 21	596	0.8-	0.3+
1995 09 28	596	1.1-	0.2-	1996 11 03	596	0.8+	0.6-	1998 04 22	704	0.1+	0.2+
1995 09 29	596	0.9+	0.1+	1996 12 03	596	0.2+	0.7+	1998 04 22	704	0.3+	0.0
1995 09 29	596	1.4+	0.9+	1996 12 03	596	0.2+	0.3+	1998 04 22	704	0.3-	0.2-
1995 09 29	596	0.7+	0.2+	1996 12 03	596	0.2+	0.0	1998 04 22	704	0.7+	0.7-
1995 10 13	596	0.4+	0.2-	1997 01 28	689	0.6-	1.4+	1998 04 22	704	0.4+	0.3-
1995 10 13	596	0.2+	0.4+	1997 02 07	589	0.9-	0.0	1998 04 25	609	0.5-	0.4+
1995 10 13	596	1.4+	0.8+	1997 02 07	589	0.5-	0.5-	1998 04 25	609	0.3-	0.4+
1995 10 13	589	0.5+	0.1-	1997 02 07	589	1.1-	0.1-	1998 04 25	609	0.4+	1.4+
1995 10 13	589	0.3+	0.5-	1998 03 18	596	0.3+	0.8+				
1995 10 16	596	0.1+	0.6-	1998 03 18	596	0.3+	1.2+				

(8717)* 1995 SN₂₉ = 1978 VS₁₅ = 1978 XM₁

Discovered 1995 Sept. 26 by T. V. Kryachko at the Zelenchukskaya Station of the Engelhardt Observatory.

Id. G. V. Williams (*MPC* 25967)

Epoch 1998 July 6.0 TT = JDT 2451000.5

$\dot{M}$	163.91020		(2000.0)		P		Q			
n	0.17270925	ω	251.14818		+0.82085689		-0.57085887			
a	3.1934417	Ω	143.65598		+0.53461905		+0.75708861			
e	0.1900817	i	1.71372		+0.20093888		+0.31770582			
P	5.71	H	13.0		G	0.15	U	1		
Residuals in seconds of arc										
1978 11 01	095	1.1+	1.0+	1995 10 01	114	1.1-	0.4+	1998 03 20	704	0.8+ 0.9+
1978 12 05	033	0.5-	0.7-	1995 10 16	114	0.4-	0.3+	1998 03 20	704	0.2- 1.0+
1978 12 05	033	0.5-	0.4-	1995 10 16	114	0.1+	0.8+	1998 03 20	704	1.1+ 0.3-
1993 06 20	691	1.3-	0.8-	1995 10 17	114	0.7+	1.4-	1998 04 19	704	0.4+ 0.0-
1993 06 20	691	1.8-	0.5-	1995 10 17	114	0.6+	0.1+	1998 04 19	704	1.2+ 0.8+
1993 06 20	691	1.6-	0.8-	1995 10 18	114	1.0+	1.1+	1998 04 19	704	0.8- 0.2+
1994 07 08	809	0.7+	1.4+	1995 10 19	114	1.0+	0.2+	1998 04 19	704	0.6- 0.6+
1994 07 08	809	0.8+	1.1+	1995 10 19	114	0.3-	0.1-	1998 04 20	704	0.5+ 0.8-
1994 07 08	809	0.9+	1.5+	1995 10 21	399	0.1+	1.9+	1998 04 20	704	1.4+ 1.1+
1994 07 09	809	0.5+	1.7+	1995 10 21	399	(1.5+ 2.5+)		1998 04 20	704	1.3+ 0.4+
1994 07 09	809	0.6+	1.1+	1995 10 27	399	0.1-	1.9+	1998 04 20	704	0.2- 0.3+
1994 07 09	809	0.8-	1.1+	1995 10 27	399	1.3-	0.4+	1998 04 20	704	(3.6- 0.6-)
1995 09 26	114	1.4-	1.4-	1997 02 04	566	0.9+	1.6+	1998 04 22	704	1.5+ 0.1+
1995 09 26	114	0.1-	0.8-	1997 02 04	566	1.2+	1.6+	1998 04 22	704	0.8+ 0.5+
1995 09 28	114	0.2-	0.3+	1997 02 04	566	1.2+	1.6+	1998 04 22	704	1.3+ 1.1+
1995 09 29	114	0.7-	0.8+	1998 03 20	704	0.5-	0.0	1998 04 22	704	(3.5- 1.0+)
1995 10 01	114	1.6-	0.1-	1998 03 20	704	1.0+	0.3-			

Residuals in seconds of arc

1978 11 01	095	1.1+	1.0+	1995 10 01	114	1.1-	0.4+	1998 03 20	704	0.8+	0.9+
1978 12 05	033	0.5-	0.7-	1995 10 16	114	0.4-	0.3+	1998 03 20	704	0.2-	1.0+
1978 12 05	033	0.5-	0.4-	1995 10 16	114	0.1+	0.8+	1998 03 20	704	1.1+	0.3-
1993 06 20	691	1.3-	0.8-	1995 10 17	114	0.7+	1.4-	1998 04 19	704	0.4+	0.0
1993 06 20	691	1.8-	0.5-	1995 10 17	114	0.6+	0.1+	1998 04 19	704	1.2+	0.8+
1993 06 20	691	1.6-	0.8-	1995 10 18	114	1.0+	1.1+	1998 04 19	704	0.8-	0.2+
1994 07 08	809	0.7+	1.4+	1995 10 19	114	1.0+	0.2+	1998 04 19	704	0.6-	0.6+
1994 07 08	809	0.8+	1.1+	1995 10 19	114	0.3-	0.1-	1998 04 20	704	0.5+	0.8-
1994 07 08	809	0.9+	1.5+	1995 10 21	399	0.1+	1.9+	1998 04 20	704	1.4+	1.1+
1994 07 09	809	0.5+	1.7+	1995 10 21	399	(1.5+ 2.5+)		1998 04 20	704	1.3+	0.4+
1994 07 09	809	0.6+	1.1+	1995 10 27	399	0.1-	1.9+	1998 04 20	704	0.2-	0.3+
1994 07 09	809	0.8-	1.1+	1995 10 27	399	1.3-	0.4+	1998 04 20	704	(3.6- 0.6-)	
1995 09 26	114	1.4-	1.4-	1997 02 04	566	0.9+	1.6+	1998 04 22	704	1.5+	0.1+
1995 09 26	114	0.1-	0.8-	1997 02 04	566	1.2+	1.6+	1998 04 22	704	0.8+	0.5+
1995 09 28	114	0.2-	0.3+	1997 02 04	566	1.2+	1.6+	1998 04 22	704	1.3+	1.1+
1995 09 29	114	0.7-	0.8+	1998 03 20	704	0.5-	0.0	1998 04 22	704	(3.5- 1.0+)	
1995 10 01	114	1.6-	0.1-	1998 03 20	704	1.0+	0.3-				

(8718)* 1995 UC₈ = 1979 YS₄

Discovered 1995 Oct. 27 by Y. Shimizu and T. Urata at the Nachi-Katsuura

Observatory.

Id. S. Nakano (*MPC* 29111)

Epoch 1998 July 6.0 TT = JDT 2451000.5

$\dot{M}$	199.56748		(2000.0)	P	Q
n	0.18404800	ω	180.48374	+0.90262290	-0.42730468
a	3.0608965	Ω	205.01483	+0.39532406	+0.87057616
e	0.1711807	i	7.03565	+0.17026682	+0.24394233
P	5.36	H	13.1	G 0.15	U 1

Residuals in seconds of arc

1979 12 18	095	0.0	0.3+	1995 11 22	691	0.6-	0.4+	1998 03 29	910	0.7+	0.9-
1995 10 27	905	0.5-	0.8-	1995 11 24	905	0.1+	0.7-	1998 04 21	704	0.8+	0.2-
1995 10 27	905	0.8+	0.7-	1995 11 24	905	0.5+	0.1+	1998 04 21	704	0.9-	0.2+
1995 10 30	905	0.9+	0.0	1995 12 10	905	0.2-	0.1+	1998 04 21	704	0.2-	0.5-
1995 10 30	905	0.4+	0.1+	1995 12 10	905	1.7+	0.3-	1998 04 21	704	0.9+	0.9-
1995 11 03	385	0.1-	0.1+	1995 12 12	905	1.2-	0.8-	1998 04 21	704	0.9+	0.1+
1995 11 03	385	0.1-	0.4+	1995 12 12	905	0.2+	0.5+	1998 04 22	704	0.3-	1.0+
1995 11 03	385	0.1+	0.1-	1997 02 06	385	0.4+	0.6-	1998 04 22	704	0.1+	0.5+
1995 11 13	905	0.3+	0.4+	1997 02 06	385	0.2+	0.1-	1998 04 22	704	(0.9+ 2.8+)	
1995 11 13	905	0.6+	0.9+	1997 02 11	385	0.2+	0.2-	1998 04 22	704	0.2-	1.7+
1995 11 17	691	0.6-	0.1+	1997 02 11	385	0.2-	0.2-	1998 04 22	704	1.3-	0.1+
1995 11 17	691	0.7-	0.1+	1997 03 05	385	0.1-	0.3+	1998 04 28	566	0.3-	0.9+
1995 11 17	691	0.7-	0.0	1997 03 05	385	0.5-	0.3+	1998 04 28	566	0.8-	0.6+
1995 11 22	691	0.5-	0.3+	1998 03 29	910	1.0+	0.6-	1998 04 28	566	0.6-	0.1+
1995 11 22	691	0.5-	0.4+	1998 03 29	910	0.6+	1.2-				

(8719)* 1995 VR = 1994 JS₃

Discovered 1995 Nov. 11 at Kleť.

Id. B. G. Marsden (*MPC* 26406)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	264.09639		(2000.0)	P	Q
n	0.22914832	ω	110.07109	+0.89330119	+0.42517900
a	2.6447924	Ω	225.09567	-0.44917770	+0.85597714
e	0.2017886	i	11.87300	+0.01588607	+0.29415294
P	4.30	H	13.7	G 0.15	U 1

Residuals in seconds of arc

1994 05 03	691	0.8–	0.3+	1995 12 08	046	0.5+	1.2+	1998 03 24	046	0.8–	0.0
1994 05 03	691	0.7–	0.2–	1995 12 08	046	0.1+	1.3+	1998 03 24	046	0.1–	0.2–
1994 05 03	691	0.7–	0.0	1995 12 08	046	0.9+	0.4+	1998 03 24	046	0.2–	0.2–
1994 05 10	675	1.3+	0.7+	1995 12 09	046	0.0	0.7+	1998 03 25	704	0.0	0.7+
1994 05 10	675	0.9+	1.0+	1995 12 09	046	0.0	0.9+	1998 03 25	704	0.8–	0.7+
1994 05 17	691	0.1+	0.1+	1995 12 09	046	0.2–	1.0+	1998 03 25	704	0.6–	1.5+
1994 05 17	691	0.2–	0.2+	1995 12 10	046	0.2–	0.6+	1998 03 25	704	0.5–	1.8+
1994 05 17	691	0.3–	0.1+	1995 12 10	046	0.4–	0.6+	1998 03 25	704	(1.3–	2.5+)
1994 06 08	675	0.5–	0.1–	1995 12 10	046	0.6+	0.2–	1998 03 26	046	0.7–	0.0
1994 06 08	675	1.0+	0.4+	1996 01 15	046	0.3+	0.4+	1998 03 26	046	0.7–	0.1+
1995 11 11	046	0.2–	0.4–	1996 01 15	046	0.4–	0.6+	1998 03 26	046	0.9–	0.1+
1995 11 11	046	0.7–	0.6–	1996 01 15	046	0.5–	0.6+	1998 03 31	704	0.7+	1.4+
1995 11 11	046	0.0	0.1+	1996 01 17	046	1.0+	1.9+	1998 03 31	704	0.2+	0.1+
1995 11 11	046	0.3+	0.2–	1996 01 17	046	1.6+	1.5+	1998 03 31	704	0.6+	1.3+
1995 11 11	046	0.2+	0.1–	1996 01 17	046	0.5+	1.9+	1998 03 31	704	1.7+	0.8+
1995 11 11	046	0.1–	0.1–	1996 01 16	046	0.1+	0.6–	1998 03 31	704	0.7–	1.5+
1995 11 11	046	0.1+	0.1+	1996 01 16	046	0.2+	0.1–	1998 04 01	704	1.3–	1.0+
1995 11 11	046	0.0	0.1–	1996 01 16	046	0.5–	0.8+	1998 04 01	704	(3.0–	1.0+)
1995 11 18	046	0.3–	0.3+	1996 01 12	046	0.2+	0.3–	1998 04 01	704	(2.3+	1.5+)
1995 11 18	046	0.3–	0.5+	1996 01 12	046	0.2+	0.1–	1998 04 01	704	0.8+	0.5+
1995 11 18	046	0.9–	0.1+	1996 01 12	046	0.0	0.0	1998 04 09	046	0.6+	0.2–
1995 11 18	046	0.5–	0.1+	1996 01 15	046	0.1+	0.2+	1998 04 09	046	1.0+	0.2–
1995 11 18	046	0.6–	0.3+	1996 01 15	046	0.2–	0.3–	1998 04 09	046	0.8+	0.0
1995 11 18	046	0.3–	0.8+	1996 01 15	046	0.0	0.2–	1998 04 20	704	0.6+	0.3–
1995 11 18	046	0.6–	0.1+	1996 01 15	046	0.2–	0.6+	1998 04 20	704	(2.1+	1.0+)
1995 11 18	046	0.8–	0.1+	1996 01 14	046	0.5–	1.1–	1998 04 20	704	1.0+	1.7+
1995 11 21	046	0.6–	0.2+	1997 01 14	046	0.4–	1.1–	1998 04 20	704	1.1+	0.6+
1995 11 21	046	0.4–	0.1–	1997 01 14	046	0.3–	1.0–	1998 04 20	704	0.2+	0.7+
1995 11 21	046	0.2–	0.0	1997 01 15	046	0.0	1.2–	1998 04 20	046	0.4+	0.0
1995 12 08	046	1.1+	1.7+	1997 01 15	046	0.3–	1.0–	1998 04 20	046	0.1+	0.1–
1995 12 08	046	0.7+	1.5+	1997 01 15	046	0.7–	0.7–	1998 04 20	046	0.4+	0.2–

(8720)* 1995 WE₁

Discovered 1995 Nov. 16 by A. Nakamura at Kuma Kogen.

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	1.66174		(2000.0)	P	Q
n	0.18254679	ω	180.29179	-0.45488648	+0.88773252
a	3.0776548	Ω	62.65150	-0.81690163	-0.38430137
e	0.1222170	i	4.57031	-0.35461250	-0.25346287
P	5.40	H	13.3	G 0.15	U 1

Residuals in seconds of arc

1991 12 02	691	0.3–	0.6–	1995 12 13	360	0.5+	0.2+	1997 03 01	360	0.2–	0.1+
1991 12 02	691	0.2–	0.3–	1996 01 11	360	0.4–	0.2–	1997 03 01	360	0.0	0.2+
1991 12 02	691	0.2–	0.5–	1996 01 11	360	0.4–	0.1+	1998 03 22	360	0.2–	0.2+
1995 11 16	360	0.1–	0.0	1996 01 11	360	0.2–	0.2+	1998 03 22	360	0.4–	0.0
1995 11 16	360	0.0	0.3+	1997 01 11	360	0.6+	0.0	1998 04 02	360	0.1–	0.2–
1995 11 16	360	0.0	0.2+	1997 01 11	360	0.4+	0.3+	1998 04 02	360	0.1–	0.2–
1995 11 18	360	0.1+	0.1–	1997 01 11	360	0.2+	0.3+	1998 04 19	360	0.3–	0.2–
1995 11 18	360	0.2+	0.2+	1997 01 13	360	0.5+	0.0	1998 04 19	360	0.2–	0.0
1995 11 18	360	0.0	0.0	1997 01 13	360	0.6+	0.0	1998 04 22	704	0.1+	0.1+
1995 11 21	360	0.1+	0.4–	1997 01 31	360	0.8+	0.1–	1998 04 22	704	0.4–	0.5–
1995 11 21	360	0.0	0.5–	1997 01 31	360	0.8+	0.2–	1998 04 22	704	0.1+	0.1+
1995 11 21	360	0.2+	0.2–	1997 01 31	360	0.9+	0.1–	1998 04 22	704	0.2+	0.2+
1995 11 29	360	0.6–	0.0	1997 02 02	691	1.3–	0.2+	1998 04 22	704	0.6+	0.6+
1995 11 29	360	0.0	0.0	1997 02 02	691	1.2–	0.0	1998 04 28	360	0.5+	0.3+
1995 12 13	360	0.4+	0.2+	1997 02 02	691	1.5–	0.3+	1998 04 28	360	0.1+	0.1+

(8721)* 1996 AO₃ = 1979 YO₁ = 1981 AU₁ = 1986 RA₁₁ = 1986 RQ₁₇

Discovered 1996 Jan. 14 by AMOS at Haleakala.

Id. G. V. Williams (*MPC* 26907)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

$\dot{M}$	221.52392		(2000.0)		P		Q				
n	0.12827354	ω	78.81164		+0.96164300		+0.25779724				
a	3.8938391	Ω	266.19820		-0.27369739		+0.87906310				
e	0.0482340	i	5.38951		-0.01823421		+0.40098460				
P	7.68	H	11.2		G	0.15	U	1			
Residuals in seconds of arc											
1979 12 23	095	(3.7- 2.5+)	1996 02 08	608	1.3+	0.1-	1998 04 01	704	0.6-	0.6-	
1981 01 08	381	1.3- 2.1-	1996 02 10	608	0.6-	0.7-	1998 04 04	699	1.4+	0.1+	
1981 01 08	381	1.4+ 1.1+	1996 02 10	608	0.0	0.0	1998 04 04	699	0.1-	0.3+	
1986 09 09	095	2.4+ 0.1-	1996 02 10	608	0.4-	0.7-	1998 04 04	699	0.1+	0.7+	
1986 09 12	095	(3.1+ 0.1+)	1996 02 10	608	0.2-	0.1-	1998 04 18	704	0.7+	0.0	
1991 05 08	675	(2.4- 3.9+)	1996 02 15	608	0.1+	0.2-	1998 04 18	704	0.1+	0.4-	
1991 05 08	675	(2.1- 3.4+)	1996 02 15	608	0.1+	0.1-	1998 04 18	704	0.1+	1.6-	
1991 05 10	675	(4.3- 3.4+)	1997 01 15	608	1.7-	0.5+	1998 04 18	704	0.9-	1.2-	
1991 05 10	675	(3.1- 3.1+)	1997 01 15	608	1.6-	0.2+	1998 04 19	704	0.6+	0.2+	
1991 06 14	675	0.1+ 1.3+	1997 01 24	608	0.5-	0.5+	1998 04 19	704	0.5+	0.2+	
1991 06 14	675	1.3- 1.3+	1997 01 24	608	0.1+	1.2+	1998 04 19	704	0.1-	0.1+	
1991 06 16	675	(2.3- 0.8+)	1997 01 31	608	0.3-	0.4+	1998 04 19	704	0.1+	0.0	
1991 06 16	675	1.8- 1.1-	1997 01 31	608	0.5-	0.6+	1998 04 19	704	0.8+	0.2-	
1993 08 19	675	1.2- 0.2+	1998 03 03	704	1.0-	0.4+	1998 04 20	704	0.6+	0.3-	
1993 08 19	675	0.5- 0.5+	1998 03 03	704	1.8-	1.4+	1998 04 20	704	0.0	0.7-	
1993 08 21	675	0.5- 0.6+	1998 03 03	704	1.1-	0.6-	1998 04 20	704	0.9+	0.9-	
1993 08 21	675	0.3- 0.2+	1998 03 03	704	1.9-	0.0	1998 04 20	704	0.7+	1.5-	
1993 09 14	675	0.7+ 1.6-	1998 03 03	704	(3.8- 2.1+)		1998 04 20	704	0.3+	1.8-	
1993 09 14	675	0.6- 1.6-	1998 03 31	704	0.5-	0.1+	1998 04 22	704	0.5+	0.1+	
1993 09 16	675	0.7+ 0.1+	1998 03 31	704	1.7+	1.1+	1998 04 22	704	0.2+	0.3+	
1993 09 16	675	0.8+ 0.5-	1998 03 31	704	0.0	0.1+	1998 04 22	704	0.9+	0.2+	
1996 01 14	608	0.7+ 0.4+	1998 03 31	704	0.3+	0.1-	1998 04 22	704	0.9+	0.6-	
1996 01 14	608	0.3+ 0.4+	1998 03 31	704	0.5+	0.3+	1998 04 22	704	0.4-	0.2-	
1996 01 16	608	0.4+ 0.1+	1998 04 01	704	0.2+	0.1-	1998 04 29	566	0.5+	0.2-	
1996 01 16	608	0.1+ 0.3-	1998 04 01	704	0.5-	0.9+	1998 04 29	566	0.7+	0.2+	
1996 01 17	608	0.5+ 1.1+	1998 04 01	704	0.5+	0.0	1998 04 29	566	0.6+	0.3-	
1996 02 08	608	1.5- 0.8-	1998 04 01	704	0.4-	1.0-					

(8722)* 1996 QU₁ = 1948 RC = 1985 TV₃

Discovered 1996 Aug. 19 by R. G. Davis at Granville.

Id. G. V. Williams (*MPC* 28078)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

$\dot{M}$	170.55414		(2000.0)	P	Q		
n	0.26733485	ω	47.88493	+0.97352993	-0.22080798		
a	2.3865232	Ω	324.75238	+0.16763534	+0.86534042		
e	0.3016321	i	5.86975	+0.15536367	+0.44992199		
P	3.69	H	13.9	G	0.15	U	2

Residuals in seconds of arc

1948 09 07	690	0.2+	1.9–	1996 09 21	825	0.4+	0.3–	1996 11 15	801	0.2+	0.5+
1948 09 08	690	1.1+	0.7–	1996 09 21	825	0.4+	0.4–	1997 01 25	327	1.1+	0.4+
1948 09 09	690	0.9+	1.0–	1996 09 21	825	0.4–	0.8–	1997 01 25	327	1.2+	0.2+
1985 10 11	675	1.7–	1.0+	1996 09 21	825	(1.3+	2.3–)	1997 01 25	327	0.8+	0.3+
1985 10 13	675	0.4–	1.6+	1996 09 22	825	0.4–	0.4–	1998 03 03	704	0.9–	0.5–
1996 08 19	825	0.3–	1.1–	1996 09 22	825	0.2–	0.4–	1998 03 03	704	1.0–	0.7–
1996 08 19	825	0.3–	0.1–	1996 09 22	825	0.0	0.4–	1998 03 03	704	2.0–	1.7–
1996 08 19	825	0.3–	0.1–	1996 09 22	825	0.2–	0.6–	1998 03 03	704	1.1+	0.6–
1996 08 19	825	0.1+	0.0	1996 09 22	825	0.2–	0.6–	1998 03 03	704	0.8–	0.2+
1996 08 20	825	0.1–	1.1–	1996 09 22	825	0.5–	0.1–	1998 03 04	704	1.5–	1.3–
1996 08 20	825	0.0	0.6+	1996 09 22	825	0.2–	0.3–	1998 03 04	704	(3.4–	2.1–)
1996 08 20	825	1.3–	1.1–	1996 09 22	825	0.3–	0.2–	1998 03 04	704	1.1–	0.4+
1996 08 20	825	0.0	0.2–	1996 09 22	825	0.3–	0.1–	1998 03 04	704	(2.3–	0.4–)
1996 08 20	825	(1.3–	2.5+)	1996 10 01	825	0.1+	0.1–	1998 03 04	704	1.5–	1.4–
1996 08 25	825	0.1–	0.5+	1996 10 04	825	0.0	0.3–	1998 03 20	704	(1.0+	2.9–)
1996 08 25	825	0.9+	1.7+	1996 10 04	825	0.1–	0.2–	1998 03 20	704	0.2+	0.6+
1996 08 25	825	0.1–	0.5–	1996 10 04	825	0.0	0.3–	1998 03 20	704	0.2+	0.4–
1996 08 25	825	0.0	0.1+	1996 10 05	825	0.1+	0.1–	1998 03 20	704	0.1+	0.4–
1996 08 25	825	0.5+	1.0+	1996 10 05	825	0.1+	0.0	1998 03 20	704	(1.6+	2.2+)

1996 08 26	825	1.1+	0.4+	1996 10 05	825	0.1-	0.2-	1998 03 22	704	0.4-	1.1-
1996 08 26	825	0.5+	0.7+	1996 10 06	825	0.1+	0.1-	1998 03 22	704	(2.4+	0.4+)
1996 08 26	825	0.7+	0.6+	1996 10 06	825	0.0	0.7-	1998 03 22	704	1.6+	0.2-
1996 08 26	825	0.1-	0.4+	1996 10 06	825	0.2+	0.2-	1998 03 22	704	(2.4+	0.1-)
1996 08 26	825	0.7+	0.3+	1996 10 06	825	0.3+	0.2-	1998 03 26	704	0.0	0.3-
1996 08 26	825	0.3+	0.1+	1996 11 14	801	0.1+	0.5+	1998 03 26	704	1.2+	1.1-
1996 08 26	825	0.4+	0.3+	1996 11 14	801	0.3+	0.4-	1998 03 26	704	0.7-	1.1-
1996 08 26	825	0.4+	0.4-	1996 11 15	801	0.5+	0.5-				

(8723)* 1996 SL₇ = 1991 GC₃

Discovered 1996 Sept. 23 by T. Okuni at Nanyou.

Id. G. V. Williams (*MPC* 28305)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	121.51434		(2000.0)	$\mathbf{P}$	$\mathbf{Q}$
n	0.28610210	ω	73.74167	-0.13662956	-0.98963306
a	2.2809829	Ω	24.24403	+0.86274765	-0.14082971
e	0.1309379	i	6.18750	+0.48682529	-0.02816746
P	3.44	H	14.8	G 0.15	U 2

Residuals in seconds of arc

1989 09 30	675	0.6+	0.8-	1996 09 24	358	1.6-	1.6-	1998 03 31	910	0.7-	0.3+
1989 09 30	675	0.6+	1.1-	1996 09 24	358	0.2+	1.4-	1998 04 21	704	0.9+	0.1+
1991 04 08	809	0.3-	1.7+	1996 10 09	358	(1.0+	2.4-)	1998 04 21	704	0.5+	0.5+
1991 04 08	809	1.0+	0.3+	1996 10 09	358	0.6+	1.5-	1998 04 21	704	0.9+	0.6+
1991 04 08	809	0.1-	0.4-	1996 10 10	358	1.1+	1.2+	1998 04 21	704	0.4+	0.3-
1991 04 08	809	0.5-	2.0-	1996 10 10	358	1.1-	1.0+	1998 04 21	704	0.4-	0.9-
1991 04 08	809	1.5-	0.9-	1996 10 18	358	0.8+	1.4+	1998 04 22	704	0.2+	0.3+
1991 04 08	809	(1.5-	2.4-)	1996 10 18	358	0.1+	1.2-	1998 04 22	704	0.3+	0.4+
1991 04 10	809	0.6-	0.2-	1996 11 19	691	0.4-	0.1-	1998 04 22	704	0.8+	0.3+
1991 04 10	809	0.3-	1.2-	1996 11 19	691	0.0	0.0	1998 04 22	704	0.5+	0.1+
1991 04 10	809	0.0	1.4-	1996 11 19	691	0.3-	0.7+	1998 04 22	704	0.3-	0.0
1996 09 23	358	(2.3+	1.1-)	1998 03 31	910	1.0-	0.5+				
1996 09 23	358	0.3+	1.2+	1998 03 31	910	1.1-	0.4+				

(8724)* 1996 SK₈ = 1985 VN₁ = 1991 HO₄ = 1992 OA₉

Discovered 1996 Sept. 17 by S. Otomo at Kiyosato.

Id. S. Nakano (*MPC* 29307)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	150.62797		(2000.0)	$\mathbf{P}$	$\mathbf{Q}$
n	0.26601533	ω	21.80828	+0.81585582	-0.57819094
a	2.3944087	Ω	13.52551	+0.52493563	+0.73428389
e	0.2038435	i	2.11517	+0.24253218	+0.35569987
P	3.71	H	14.2	G 0.15	U 1

Residuals in seconds of arc

1985 11 07	688	0.7-	0.9+	1996 10 04	894	1.3+	0.8+	1998 03 24	327	0.3+	0.9+
1985 11 07	688	0.4+	0.0	1996 10 15	894	1.3-	0.3+	1998 03 24	327	0.3-	0.9+
1991 04 19	809	0.5+	0.2+	1996 10 15	894	0.5-	0.5-	1998 03 24	327	1.5+	0.5+
1991 04 19	809	0.0	0.4+	1996 10 16	894	(1.0-	3.7+)	1998 03 24	327	0.1-	0.7+
1991 04 19	809	0.6-	0.7-	1996 10 16	894	0.0	0.2+	1998 03 26	327	0.0	1.6+
1992 07 24	809	1.0-	0.8+	1998 03 20	704	0.2+	0.1+	1998 03 26	327	0.3-	0.6+
1992 07 24	809	1.0-	0.9+	1998 03 20	704	0.7-	0.8-	1998 03 26	327	0.1-	0.2-
1992 07 24	809	0.8-	0.6+	1998 03 20	704	0.5-	0.7+	1998 04 19	704	(1.2+	2.3+)
1992 07 26	809	0.5+	0.3-	1998 03 20	704	0.2+	0.3+	1998 04 19	704	0.2-	1.0+
1992 07 26	809	0.7+	0.2-	1998 03 22	704	0.1+	0.3-	1998 04 19	704	0.2-	0.3-
1992 07 26	809	1.1+	0.2-	1998 03 22	704	1.0+	1.0-	1998 04 19	704	1.0+	1.8+
1996 09 17	894	0.3+	1.5+	1998 03 22	704	1.1+	1.4+	1998 04 19	704	0.7-	0.2+
1996 09 17	894	0.4-	1.5+	1998 03 22	704	0.6+	0.2+				
1996 10 04	894	1.5-	0.5+	1998 03 22	704	0.6+	0.4-				

(8725)* 1996 TG₅ = 1992 JX₄ = 1993 XV₁

Discovered 1996 Oct. 5 by H. Abe at Yatsuka.

Id. S. Nakano (*MPC* 28081)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	190.28876		(2000.0)	P	Q
n	0.31166388	ω	308.16215	+0.83468939	-0.54904817
a	2.1544929	Ω	85.17872	+0.51778411	+0.75585507
e	0.1093808	i	2.46703	+0.18759861	+0.35669205
P	3.16	H	14.4	G 0.15	U 2

Residuals in seconds of arc

1992 05 03	809	0.9-	0.1+	1996 10 29	367	0.1+	0.8-	1998 03 25	367	1.0+	0.9-
1992 05 03	809	0.7+	0.3-	1996 10 29	367	0.2+	0.9-	1998 03 25	367	0.3+	0.8-
1992 05 03	809	0.5+	0.7+	1996 11 03	367	0.5-	0.4+	1998 04 19	367	0.4-	0.8+
1993 12 09	408	0.2-	0.3-	1996 11 03	367	0.4-	0.2+	1998 04 19	367	0.5+	1.2+
1993 12 09	408	(2.8+	0.2+)	1996 11 12	689	1.0+	0.2+	1998 04 20	704	0.3-	0.4+
1993 12 09	408	0.1-	1.7-	1996 11 27	367	0.1+	0.1-	1998 04 20	704	0.8-	0.2-
1993 12 18	408	0.1+	1.3+	1996 11 27	367	0.1+	0.3+	1998 04 20	704	0.3-	0.4-
1993 12 18	408	0.3+	1.0-	1996 11 28	367	0.3+	0.7+	1998 04 20	704	0.2+	0.3+
1996 10 05	367	0.9-	0.2+	1996 11 28	367	0.4+	0.3+	1998 04 20	704	(3.6-	0.1-)
1996 10 05	367	0.7-	0.1+	1996 12 02	900	(5.6-	1.8+)	1998 04 21	704	0.6-	0.4+
1996 10 09	367	0.2+	0.1-	1996 12 02	900	0.5+	1.0+	1998 04 21	704	0.4-	0.7+
1996 10 09	367	0.5+	0.3-	1996 12 15	402	0.1+	1.5+	1998 04 21	704	0.8-	0.4+
1996 10 11	367	0.3+	0.0	1996 12 15	402	0.3+	2.0+	1998 04 21	704	0.0	0.5+
1996 10 11	367	0.0	0.2+	1998 03 25	699	0.3+	0.4-	1998 04 21	704	0.8-	0.4+
1996 10 16	367	0.0	0.2-	1998 03 25	699	0.7+	0.4-	1998 04 22	704	0.5-	0.3+
1996 10 16	367	0.1-	0.2-	1998 03 25	699	0.8+	0.5-	1998 04 22	704	0.1-	0.1+
1996 10 17	900	0.2-	0.3-	1998 03 25	704	0.8+	0.7-	1998 04 22	704	0.2+	0.3-
1996 10 17	900	0.4-	0.2-	1998 03 25	704	1.7+	0.0	1998 04 22	704	0.5-	0.3+
1996 10 27	367	0.8-	0.4-	1998 03 25	704	0.7+	1.0+	1998 04 22	704	1.3-	0.5+
1996 10 27	367	0.4-	0.5+	1998 03 25	704	0.2+	0.8-				

(8726)* 1996 VP₅ = 1979 YZ₃ = 1995 SE₅₅

Discovered 1996 Nov. 14 by T. Kobayashi at Oizumi.

Id. S. Nakano (*MPC* 28601)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	94.82839		(2000.0)	P	Q		
n	0.17435427	ω	205.50568	+0.21766695	-0.96868793		
a	3.1733233	Ω	232.15182	+0.91939482	+0.24457250		
e	0.0694602	i	8.69955	+0.32761909	-0.04275497		
P	5.65	H	12.4	G	0.15	U	1

Residuals in seconds of arc

1979 12 18	095	0.0	0.4+	1996 11 30	411	0.0	0.2+	1998 03 04	704	(2.8-	0.8+)
1990 11 13	675	(2.7+	1.6+)	1996 11 30	411	0.3+	0.1+	1998 03 18	426	0.2+	0.0
1990 11 13	675	(3.0+	1.1+)	1996 12 08	411	0.3-	0.1-	1998 03 18	426	0.2+	0.0
1995 09 20	693	0.3+	0.7-	1996 12 08	411	0.2+	0.3-	1998 03 18	426	0.1+	0.1-
1995 09 20	693	0.7+	0.9-	1998 03 03	704	0.6+	0.4+	1998 03 20	426	0.5-	0.4-
1995 09 25	693	0.1-	0.7-	1998 03 03	704	0.4+	0.4+	1998 03 20	426	0.0	0.1-
1995 09 25	693	0.4+	1.6-	1998 03 03	704	0.4+	0.7-	1998 03 20	426	0.1+	0.3+
1996 11 14	411	0.4+	0.4-	1998 03 03	704	1.1-	1.6-	1998 03 25	566	0.1+	0.1-
1996 11 14	411	0.2+	0.9-	1998 03 03	704	(4.4-	5.0+)	1998 03 25	566	0.2+	0.5-
1996 11 15	411	0.7-	0.5+	1998 03 04	704	1.8-	0.7+	1998 03 25	566	0.1+	0.7-
1996 11 15	411	0.2+	0.2+	1998 03 04	704	(2.6-	0.0)	1998 04 04	699	0.3-	1.4-
1996 11 19	411	0.0	0.9+	1998 03 04	704	1.0-	0.1-	1998 04 04	699	0.1-	0.2-
1996 11 19	411	0.1-	0.3-	1998 03 04	704	(2.4-	0.1+)	1998 04 04	699	0.9+	0.2+

(8727)* 1996 VZ₇ = 1982 VK₁₀ = 1982 XP₂ = 1992 OU₇

Discovered 1996 Nov. 3 by S. Ueda and H. Kaneda at Kushiro.

Id. S. Nakano (*MPC* 28602)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	191.84492		(2000.0)	P	Q
n	0.27993453	ω	262.59890	+0.97594558	-0.20695127
a	2.3143644	Ω	109.32603	+0.21744550	+0.90130176
e	0.1270378	i	4.16685	+0.01573776	+0.38056051
P	3.52	H	14.2	G 0.15	U 1

Residuals in seconds of arc

1982 11 12	095	0.5+	0.3-	1992 07 21	809	0.4+	1.0+	1998 03 24	704	(1.6-	3.5-)
1982 12 13	381	0.7-	0.2-	1994 01 15	399	0.4-	1.2+	1998 03 24	704	1.3-	1.8-
1982 12 14	381	0.5+	0.4+	1994 01 15	399	1.3+	1.6+	1998 03 25	566	0.3-	0.0
1982 12 14	381	0.6+	0.4-	1996 11 03	399	1.1-	0.2+	1998 03 25	566	0.4-	0.1+
1988 05 10	675	1.7-	0.3-	1996 11 03	399	1.5-	0.7-	1998 03 25	566	0.5-	0.0
1988 05 10	675	2.1-	1.2+	1996 11 06	399	0.1-	0.4+	1998 04 19	704	1.3+	0.2+
1992 07 20	809	0.8+	0.1-	1996 11 06	399	0.4-	0.0	1998 04 19	704	1.5+	0.8+
1992 07 20	809	0.8+	0.1+	1996 11 15	399	0.8+	0.6-	1998 04 19	704	1.1+	0.3-
1992 07 20	809	0.6+	0.1-	1996 11 15	399	0.2+	0.6+	1998 04 19	704	2.0+	0.9+
1992 07 21	809	0.4-	0.8+	1998 03 24	704	1.0-	0.1+	1998 04 19	704	0.4+	0.7-
1992 07 21	809	0.0	0.9+	1998 03 24	704	0.3-	0.2-				

(8728)* 1996 VF₉ = 1985 VH₂ = 1989 WU₃

Discovered 1996 Nov. 7 by K. Endate and K. Watanabe at Kitami.

Id. G. V. Williams (*MPC* 28603)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
183.09642							
<i>n</i>	0.27034881	ω	270.15314	+0.91326162	-0.40450642		
<i>a</i>	2.3687528	Ω	113.70728	+0.39157829	+0.83901357		
<i>e</i>	0.2201140	<i>i</i>	3.02053	+0.11233723	+0.36391041		
<i>P</i>	3.65	<i>H</i>	14.4	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1985 11 09	095	0.5+	0.1+	1996 11 08	400	0.9+	0.3-	1996 12 18	691	0.3-	0.8+
1985 11 11	095	1.2-	0.4-	1996 11 13	400	0.8+	0.7-	1998 03 25	691	1.3-	0.6-
1989 11 29	033	0.4+	1.5+	1996 11 13	400	0.9+	0.6-	1998 03 25	691	1.1-	0.5-
1989 11 29	033	0.4+	1.4+	1996 11 16	400	0.7+	0.2-	1998 03 25	691	1.4-	0.8+
1989 12 02	033	0.7+	1.8+	1996 11 16	400	0.5+	0.2-	1998 04 04	691	1.0-	0.5-
1992 08 24	675	0.5+	0.7+	1996 12 01	691	0.5-	0.4-	1998 04 04	691	0.9-	0.7-
1992 08 24	675	0.5+	0.8-	1996 12 01	691	0.7-	0.5-	1998 04 04	691	1.1-	0.7-
1994 02 12	809	1.4+	2.0-	1996 12 01	691	0.7-	0.4-	1998 04 20	704	0.7+	1.0+
1994 02 12	809	0.2-	2.2-	1996 12 08	691	0.8-	0.4-	1998 04 20	704	0.8+	0.9+
1994 02 12	809	(0.1-	2.6-)	1996 12 08	691	0.6-	0.4-	1998 04 20	704	2.4+	0.7+
1996 11 07	400	0.8+	0.1-	1996 12 08	691	0.3-	0.2-	1998 04 20	704	0.4+	0.5+
1996 11 07	400	0.8+	1.1+	1996 12 18	691	0.2-	0.5-				
1996 11 08	400	(2.6+	0.6-)	1996 12 18	691	1.2-	0.1+				

(8729)* 1996 VZ₁₂ = 1981 UG₄ = 1991 KX₂ = 1991 LP₆ = 1998 FC₅₄

Discovered 1996 Nov. 5 by Spacewatch at Kitt Peak.

Id. A. Doppler (*MPC* 31549), G. V. Williams (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
122.51436							
<i>n</i>	0.26256564	ω	223.01428	+0.06840615	-0.99715838		
<i>a</i>	2.4153354	Ω	223.09184	+0.92741019	+0.07521645		
<i>e</i>	0.0344770	<i>i</i>	2.64744	+0.36773759	-0.00420064		
<i>P</i>	3.75	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1981 10 30	381	1.0-	0.9+	1996 11 18	691	0.2-	0.1+	1998 03 22	704	0.8+	0.3-
1981 10 30	381	0.7+	0.4+	1996 11 18	691	0.3-	0.3+	1998 03 22	704	0.5+	1.1+
1991 05 18	809	0.7-	0.9+	1996 11 18	691	0.3-	0.2+	1998 04 01	704	0.0	0.4-
1991 05 18	809	0.0	0.7+	1998 03 04	704	(3.7-	0.9+)	1998 04 01	704	0.5+	0.9+
1991 05 18	809	1.7-	0.2-	1998 03 04	704	1.3-	0.3+	1998 04 01	704	0.2-	0.1-
1991 06 06	809	1.9+	0.6-	1998 03 04	704	(2.2-	0.6-)	1998 04 01	704	0.7+	0.7-
1991 06 06	809	0.9+	0.1+	1998 03 04	704	2.0-	1.2-	1998 04 01	704	0.8-	0.1-
1991 06 06	809	0.3-	0.4+	1998 03 20	704	0.1-	0.6+	1998 04 19	704	1.0+	0.3+
1996 11 05	691	0.1-	0.0	1998 03 20	704	0.0	0.8-	1998 04 19	704	0.4+	0.3+
1996 11 05	691	0.0	0.1-	1998 03 20	704	0.2+	1.4+	1998 04 19	704	1.7+	0.2-
1996 11 05	691	0.0	0.0	1998 03 20	704	0.4+	0.8+	1998 04 19	704	2.0-	0.9-
1996 11 10	691	0.3+	0.0	1998 03 20	704	0.9-	0.4-	1998 04 19	704	0.1-	0.5-
1996 11 10	691	0.1+	0.2-	1998 03 22	704	0.9+	0.5+				
1996 11 10	691	0.3+	0.2+	1998 03 22	704	0.4+	0.0				

(8730)* 1996 VT₃₀ = 1963 SZ = 1992 PL₄

Discovered 1996 Nov. 10 by T. Okuni at Nanyou.

Id. S. Nakano (*MPC* 28869)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
184.68030							
<i>n</i>	0.27075411	ω	128.86772	+0.91373411	-0.40577726		
<i>a</i>	2.3663883	Ω	255.08098	+0.36578246	+0.84384738		
<i>e</i>	0.2228680	<i>i</i>	1.23650	+0.17689877	+0.35109318		
<i>P</i>	3.64	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1963 09 26	760	0.0	2.2+	1996 12 07	358	0.5-	0.1-	1998 03 22	704	0.3-	0.6+
1963 10 14	760	0.3+	0.3+	1996 12 07	358	0.3-	0.7+	1998 04 01	704	0.1-	0.2-
1963 10 14	760	2.1-	1.5+	1996 12 07	358	0.1+	0.9-	1998 04 01	704	0.3+	0.5+
1992 08 02	675	0.1+	1.9-	1996 12 10	358	1.3-	0.1+	1998 04 01	704	0.6+	0.9+
1992 08 02	675	(0.4-	3.0-)	1996 12 10	358	0.5-	0.3-	1998 04 01	704	0.8-	1.0+
1992 08 03	675	0.3+	0.1-	1997 01 25	327	0.8+	0.3+	1998 04 01	704	0.0	0.7+
1992 08 03	675	0.9-	0.9-	1997 01 25	327	0.3-	0.2+	1998 04 19	704	0.7+	0.5+
1992 08 06	675	(1.1-	2.3-)	1997 01 25	327	0.4+	0.2+	1998 04 19	704	0.6-	0.2+
1992 08 06	675	(0.2-	2.3-)	1998 03 20	704	1.0+	0.4-	1998 04 19	704	1.2-	0.2+
1992 08 06	675	0.6+	1.1+	1998 03 20	704	0.8+	1.5-	1998 04 19	704	1.2-	1.2-
1992 08 06	675	0.5+	0.3+	1998 03 20	704	1.0+	0.2+	1998 04 19	704	0.1-	1.2+
1996 11 10	358	0.0	1.1-	1998 03 20	704	0.9+	0.5-	1998 04 20	704	1.0+	0.1-
1996 11 10	358	0.1+	0.1+	1998 03 20	704	2.0-	1.3+	1998 04 20	704	0.3+	0.2+
1996 11 16	358	0.3+	0.3+	1998 03 22	704	0.4-	0.0	1998 04 20	704	0.7-	0.8+
1996 11 16	358	0.4+	2.0+	1998 03 22	704	0.5+	0.4+	1998 04 20	704	0.7+	0.1+
1996 11 19	358	0.7+	0.9-	1998 03 22	704	0.0	1.3-	1998 04 20	704	(3.1-	0.8+)
1996 11 19	358	0.4+	1.3-	1998 03 22	704	1.2+	0.3-				

(8731)* 1996 WY

Discovered 1996 Nov. 19 by T. Kobayashi at Oizumi.

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
223.06658							
<i>n</i>	0.28061383	ω	301.89144	+0.98997839	-0.08400857		
<i>a</i>	2.3106278	Ω	63.14787	+0.12642112	+0.88541840		
<i>e</i>	0.1223465	<i>i</i>	7.30970	-0.06293243	+0.45713983		
<i>P</i>	3.51	<i>H</i>	14.4	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1991 04 19	675	0.5-	0.0	1996 12 28	411	1.0-	1.2+	1998 04 20	704	0.8+	0.1+
1991 04 19	675	0.8+	0.7+	1996 12 28	411	0.9-	0.3-	1998 04 20	704	1.2+	0.0
1992 09 25	801	0.8+	1.8-	1998 03 24	704	0.2-	0.5-	1998 04 20	704	1.9-	0.4-
1992 09 25	801	0.7+	1.1-	1998 03 24	704	0.3+	0.1+	1998 04 21	704	1.0-	0.3+
1996 11 19	411	1.4+	0.2-	1998 03 24	704	(2.5+	0.1+)	1998 04 21	704	0.8-	0.9-
1996 11 19	411	1.8+	0.3+	1998 03 24	704	0.5+	1.3-	1998 04 21	704	0.9+	0.3+
1996 11 21	411	0.1-	0.0	1998 03 24	704	0.8-	0.2+	1998 04 21	704	0.5-	1.0-
1996 11 21	411	0.3+	0.1-	1998 03 25	704	0.4+	1.1+	1998 04 21	704	0.6-	0.9-
1996 11 30	411	0.4+	1.3-	1998 03 25	704	0.1-	0.7+	1998 04 22	704	0.7+	1.3+
1996 11 30	411	0.1-	0.5-	1998 03 25	704	0.5-	0.0	1998 04 22	704	0.3+	1.4-
1996 12 06	411	1.4-	1.0-	1998 03 25	704	0.7-	0.5-	1998 04 22	704	0.6-	0.1+
1996 12 06	411	0.5-	1.2-	1998 03 25	704	1.2+	1.1-	1998 04 22	704	0.2+	0.0
1996 12 19	411	0.3+	0.6+	1998 04 20	704	0.5+	0.4-	1998 04 22	704	0.6-	0.1-
1996 12 19	411	0.2-	0.4+	1998 04 20	704	1.0-	0.9-				

(8732)* 1996 XR₂₅ = 1975 US = 1977 EP₄ = 1992 PP₅

Discovered 1996 Dec. 8 by T. Seki at Geisei.

Id. S. Nakano (*MPC* 28873)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
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Residuals in seconds of arc

1975 10 30	033	0.6+	1.2-	1996 12 07	399	0.3-	0.9+	1998 04 21	704	0.2-	0.3-
1975 10 31	033	0.2+	1.4-	1996 12 07	399	0.4+	0.5+	1998 04 21	704	0.2+	0.6-
1977 03 15	381	0.0	0.6-	1996 12 08	372	1.1+	0.2-	1998 04 21	704	0.2+	1.0-
1977 03 15	381	0.1-	1.2-	1996 12 08	372	0.8+	0.3-	1998 04 21	704	0.1+	0.3-
1991 04 19	675	1.9-	0.1+	1996 12 09	372	(3.1+ 0.7-)		1998 04 22	704	0.0	2.0+
1991 04 19	675	0.9-	0.8+	1996 12 09	372	(3.3+ 0.3-)		1998 04 22	704	0.0	0.0
1992 08 03	675	0.2+	0.3-	1996 12 12	372	1.1+	1.2+	1998 04 22	704	0.2-	0.4+
1992 08 03	675	0.7+	1.0-	1996 12 15	399	0.3+	0.3+	1998 04 22	704	0.5+	0.2-
1992 08 06	675	0.5+	0.8-	1996 12 15	399	0.2+	1.6+	1998 04 29	566	0.1-	1.2-
1992 08 06	675	0.1+	0.1-	1998 03 24	704	0.5+	0.1-	1998 04 29	566	0.4-	1.1-
1994 02 11	675	0.3+	1.9-	1998 03 24	704	0.1+	0.1+	1998 04 29	566	0.1-	0.7-
1994 02 11	675	0.3+	1.6-	1998 03 24	704	0.6+	0.4-	1998 05 01	732	0.3-	0.9+
1996 12 02	399	0.5-	0.5+	1998 03 24	704	0.5+	0.2-	1998 05 01	732	0.1+	0.2+
1996 12 02	399	1.0-	0.5-	1998 03 24	704	0.6+	0.2+	1998 05 02	732	1.1+	0.1+
1996 12 06	399	1.3-	1.3-	1998 04 08	689	0.6+	0.0	1998 05 02	732	0.1-	0.2+
1996 12 06	399	2.0-	1.0-	1998 04 21	704	0.8-	0.3+	1998 05 02	732	1.4-	1.6+

(8733)* 1996 YB₁ = 1991 UK₄

Discovered 1996 Dec. 20 by T. Kobayashi at Oizumi.

Id. S. Nakano (*MPC* 28876)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>	156.06122	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.21146704	ω	87.93610	+0.44535381	-0.89513843		
<i>a</i>	2.7902359	Ω	335.58794	+0.80138567	+0.40831769		
<i>e</i>	0.0808201	<i>i</i>	2.72883	+0.39930063	+0.17889619		
<i>P</i>	4.66	<i>H</i>	13.3	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1991 10 30	033	0.7-	0.5+	1997 01 26	411	0.4+	1.1-	1998 04 17	327	0.9+	0.0
1991 10 31	033	0.3+	0.6+	1997 01 26	411	0.4+	0.1-	1998 04 18	327	0.4+	0.2+
1991 11 01	033	0.3+	0.5+	1998 04 01	704	0.1-	0.2+	1998 04 18	327	1.0+	0.8+
1995 09 19	809	0.5+	1.0-	1998 04 01	704	0.2-	0.3+	1998 04 18	327	0.6+	0.1+
1995 09 20	809	0.3+	0.7-	1998 04 01	704	0.6-	0.2-	1998 04 21	704	0.2-	0.9-
1996 11 08	327	0.2-	0.7-	1998 04 01	704	0.1+	0.7-	1998 04 21	704	0.2+	0.9-
1996 11 08	327	0.2-	0.3+	1998 04 01	704	0.5-	1.1-	1998 04 21	704	0.0	1.0-
1996 11 08	327	0.3-	0.1-	1998 04 02	360	0.3+	0.7+	1998 04 21	704	0.5+	1.0-
1996 12 20	411	1.1-	0.9-	1998 04 02	360	0.5+	0.9+	1998 04 22	704	0.0	0.5+
1996 12 20	411	0.1+	0.3+	1998 04 02	360	0.1+	1.1+	1998 04 22	704	0.3-	0.3+
1996 12 21	411	0.0	0.3+	1998 04 03	360	0.2+	0.3+	1998 04 22	704	0.1+	0.4+
1996 12 21	411	0.4+	0.1+	1998 04 03	360	0.0	0.3+	1998 04 22	704	0.4+	0.4-
1996 12 29	411	0.2+	0.3-	1998 04 03	360	0.2-	0.0	1998 04 22	704	0.0	0.3-
1996 12 29	411	0.6-	0.8-	1998 04 17	327	0.4+	0.4-	1998 04 25	691	1.5-	0.1-
1997 01 07	411	0.1-	0.8+	1998 04 17	327	0.6+	0.0	1998 04 25	691	1.3-	0.1-
1997 01 07	411	0.4+	0.2+	1998 04 17	327	0.3-	0.1-	1998 04 25	691	1.6-	0.3+

(8734)* 1997 AA = 1990 QJ₁₇ = 1993 HN₈

Discovered 1997 Jan. 1 by P. G. Comba at Prescott.

Id. T. B. Spahr (*MPC* 30671), G. V. Williams (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	178.94546	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.20280134	ω	297.22645	+0.86198912	-0.50359407		
<i>a</i>	2.8691648	Ω	93.06284	+0.48322903	+0.78169813		
<i>e</i>	0.0502562	<i>i</i>	3.33165	+0.15318110	+0.36788727		
<i>P</i>	4.86	<i>H</i>	13.6	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1990 08 26	809	0.3+	1.5+	1997 02 10	684	0.2-	0.1-	1998 03 23	684	0.0	0.4-
1990 08 26	809	0.2-	0.1-	1997 03 02	684	0.2+	0.2-	1998 03 23	684	0.1+	0.0
1990 08 26	809	1.1-	0.9+	1997 03 02	684	0.2+	0.1-	1998 04 16	684	0.4+	0.2+
1993 04 16	413	0.7+	1.6+	1997 03 02	684	0.0	0.1+	1998 04 16	684	0.7+	0.4+
1996 12 28	327	0.1+	0.3+	1997 03 11	684	0.0	0.1-	1998 04 17	684	0.5+	0.0
1996 12 28	327	0.8-	0.2-	1997 03 11	684	0.2+	0.3-	1998 04 17	684	0.5+	0.0
1996 12 28	327	0.0	0.3+	1997 03 11	684	0.1+	0.1-	1998 04 19	704	0.2-	0.9-
1997 01 01	684	0.1+	0.0	1998 02 26	684	0.9-	0.2-	1998 04 19	704	0.4+	0.3-

1997 01 01	684	0.5+	0.4+	1998 02 26	684	0.5-	0.3-	1998 04 19	704	0.3+	0.3-
1997 01 02	684	0.2+	0.1-	1998 02 28	684	0.5-	0.0	1998 04 19	704	0.4+	0.3+
1997 01 02	684	0.2+	0.1-	1998 02 28	684	0.7-	0.0	1998 04 20	704	0.6+	0.3+
1997 01 02	684	0.2+	0.1-	1998 02 28	684	0.8-	0.2-	1998 04 20	704	0.3+	0.7+
1997 01 04	684	0.4+	0.0	1998 03 20	704	0.1-	0.5+	1998 04 20	704	0.7+	0.8-
1997 01 04	684	0.2+	0.0	1998 03 20	704	0.4+	0.8+	1998 04 20	704	0.3+	0.2-
1997 01 04	684	0.2+	0.1+	1998 03 20	704	1.2+	0.3+	1998 04 20	704	1.9-	1.9-
1997 01 08	684	0.8-	0.7+	1998 03 20	704	0.1+	1.1+	1998 04 22	704	1.7+	0.4-
1997 01 08	684	0.5+	0.8+	1998 03 20	704	1.1-	0.8+	1998 04 22	704	0.2+	0.1+
1997 01 08	327	0.0	0.1+	1998 03 22	704	0.3+	0.6-	1998 04 22	704	0.4+	0.9+
1997 01 08	327	0.6-	0.1+	1998 03 22	704	(2.5- 1.3+)		1998 04 22	704	0.0	1.7-
1997 01 08	327	0.4+	0.3+	1998 03 22	704	0.2-	1.4+	1998 04 22	704	0.1+	0.7+
1997 01 30	684	0.1-	0.3-	1998 03 22	704	1.9-	0.9+	1998 04 29	691	0.4-	0.1+
1997 01 30	684	0.2-	0.3-	1998 03 22	704	0.3-	0.6+	1998 04 29	691	0.2-	0.1-
1997 01 30	684	0.0	0.3-	1998 03 22	684	0.1+	0.3-	1998 04 29	691	0.5-	0.0
1997 02 10	684	0.2-	0.1-	1998 03 22	684	0.4+	0.4-				
1997 02 10	684	0.4-	0.2-	1998 03 22	684	0.2+	0.3-				

(8735)* 1997 AA₁ = 1972 TR₁ = 1978 TZ₈

Discovered 1997 Jan. 2 by T. Kobayashi at Oizumi.

Id. K. Ichikawa (*MPC* 29120)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>	153.70090	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.17114664	ω	341.34160	+0.84113178	-0.54018140		
<i>a</i>	3.2128501	Ω	51.38335	+0.50041574	+0.75876924		
<i>e</i>	0.1983139	<i>i</i>	1.94242	+0.20513755	+0.36396881		
<i>P</i>	5.76	<i>H</i>	12.7	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1972 10 06	095	1.2-	2.1-	1997 01 15	411	0.7+	0.1-	1997 12 06	910	0.7-	0.7-
1972 10 07	095	0.9+	0.0	1997 01 15	411	0.4-	0.0	1997 12 06	910	0.9-	0.6-
1978 10 09	095	1.0-	1.1+	1997 01 15	411	0.3+	0.6+	1997 12 06	910	0.9-	0.6-
1978 11 01	095	2.0+	0.8+	1997 01 15	369	0.3+	0.7-	1998 03 22	704	0.4+	1.5-
1995 12 27	327	0.5+	1.3-	1997 01 15	369	0.5+	1.2-	1998 03 22	704	0.7+	1.1-
1995 12 27	327	0.1+	0.5-	1997 01 15	369	0.2-	0.3-	1998 03 22	704	0.8+	1.1-
1995 12 27	327	0.5+	0.7-	1997 01 18	369	0.5+	0.3+	1998 03 22	704	0.6+	0.7+
1997 01 02	411	0.7-	0.4-	1997 01 18	369	0.4-	1.4+	1998 03 22	704	0.7+	0.6+
1997 01 02	411	1.0-	0.1+	1997 01 18	369	(0.1- 3.4+)		1998 04 19	704	(1.7- 2.4+)	
1997 01 03	411	0.2-	0.8+	1997 01 26	411	0.1-	0.1-	1998 04 19	704	1.4-	0.6-
1997 01 03	411	0.1+	0.2-	1997 01 26	411	0.2+	0.1-	1998 04 19	704	0.9-	0.7+
1997 01 07	411	0.1-	0.2+	1997 02 06	369	0.3-	1.1+	1998 04 19	704	0.7-	0.7+
1997 01 07	411	0.4+	0.1-	1997 02 06	369	0.0	0.0				

(8736)* 1997 AD₇ = 1929 TC = 1971 HD = 1980 XL₁ = 1980 YU = 1991 NM₉

Discovered 1997 Jan. 9 by T. Kobayashi at Oizumi.

Id. S. Nakano (*MPC* 29122)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>	247.95866	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.25287616	ω	185.30809	+0.98918778	+0.14620029		
<i>a</i>	2.4766471	Ω	166.26895	-0.13270164	+0.92578234		
<i>e</i>	0.2640609	<i>i</i>	2.78504	-0.06243250	+0.34864384		
<i>P</i>	3.90	<i>H</i>	13.2	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1929 10 01	690	0.6+	0.0	1997 01 13	411	0.1+	0.4-	1998 03 25	704	0.4+	0.8-
1929 10 09	690	1.0-	1.3+	1997 01 13	411	0.3-	0.7-	1998 03 25	704	1.6+	0.4+
1971 04 20	095	(2.4-	4.4-)	1997 01 27	411	0.1+	0.2+	1998 03 25	704	0.1-	0.7-
1980 12 12	330	0.8-	1.4-	1997 01 27	411	0.7+	0.5+	1998 03 25	704	0.2-	0.0
1980 12 27	330	(3.2+	0.7-)	1997 02 04	566	0.7+	0.3+	1998 03 25	704	0.4+	0.6+
1990 04 22	675	0.3+	0.5+	1997 02 04	566	1.0+	0.1+	1998 03 25	704	0.7+	0.6-
1990 04 22	675	0.2+	0.4+	1997 02 04	566	0.6+	0.1-	1998 03 25	704	0.9-	0.8-
1991 07 08	885	0.9+	1.4+	1997 02 14	411	0.5+	0.4+	1998 03 25	704	1.1+	0.5-
1991 07 08	885	1.4+	0.6-	1997 02 14	411	0.5+	0.9+	1998 03 25	704	(2.2-	2.0-)
1992 12 25	691	0.1+	1.2+	1998 03 20	704	0.7+	0.5-	1998 04 20	704	0.6-	0.0

1992 12 25	691	0.3-	0.4+	1998 03 20	704	1.4+	0.9+	1998 04 20	704	0.9-	0.2-
1992 12 25	691	0.5-	0.3+	1998 03 20	704	0.1+	0.7-	1998 04 20	704	0.2-	0.1+
1995 06 03	691	0.6-	0.7-	1998 03 20	704	1.2+	0.4+	1998 04 20	704	1.0-	0.2-
1995 06 03	691	0.9-	0.5-	1998 03 20	704	0.4+	0.9+	1998 04 20	704	2.0-	0.7+
1995 06 03	691	0.9-	0.1-	1998 03 22	704	0.9+	0.1+	1998 04 21	704	0.9-	0.4+
1997 01 02	691	0.6-	0.5-	1998 03 22	704	(0.1+	2.3+)	1998 04 21	704	1.0-	0.3+
1997 01 02	691	0.7-	0.3-	1998 03 22	704	0.0	0.4+	1998 04 21	704	0.6-	0.1-
1997 01 02	691	0.8-	0.2-	1998 03 22	704	0.1-	1.5+	1998 04 21	704	1.2-	0.4-
1997 01 09	411	1.1+	0.8-	1998 03 22	704	(6.0-	1.6+)	1998 04 21	704	1.5-	0.4-
1997 01 09	411	1.0+	0.6-	1998 03 24	704	0.5+	0.1+	1998 04 22	704	0.6-	0.3-
1997 01 10	691	0.9-	0.0	1998 03 24	704	0.2+	0.0	1998 04 22	704	0.1-	0.1-
1997 01 10	691	1.0-	0.2-	1998 03 24	704	0.5+	0.4+	1998 04 22	704	0.2+	0.3-
1997 01 10	691	1.0-	0.3-	1998 03 24	704	0.6+	0.6+	1998 04 22	704	0.6-	0.1+
1997 01 10	411	1.0+	0.2-	1998 03 24	704	0.2-	0.2+	1998 04 22	704	0.2-	0.1+
1997 01 10	411	0.6+	0.3+	1998 03 25	704	1.2+	0.4-				

(8737)* 1997 AL₁₃ = 1983 RB₆ = 1992 DN₁₁

Discovered 1997 Jan. 11 by T. Kobayashi at Oizumi.

Id. S. Nakano (*MPC* 29124)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	319.08285		(2000.0)	$\mathbf{P}$	$\mathbf{Q}$
n	0.17889736	ω	281.90576	+0.03157282	+0.99886379
a	3.1193690	Ω	349.70160	-0.82161498	+0.00559911
e	0.1102208	i	11.51807	-0.56916780	+0.04732635
P	5.51	H	12.0	G 0.15	U 2

Residuals in seconds of arc

1983 09 03	095	1.4+	2.0-	1998 03 25	699	0.5+	0.2+	1998 04 01	732	1.8-	1.1+
1992 02 29	809	0.3+	0.2+	1998 03 25	704	0.5+	0.2-	1998 04 01	732	0.7+	0.1+
1992 03 07	809	0.5+	0.1+	1998 03 25	699	0.4+	0.4+	1998 04 01	704	0.4+	0.3-
1992 04 07	809	0.4-	0.3+	1998 03 25	699	0.6+	0.0	1998 04 01	704	0.3+	0.4+
1997 01 11	411	0.4-	0.5+	1998 03 25	704	0.5+	0.7+	1998 04 01	704	0.4-	0.5+
1997 01 11	411	0.3+	0.7-	1998 03 25	704	0.4+	0.2+	1998 04 01	704	0.9-	0.4-
1997 01 12	411	0.5-	0.4-	1998 03 25	704	0.8-	0.4-	1998 04 01	704	0.9-	0.7-
1997 01 12	411	0.4-	0.1+	1998 03 25	704	0.4-	0.3+	1998 04 02	732	0.6-	0.4+
1997 01 14	411	0.0	0.1-	1998 03 31	704	0.6-	1.4-	1998 04 02	732	0.3+	0.3+
1997 01 14	411	0.0	0.5-	1998 03 31	704	0.7-	0.6-	1998 04 02	732	0.1+	1.1+
1997 01 28	411	0.1-	0.2-	1998 03 31	704	0.0	1.1-	1998 04 20	704	1.0+	0.4+
1997 01 28	411	0.0	0.2+	1998 03 31	704	0.1+	0.7-	1998 04 20	704	0.4+	0.1-
1997 02 12	411	0.1+	0.1-	1998 03 31	704	0.8-	1.0-	1998 04 20	704	0.1-	0.2+
1997 02 12	411	0.2+	0.4-	1998 04 01	732	0.2+	0.8-	1998 04 20	704	0.1+	0.5-

(8738)* 1997 AQ₁₆ = 1979 SK₅ = 1989 TW₁₄

Discovered 1997 Jan. 5 at the Saji Observatory.

Id. S. Nakano (*MPC* 29125)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	231.25744		(2000.0)		P	Q	
n	0.29720622	ω	258.75124		+0.98660349	-0.16304586	
a	2.2238089	Ω	110.63231		+0.15185181	+0.90565532	
e	0.2312139	i	0.33314		+0.05962035	+0.39141344	
P	3.32	H	14.9	G	0.15	U	1

Residuals in seconds of arc

1979 09 23	095	0.1-	0.4+	1997 01 05	867	0.4+	0.3+	1998 03 29	867	0.4-	0.6+
1989 10 02	809	0.2-	0.4+	1997 01 12	867	0.2+	0.2-	1998 03 29	867	0.2+	0.3-
1989 10 02	809	0.3+	0.4+	1997 01 12	867	0.1+	0.1+	1998 04 03	867	0.3-	0.4-
1989 10 02	809	0.7+	0.3+	1997 01 13	867	0.2+	0.5-	1998 04 03	867	0.1-	0.6-
1989 10 03	809	0.8-	0.3+	1997 01 13	867	0.3+	0.3-	1998 04 03	867	0.1-	0.3-
1989 10 03	809	0.1-	0.2+	1997 01 13	867	0.3+	0.4-	1998 04 21	704	0.2+	0.6+
1989 10 03	809	0.6+	0.2+	1997 01 19	867	0.1+	0.1+	1998 04 21	704	0.6+	0.5+
1989 10 04	809	0.7-	0.6-	1997 01 19	867	0.8+	0.6+	1998 04 21	704	1.2+	1.7-
1989 10 04	809	0.3-	0.5-	1997 01 19	867	0.5-	0.3-	1998 04 21	704	(3.9-	0.5+)
1989 10 04	809	0.3+	0.6-	1997 02 09	867	0.1-	0.0	1998 04 22	704	1.1-	0.2+
1996 12 08	327	0.6-	0.2-	1997 02 09	867	0.1+	0.1+	1998 04 22	704	0.3+	0.5+
1996 12 08	327	0.5-	0.2+	1997 03 04	867	1.5-	0.8+	1998 04 22	704	(2.1+	1.1+)

1996 12 08	327	0.0	0.2-	1997 03 04	867	0.2+	0.1-	1998 04 22	704	0.4+	1.5+
1997 01 05	867	0.1+	0.4+	1998 03 29	867	0.7-	0.1-	1998 04 22	704	(5.1-	1.1+)

(8739)* 1997 BE₃ = 1972 TM₉ = 1976 GS₂ = 1978 WX₅

Discovered 1997 Jan. 30 by T. Kobayashi at Oizumi.

Id. S. Nakano (*MPC* 29637)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	261.39519		(2000.0)	P	Q
n	0.17795767	ω	265.57491	+0.85583256	+0.51191373
a	3.1303404	Ω	63.61789	-0.43567889	+0.79066868
e	0.2401695	i	4.74642	-0.27880912	+0.33583831
P	5.54	H	12.3	G 0.15	U 1

Residuals in seconds of arc

1972 10 09	033	0.4+	0.2-	1998 03 20	704	0.1-	0.7-	1998 04 22	704	0.2-	0.3-
1972 10 09	033	0.9+	1.0-	1998 03 20	704	0.7+	1.0-	1998 04 22	704	0.1-	0.2-
1972 10 09	033	0.2+	0.9-	1998 03 20	704	0.5+	0.9-	1998 04 22	704	1.0+	0.5+
1972 10 09	033	0.5+	0.9-	1998 03 20	704	0.2-	0.6-	1998 04 22	704	0.6+	0.4+
1972 10 10	033	0.5+	0.9-	1998 03 22	704	0.3-	0.5-	1998 04 24	734	0.3+	0.3-
1972 10 10	033	0.1+	1.1-	1998 03 22	704	0.5-	0.5-	1998 04 24	734	1.1+	1.0-
1976 04 01	095	2.0+	1.1+	1998 03 22	704	0.0	0.2+	1998 04 24	734	0.1+	0.3+
1978 11 29	675	0.9-	0.7-	1998 03 22	704	0.3+	0.1-	1998 04 24	734	0.1-	0.1-
1978 11 30	675	0.7-	0.3-	1998 03 22	704	1.1-	0.7-	1998 04 24	734	0.3+	0.0
1994 08 03	675	0.2+	0.3+	1998 04 18	691	1.5-	0.3+	1998 04 24	734	1.0+	0.6+
1994 08 03	675	0.0	0.8+	1998 04 18	691	1.4-	0.2-	1998 04 26	734	(2.3-	0.1+)
1997 01 30	411	1.0+	0.3-	1998 04 18	691	1.5-	0.3-	1998 04 26	734	1.3-	0.4-
1997 01 30	411	0.3+	0.4-	1998 04 19	704	0.5+	0.1+	1998 04 26	734	(2.9-	1.0-)
1997 01 31	411	0.5+	0.1-	1998 04 19	704	0.1+	0.4+	1998 04 26	734	(1.5-	2.5-)
1997 01 31	411	0.1-	0.2-	1998 04 19	704	0.3-	1.0-	1998 04 28	691	1.1-	0.3-
1997 02 06	411	0.2-	1.5+	1998 04 19	704	0.8+	0.0	1998 04 28	691	1.2-	0.2-
1997 02 06	411	0.4+	0.2+	1998 04 20	704	0.1+	0.4-	1998 04 28	691	1.3-	0.4-
1997 02 14	411	1.1+	0.3+	1998 04 20	704	1.2+	0.2-	1998 05 03	691	1.6-	0.0
1997 02 14	411	0.6+	0.0	1998 04 20	704	1.0+	0.5-	1998 05 03	691	1.6-	0.3+
1997 02 26	411	0.6+	1.0-	1998 04 20	704	0.6+	0.0	1998 05 03	691	1.5-	0.1+
1997 02 26	411	0.6-	1.0+	1998 04 20	704	0.5-	0.6+				
1998 03 20	704	0.4-	0.2-	1998 04 22	704	0.2+	0.5-				

(8740)* 1998 AS₈ = 1991 UY₂ = 1993 BN₁₃ = 1996 VN₃₈

Discovered 1998 Jan. 12 at Klet.

Id. G. V. Williams (*MPC* 31261)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	95.18121		(2000.0)	P	Q
n	0.20050806	ω	253.76070	+0.27246802	-0.96216481
a	2.8910004	Ω	180.42835	+0.89473156	+0.25346509
e	0.0062299	i	1.86487	+0.35385960	+0.09997163
P	4.92	H	13.4	G 0.15	U 2

Residuals in seconds of arc

1991 10 31	399	0.5+	0.5+	1998 01 13	046	0.2+	0.0	1998 01 29	566	0.3+	0.1-
1991 10 31	399	0.6+	1.7-	1998 01 13	046	0.2+	0.2-	1998 01 29	566	0.2+	0.3+
1991 11 04	399	0.1+	1.2+	1998 01 13	046	0.1-	0.2-	1998 01 29	566	0.2+	0.3-
1991 11 04	399	1.4-	0.5-	1998 01 13	046	0.1+	0.3-	1998 02 01	046	0.2-	0.1-
1991 11 09	399	(1.8-	2.4-)	1998 01 13	046	0.3+	0.3-	1998 02 01	046	0.2+	0.2-
1991 11 09	399	1.0+	0.9-	1998 01 17	046	0.2+	0.4-	1998 02 01	046	0.2+	0.1-
1993 01 22	809	0.9+	1.3-	1998 01 17	046	0.8+	0.0	1998 02 05	046	0.3+	0.2+
1993 01 22	809	0.2-	1.1-	1998 01 17	046	0.5+	0.3-	1998 02 05	046	0.5+	0.3+
1993 01 22	809	0.1-	1.4-	1998 01 24	566	0.3+	0.3+	1998 02 06	046	0.3+	0.2+
1993 01 28	809	0.5-	0.9-	1998 01 24	566	0.5+	0.2+	1998 02 19	699	0.2+	0.6-
1993 01 28	809	(2.4-	1.5-)	1998 01 24	566	0.3+	0.3+	1998 02 19	699	0.1+	0.1-
1993 01 28	809	1.9-	1.3-	1998 01 25	098	(3.2-	0.8+)	1998 02 19	699	0.1-	1.5+

1998 01 12	046	0.1+	0.2+	1998 01 27	098	0.5+	0.1+	1998 04 09	046	0.5-	0.2+
1998 01 12	046	0.3+	0.2+	1998 01 27	046	0.2+	0.3+	1998 04 11	046	0.4-	0.3+
1998 01 13	046	0.1+	0.0	1998 01 27	046	0.1+	0.2+	1998 04 11	046	0.5-	0.4+
1998 01 13	046	0.1+	0.0	1998 01 27	046	0.0	0.2+	1998 04 11	046	0.2-	0.3+

(8741)* 1998 BR₈ = 1977 DZ₅ = 1982 BG₄ = 1996 YG₃

Discovered 1998 Jan. 25 by T. Kobayashi at Oizumi.

Id. K. Ichikawa (*MPC* 31399)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Nakano			
<i>M</i>	40.78096	(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	0.18818243	ω	155.03515	-0.69638324		-0.71522761	
<i>a</i>	3.0158982	Ω	338.93743	+0.62772050		-0.56707107	
<i>e</i>	0.0463449	<i>i</i>	9.47471	+0.34787549		-0.40850933	
<i>P</i>	5.24	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1977 02 19	381	1.0+	0.1-	1997 01 11	327	0.5+	0.2-	1998 02 26	699	0.5-	1.2+
1977 02 19	381	0.4-	0.0	1997 01 11	327	0.4+	0.5-	1998 02 26	699	0.2+	0.4+
1982 01 26	381	0.9-	0.6-	1997 01 11	327	0.5-	0.2-	1998 02 26	699	0.7+	0.1+
1982 01 26	381	(4.0-	0.5-)	1998 01 24	566	0.0	0.1+	1998 03 03	704	1.2-	1.2-
1995 08 26	557	0.1-	0.3-	1998 01 24	566	0.3+	0.1+	1998 03 03	704	0.5+	0.5+
1995 08 26	557	0.4+	0.5-	1998 01 24	566	0.1-	0.1+	1998 03 03	704	0.4+	0.6-
1995 08 26	557	0.1+	0.5-	1998 01 25	411	0.5-	0.1+	1998 03 03	704	0.3+	0.2-
1995 08 26	557	0.5+	0.3-	1998 01 25	411	0.7-	0.2+	1998 03 03	704	0.2-	0.8-
1996 12 24	327	0.7-	0.3+	1998 01 26	411	0.2+	0.4-	1998 03 04	704	0.2+	0.1-
1996 12 24	327	0.8-	0.3+	1998 01 26	411	0.2-	0.2+	1998 03 04	704	0.3-	0.3+
1996 12 24	327	0.1-	0.3+	1998 01 31	411	0.1+	0.4-	1998 03 04	704	0.5+	1.1-
1996 12 27	327	0.4+	0.1+	1998 01 31	411	0.2-	0.0	1998 03 04	704	0.1+	0.3-
1996 12 27	327	0.3+	0.2+	1998 02 21	411	0.0	0.6+	1998 03 04	704	0.2-	0.0
1996 12 27	327	0.5+	0.2+	1998 02 21	411	0.1-	0.1-				

(8742)* 1998 CB₂ = 1980 TD₁₀ = 1987 YK₁ = 1990 UG₁₃ = 1990 VP₉

Discovered 1998 Feb. 14 by V. S. Casulli at Colleverde di Guidonia.

Id. G. V. Williams (*MPC* 31404)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	95.07953	(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	0.30367919	ω	334.01027	+0.09910352		-0.99398378	
<i>a</i>	2.1920949	Ω	110.27291	+0.92141218		+0.07397020	
<i>e</i>	0.0762019	<i>i</i>	2.84956	+0.37573672		+0.08077531	
<i>P</i>	3.25	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1980 10 15	095	0.6+	1.3-	1998 02 17	596	0.2-	0.5+	1998 03 04	704	0.5-	0.6-
1987 12 25	033	0.9+	1.1+	1998 02 24	596	0.0	0.4-	1998 03 04	704	0.2-	0.3-
1987 12 25	033	0.2-	0.9+	1998 02 24	596	1.5+	0.0	1998 03 04	704	0.3-	0.9-
1988 01 11	033	0.4-	0.4-	1998 02 24	596	0.0	0.0	1998 03 04	704	0.5-	0.8-
1988 01 11	033	0.4-	0.9-	1998 02 26	566	0.2+	0.0	1998 03 16	596	0.5+	0.4+
1990 10 23	095	1.6-	0.6+	1998 02 26	566	0.1-	0.2+	1998 03 16	596	0.5+	0.5+
1990 11 13	046	1.6+	0.0	1998 02 26	566	0.1-	0.1-	1998 03 16	596	0.6+	0.6+
1990 11 13	046	0.1-	0.8-	1998 03 03	704	0.1-	0.0	1998 04 04	725	0.2+	0.1-
1998 02 14	596	1.2+	0.5+	1998 03 03	704	0.2-	0.8-	1998 04 04	725	0.1+	0.0
1998 02 14	596	(0.1+	2.4+)	1998 03 03	704	0.7-	0.3-	1998 04 05	725	0.2-	0.0
1998 02 14	596	0.4-	1.9+	1998 03 03	704	0.1+	0.9-	1998 04 05	725	0.6-	0.5+
1998 02 15	596	0.8+	0.6-	1998 03 03	704	0.7-	0.6-	1998 04 25	609	0.2+	0.9-
1998 02 15	596	0.0	0.0	1998 03 03	596	0.3+	0.8-	1998 04 25	609	0.2-	0.1+
1998 02 15	596	0.1-	1.9+	1998 03 03	596	0.2-	0.5-	1998 04 25	609	0.1-	0.6+
1998 02 17	596	0.4-	0.1+	1998 03 03	596	0.1-	0.3-				
1998 02 17	596	0.2-	0.0	1998 03 04	704	0.5-	0.4-				

(8743)* 1998 EH₁₂ = 1967 GG₁ = 1977 QR₁ = 1984 MU = 1985 QU₆
= 1993 SE₄ = 1997 EQ₅₉

Discovered 1998 Mar. 1 by E. W. Elst at the European Southern Observatory.

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Marsden			
<i>M</i>	280.52067	(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	0.12605521	ω	135.46917	+0.25490067		+0.95524277	
<i>a</i>	3.9393888	Ω	148.38797	-0.94772016		+0.27761941	
<i>e</i>	0.1587329	<i>i</i>	16.64280	-0.19196914		-0.10216999	
<i>P</i>	7.82	<i>H</i>	11.5	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1967 04 11	033	1.2-	1.2+	1998 02 26	566	0.3-	1.0+	1998 03 25	704	0.5+	0.7-
1967 04 11	033	2.1+	0.8-	1998 02 26	566	0.5-	0.9+	1998 03 25	704	0.6+	0.1-
1977 08 19	095	0.5+	1.2-	1998 02 26	566	0.3-	0.9+	1998 03 25	704	0.2+	0.1+
1984 06 29	095	1.6-	0.1+	1998 03 01	809	(2.7+	0.4-)	1998 03 25	704	0.1+	0.2+
1985 08 24	095	0.8-	1.4+	1998 03 01	809	(3.0+	0.2+)	1998 03 25	704	0.5+	0.2-
1993 09 18	033	0.1+	0.1-	1998 03 01	809	(2.4+	1.0+)	1998 04 22	012	0.1-	0.3+
1993 09 18	033	0.7-	0.1-	1998 03 02	809	(4.2+	0.8+)	1998 04 22	012	0.2-	0.4-
1993 09 21	033	(15.5-	14.9-)	1998 03 02	809	(4.3+	0.5+)	1998 04 22	012	0.1+	0.1-
1993 09 23	675	0.9+	0.2-	1998 03 02	809	(4.0+	0.5+)	1998 04 29	566	0.0	0.2+
1993 09 23	675	1.4+	0.4+	1998 03 24	704	0.3+	0.8-	1998 04 29	566	0.2-	0.1-
1997 03 13	691	1.0-	0.1-	1998 03 24	704	0.0	0.5-	1998 04 29	566	0.1-	0.0
1997 03 13	691	0.7-	0.2-	1998 03 24	704	0.9+	0.4-				
1997 03 13	691	0.9-	0.3-	1998 03 24	704	0.2+	0.9-				

(8744)* 1998 FE₅₉ = 1979 VL₂ = 1984 SD₇ = 1990 UF₁₃ = 1990 WN₉
= 1992 EZ₁₈

Discovered 1998 Mar. 20 by the Lincoln Near-Earth Asteroid Research Team

at Socorro.

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	121.39586	(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	0.17782378	ω	332.46808	+0.39349602		-0.91820606	
<i>a</i>	3.1319116	Ω	94.32996	+0.85161084		+0.34547767	
<i>e</i>	0.1687172	<i>i</i>	2.60790	+0.34629447		+0.19375969	
<i>P</i>	5.54	<i>H</i>	13.3	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1979 11 14	095	0.6+	0.9-	1998 03 20	704	0.4-	0.7+	1998 03 26	566	0.3-	0.3-
1984 09 23	071	0.5-	0.1-	1998 03 20	704	0.4-	0.5+	1998 04 20	704	0.6+	0.7-
1984 09 24	071	0.1+	0.2+	1998 03 20	704	0.1-	0.0	1998 04 20	704	0.1-	0.3+
1990 10 23	095	0.3-	0.2-	1998 03 20	704	0.1-	0.8-	1998 04 20	704	0.7+	1.2+
1990 11 20	809	0.6+	0.4+	1998 03 20	704	1.4-	1.2-	1998 04 20	704	(2.2-	2.1+)
1990 11 20	809	0.3+	0.1+	1998 03 22	704	0.5+	0.3+	1998 04 20	704	0.4-	1.5-
1990 11 20	809	0.5-	0.3-	1998 03 22	704	0.8+	0.8-	1998 04 22	704	0.7+	0.7+
1992 03 01	809	0.5-	0.9+	1998 03 22	704	0.3+	0.5-	1998 04 22	704	0.3+	0.5+
1992 03 04	809	0.2+	1.3+	1998 03 22	704	1.8+	0.9-	1998 04 22	704	0.3+	0.2-
1998 01 31	910	0.3-	0.3+	1998 03 22	704	0.1-	0.9-	1998 04 22	704	0.3+	1.2+
1998 01 31	910	0.4-	0.4+	1998 03 26	566	0.4-	0.4-	1998 04 22	704	1.7-	0.2+
1998 01 31	910	0.1-	0.4+	1998 03 26	566	0.2-	0.7-				

(8745)* 1998 FO₆₅ = 1972 GG₁ = 1978 TH₁ = 1987 UO₁ = 1991 RN₃₅
= 1991 RA₃₈

Discovered 1998 Mar. 20 by the Lincoln Near-Earth Asteroid Research Team

at Socorro.

Id. G. V. Williams, A. Lowe

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	77.15256	(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	0.22827783	ω	192.41469	-0.70195845		-0.71018853	
<i>a</i>	2.6515117	Ω	302.19919	+0.65875673		-0.61874259	
<i>e</i>	0.0412304	<i>i</i>	3.64027	+0.27072847		-0.33584201	
<i>P</i>	4.32	<i>H</i>	13.2	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1972 04 12	095	0.1-	0.0	1998 03 20	704	0.2+	0.8-	1998 04 18	704	0.5+	0.8+
1978 10 02	095	0.4+	1.2+	1998 03 22	704	1.3-	0.6+	1998 04 18	704	0.0	0.9+
1978 10 08	095	1.2-	0.6+	1998 03 22	704	1.3-	0.0	1998 04 18	704	1.6-	0.1+
1987 10 25	399	1.0+	0.9+	1998 03 22	704	1.8-	0.6-	1998 04 19	704	1.2+	0.5-

M.P.C. 31698

1987 10 25	399	0.7+	1.0+	1998 03 22	704	1.6-	0.6-	1998 04 19	704	1.1+	0.1-
1987 10 25	399	0.7-	0.1+	1998 03 22	704	1.3-	0.2+	1998 04 19	704	0.8+	1.8-
1987 10 28	399	2.0-	0.7-	1998 03 31	704	0.0	0.5+	1998 04 19	704	0.3+	0.9-
1987 10 28	399	0.9+	0.8-	1998 03 31	704	0.2-	0.1+	1998 04 20	704	1.3+	0.2-
1987 10 28	399	(3.3+ 0.9-)		1998 03 31	704	0.1+	0.3+	1998 04 20	704	0.8+	0.0
1991 09 13	675	(0.3+ 12.5-)		1998 03 31	704	(2.1- 1.9+)		1998 04 20	704	0.6+	0.0
1991 09 13	675	0.7+	1.0-	1998 03 31	704	0.3-	0.6+	1998 04 20	704	1.4+	0.7-
1991 09 15	675	0.5+	0.7-	1998 04 01	704	0.7-	0.2+	1998 04 20	704	0.6+	0.5-
1991 09 15	675	0.1-	1.1-	1998 04 01	704	1.1-	0.6+	1998 04 22	704	1.2+	0.2-
1998 03 20	704	0.4-	0.2-	1998 04 01	704	0.9-	0.4+	1998 04 22	704	0.6+	0.4+
1998 03 20	704	0.1-	0.3-	1998 04 01	704	0.3-	0.9+	1998 04 22	704	0.8+	0.1+
1998 03 20	704	0.1+	0.6-	1998 04 01	704	(1.4- 3.6+)		1998 04 22	704	0.4+	0.1+
1998 03 20	704	0.8+	0.3-	1998 04 18	704	0.7+	0.9+	1998 04 22	704	0.5-	0.0

(8746)* 1998 FL₆₈ = 1975 EH₄ = 1978 SG₃ = 1979 YF₉ = 1986 AP₂
= 1990 VY₁₁ = 1992 EN

Discovered 1998 Mar. 20 by the Lincoln Near-Earth Asteroid Research Team at Socorro.

Id. G. V. Williams (*MPC* 31572)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	96.90464		(2000.0)		P		Q
<i>n</i>	0.17461862	ω	100.83324		-0.13115521		-0.99134999
<i>a</i>	3.1701198	Ω	356.69153		+0.87358129		-0.11325977
<i>e</i>	0.1590553	<i>i</i>	4.81882		+0.46867264		-0.06631303
<i>P</i>	5.64	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1975 03 15	095	(1.0- 7.3+)	1998 03 03	704	(1.6- 2.3-)	1998 04 04	699	0.0	0.4+		
1978 09 26	095	0.9+	1.5-	1998 03 03	704	(2.2- 1.2-)	1998 04 04	699	0.8+	0.2+	
1979 12 25	095	(4.5- 3.2+)	1998 03 20	704	0.1+	0.2+	1998 04 04	699	0.4+	1.0+	
1986 01 12	688	0.1+	0.2+	1998 03 20	704	0.9-	0.3-	1998 04 18	704	0.6+	0.2+
1986 01 12	688	0.5+	1.6+	1998 03 20	704	0.8-	0.5+	1998 04 18	704	0.3+	0.6-
1990 11 14	809	0.0	0.5-	1998 03 20	704	1.2-	0.6+	1998 04 18	704	0.3-	0.6-
1990 11 14	809	0.3-	0.2-	1998 03 22	704	0.1+	0.1-	1998 04 18	704	(2.1- 0.6-)	
1990 11 14	809	0.2+	0.7-	1998 03 22	704	0.6-	0.5-	1998 04 20	704	1.9+	0.2+
1992 03 01	809	1.6-	0.2-	1998 03 22	704	1.1-	1.5+	1998 04 20	704	0.1+	0.2+
1992 03 03	809	1.4-	1.4-	1998 03 22	704	0.5-	1.1-	1998 04 20	704	1.5+	0.1+
1992 03 06	809	0.4+	0.4-	1998 03 22	704	(3.7- 0.5-)		1998 04 20	704	1.0+	0.2+
1992 03 06	372	0.6+	0.3-	1998 03 22	699	1.7-	0.6-	1998 04 20	704	0.4-	0.1-
1992 03 06	372	0.3-	0.0	1998 03 22	699	0.5-	0.4-	1998 04 22	704	0.9+	0.8-
1992 03 07	372	1.9+	0.1+	1998 03 22	699	(2.4- 0.0)		1998 04 22	704	1.0+	0.0
1995 09 26	098	0.7-	0.4-	1998 03 24	699	0.8-	0.6-	1998 04 22	704	0.0	0.0
1995 09 26	098	(2.5- 2.3-)		1998 03 24	699	0.4+	0.0	1998 04 22	704	0.7+	1.3+
1996 01 22	704	0.5+	0.9+	1998 03 24	699	0.6-	0.2-	1998 04 22	704	0.1+	0.2+
1996 01 22	704	0.8+	0.2+	1998 04 01	704	0.5+	0.0	1998 05 02	566	0.3-	0.4-
1996 01 22	704	0.1+	0.2+	1998 04 01	704	0.4+	0.2-	1998 05 02	566	0.6-	0.6-
1998 03 03	704	0.4-	0.3+	1998 04 01	704	1.5-	0.1+	1998 05 02	566	0.8+	0.3+
1998 03 03	704	0.3+	0.5-	1998 04 01	704	0.4-	0.1-				
1998 03 03	704	(2.2- 2.9-)		1998 04 01	704	0.4-	0.7-				

(8747)* 1998 FS₇₃ = 1973 SV₅ = 1978 NQ₃ = 1978 RY₁ = 1984 UN₄
= 1989 RX₂ = 1037 T-1

Discovered 1998 Mar. 24 by T. Okuni at Nanyou.

Id. S. Nakano

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	239.88268		(2000.0)		P		Q
<i>n</i>	0.18475890	ω	153.43354		+0.97474748		+0.21707019
<i>a</i>	3.0530399	Ω	194.32417		-0.22321520		+0.95394802
<i>e</i>	0.1368794	<i>i</i>	12.23245		+0.00650650		+0.20703553
<i>P</i>	5.33	<i>H</i>	12.1	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1971 03 24	675	0.8+	2.3-	1998 03 24	704	0.2-	0.7+	1998 04 04	358	0.3-	0.6-
1971 03 25	675	0.7-	0.3-	1998 03 24	358	0.8-	0.4+	1998 04 20	704	(3.4- 1.5-)	

1998 MAY 11

1971 03 25	675	1.1-	1.8-	1998 03 24	358	(2.9- 0.5+)	1998 04 20	704	0.7-	0.5-	
1971 03 26	675	0.7-	2.3-	1998 03 25	699	0.7+	0.7+	1998 04 20	704	0.2+	1.0-
1971 03 27	675	0.0	1.9-	1998 03 25	699	0.6-	0.7+	1998 04 20	704	0.6-	0.7-
1973 09 28	095	(1.8- 7.6+)		1998 03 25	699	0.3+	0.7+	1998 04 21	704	0.2-	0.4-
1978 07 12	095	0.7+	1.6-	1998 03 25	704	0.1-	0.1+	1998 04 21	704	0.5-	0.2+
1978 09 07	095	0.7-	0.9+	1998 03 25	704	0.2+	0.6+	1998 04 21	704	0.3+	1.1-
1984 10 20	095	(5.6- 1.8-)		1998 03 25	704	0.2-	0.0	1998 04 21	704	0.8-	0.4-
1989 09 07	046	1.3+	0.2+	1998 03 25	704	0.9+	1.4+	1998 04 21	704	0.5+	0.8-
1989 09 07	046	0.7+	0.5+	1998 03 25	704	0.4-	1.2+	1998 04 22	704	0.3-	0.2-
1989 09 09	046	0.3+	2.1-	1998 03 31	358	1.1+	0.4+	1998 04 22	704	0.5+	0.1+
1989 09 09	046	1.4-	1.9-	1998 03 31	358	0.4+	0.6+	1998 04 22	704	0.0	0.7-
1998 03 24	704	0.1-	0.7+	1998 04 03	358	(2.0+ 0.3-)		1998 04 22	704	0.4+	0.2-
1998 03 24	704	1.2-	0.5+	1998 04 03	358	0.0	0.2-	1998 04 22	704	0.6-	0.0
1998 03 24	704	0.0	0.4+	1998 04 04	358	1.0+	0.4+				
1998 03 24	704	0.2+	0.4+	1998 04 04	358	1.4+	1.5+				

(8748)* 1998 FV₁₁₃ = 1977 XM₂ = 1980 PX₄ = 1984 SO = 1988 VA₁₄

Discovered 1998 Mar. 31 by the Lincoln Near-Earth Asteroid Research Team

at Socorro.

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	279.34550		(2000.0)		P		Q
<i>n</i>	0.26205261	ω	47.68689		+0.66074106		+0.74547394
<i>a</i>	2.4184868	Ω	263.88859		-0.71201225		+0.58548691
<i>e</i>	0.1171223	<i>i</i>	5.05967		-0.23761273		+0.31854935
<i>P</i>	3.76	<i>H</i>	13.7	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1977 12 07	675	0.1+	0.6+	1998 03 31	704	(1.3- 2.6-)	1998 04 19	704	0.6+	0.5+	
1977 12 08	675	0.2-	0.1-	1998 04 01	704	0.6-	0.4+	1998 04 19	704	0.4-	0.0
1980 08 04	675	0.6-	0.7-	1998 04 01	704	0.8-	0.0	1998 04 19	704	0.7-	1.4-
1980 08 05	675	0.9+	0.1+	1998 04 01	704	0.2-	0.3+	1998 04 20	704	0.5+	0.6+
1984 09 24	054	0.8-	0.7+	1998 04 01	704	0.5-	0.3+	1998 04 20	704	0.5+	0.0
1984 09 29	054	0.2-	1.7+	1998 04 01	704	0.4-	0.2+	1998 04 20	704	0.7+	0.2-
1988 11 04	327	1.3-	0.7-	1998 04 18	704	0.2-	0.7-	1998 04 20	704	0.3+	0.1-
1988 11 04	327	1.6+	0.2-	1998 04 18	704	0.2-	0.6+	1998 04 20	704	0.4+	0.5+
1998 03 31	704	0.0	0.4+	1998 04 18	704	0.5+	0.5-	1998 04 22	704	0.1+	0.0
1998 03 31	704	1.0-	0.1+	1998 04 18	704	(3.1- 2.6+)		1998 04 22	704	0.7+	0.3+
1998 03 31	704	0.1-	0.9+	1998 04 19	704	0.1+	0.7+	1998 04 22	704	0.9+	1.0-
1998 03 31	704	0.9-	0.6-	1998 04 19	704	0.5+	0.8+	1998 04 22	704	0.9+	0.8-

(8749)* 1998 GJ₁₀ = 1984 CH₁ = 1986 TW₁₅ = 1986 UD₁ = 1991 ED₅
= 1996 TN₅₀

Discovered 1998 Apr. 3 by F. B. Zoltowski at Reedy Creek.

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	125.50019		(2000.0)		P		Q
<i>n</i>	0.29125000	ω	110.21746		+0.05023512		-0.99847065
<i>a</i>	2.2540252	Ω	336.86654		+0.89299617		+0.05525413
<i>e</i>	0.1883162	<i>i</i>	3.36818		+0.44725192		+0.00182574
<i>P</i>	3.38	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1984 01 26	688	1.5+	0.2+	1996 10 04	809	0.4-	1.1+	1998 04 04	699	(2.8+	0.1-)
1984 01 26	688	0.3-	0.1-	1996 10 04	809	1.0-	1.0+	1998 04 04	428	0.5-	0.4+
1984 02 04	688	0.1+	0.1+	1996 10 05	809	(1.2+	2.5+)	1998 04 04	428	0.1-	0.2+
1984 02 04	688	0.3+	0.1-	1996 10 05	809	(0.4+	2.5+)	1998 04 05	428	0.3-	0.9+
1986 10 07	095	0.7-	1.1-	1996 10 05	809	(0.4-	3.1+)	1998 04 21	704	0.1+	0.3+
1986 10 29	054	0.4-	0.0	1998 04 01	704	0.7+	0.0	1998 04 21	704	0.3-	0.6-
1986 10 29	054	0.9+	0.4-	1998 04 01	704	0.0	0.5-	1998 04 21	704	0.4+	0.6-
1991 03 13	809	0.3+	0.5-	1998 04 01	704	0.3+	0.6+	1998 04 21	704	0.4-	0.0
1991 03 13	809	0.8+	0.4-	1998 04 01	704	0.6+	0.8-	1998 04 21	704	0.4+	0.0
1991 03 13	809	1.2+	0.4-	1998 04 01	704	0.7+	0.6-	1998 04 22	704	0.3-	0.0
1991 03 15	809	1.9-	1.2+	1998 04 03	428	0.1-	0.7+	1998 04 22	704	0.0	0.0
1991 03 15	809	1.5-	1.3+	1998 04 03	428	0.4+	0.5+	1998 04 22	704	0.4-	0.1-
1991 03 15	809	1.3-	1.2+	1998 04 04	699	1.8+	0.3+	1998 04 22	704	0.1+	0.3-
1996 10 04	809	0.1+	1.2+	1998 04 04	699	(2.2+	0.2-)	1998 04 22	704	0.6-	0.0

(8750)* 2197 P-L = 1980 WY₃

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. G. V. Williams (*MPC* 18830)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	310.36700	ω	90.31251	+0.24667331	+0.96893617		
<i>a</i>	2.4773429	Ω	194.00676	-0.91574913	+0.22706215		
<i>e</i>	0.1763699	<i>i</i>	4.20508	-0.31710535	+0.09800758		
<i>P</i>	3.90	<i>H</i>	14.2	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1960 09 24	675	1.0+	2.1-	1995 08 18	596	0.1+	0.0	1998 03 22	704	0.9-	1.1+
1960 09 24	675	0.2-	1.0-	1995 08 18	596	0.3+	0.1+	1998 04 01	704	0.2-	0.2+
1960 09 26	675	0.9+	1.6-	1998 03 18	426	0.1-	0.3-	1998 04 01	704	0.4+	0.6+
1960 09 28	675	0.7+	0.7+	1998 03 18	426	0.3-	0.4-	1998 04 01	704	0.8-	0.4+
1960 09 29	675	0.2+	0.5-	1998 03 18	426	0.3-	0.2-	1998 04 01	704	0.4-	0.7+
1960 10 17	675	0.1-	0.8-	1998 03 20	704	0.2+	0.0	1998 04 01	704	0.5-	1.6+
1960 10 22	675	0.3-	0.8-	1998 03 20	704	0.0	0.4+	1998 04 19	704	1.0+	0.9-
1960 10 25	675	0.3+	0.3-	1998 03 20	704	0.0	0.1+	1998 04 19	704	0.3+	1.1-
1960 10 26	675	0.1+	0.4-	1998 03 20	704	0.2+	0.3-	1998 04 19	704	0.7+	1.2-
1980 11 29	675	0.3+	0.7-	1998 03 20	704	0.5-	0.6-	1998 04 19	704	0.2+	1.3-
1980 12 01	675	0.2+	1.0-	1998 03 20	426	0.2-	0.1+	1998 04 19	704	0.1+	1.8-
1991 08 08	675	0.1-	1.0-	1998 03 20	426	0.2+	0.2-	1998 04 20	704	0.4+	1.3-
1991 08 08	675	1.1-	0.6-	1998 03 20	426	0.1+	0.0	1998 04 20	704	0.0	0.8-
1991 09 14	675	0.5+	0.1+	1998 03 22	704	0.6+	0.2+	1998 04 20	704	0.5+	0.3-
1991 09 14	675	0.4+	0.3-	1998 03 22	704	0.4-	0.0	1998 04 20	704	0.3+	2.0-
1994 03 16	691	1.7-	0.6-	1998 03 22	704	0.1+	0.3-	1998 04 20	704	0.4-	1.1-
1994 03 16	691	1.7-	0.2-	1998 03 22	704	(2.6+	1.9+)				

(8751)* 2594 P-L = 1979 OE₁

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. K. Hurukawa (*MPC* 9298)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	305.67415	ω	145.60132	+0.41908699	+0.90766901		
<i>a</i>	2.8969888	Ω	149.15814	-0.84254704	+0.39798728		
<i>e</i>	0.0423639	<i>i</i>	2.50745	-0.33834980	+0.13320318		
<i>P</i>	4.93	<i>H</i>	14.6	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1960 09 24	675	0.3+	0.9+	1993 04 17	675	(2.1+	0.4+)	1997 01 02	691	0.2+	0.0
1960 09 26	675	0.1+	0.7-	1993 04 17	675	0.6+	1.0-	1998 03 23	691	1.6-	0.8-
1960 09 28	675	0.2+	0.5+	1994 06 07	691	0.4+	0.9-	1998 03 23	691	1.9-	0.4+
1960 09 29	675	0.3+	0.2-	1994 06 07	691	0.1-	0.4-	1998 03 23	691	1.8-	0.1-
1960 10 17	675	0.9-	0.1+	1994 06 07	691	0.0	0.6-	1998 04 22	704	1.1+	0.6+
1960 10 22	675	0.7-	0.1+	1994 06 08	691	0.2+	0.1-	1998 04 22	704	1.1+	1.2+
1960 10 25	675	0.0	0.7+	1994 06 08	691	0.2-	0.2+	1998 04 22	704	(1.0+	3.4-)
1960 10 26	675	0.3-	0.2+	1994 06 08	691	0.0	0.0	1998 04 22	704	0.5+	0.7+
1979 07 24	675	(2.8-	0.5-)	1994 06 10	691	0.2+	0.0	1998 04 22	704	0.2-	0.2+
1979 07 24	413	1.8+	0.1-	1994 06 10	691	0.2+	0.1+	1998 04 30	566	0.7+	0.3-
1979 07 25	675	1.8-	0.6+	1997 01 02	691	0.1-	0.1+	1998 04 30	566	0.8+	0.3+
1979 07 27	675	(3.7+	1.2-)	1997 01 02	691	0.0	0.0	1998 04 30	566	0.4+	0.2+

(8752)* 2604 P-L = 1984 GB

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. T. Kobayashi (*MPC* 14627)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	333.92099	ω	226.40383	-0.58043819	+0.81426979		
<i>a</i>	2.3325643	Ω	8.12494	-0.73099341	-0.51697443		
<i>e</i>	0.1898600	<i>i</i>	3.04127	-0.35880376	-0.26401166		
<i>P</i>	3.56	<i>H</i>	14.4	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1950 12 11	675	2.4+	2.0-	1984 04 05	071	0.1+	1.1-	1998 02 26	699	0.5+	0.6+
1950 12 11	675	1.5-	0.4-	1989 11 22	675	1.4+	0.4-	1998 02 26	699	0.1+	0.8+
1960 09 24	675	1.0+	0.9-	1989 11 22	675	0.0	0.5+	1998 02 26	699	0.6+	0.9+
1960 09 26	675	0.3+	0.2-	1991 02 13	675	1.6-	0.2+	1998 03 03	704	1.0+	0.5-
1960 09 28	675	1.9-	0.0	1991 02 13	675	1.1-	0.3-	1998 03 03	704	0.1+	0.5-
1960 10 17	675	0.5-	0.3+	1991 03 09	675	0.7+	0.3-	1998 03 03	704	0.5+	0.4+
1960 10 22	675	1.2+	1.0-	1991 03 09	675	0.3-	0.5-	1998 03 03	704	0.1-	0.7+
1960 10 22	675	1.6-	0.6-	1991 03 13	046	(3.3-	1.3-)	1998 03 04	704	0.4+	0.5+
1960 10 24	675	0.1+	0.0	1991 03 13	046	(4.9-	0.1+)	1998 03 04	704	0.0	1.0+
1960 10 25	675	0.4+	1.1+	1991 03 14	046	1.7-	0.6-	1998 03 04	704	0.0	0.1+
1960 10 26	675	0.1-	0.1+	1991 03 14	046	1.5-	1.9-	1998 03 04	704	0.3+	0.2+
1960 10 26	675	0.1+	0.0	1991 03 20	801	0.1-	0.1+	1998 03 04	704	0.0	0.3+
1984 03 27	801	0.8+	0.8-	1991 03 20	801	0.2-	0.1+	1998 03 28	725	0.1-	0.1+
1984 04 03	688	(4.2-	2.0-)	1991 03 21	801	0.0	0.3-	1998 03 28	725	0.0	0.2+
1984 04 03	688	(1.5-	2.8-)	1991 03 21	801	0.2-	0.2-	1998 04 02	725	0.6+	1.7+
1984 04 04	071	1.4+	0.1-	1991 04 15	675	0.8-	0.2+				
1984 04 04	071	0.5-	0.6-	1991 04 15	675	0.3-	0.2+				

(8753)* 2636 P-L = 1988 PN

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. S. Nakano (*MPC* 13607)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	346.85439	ω	80.30568	-0.38567008	+0.92256925		
<i>a</i>	2.3207037	Ω	166.99202	-0.86475596	-0.35723189		
<i>e</i>	0.1884154	<i>i</i>	2.84214	-0.32164535	-0.14577843		
<i>P</i>	3.54	<i>H</i>	14.9	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1960 09 24	675	0.5-	0.2-	1994 01 16	010	(2.9+	0.1+)	1998 03 25	699	0.6-	0.0
1960 09 26	675	0.6-	0.3+	1994 01 17	010	1.3-	0.1+	1998 03 25	888	0.2+	0.1+
1960 09 27	675	1.2+	1.7+	1994 01 17	010	0.3-	1.3-	1998 03 25	888	0.0	0.3-
1960 09 28	675	0.1+	0.5-	1994 01 17	010	1.3-	1.2-	1998 03 25	888	0.1-	0.0
1960 10 17	675	1.0+	0.9+	1998 03 20	704	0.2+	0.0	1998 04 19	704	0.1+	0.8-
1960 10 22	675	0.7+	1.2-	1998 03 20	704	0.2+	0.3+	1998 04 19	704	0.2-	0.3-
1960 10 25	675	0.1+	0.3+	1998 03 20	704	0.3+	0.2+	1998 04 19	704	0.3-	0.6-
1960 10 25	675	0.3+	0.3-	1998 03 20	704	0.1+	0.3-	1998 04 19	704	0.6-	0.3+
1960 10 26	675	0.3-	0.4-	1998 03 20	704	0.3+	0.4-	1998 04 20	704	0.1-	0.5-
1988 08 13	413	(12.8-	16.9-)	1998 03 22	704	0.5+	0.6+	1998 04 20	704	0.5+	0.4+
1988 08 14	413	0.7+	1.2-	1998 03 22	704	1.1+	0.1+	1998 04 20	704	0.2-	0.0
1988 08 16	413	0.7-	1.1-	1998 03 22	704	0.5+	0.4+	1998 04 20	704	0.0	0.1+
1988 09 10	675	0.5-	1.0-	1998 03 22	704	0.3+	0.5-	1998 04 20	704	0.2-	0.6-
1988 09 12	675	1.2-	0.3-	1998 03 22	704	0.2+	0.0	1998 04 22	704	0.1-	1.0-
1988 09 12	675	1.5+	0.4+	1998 03 22	905	0.6+	0.3-	1998 04 22	704	0.3-	0.7-
1991 04 14	675	1.4-	1.1+	1998 03 22	905	0.4+	0.3+	1998 04 22	704	0.1+	0.6-
1991 04 14	675	1.7-	1.5+	1998 03 25	699	0.8+	0.8+	1998 04 22	704	0.0	0.6-
1994 01 16	010	(2.7+	0.7-)	1998 03 25	699	0.8+	0.4+	1998 04 22	704	0.5-	1.0-

(8754)* 4521 P-L = 1990 VW₉ = 1992 CD₈ = 1993 HK₆

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. G. V. Williams (*MPC* 22597)

M.P.C. 31700

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	249.55371		(2000.0)	P		Q	
<i>n</i>	0.19929705	ω	7.95831	+0.94546555	+0.32557461		
<i>a</i>	2.9026999	Ω	333.03494	−0.30002199	+0.85875677		
<i>e</i>	0.0783027	<i>i</i>	1.23855	−0.12681364	+0.39564881		
<i>P</i>	4.95	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	1
Residuals in seconds of arc							
1953 04 15	675	0.8+	0.4+	1992 02 09	691	0.6−	0.6−
1953 04 15	675	0.2+	0.3+	1992 02 09	691	0.4−	0.2−
1960 09 24	675	0.3+	0.0	1993 04 18	809	0.7+	0.9−
1960 09 26	675	0.2+	1.7−	1993 04 18	809	1.4+	0.8−
1960 09 27	675	0.2+	0.6+	1993 04 18	809	1.8+	0.8−
1960 09 28	675	0.4+	0.9−	1993 04 24	809	0.1+	0.2+
1960 10 17	675	0.3−	0.0	1993 04 24	809	0.0	0.0
1960 10 22	675	0.7−	0.3+	1993 04 25	809	0.7−	0.9+
1960 10 24	675	0.3−	0.1−	1993 04 25	809	0.6−	1.0+
1960 10 26	675	0.3+	0.4−	1993 04 25	809	0.6−	1.4+
1990 11 11	675	(0.9−	2.9+)	1998 03 25	704	(1.1−	2.6+)
1990 11 11	675	0.2+	0.9+	1998 03 25	704	0.3−	0.4+
1990 11 13	675	0.4+	1.3+	1998 03 25	704	0.3−	0.4+
1990 11 13	675	0.2−	0.1−	1998 03 25	704	0.5−	0.1+
1992 02 09	691	0.6−	0.8−	1998 04 01	704	0.1−	0.2+

(8755)* 4586 P-L = 1992 ET₂₈

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.
Id. G. V. Williams (*MPC* 24114)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	142.96417		(2000.0)	P		Q	
<i>n</i>	0.16979797	ω	334.53657	+0.76303910	−0.64597414		
<i>a</i>	3.2298404	Ω	65.72036	+0.59708711	+0.69137030		
<i>e</i>	0.1263797	<i>i</i>	1.38970	+0.24750415	+0.32361168		
<i>P</i>	5.80	<i>H</i>	12.8	<i>G</i>	0.15	<i>U</i>	1
Residuals in seconds of arc							
1960 09 24	675	0.2−	0.2−	1996 12 08	369	0.3−	0.1+
1960 09 26	675	0.4+	0.2−	1996 12 14	369	0.5−	0.2−
1960 09 27	675	0.3+	0.4+	1996 12 14	369	0.2−	0.1−
1960 09 28	675	0.1−	0.5+	1996 12 19	369	0.3−	0.1−
1960 09 28	675	0.3+	0.8−	1996 12 19	369	0.8+	0.1+
1960 10 17	675	0.2−	0.5+	1996 12 19	369	0.4+	0.0
1960 10 22	675	0.3−	0.5+	1996 12 19	369	0.3+	0.4−
1960 10 25	675	0.3+	0.0	1998 03 20	704	0.1−	0.4−
1960 10 26	675	0.3−	0.3+	1998 03 20	704	0.2+	1.0+
1992 02 29	809	0.5−	0.6+	1998 03 20	704	0.7+	1.1−
1992 03 03	809	1.4−	0.2+	1998 03 20	704	0.9+	1.5−
1992 03 06	691	1.2−	0.4−	1998 03 20	704	0.6+	1.5−
1992 03 06	691	1.4−	0.7−	1998 03 22	704	0.3+	0.0
1992 03 08	809	0.2−	0.4+	1998 03 22	704	0.3+	1.9+
1992 03 09	809	0.2−	0.5+	1998 03 22	704	0.4−	0.0
1992 04 06	809	0.8−	0.2−	1998 03 22	704	0.6−	0.6−
1994 07 08	809	0.6−	0.3−	1998 03 22	704	0.6+	0.1−
1994 07 08	809	0.3−	0.2−	1998 03 24	704	0.1+	0.7−
1994 07 08	809	0.5−	0.1−	1998 03 24	704	0.5+	0.6−
1994 07 09	809	0.0	0.0	1998 03 24	704	0.5+	0.2−
1994 07 09	809	0.4+	0.2−	1998 03 24	704	0.3−	0.1+
1994 07 09	809	0.4+	0.4−	1998 03 24	704	0.1−	0.1+
1996 12 08	369	0.1−	0.2−	1998 03 24	704	0.5−	0.2−

(8756)* 6588 P-L = 1978 WE₁₉

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.
Id. G. V. Williams (*MPC* 19876)

1998 MAY 11

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	142.89450		(2000.0)	P		Q	
<i>n</i>	0.17104925	ω	329.97101	+0.50568265	−0.86264237		
<i>a</i>	3.2140695	Ω	89.65010	+0.79380953	+0.46001021		
<i>e</i>	0.1418204	<i>i</i>	0.66131	+0.33786312	+0.21033011		
<i>P</i>	5.76	<i>H</i>	13.3	<i>G</i>	0.15	<i>U</i>	1
Residuals in seconds of arc							
1960 09 24	675	0.3+	0.5+	1995 09 26	114	1.8+	1.2−
1960 09 26	675	0.2+	0.2+	1995 09 28	114	1.6+	0.5−
1960 09 27	675	0.9+	0.2+	1995 09 29	114	(2.5−	1.1−)
1960 09 28	675	0.6+	0.0	1995 10 15	691	0.7−	0.0
1960 10 17	675	0.9−	0.2−	1995 10 15	691	0.6−	0.3−
1960 10 22	675	0.2+	1.2−	1995 10 15	691	0.5−	0.1+
1960 10 24	675	0.3−	1.9−	1995 10 20	369	0.2−	0.8+
1960 10 26	675	0.6+	2.1−	1995 10 20	369	0.3+	0.3+
1978 11 30	675	0.0	0.8−	1995 10 20	369	0.0	0.1+
1978 12 01	675	0.5+	0.9−	1995 10 25	369	0.5−	0.8+
1989 09 27	675	0.5−	0.3−	1995 10 25	369	1.3−	0.1−
1989 09 27	675	0.6+	0.2−	1995 10 25	369	0.3−	0.2−
1995 09 26	114	0.5−	0.3−	1995 10 27	369	0.6+	0.0
1995 09 26	114	1.0−	0.7+	1995 10 27	369	0.6+	0.3+

(8757)* 6600 P-L = 3148 T-2

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.
Id. D. W. E. Green (*MPC* 14961)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	26.35094		(2000.0)	P		Q	
<i>n</i>	0.30370748	ω	137.07395	−0.93018917	+0.36578169		
<i>a</i>	2.1919588	Ω	64.40554	−0.34537826	−0.84362792		
<i>e</i>	0.0642138	<i>i</i>	1.96042	−0.12434615	−0.39305939		
<i>P</i>	3.25	<i>H</i>	14.9	<i>G</i>	0.15	<i>U</i>	2
Residuals in seconds of arc							
1960 09 24	675	0.2+	1.2+	1973 10 04	675	(3.1+	2.2−)
1960 09 26	675	0.5−	1.5+	1973 10 05	675	2.4+	1.8−
1960 09 27	675	0.4+	1.3+	1973 10 05	675	(2.0+	2.7−)
1960 09 28	675	0.8+	1.9+	1991 01 19	675	0.0	0.5−
1960 10 17	675	0.1+	0.1−	1991 01 19	675	1.0−	0.7−
1960 10 22	675	(2.6−	0.6−)	1996 10 03	327	0.3−	0.1+
1960 10 24	675	0.5−	0.2+	1996 10 03	327	0.0	0.6+
1960 10 26	675	0.8−	0.6+	1996 10 03	327	0.3+	0.8+
1973 09 19	675	0.1+	0.9+	1996 10 05	327	0.3+	0.7+
1973 09 19	675	0.0	1.4+	1996 11 02	327	0.2+	0.0
1973 09 20	675	0.8+	0.2−	1996 11 02	327	0.4+	0.5−
1973 09 24	675	1.1−	1.5−	1996 11 02	327	0.4+	0.3−
1973 09 24	675	0.8−	1.4−	1996 11 02	327	0.2−	0.2−
1973 09 25	675	0.6−	1.8−	1996 11 09	327	0.6+	0.0
1973 09 25	675	0.8−	1.0−	1996 11 09	327	0.3+	0.3−
1973 09 29	675	0.9+	2.3−	1996 11 09	327	0.4−	0.0
1973 09 29	675	0.3−	1.6−	1998 03 25	704	0.6+	0.0
1973 09 30	675	0.9+	0.8−	1998 03 25	704	0.5+	0.1−
1973 09 30	675	0.2−	1.6−	1998 03 25	704	0.8−	0.6−
1973 10 04	675	(3.4+	2.2−)	1998 03 25	704	0.6−	0.2+

(8758)* 6683 P-L = 1992 EK₃ = 1997 CQ₁₃

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.
Id. G. V. Williams (*MPC* 29129)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	63.36392		(2000.0)	P		Q					
<i>n</i>	0.17123584	ω	353.07896	-0.79847845	-0.60012296						
<i>a</i>	3.2117343	Ω	149.87993	+0.55681083	-0.76636752						
<i>e</i>	0.1171456	<i>i</i>	5.46568	+0.22889706	-0.22920136						
<i>P</i>	5.76	<i>H</i>	13.6	<i>G</i>	0.15	<i>U</i>	1				
Residuals in seconds of arc											
1960 09 24	675	0.6+	0.4-	1997 02 08	106	0.3+	0.7-	1998 04 20	704	0.6+	1.3-
1960 09 26	675	0.8+	0.1+	1997 02 09	106	0.6+	1.3-	1998 04 20	704	0.4+	0.9+
1960 09 27	675	1.0+	0.4-	1997 02 09	106	0.5+	1.5-	1998 04 21	704	0.8+	0.7+
1960 09 28	675	0.0	0.5-	1998 03 24	704	0.2-	0.5+	1998 04 21	704	0.7+	0.2-
1960 10 17	675	1.2-	0.3+	1998 03 24	704	0.0	0.4+	1998 04 21	704	0.6+	1.3-
1960 10 22	675	0.8-	0.5-	1998 03 24	704	0.3+	0.2+	1998 04 21	704	0.4+	0.8-
1992 03 10	372	1.4-	0.5-	1998 03 24	704	0.6-	1.4+	1998 04 21	704	0.6+	1.1-
1992 03 10	372	1.2+	0.2+	1998 03 25	704	1.0+	0.8+	1998 04 22	704	0.3+	0.1+
1997 02 01	106	0.1+	1.5+	1998 03 25	704	0.5+	0.9+	1998 04 22	704	0.4-	0.0
1997 02 01	106	0.7+	1.0+	1998 03 25	704	0.0	1.2-	1998 04 22	704	1.2-	0.5-
1997 02 02	106	0.1-	1.0+	1998 03 25	704	0.8-	0.1+	1998 04 22	704	2.4-	1.0-
1997 02 02	106	0.9-	0.3-	1998 03 25	704	0.9+	1.7+	1998 04 22	704	1.3-	1.6-
1997 02 02	106	1.2-	1.2+	1998 04 20	704	0.6-	1.0+				
1997 02 06	106	0.1-	1.8-	1998 04 20	704	0.5+	0.2-				

(8759)* 7603 P-L = 1981 KO = 1982 UN₁₀ = 1995 SC₃₀

Discovered 1960 Oct. 17 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. S. Nakano (*MPC* 25969), H. Oishi (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

M	267.19071		(2000.0)	P		Q					
n	0.22623991	ω	304.94465	+0.83110691	+0.54880435						
a	2.6674108	Ω	22.19500	-0.40026765	+0.70251466						
e	0.1892499	i	13.76144	-0.38606621	+0.45308600						
P	4.36 <th>H</th> <td>13.4<th>G</th><td>0.15<th>U</th><td>2</td></td></td>	H	13.4 <th>G</th> <td>0.15<th>U</th><td>2</td></td>	G	0.15 <th>U</th> <td>2</td>	U	2				
Residuals in seconds of arc											
1960 10 17	675	0.3+	0.0	1998 03 20	704	0.0	0.2-	1998 03 25	566	0.0	1.0-
1960 10 22	675	0.1-	0.2-	1998 03 20	704	0.1-	0.2+	1998 03 25	566	0.8+	1.2-
1960 10 25	675	0.3+	0.7+	1998 03 20	704	0.9+	0.3+	1998 04 20	704	0.5+	0.5-
1960 10 26	675	1.0-	0.3+	1998 03 20	704	0.8-	1.2-	1998 04 20	704	0.6-	0.7-
1981 05 28	809	0.7-	0.7-	1998 03 20	704	0.9-	0.2-	1998 04 20	704	1.2-	1.1+
1982 10 24	095	(4.3+	0.4+)	1998 03 22	704	0.3+	0.0	1998 04 20	704	0.6-	0.2+
1995 09 30	358	0.8-	1.6+	1998 03 22	704	0.5+	0.1+	1998 04 20	704	0.9-	0.7+
1995 10 02	358	0.7+	0.3+	1998 03 22	704	1.0+	0.5+	1998 04 22	704	0.2+	0.0
1995 10 02	358	0.1+	0.7-	1998 03 22	704	0.0	0.3+	1998 04 22	704	0.3-	0.4+
1995 10 03	358	0.6+	1.5-	1998 03 22	704	0.6+	0.1-	1998 04 22	704	0.9-	1.2+
1995 10 03	358	0.2+	0.7+	1998 03 25	704	0.4+	0.3+	1998 04 22	704	0.1-	1.2+
1995 11 22	801	0.1+	0.5-	1998 03 25	704	0.3+	0.2+	1998 04 22	704	0.3+	1.0+
1995 11 22	801	0.6-	1.3-	1998 03 25	704	0.0	0.2+	1998 04 24	699	0.5+	0.7-
1995 11 25	801	0.3+	0.2-	1998 03 25	704	0.3-	0.5+	1998 04 24	699	0.4+	0.8-
1995 11 25	801	0.3+	0.0	1998 03 25	566	0.2+	1.2-	1998 04 24	699	0.2+	0.8-

(8760)* 1081 T-1 = 1221 T-2

Discovered 1971 Mar. 25 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. S. Nakano (*MPC* 19877), T. Kobayashi (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

M	315.72342		(2000.0)	P		Q	
n	0.18222095	ω	342.44950	-0.31848901	+0.94748141		
a	3.0813227	Ω	268.97124	-0.86618377	-0.30333627		
e	0.0619701	i	1.66477	-0.38508496	-0.10132171		
P	5.41	H	13.3	G	0.15	U <td>1</td>	1

Residuals in seconds of arc

1971 03 24	675	0.7+	1.2-	1973 10 04	675	1.2+	1.7-	1998 03 22	704	1.3+	0.6-
1971 03 25	675	0.5-	0.7+	1973 10 05	675	0.5+	1.1-	1998 04 01	704	0.2-	0.8-
1971 03 25	675	1.0-	0.2+	1973 10 05	675	0.0	0.2-	1998 04 01	704	0.6-	0.4-
1971 03 26	675	0.4+	0.4-	1996 12 20	327	0.8+	0.0	1998 04 01	704	1.2-	0.8-
1971 03 27	675	0.7+	1.9-	1996 12 20	327	0.5-	0.3+	1998 04 01	704	(0.6+	2.5-)
1971 04 02	675	1.0-	1.2+	1996 12 20	327	0.3-	0.3-	1998 04 01	704	(1.7-	2.6-)
1973 09 19	675	0.1-	0.5-	1998 03 04	704	(3.0-	0.3+)	1998 04 18	704	0.5+	0.5-
1973 09 19	675	0.8+	0.3+	1998 03 04	704	(3.6-	0.4+)	1998 04 18	704	0.4-	0.7-
1973 09 20	675	(2.8-	0.1-)	1998 03 04	704	(3.0-	0.5+)	1998 04 18	704	1.5+	1.3-
1973 09 24	675	(2.4-	0.1+)	1998 03 04	704	(3.3-	3.8-)	1998 04 18	704	0.7-	0.3+
1973 09 24	675	0.7-	1.2-	1998 03 20	704	0.1+	0.4+	1998 04 18	704	0.4-	1.1+
1973 09 25	675	(2.0-	3.9-)	1998 03 20	704	0.6-	0.4-	1998 04 19	704	0.7-	0.8-
1973 09 25	675	1.8-	0.8-	1998 03 20	704	0.6+	0.6+	1998 04 19	704	0.7-	0.9-
1973 09 29	675	1.4+	0.4-	1998 03 20	704	0.2-	0.3-	1998 04 19	704	0.6-	0.2-
1973 09 29	675	0.3+	0.7-	1998 03 20	704	0.3-	0.6+	1998 04 19	704	0.6+	0.3-
1973 09 30	675	0.4+	0.0	1998 03 22	704	0.2+	0.5+	1998 04 19	704	1.2-	0.7-
1973 09 30	675	0.1-	1.0+	1998 03 22	704	(1.6-	2.6-)				
1973 10 04	675	0.5+	0.7-	1998 03 22	704	0.9+	0.4+				

(8761)* 1163 T-1

Discovered 1971 Mar. 25 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	344.68129		(2000.0)	P		Q					
n	0.29363130	ω	4.62809	-0.25598272	+0.96528530						
a	2.2418221	Ω	250.54693	-0.88867120	-0.25612869						
e	0.0902578	i	3.15734	-0.38044229	-0.05120926						
P	3.36 <th>H</th> <td>13.9</td> <th>G</th> <td>0.15<th>U</th><td>2</td></td>	H	13.9	G	0.15 <th>U</th> <td>2</td>	U	2				
Residuals in seconds of arc											
1971 03 24	675	0.2+	1.0-	1996 11 14	411	0.1-	1.0+	1998 04 04	699	1.3+	0.1+
1971 03 25	675	0.4-	1.1+	1996 11 14	411	0.3+	0.2-	1998 04 04	699	0.6+	0.4+
1971 03 25	675	0.6-	0.5+	1996 12 04	563	(2.3-	1.2-)	1998 04 21	704	0.4-	0.7+
1971 03 26	675	1.3-	0.4+	1996 12 04	563	0.4-	0.8+	1998 04 21	704	0.4-	0.2-
1971 03 27	675	1.3-	0.1-	1996 12 04	563	0.2-	0.7-	1998 04 21	704	0.4-	0.6+
1971 04 02	675	0.7+	1.2+	1996 12 04	563	1.2-	1.4+	1998 04 21	704	0.1-	1.1+
1971 04 16	675	0.2+	2.3-	1997 01 11	327	(2.3+	0.0)	1998 04 21	704	0.7-	0.8+
1971 04 16	675	0.2-	0.9-	1997 01 11	327	0.0	0.4+	1998 04 22	704	1.3+	0.2-
1971 05 13	675	1.2+	1.3-	1997 01 11	327	0.5+	0.3+	1998 04 22	704	0.1+	0.6+
1971 05 14	675	0.5+	1.1-	1998 04 01	704	0.2+	0.1-	1998 04 22	704	0.0	0.8+
1992 09 23	691	0.4-	0.6+	1998 04 01	704	0.9+	0.2+	1998 04 22	704	0.1+	0.1+
1992 09 23	691	0.1+	0.4+	1998 04 01	704	0.9+	0.1-	1998 04 22	704	0.2+	0.2+
1992 09 23	691	0.3-	0.6+	1998 04 01	704	0.4+	0.5-	1998 04 24	691	0.8-	0.7+
1996 11 13	411	1.1+	0.5+	1998 04 01	704	0.0	0.2-	1998 04 24	691	0.8-	0.2+
1996 11 13	411	0.2-	0.5-	1998 04 04	699	0.7+	0.5+	1998 04 24	691	0.8-	0.4+

(8762)* 3196 T-1 = 1978 WE₁₆ = 1980 FW₅ = 1985 JA₂

Discovered 1971 Mar. 26 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. D. W. E. Green (*MPC* 19323, *MPC* 19523)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Green

<i>M</i>	347.11300		(2000.0)		P		Q				
<i>n</i>	0.21634581	ω	315.24395		-0.95194279		+0.30496577				
<i>a</i>	2.7481286	Ω	242.53144		-0.27131371		-0.88253813				
<i>e</i>	0.1496803	<i>i</i>	1.82770		-0.14210488		-0.35794180				
<i>P</i>	4.56	<i>H</i>	13.4	<i>G</i>	0.15	<i>U</i>	1				
Residuals in seconds of arc											
1955 10 25	675	1.6+	0.7-	1980 03 23	809	0.8+	0.2-	1994 05 05	474	0.7-	0.1-
1955 10 25	675	0.6+	1.5-	1985 05 14	675	(53.0+	15.9-)	1998 02 19	699	0.3+	0.3+
1971 03 24	675	1.0-	0.1+	1985 05 15	675	(3.5+	0.1-)	1998 02 19	699	0.4+	0.4+
1971 03 25	675	0.9+	0.2-	1991 10 03	033	0.2-	1.3+	1998 02 19	699	0.8-	0.4+
1971 03 26	675	0.2-	0.4-	1991 10 04	033	1.4+	0.4+	1998 02 24	566	0.1+	0.7+
1971 03 26	675	0.9-	0.2-	1991 10 04	033	1.9+	1.2+	1998 02 24	566	0.1-	0.6+

M.P.C. 31702

1971 03 27	675	0.4−	0.1−	1991 10 09	691	1.4−	0.6−	1998 02 24	566	0.1−	0.6+
1971 04 02	675	0.8−	0.9−	1991 10 09	691	1.2−	0.2−	1998 04 29	566	0.3+	0.0
1971 04 16	675	0.6+	1.4−	1991 10 09	691	1.3−	0.1−	1998 04 29	566	0.7+	0.0
1971 04 16	675	0.5−	0.1+	1994 05 04	474	0.9+	0.6+	1998 04 29	566	1.1+	0.2−
1978 11 30	675	1.0−	0.5−	1994 05 04	474	0.2+	1.0+				
1978 12 01	675	0.7−	0.1+	1994 05 05	474	0.2+	0.2+				

(8763)* 3271 T-1 = 1982 VG₇ = 1990 MY₁

Discovered 1971 Mar. 26 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. D. W. E. Green (*MPC* 19324)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Green					
<i>M</i>	301.51311	(2000.0)	P	Q			
<i>n</i>	0.21933947	ω	288.21854	+0.09188051	+0.99573813		
<i>a</i>	2.7230661	Ω	347.04551	−0.89963893	+0.07957585		
<i>e</i>	0.0238325	<i>i</i>	2.03795	−0.42685801	+0.04661831		
<i>P</i>	4.49	<i>H</i>	13.7	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1954 06 30	675	1.1+	0.2−	1995 09 29	691	0.8−	0.4+	1998 04 18	704	0.3+	0.4+
1954 06 30	675	0.7−	0.9−	1995 09 29	691	0.7−	0.4+	1998 04 18	704	0.7+	0.2+
1971 03 24	675	0.4−	0.5−	1998 03 20	704	0.4+	0.8+	1998 04 18	704	0.2+	0.6+
1971 03 25	675	(2.6+	1.4−)	1998 03 20	704	0.7+	0.4+	1998 04 18	704	0.1−	1.0+
1971 03 26	675	(0.7+	2.7−)	1998 03 20	704	0.6−	1.0+	1998 04 18	704	0.2−	0.7+
1971 03 26	675	0.7+	2.1−	1998 03 20	704	0.5−	1.6+	1998 04 19	704	0.3+	0.2−
1971 03 27	675	0.7−	1.2−	1998 03 20	704	1.1−	1.6+	1998 04 19	704	0.1+	0.2+
1971 04 02	675	1.4−	0.2+	1998 03 22	704	0.0	0.5+	1998 04 19	704	1.3+	1.0−
1971 04 16	675	0.9+	1.6−	1998 03 22	704	0.2+	0.1+	1998 04 19	704	0.1+	1.0−
1971 04 16	675	0.3+	0.5−	1998 03 22	704	0.8+	0.5+	1998 04 20	704	0.3+	0.2+
1971 05 14	675	1.3−	0.1+	1998 03 22	704	0.5−	0.4−	1998 04 20	704	0.2−	0.3+
1971 05 14	675	1.0−	0.2−	1998 03 22	704	0.1+	0.2−	1998 04 20	704	0.1−	0.7−
1971 05 16	675	0.7−	0.9−	1998 03 24	566	0.2−	0.9+	1998 04 20	704	0.1+	1.0−
1982 11 09	095	0.6−	0.3+	1998 03 24	566	0.2−	1.1+	1998 04 20	704	(3.8−	0.9−)
1982 11 14	095	0.1+	0.0	1998 03 24	566	0.5−	0.8+	1998 04 22	704	0.0	0.1−
1990 06 28	808	0.2+	0.1−	1998 04 01	704	0.0	0.2+	1998 04 22	704	0.0	0.1+
1990 06 28	808	1.1−	0.9+	1998 04 01	704	1.6+	0.0	1998 04 22	704	0.2−	0.3+
1995 09 19	809	1.4+	0.4+	1998 04 01	704	0.3+	0.7+	1998 04 22	704	0.4+	0.3+
1995 09 20	809	0.9+	0.2+	1998 04 01	704	0.8+	0.9−	1998 04 22	704	0.4−	0.1−
1995 09 29	691	1.0−	0.5+	1998 04 01	704	0.4+	0.2−				

(8764)* 1109 T-2 = 1976 JJ₄ = 1995 MN

Discovered 1973 Sept. 29 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. K. Ichikawa (*MPC* 27927)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams					
<i>M</i>	313.24057	(2000.0)	P	Q			
<i>n</i>	0.26450157	ω	291.80121	−0.07660675	+0.99691222		
<i>a</i>	2.4035355	Ω	333.78728	−0.89976100	−0.07657331		
<i>e</i>	0.1568365	<i>i</i>	2.23764	−0.42960627	−0.01739390		
<i>P</i>	3.73	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1973 09 19	675	0.8−	2.2−	1995 06 26	327	0.3−	0.1−	1998 03 22	704	0.1−	0.3+
1973 09 19	675	0.1+	1.2−	1995 06 26	327	0.2+	0.1+	1998 03 22	704	0.8−	0.7−
1973 09 20	675	0.2−	0.9−	1995 06 26	327	0.4−	0.4−	1998 03 22	704	0.8+	1.0−
1973 09 24	675	0.8−	1.7−	1995 06 27	327	0.5+	0.1+	1998 03 22	704	(6.9−	0.3−)
1973 09 24	675	0.5+	0.6−	1995 06 27	327	0.1−	0.1−	1998 03 26	704	1.3+	0.2−
1973 09 25	675	0.6−	1.2−	1995 06 27	327	0.4+	0.1+	1998 03 26	704	1.0−	0.3−
1973 09 25	675	1.1+	0.8+	1995 06 27	327	0.3−	0.5−	1998 03 26	704	1.8−	0.5+
1973 09 29	675	1.1+	1.4+	1998 03 03	704	(1.1+	3.0−)	1998 03 26	566	0.4+	0.5−
1973 09 29	675	0.0	0.9−	1998 03 03	704	1.0+	1.1−	1998 03 26	566	0.2−	0.8−
1973 09 30	675	1.6−	0.7−	1998 03 03	704	(0.6+	2.2−)	1998 03 26	566	0.3−	1.3−
1973 09 30	675	0.2−	1.1−	1998 03 03	704	0.8+	0.8+	1998 04 01	704	1.4−	0.8−
1973 10 04	675	1.5+	0.5−	1998 03 03	704	(4.3−	0.0)	1998 04 01	704	1.1+	1.0−
1973 10 04	675	1.6+	0.8−	1998 03 20	704	0.7−	0.4−	1998 04 01	704	1.1−	1.0−

1998 MAY 11

1973 10 05	675	0.7+	0.1+	1998 03 20	704	0.9−	0.1+	1998 04 01	704	0.3−	0.6+
1973 10 05	675	1.8+	0.9+	1998 03 20	704	0.9−	0.0	1998 04 01	704	(5.6−	1.7−)
1976 05 03	809	0.4−	1.0−	1998 03 20	704	(5.7−	1.0−)				
1995 06 26	327	0.1+	0.3+	1998 03 22	704	0.3+	1.5−				

(8765)* 1274 T-2 = 1978 WE₁₈

Discovered 1973 Sept. 29 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. E. Bowell (*MPC* 19882)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		(2000.0)		Williams			
<i>M</i>	108.39468			P	Q		
<i>n</i>	0.21877468	ω	69.18852	+0.17967099	−0.98370829		
<i>a</i>	2.7277507	Ω	10.46633	+0.88976607	+0.15989346		
<i>e</i>	0.0362189	<i>i</i>	1.90139	+0.41956486	+0.08217100		
<i>P</i>	4.51	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1973 09 19	675	0.5−	1.0−	1973 10 05	675	1.3+	0.1−	1998 03 20	704	1.4−	0.9+
1973 09 19	675	0.6+	0.1+	1973 10 05	675	1.5+	0.8+	1998 03 20	704	1.0+	0.2−
1973 09 19	675	0.4−	1.6+	1978 11 30	675	0.7−	0.2+	1998 03 20	704	0.3−	0.5−
1973 09 19	675	1.0−	0.4−	1978 12 01	675	0.6+	0.5+	1998 03 20	704	0.5+	0.2−
1973 09 19	675	1.4+	0.6−	1991 10 04	033	0.8−	0.2+	1998 03 20	704	0.3−	0.0
1973 09 20	675	0.3−	0.2+	1991 10 04	033	0.1−	0.5+	1998 03 22	704	0.1+	0.2+
1973 09 20	675	(0.5+	2.9+)	1991 10 05	033	0.1+	0.1+	1998 03 22	704	0.3+	0.1+
1973 09 24	675	0.7+	1.4−	1996 11 28	327	0.4+	0.8+	1998 03 22	704	0.3+	0.1−
1973 09 24	675	0.2+	0.9+	1996 11 28	327	1.4+	0.3+	1998 03 22	704	0.9+	0.0
1973 09 24	675	0.4−	0.7−	1996 11 28	327	0.5+	0.4−	1998 03 22	704	(0.5−	2.2−)
1973 09 24	675	0.2−	1.0+	1996 11 28	327	0.2+	1.0+	1998 03 26	704	0.4−	0.4−
1973 09 25	675	0.2−	1.6−	1997 02 03	691	1.6−	1.3−	1998 03 26	704	0.2+	0.1−
1973 09 25	675	1.1+	0.3−	1997 02 03	691	0.9−	0.4−	1998 03 26	704	0.1−	0.6+
1973 09 29	675	0.6+	1.5−	1997 02 03	691	1.1−	0.1−	1998 04 18	704	(3.4+	1.5−)
1973 09 29	675	0.5+	0.5−	1998 03 03	704	0.2−	0.2−	1998 04 18	704	2.1−	1.4−
1973 09 30	675	2.3−	0.2−	1998 03 03	704	0.3+	0.2+	1998 04 18	704	0.2+	1.0−
1973 09 30	675	1.1−	0.2−	1998 03 03	704	0.5+	0.1+	1998 04 18	704	(5.4−	0.3+)
1973 10 04	675	0.6+	0.4−	1998 03 03	704	0.8−	0.1−				
1973 10 04	675	0.7+	1.5−	1998 03 03	704	1.0+	1.3−				

(8766)* 1304 T-2 = 1968 UG₃ = 1979 YY₄ = 1984 UT₁

Discovered 1973 Sept. 29 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. T. Kobayashi (*MPC* 15079)

Epoch 1998 July 6.0 TT = JDT 2451000.5

		(2000.0)		Williams			
<i>M</i>	213.09151			P	Q		
<i>n</i>	0.18383372	ω	145.05126	+0.97272155	−0.23154653		
<i>a</i>	3.0632746	Ω	228.34331	+0.20830004	+0.89859131		
<i>e</i>	0.1460544	<i>i</i>	1.08183	+0.10209737	+0.37271955		
<i>P</i>	5.36	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1968 10 26	095	(5.1−	4.2+)	1973 10 05	675	0.5−	1.6−	1998 03 25	704	0.8+	0.6+
1973 09 19	675	1.4−	0.5−	1979 12 18	095	(3.7−	7.5+)	1998 03 25	704	1.4+	0.3−
1973 09 19	675	0.9+	0.3+	1984 10 29	688	0.2+	1.2−	1998 03 25	704	1.3−	0.7−
1973 09 19	675	1.8−	0.5−	1984 10 29	688	0.4−	0.5−	1998 03 25	704	0.3+	1.2+
1973 09 19	675	0.1−	0.2−	1984 10 31	688	1.3+	0.3+	1998 03 25	704	(2.6−	1.8+)
1973 09 20	675	2.0−	0.8+	1984 10 31	688	0.8−	0.5+	1998 04 01	704	0.6−	0.3−
1973 09 24	675	0.0	0.9−	1989 09 23	809	0.5−	0.2+	1998 04 01	704	1.0+	0.4+
1973 09 24	675	0.0	0.1−	1989 09 23	809	0.8−	0.2+	1998 04 01	704	0.6+	0.3+
1973 09 24	675	0.5+	1.1−	1989 09 23	809	0.8−	0.6+	1998 04 01	704	0.2+	0.9−
1973 09 24	675	1.2+	0.1+	1989 09 24	809	0.1+	0.6+	1998 04 01	704	(0.2+	2.3−)
1973 09 25	675	0.8−	1.6−	1989 09 24	809	0.7+	0.6+	1998 04 21	704	0.4−	1.0+
1973 09 25	675	1.7+	2.2−	1989 09 24	809	1.1+	0.4+	1998 04 21	704	0.7−	0.7+
1973 09 25	675	0.9−	0.7+	1989 09 25	809	0.7−	0.0	1998 04 21	704	0.8−	0.4−
1973 09 25	675	1.9+	0.8−	1989 09 25	809	0.6−	0.1−	1998 04 21	704	1.1−	0.1−
1973 09 29	675	1.0+	1.7+	1989 09 25	809	0.4−	0.1−	1998 04 21	704	1.0−	0.2−
1973 09 29	675	0.5+	0.0	1989 09 26	809	0.4+	0.1−	1998 04 22	704	0.4+	0.4+

1973 09 30	675	0.9-	2.1+	1989 09 26	809	0.2+	0.2-	1998 04 22	704	0.7-	0.0
1973 09 30	675	0.6+	2.1+	1989 09 26	809	0.6+	0.1-	1998 04 22	704	0.0	0.6+
1973 10 04	675	1.1+	1.1-	1998 03 06	910	0.6+	1.6-	1998 04 22	704	0.0	0.6-
1973 10 04	675	0.8+	0.6-	1998 03 06	910	0.5+	1.5-	1998 04 22	704	0.1-	0.6-
1973 10 05	675	0.1-	0.7-	1998 03 06	910	0.2+	1.4-				

(8767)* 1335 T-2 = 1990 TG₇ = 1992 CM₁

Discovered 1973 Sept. 29 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. B. G. Marsden (*MPC* 17463), G. V. Williams (*MPC* 20037)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

M	92.20584		(2000.0)	P	Q
n	0.17852084	ω	283.62505	-0.19916007	-0.97996688
a	3.1237536	Ω	177.86266	+0.90345948	-0.18377969
e	0.1493139	i	0.65437	+0.37960009	-0.07674595
P	5.52	H	13.9	G 0.15	U 1

Residuals in seconds of arc

1973 09 19	675	(0.3-	2.3-)	1992 02 27	675	(0.8+	2.7+)	1998 03 22	704	0.1+	0.2-
1973 09 19	675	0.7+	1.6-	1992 02 27	675	0.8-	2.0+	1998 03 22	704	0.9+	0.2+
1973 09 24	675	0.1-	1.5-	1994 07 11	809	(3.4+	0.8+)	1998 03 22	704	0.5-	0.3-
1973 09 24	675	0.4-	0.7-	1994 07 11	809	(3.2+	0.2+)	1998 03 22	704	0.3-	0.4-
1973 09 25	675	(1.9+	2.8-)	1994 07 11	809	(5.0+	0.7+)	1998 03 22	704	(3.1-	1.9-)
1973 09 25	675	1.9+	1.9-	1995 08 25	809	0.1+	0.5+	1998 03 25	704	0.0	1.4+
1973 09 29	675	0.4+	1.0-	1995 08 25	809	(2.2-	2.6-)	1998 03 25	704	1.4+	0.9+
1973 09 29	675	(1.5+	2.6-)	1995 09 01	809	1.3+	0.7+	1998 03 25	704	0.6+	0.1-
1973 09 29	675	0.1-	1.4-	1995 09 18	809	0.9+	0.6-	1998 03 25	704	1.6-	0.3-
1973 09 29	675	(0.5+	2.6-)	1995 09 18	691	1.3-	0.4+	1998 04 19	704	0.1+	0.5-
1973 09 30	675	1.2-	1.0+	1995 09 18	691	1.6-	0.4+	1998 04 19	704	0.6-	0.2-
1973 09 30	675	2.0+	1.2+	1995 09 18	691	1.4-	0.1+	1998 04 19	704	0.5+	0.4+
1973 09 30	675	1.3-	0.4+	1995 09 19	809	1.9+	0.1+	1998 04 19	704	0.9+	0.3+
1973 09 30	675	2.0+	1.9+	1995 09 19	809	0.9+	0.9+	1998 04 20	704	0.6+	0.5-
1973 10 04	675	0.5-	1.7-	1995 09 20	809	0.7+	0.0	1998 04 20	704	0.2-	0.8+
1973 10 04	675	0.5-	2.0+	1995 09 23	691	1.7-	0.6+	1998 04 20	704	1.7-	1.3-
1973 10 04	675	0.5+	1.2-	1995 09 23	691	1.6-	0.6+	1998 04 20	704	(2.4-	0.8-)
1973 10 04	675	1.5-	1.0+	1995 09 23	691	1.2-	1.2+	1998 04 20	704	0.0	0.2+
1973 10 05	675	(0.2-	2.5-)	1995 09 29	327	0.4+	0.4+	1998 04 22	704	0.0	0.4-
1973 10 05	675	0.3-	0.8-	1995 09 29	327	0.1+	0.1+	1998 04 22	704	0.4-	0.3-
1990 10 13	033	0.7-	0.6-	1995 09 29	327	0.8+	0.2+	1998 04 22	704	0.9+	0.3-
1990 10 13	033	0.9+	0.1+	1998 03 20	704	0.9-	0.9-	1998 04 22	704	(1.5-	2.4-)
1990 10 14	033	0.5-	0.4-	1998 03 20	704	0.1+	1.1-	1998 04 22	704	0.3+	0.0
1992 02 12	303	0.4+	0.2-	1998 03 20	704	1.1-	1.8+				
1992 02 13	303	1.3+	0.2-	1998 03 20	704	(3.0-	1.1+)				

(8768)* 2080 T-2 = 1994 EE₂

Discovered 1973 Sept. 29 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. S. Nakano (*MPC* 23346)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

M	82.52226		(2000.0)	P	Q
n	0.26149553	ω	282.28777	-0.75808337	-0.65048637
a	2.4219204	Ω	217.16292	+0.62434324	-0.70321962
e	0.1091337	i	4.42992	+0.18842801	-0.28696629
P	3.77	H	13.5	G 0.15	U 1

Residuals in seconds of arc

1973 09 24	675	0.1+	0.8+	1994 04 05	675	0.3-	1.0-	1998 04 20	120	0.4+	1.3+
1973 09 24	675	0.6-	0.0	1994 04 05	675	0.1+	1.0-	1998 04 20	120	0.7+	1.2+
1973 09 25	675	0.6+	1.7-	1996 10 20	411	1.0-	1.5-	1998 04 21	704	0.7+	0.1+
1973 09 25	675	1.1-	1.4-	1996 10 20	411	0.3-	0.5-	1998 04 21	704	(4.2+	0.0)
1973 09 29	675	1.1+	0.8-	1996 10 21	411	(3.1-	1.0-)	1998 04 21	704	0.8+	0.9+
1973 09 29	675	1.5+	1.2-	1996 10 21	411	(3.1-	0.1-)	1998 04 21	704	0.2-	0.7+
1973 09 30	675	(1.0+	3.1-)	1996 11 02	560	0.4-	0.5+	1998 04 21	704	0.3+	0.4+
1973 09 30	675	(1.5+	2.4-)	1996 11 02	560	1.3+	0.7+	1998 04 21	120	0.1-	1.0+
1973 10 04	675	1.4+	1.6-	1996 11 02	560	0.3-	0.5+	1998 04 21	120	0.2+	1.5+

1973 10 04	675	0.6+	1.7-	1996 11 08	560	0.6+	1.1+	1998 04 22	704	0.4-	0.4-
1973 10 05	675	0.5+	1.6-	1996 11 08	560	0.8-	0.9+	1998 04 22	704	0.1-	1.0-
1973 10 05	675	0.3-	2.1-	1996 11 08	560	0.5+	0.1-	1998 04 22	704	0.7+	0.5-
1994 03 12	675	0.8+	1.2-	1998 04 04	426	0.9-	0.7-	1998 04 22	704	0.1+	0.5+
1994 03 12	675	0.3+	1.6-	1998 04 04	426	0.8-	0.6-	1998 04 22	704	0.0	0.3+
1994 03 14	894	0.0	0.3-	1998 04 04	426	0.6-	0.6-	1998 04 23	120	0.7+	0.1+
1994 03 14	894	1.5-	1.0-	1998 04 05	732	(0.8+	2.6-)	1998 04 23	120	0.5+	0.4+
1994 03 15	894	0.6+	1.5-	1998 04 05	732	1.6-	0.2-	1998 04 23	120	0.3+	0.1+
1994 03 15	894	1.4-	0.7+	1998 04 05	732	0.6-	1.4+	1998 04 29	120	0.8+	0.5-
1994 03 31	894	1.0-	0.6-	1998 04 05	426	1.0-	0.6-	1998 04 29	120	1.2+	0.7-
1994 03 31	894	0.3-	0.4+	1998 04 05	426	1.0-	0.5-	1998 05 01	566	0.4+	1.1-
1994 04 02	894	0.1+	1.7-	1998 04 05	426	0.9-	0.7-	1998 05 01	566	0.5+	1.6-
1994 04 02	894	(0.3-	2.3-)	1998 04 06	732	1.6-	0.1-	1998 05 01	566	0.6+	1.1-

(8769)* 2181 T-2 = 1990 OP₄

Discovered 1973 Sept. 29 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. E. Bowell (*MPC* 16883)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	308.09492		(2000.0)	P	Q
n	0.22414589	ω	93.15349	+0.19942809	+0.97988128
a	2.6839980	Ω	188.36231	-0.91905230	+0.18426838
e	0.0468606	i	3.08138	-0.33995780	+0.07666709
P	4.40	H	13.5	G 0.15	U 2

Residuals in seconds of arc

1973 09 19	675	0.5+	0.4-	1990 07 25	675	0.3-	0.1+	1998 03 25	704	0.1-	0.3-
1973 09 19	675	0.6-	0.5-	1990 07 27	675	0.1-	0.6-	1998 03 25	699	0.9+	0.6-
1973 09 20	675	1.4-	2.3-	1990 07 27	675	0.7-	0.3-	1998 03 25	699	0.1+	1.4+
1973 09 24	675	1.7-	0.5+	1990 07 28	675	0.9+	0.3+	1998 03 25	704	0.7-	0.8+
1973 09 24	675	1.8-	1.1+	1990 07 28	675	0.1-	0.5+	1998 04 21	704	0.3+	0.1-
1973 09 25	675	0.1+	0.5+	1996 12 31	886	0.9+	1.3-	1998 04 21	704	0.5+	1.1-
1973 09 25	675	0.6+	0.7-	1996 12 31	886	0.3+	0.0	1998 04 21	704	0.0	0.7-
1973 09 29	675	0.1+	0.6+	1997 01 02	886	0.3+	0.5+	1998 04 21	704	0.5+	0.6-
1973 09 29	675	0.9+	0.2+	1997 01 02	886	0.1-	1.3+	1998 04 21	704	0.1+	1.1-
1973 09 30	675	0.1-	0.1-	1997 05 14	691	1.2-	0.8-	1998 04 22	704	0.6-	0.6+
1973 09 30	675	0.8+	0.2-	1997 05 14	691	1.1-	0.4-	1998 04 22	704	0.3+	0.1-
1973 10 04	675	0.4+	0.1+	1997 05 14	691	1.0-	0.6-	1998 04 22	704	1.7-	0.1+
1973 10 04	675	0.3+	0.4-	1998 03 25	704	0.1-	0.5-	1998 04 22	704	0.2+	0.8-
1973 10 05	675	1.3+	0.9-	1998 03 25	704	0.3+	0.4+	1998 04 22	704	0.5-	0.2+
1973 10 05	675	1.4+	0.4+	1998 03 25	704	0.3+	0.3+				
1990 07 25	675	0.1-	0.3+	1998 03 25	699	0.3+	0.7+				

(8770)* 3076 T-2 = 1979 WO₈ = 1984 SL₆ = 1987 FC₁ = 1996 VE₄

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Id. D. W. E. Green (*MPC* 14967), S. Nakano (*MPC* 28608), G. V. Williams (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Green

M	51.76855		(2000.0)	P	Q
n	0.17952759	ω	67.84806	-0.78801705	-0.61463593
a	3.1120645	Ω	74.20864	+0.55044008	-0.72912289
e	0.1264170	i	2.10715	+0.27576230	-0.30100247
P	5.49	H	12.7	G 0.15	U 1

Residuals in seconds of arc

1973 09 19	675	1.0+	1.6-	1984 09 29	809	0.7+	0.3-	1997 01 10	689	0.4+	0.6+
1973 09 19	675	0.1-	0.1-	1984 09 29	809	0.7+	0.4-	1998 02 27	689	0.7-	0.3+
1973 09 20	675	1.4+	2.4-	1984 09 30	809	1.6-	0.8-	1998 03 18	691	1.9-	0.1+
1973 09 24	675	(1.8+	4.5-)	1984 09 30	809	1.3-	0.9-	1998 03 18	691	1.7-	0.1-
1973 09 24	675	(0.8+	3.3-)	1984 09 30	809	1.1-	0.8-	1998 03 18	691	1.3-	0.4-
1973 09 25	675	(2.9+	3.5-)	1984 10 01	809	0.1+	0.8+	1998 03 20	704	1.1+	0.4-
1973 09 25	675	(2.1+	2.5-)	1984 10 01	809	0.2+	0.6+	1998 03 20	704	(0.3-	4.1-)
1973 09 29	675	(0.9+	3.6-)	1984 10 01	809	0.3+	0.6+	1998 03 20	704	0.7-	0.2-
1973 09 29	675	(1.4+	2.5-)	1987 03 21	046	(5.4-	2.9-)	1998 03 20	704	0.6+	0.7-
1973 09 30	675	1.2+	1.6-	1987 03 21	046	(5.7-	0.9-)	1998 03 20	704	0.4+	1.1-

M.P.C. 31704

1973 09 30	675	(1.3+ 3.5-)	1994 08 06	675	1.3+ 0.3-	1998 03 21	691	0.7- 0.2-
1973 10 04	675	(4.3+ 3.7-)	1994 08 06	675	1.1+ 0.9-	1998 03 21	691	0.1- 0.6-
1973 10 04	675	(4.9+ 4.3-)	1996 11 08	327	0.4+ 0.1-	1998 03 21	691	0.6- 0.3-
1973 10 05	675	(2.2+ 3.7-)	1996 11 08	327	0.3+ 0.8-	1998 03 22	704	0.6+ 0.9-
1973 10 05	675	(2.7+ 3.8-)	1996 11 08	327	0.4+ 0.0	1998 03 22	704	0.5+ 1.3-
1979 11 22	095	0.9+ 1.0+	1996 11 10	327	0.3- 0.6-	1998 03 22	704	0.6+ 0.6-
1984 09 23	809	0.6+ 0.7-	1996 11 10	327	0.1- 0.3-	1998 03 22	704	0.6+ 0.3-
1984 09 23	809	0.6+ 0.5-	1996 11 10	327	0.2- 0.0	1998 03 22	704	0.5+ 0.4-
1984 09 23	809	0.8+ 0.2-	1996 11 10	327	0.1+ 0.3-	1998 03 24	566	0.5+ 1.3-
1984 09 26	809	0.1- 0.6+	1996 11 20	327	0.2- 0.4+	1998 03 24	566	0.5+ 1.4-
1984 09 26	809	0.1+ 0.6+	1996 11 20	327	0.3+ 0.2+	1998 03 24	566	0.5+ 1.2-
1984 09 26	809	0.1+ 0.5+	1996 11 20	327	0.4- 0.2+	1998 04 20	704	0.6+ 0.4+
1984 09 27	809	0.2+ 0.2+	1996 11 20	327	0.4- 0.3+	1998 04 20	704	0.4+ 0.5+
1984 09 27	809	0.3+ 0.1+	1996 11 30	327	0.4- 0.4+	1998 04 20	704	0.1- 0.7+
1984 09 27	809	0.6+ 0.3+	1996 11 30	327	0.2+ 0.1-	1998 04 20	704	0.4- 1.5+
1984 09 27	809	1.0- 0.2+	1996 11 30	327	0.1+ 0.2-	1998 04 20	704	0.1- 0.7+
1984 09 27	809	1.0- 0.1-	1996 11 30	327	0.2- 0.2+	1998 04 22	127	0.9- 0.5+
1984 09 27	809	0.9- 0.4-	1996 11 30	327	0.1+ 0.2-	1998 04 22	127	1.1- 0.7+
1984 09 28	809	0.9- 0.2+	1996 11 30	327	0.7+ 0.6-	1998 05 04	758	0.2- 1.0+
1984 09 28	809	0.9- 0.2+	1996 12 02	411	0.2+ 0.1+	1998 05 04	758	0.2- 1.0+
1984 09 28	809	1.3- 0.2+	1996 12 02	411	0.1- 0.0			
1984 09 29	809	0.6+ 0.3-	1997 01 09	689	0.2+ 0.4-			

(8771)* 3187 T-2 = 1971 BX = 1994 CE₁₇

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Id. G. V. Williams (*MPC* 23786)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		Williams	
<i>n</i>		<i>P</i>		<i>Q</i>	
<i>a</i>	0.25997211	ω	30.98709	+0.67094179	-0.74065699
<i>e</i>	2.4313727	Ω	16.95959	+0.65291703	+0.56737068
<i>P</i>	0.0981332	<i>i</i>	7.00169	+0.35147754	+0.35988573
	3.79	<i>H</i>	14.4	<i>G</i>	0.15
				<i>U</i>	2

Residuals in seconds of arc

1971 01 25	095	(2.6+ 4.1-)	1988 09 11	675	1.0- 0.7+	1998 03 18	691	1.0- 1.2-
1973 09 19	675	1.0+ 1.2+	1992 08 25	675	0.4- 0.6+	1998 03 20	704	0.4- 1.5-
1973 09 19	675	0.1+ 0.7+	1992 08 25	675	(0.1+ 2.3-)	1998 03 20	704	0.8- 1.8-
1973 09 19	675	2.1+ 2.0+	1994 02 08	809	0.2+ 1.5+	1998 03 20	704	0.1- 1.4-
1973 09 19	675	0.4+ 0.9+	1994 02 08	809	0.2+ 0.8+	1998 03 20	704	(0.7- 3.6-)
1973 09 20	675	0.2+ 1.0-	1994 02 08	809	0.3- 1.0+	1998 03 20	704	0.4- 1.8-
1973 09 24	675	0.4- 1.3-	1994 02 10	809	(2.4+ 1.2+)	1998 03 22	704	0.3- 1.7-
1973 09 24	675	1.2- 0.4-	1994 02 10	809	2.0+ 1.6+	1998 03 22	704	0.0 1.8-
1973 09 25	675	0.2- 2.2-	1994 02 10	809	(2.3+ 1.1+)	1998 03 22	704	0.6+ 1.8-
1973 09 25	675	0.7- 1.7-	1994 02 13	809	0.9- 0.2-	1998 03 22	704	1.0- 1.5-
1973 09 29	675	0.7+ 1.1-	1994 02 13	809	1.2- 0.5-	1998 03 22	704	(1.4- 3.0-)
1973 09 29	675	0.2- 1.5-	1994 02 13	809	(2.2- 0.4-)	1998 03 24	566	(0.1- 3.8-)
1973 09 30	675	0.4+ 2.2-	1994 02 16	010	(0.1- 2.3-)	1998 03 24	566	(1.1- 3.5-)
1973 09 30	675	1.2+ 1.8-	1994 02 16	010	(0.4+ 2.3-)	1998 03 24	566	(0.4- 3.7-)
1973 10 04	675	(0.2+ 3.2-)	1996 11 12	596	0.3+ 0.1-	1998 04 19	704	0.2- 0.3-
1973 10 04	675	2.3+ 2.0-	1996 11 12	596	0.1+ 0.1-	1998 04 19	704	0.4- 0.9-
1973 10 05	675	(1.7+ 2.7-)	1996 11 12	596	0.3+ 0.2-	1998 04 19	704	0.6- 0.6-
1973 10 05	675	2.3+ 2.1-	1998 03 18	691	1.2- 0.7-	1998 04 19	704	0.6- 0.4+
1988 09 11	675	0.8- 0.9+	1998 03 18	691	0.7- 0.8+			

(8772)* 4254 T-2 = 1988 VJ₅

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Id. T. Kobayashi (*MPC* 15086)

1998 MAY 11

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		Williams	
<i>n</i>		<i>P</i>		<i>Q</i>	
<i>a</i>	0.26571285	ω	262.49503	+0.87131145	+0.48769576
<i>e</i>	2.3962255	Ω	68.30201	-0.42393688	+0.80399044
<i>P</i>	0.2351512	<i>i</i>	3.36208	-0.24717175	+0.34022376
	3.71	<i>H</i>	14.2	<i>G</i>	0.15
				<i>U</i>	2

Residuals in seconds of arc

1951 12 01	675	0.2- 0.0	1988 11 04	046	(3.9+ 1.4+)	1998 03 22	704	0.7- 0.2-
1951 12 01	675	(4.5- 0.2+)	1988 11 05	046	1.4- 1.1-	1998 03 22	704	1.1- 0.6-
1973 09 19	675	1.5+ 1.4-	1988 11 05	046	0.5- 0.6+	1998 03 22	704	1.3- 0.2-
1973 09 19	675	1.9+ 0.1-	1988 11 05	046	(0.7+ 2.9-)	1998 04 20	704	1.0+ 0.5-
1973 09 20	675	0.4- 0.9-	1988 11 05	046	(1.7+ 2.9-)	1998 04 20	704	0.8+ 1.0+
1973 09 24	675	1.0- 1.3-	1988 11 10	046	0.4+ 0.2+	1998 04 20	704	0.6+ 0.3-
1973 09 24	675	0.1+ 0.7-	1988 11 10	046	0.6- 0.5-	1998 04 20	704	0.4- 0.3-
1973 09 25	675	0.6+ 0.9-	1988 11 10	046	(2.5+ 4.5-)	1998 04 20	704	0.1- 0.1-
1973 09 25	675	0.1+ 0.4+	1988 11 10	046	(2.3+ 4.5-)	1998 04 21	691	1.2- 0.5-
1973 09 29	675	1.2- 0.2-	1988 11 11	046	0.1- 0.6-	1998 04 21	691	1.2- 0.2-
1973 09 29	675	0.2+ 0.9-	1988 11 11	046	(0.7+ 3.3+)	1998 04 21	691	1.3- 0.3-
1973 09 30	675	0.2+ 0.5+	1998 03 20	704	0.1+ 1.5-	1998 04 22	704	0.1- 0.2-
1973 09 30	675	0.4- 0.6+	1998 03 20	704	0.2+ 0.6-	1998 04 22	704	0.6+ 0.1+
1973 10 04	675	0.9+ 0.5-	1998 03 20	704	0.7+ 0.2-	1998 04 22	704	0.2+ 1.0-
1973 10 04	675	1.5+ 0.6-	1998 03 20	704	0.2+ 0.9-	1998 04 22	704	0.9+ 0.4-
1973 10 05	675	0.4- 0.0	1998 03 20	704	0.4- 0.9-	1998 04 22	704	(4.7- 1.4-)
1973 10 05	675	0.2- 0.1-	1998 03 22	704	1.0- 0.1-			
1988 11 04	046	2.4+ 0.0	1998 03 22	704	0.9- 1.8-			

(8773)* 5006 T-2 = 1975 BM = 1979 WG₂ = 1981 ED₂

Discovered 1973 Sept. 25 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. H. Kaneda (*MPC* 16038)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		Williams	
<i>n</i>		<i>P</i>		<i>Q</i>	
<i>a</i>	0.17684898	ω	125.79704	+0.27538037	-0.95351703
<i>e</i>	3.1434098	Ω	307.75727	+0.82452547	+0.29971153
<i>P</i>	0.2151460	<i>i</i>	8.90292	+0.49429081	+0.03127730
	5.57	<i>H</i>	12.9	<i>G</i>	0.15
				<i>U</i>	1

Residuals in seconds of arc

1973 09 19	675	(6.0+ 0.9+)	1981 03 08	809	0.1+ 0.4+	1998 03 03	704	(2.8- 2.9+)
1973 09 20	675	0.2+ 0.8+	1981 03 08	809	0.4+ 0.4-	1998 03 25	566	0.3+ 1.7-
1973 09 20	675	1.0+ 0.7-	1981 03 08	809	0.9+ 0.5-	1998 03 25	566	0.0 1.6-
1973 09 24	675	0.9- 0.3-	1981 03 09	809	0.5- 0.4+	1998 03 25	566	0.5+ 1.9-
1973 09 24	675	0.4+ 0.3+	1981 03 09	809	0.0 0.1+	1998 03 31	704	0.2- 0.5-
1973 09 25	675	0.2+ 0.9-	1981 03 09	809	0.5+ 0.3-	1998 03 31	704	1.1+ 0.3+
1973 09 25	675	0.4- 0.5-	1981 03 10	809	0.5+ 0.5-	1998 03 31	704	0.1+ 0.5+
1975 01 17	095	0.2- 0.2+	1981 03 10	809	0.1+ 0.3+	1998 03 31	704	0.4+ 0.4+
1979 11 16	095	0.2+ 0.0	1981 03 10	809	0.4+ 0.9-	1998 04 18	704	0.7+ 0.7+
1981 03 05	809	0.9- 0.4-	1981 03 12	809	0.8+ 0.4-	1998 04 18	704	0.1- 0.7+
1981 03 05	809	0.3- 1.0-	1981 03 12	809	0.1+ 0.2-	1998 04 18	704	0.3- 0.1+
1981 03 05	809	0.8- 0.2-	1981 03 12	809	0.1+ 0.1-	1998 04 18	704	1.0+ 1.1-
1981 03 06	809	1.3- 0.4+	1990 10 13	095	(1.6- 6.1-)	1998 04 18	704	1.6- 1.8+
1981 03 06	809	0.5+ 0.4+	1996 10 12	689	0.1+ 0.5+	1998 04 19	704	0.2+ 0.6+
1981 03 06	809	0.8- 0.8+	1998 03 03	704	(0.7+ 3.6+)	1998 04 19	704	1.0- 0.2+
1981 03 07	809	0.2+ 0.7+	1998 03 03	704	(0.7+ 2.3+)	1998 04 19	704	0.7- 0.2-
1981 03 07	809	0.8- 0.6+	1998 03 03	704	1.1- 1.0+	1998 04 19	704	0.2+ 0.1+
1981 03 07	809	0.6+ 0.4-	1998 03 03	704	(0.8- 4.1+)	1998 04 19	704	0.1+ 0.6+

(8774)* 5162 T-2 = 1989 RR₃

Discovered 1973 Sept. 25 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. S. Nakano (*MPC* 15907)

1998 MAY 11

M.P.C. 31705

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

<i>M</i>	271.91259	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.18352652	ω 353.50795	+0.64500764	+0.75708268
<i>a</i>	3.0666920	Ω 316.59139	-0.69414392	+0.52360950
<i>e</i>	0.0742681	<i>i</i> 8.69440	-0.31957685	+0.39071589
<i>P</i>	5.37	<i>H</i> 12.6	<i>G</i> 0.15	<i>U</i> 1

Residuals in seconds of arc

1973 09 20	675	(2.5+ 2.5-)	1989 09 22	046	1.7- 2.0-	1998 03 26	566	0.4- 1.7-
1973 09 20	675	(4.4+ 3.9-)	1989 09 22	046	(1.5+ 2.5-)	1998 03 26	566	0.0 1.2-
1973 09 24	675	0.6+ 0.4+	1989 09 30	675	1.5+ 0.4-	1998 03 26	566	0.4- 1.8-
1973 09 24	675	0.4+ 0.2-	1989 09 30	675	2.2+ 0.4-	1998 03 31	704	0.7+ 0.6-
1973 09 25	675	0.2+ 1.0-	1997 02 01	691	0.4- 0.1+	1998 03 31	704	0.3- 0.6-
1973 09 25	675	0.4+ 0.7-	1997 02 01	691	0.1- 0.6-	1998 03 31	704	0.6+ 0.2+
1973 09 29	675	1.1- 1.2+	1997 02 01	691	0.1- 0.6-	1998 03 31	704	0.9+ 0.1+
1973 09 29	675	1.1- 0.8+	1997 02 06	691	0.1+ 0.0	1998 03 31	704	0.0 0.3+
1973 09 30	675	0.1+ 0.1-	1997 02 06	691	0.0 0.4-	1998 04 01	704	0.3+ 0.9-
1973 09 30	675	0.3+ 0.4+	1997 02 06	691	0.1+ 0.2-	1998 04 01	704	0.2- 0.3+
1973 10 04	675	1.1- 0.5+	1998 03 03	704	0.5+ 1.6-	1998 04 01	704	0.7- 0.2-
1973 10 04	675	0.5- 0.6+	1998 03 03	704	0.0 1.4+	1998 04 01	704	0.3- 0.6+
1973 10 05	675	0.7+ 0.6+	1998 03 03	704	0.8- 1.4+	1998 04 01	704	0.0 0.6+
1973 10 05	675	0.2- 0.1-	1998 03 03	704	1.2- 0.8-	1998 05 02	566	0.0 0.0
1989 09 02	675	0.7+ 0.5-	1998 03 03	704	(5.0- 1.2+)	1998 05 02	566	0.2- 0.1+
1989 09 02	675	1.9+ 0.1-	1998 03 22	699	0.9- 1.2+	1998 05 02	566	0.6+ 0.0
1989 09 09	046	1.3- 2.2-	1998 03 22	699	0.1- 0.4+			
1989 09 09	046	(3.9- 1.8-)	1998 03 22	699	0.2+ 0.0			

(8775)* 5490 T-2 = 1991 LS₂

Discovered 1973 Sept. 30 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. H. Kaneda (*MPC* 18834)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	269.19774	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.26424864	ω 76.17751	+0.75697919	+0.64437981
<i>a</i>	2.4050690	Ω 243.58526	-0.63649998	+0.68959566
<i>e</i>	0.1246576	<i>i</i> 6.95389	-0.14781840	+0.33050338
<i>P</i>	3.73	<i>H</i> 14.9	<i>G</i> 0.15	<i>U</i> 1

Residuals in seconds of arc

1973 09 30	675	0.6+ 1.3-	1992 11 24	691	0.2+ 0.6+	1998 04 01	704	1.8+ 0.5-
1973 09 30	675	1.5+ 1.5-	1992 11 24	691	0.2- 0.1-	1998 04 01	704	(1.5+ 2.4-)
1973 10 04	675	0.2+ 0.1+	1992 11 24	691	0.4- 0.3-	1998 04 01	704	0.1- 1.2-
1973 10 04	675	0.9- 0.2-	1992 11 24	691	0.9- 0.0	1998 04 19	704	0.5+ 0.8-
1973 10 05	675	0.0 0.2-	1992 11 24	691	0.5- 0.3+	1998 04 19	704	1.7+ 0.8+
1973 10 05	675	0.1+ 1.0-	1992 11 24	691	0.4- 0.2-	1998 04 19	704	1.7- 1.0+
1991 06 06	809	0.0 0.6-	1992 11 25	675	1.3+ 1.5-	1998 04 19	704	0.6- 0.2-
1991 06 06	809	0.6- 0.9-	1992 11 25	675	0.4- 0.3+	1998 04 19	704	0.5- 1.3-
1991 06 06	809	0.0 0.3+	1992 11 28	675	0.6+ 0.2-	1998 04 20	704	0.1- 0.6-
1991 06 08	809	0.5+ 0.7+	1992 11 28	675	0.7+ 0.9+	1998 04 20	704	0.4- 1.0-
1991 06 08	809	0.1- 0.1+	1998 04 01	704	0.1+ 0.9+	1998 04 20	704	0.7- 1.5-
1991 06 08	809	0.1- 0.7+	1998 04 01	704	1.0- 0.8+	1998 04 20	704	0.7- 1.4-

(8776)* 2287 T-3 = 1990 SO₁₀

Discovered 1977 Oct. 16 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. E. Bowell (*MPC* 17654)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	330.67318	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.22342666	ω 337.10217	+0.13948014	+0.98889131
<i>a</i>	2.6897550	Ω 300.88095	-0.89899768	+0.10470870
<i>e</i>	0.2036479	<i>i</i> 3.43176	-0.41514873	+0.10549909
<i>P</i>	4.41	<i>H</i> 13.9	<i>G</i> 0.15	<i>U</i> 1

Residuals in seconds of arc

1977 10 07	675	1.0+ 0.4-	1990 09 19	675	1.3- 0.9-	1998 04 01	704	0.1+ 0.1-
1977 10 11	675	1.1- 0.3+	1994 07 08	809	0.2+ 0.4+	1998 04 01	704	0.1+ 0.4-
1977 10 11	675	0.7- 0.1+	1994 07 08	809	0.7+ 0.6+	1998 04 01	704	0.1+ 1.0-
1977 10 12	675	0.1+ 0.9-	1994 07 08	809	0.1+ 0.2+	1998 04 01	704	(0.0 2.9-)
1977 10 12	675	0.9- 0.1-	1994 07 09	809	0.7+ 0.4+	1998 04 01	704	0.4- 1.5-
1977 10 16	675	(0.4+ 2.6-)	1994 07 09	809	1.0+ 0.4+	1998 04 21	704	0.4- 0.0
1977 10 16	675	0.4- 1.6-	1994 07 09	809	0.1+ 0.3+	1998 04 21	704	0.6- 0.4-
1977 10 17	675	0.6+ 0.9-	1995 11 18	691	0.0 0.4+	1998 04 21	704	0.6- 0.2+
1977 10 17	675	0.7- 0.2-	1995 11 18	691	0.2- 0.4+	1998 04 21	704	0.0 0.3+
1977 10 21	675	0.6+ 0.5+	1995 11 18	691	0.1- 0.3+	1998 04 21	704	0.2- 0.5+
1977 10 21	675	0.6+ 0.0	1995 11 24	691	0.3+ 0.4+	1998 04 22	704	0.4+ 0.0
1977 10 22	675	1.5+ 0.3-	1995 11 24	691	0.0 0.5+	1998 04 22	704	1.5- 0.4+
1977 10 22	675	0.8+ 0.6+	1995 11 24	691	0.2- 0.5+	1998 04 22	704	0.0 0.2+
1990 09 16	675	1.0- 1.7-	1997 01 11	327	1.7+ 0.5+	1998 04 22	704	0.1- 0.5-
1990 09 16	675	0.4- 1.5-	1997 01 11	327	0.1+ 1.1-	1998 04 22	704	0.9- 0.3-
1990 09 19	675	0.9+ 0.4+	1997 01 11	327	0.2+ 1.0-			

(8777)* 5016 T-3 = 1980 KF₁ = 1981 RN₆ = 1984 DO₂

Discovered 1977 Oct. 16 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. G. V. Williams (*MPC* 18835, *MPC* 19036)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	19.47613	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.21560450	ω 53.06422	-0.96775534	+0.22613542
<i>a</i>	2.7544242	Ω 139.66696	-0.24842421	-0.92968281
<i>e</i>	0.1346967	<i>i</i> 9.87156	+0.04165343	-0.29077938
<i>P</i>	4.57	<i>H</i> 13.8	<i>G</i> 0.15	<i>U</i> 2

Residuals in seconds of arc

1976 09 16	413	0.8+ 0.9-	1977 10 22	675	1.7+ 0.3-	1993 01 28	809	1.0+ 1.3-
1977 10 11	675	0.4+ 1.4-	1980 05 17	095	0.8+ 1.9-	1993 01 28	809	0.3+ 1.8-
1977 10 11	675	1.6+ 0.3-	1981 09 01	675	0.3+ 0.0	1993 01 28	809	0.2- 1.0-
1977 10 12	675	0.1+ 1.4-	1981 09 02	675	0.7- 1.6-	1998 02 26	566	0.8- 0.2-
1977 10 12	675	0.3+ 2.3-	1981 09 30	413	0.0 0.2-	1998 02 26	566	0.9- 0.4-
1977 10 16	675	0.1+ 1.8-	1981 09 30	413	1.5+ 0.3-	1998 02 26	566	0.8- 0.0
1977 10 16	675	1.1- 0.0	1982 12 09	413	0.1- 0.5+	1998 04 28	566	0.4- 1.3-
1977 10 17	675	(0.5- 2.9-)	1984 02 26	095	2.2- 0.2+	1998 04 28	566	(1.6+ 3.6-)
1977 10 17	675	1.1- 0.6-	1986 08 01	413	0.2- 1.2+	1998 04 28	566	0.2- 1.3-
1977 10 21	675	0.5+ 0.0	1993 01 22	809	1.1+ 0.3-	1998 04 28	566	(1.4+ 3.2-)
1977 10 21	675	0.3- 0.0	1993 01 22	809	0.3+ 0.8+	1998 04 28	566	0.0 1.2-
1977 10 22	675	1.8- 0.4+	1993 01 22	809	0.3+ 0.6+	1998 04 28	566	(1.1+ 3.2-)

1955 RE₁ = 1955 TF = 1998 FG₁₀₅Id. C. M. Bardwell (d, *MPC* 6414), G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	250.51494	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.26878239	ω 21.88920	+0.94759593	+0.30890813
<i>a</i>	2.3779471	Ω 319.82837	-0.30863777	+0.81934342
<i>e</i>	0.2550869	<i>i</i> 7.25572	-0.08249049	+0.48296183
<i>P</i>	3.67	<i>H</i> 14.0	<i>G</i> 0.15	<i>U</i> 5

Residuals in seconds of arc

1955 09 14	760	(5.0- 3.1+)	1955 10 12	760	1.2+ 0.3-	1998 03 31	704	0.2+ 0.1-
1955 09 14	760	(5.2- 2.2+)	1955 10 12	760	1.2- 0.3-	1998 04 01	704	0.8+ 1.4+
1955 09 21	760	(2.5+ 25.3-)	1998 03 31	704	0.1- 0.0	1998 04 01	704	0.3- 0.2+
1955 09 21	760	0.0 0.0	1998 03 31	704	0.8- 1.2-	1998 04 01	704	0.3+ 1.5+
1955 10 11	760	1.1+ 0.5+	1998 03 31	704	1.3+ 1.2-	1998 04 01	704	0.1+ 1.0-
1955 10 11	760	1.1- 0.1+	1998 03 31	704	0.4- 1.1+	1998 04 01	704	1.0- 0.7-

1972 AU = 1970 QE₁ = 1987 SV₁₄ = 1991 RE₁₃ = 1991 UT₄Id. S. Nakano (*MPC* 13602), G. V. Williams; 1972 AU = 1987 TB (*ibid.*) is invalid

M.P.C. 31706

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	229.17616	(2000.0)	P		Q	
<i>n</i>	0.23559618	ω	10.24625	+0.99005127	+0.12410612	
<i>a</i>	2.5963141	Ω	342.21068	-0.13949822	+0.80410499	
<i>e</i>	0.1711124	<i>i</i>	12.53407	-0.01840456	+0.58138871	
<i>P</i>	4.18	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>
Residuals in seconds of arc						
1970 08 30	095 (3.8- 4.3+)	1998 03 31	704	0.1+ 0.2+	1998 04 18	704 0.3+ 0.2+
1970 09 09	095 (13.8+ 5.1-)	1998 03 31	704	0.1+ 0.1+	1998 04 18	704 0.5+ 1.6-
1972 01 14	029 0.6- 0.9-	1998 03 31	704	0.1+ 0.6+	1998 04 18	704 (2.6- 0.4-)
1972 01 15	029 0.1- 0.8-	1998 03 31	704	0.3- 0.8+	1998 04 19	704 0.3+ 0.3-
1972 01 16	029 0.1- 0.4+	1998 04 01	704	0.3+ 0.7+	1998 04 19	704 0.5+ 0.3-
1972 01 17	029 (7.9- 0.9-)	1998 04 01	704	0.3- 0.4+	1998 04 19	704 0.0 0.4+
1987 09 23	095 0.7- 1.9+	1998 04 01	704	0.2+ 0.7+	1998 04 19	704 0.3+ 0.0
1987 09 25	095 0.5+ 0.6-	1998 04 01	704	0.6- 1.0+	1998 04 19	704 0.0 0.1+
1991 09 13	675 0.7+ 0.7-	1998 04 01	704	0.4- 0.6+	1998 04 22	426 0.3- 0.3-
1991 09 13	675 0.5+ 0.5-	1998 04 17	426	0.1+ 0.6-	1998 04 22	426 0.4- 0.3-
1991 09 15	675 0.5+ 0.1-	1998 04 17	426	0.2+ 0.9-	1998 04 22	426 0.3- 0.4-
1991 09 15	675 0.5+ 0.6-	1998 04 17	426	0.1+ 0.5-	1998 04 28	566 0.0 0.8-
1991 10 18	399 0.8- 0.5+	1998 04 18	704	0.7- 0.2-	1998 04 28	566 0.6- 0.5-
1991 10 18	399 0.2- 1.1-	1998 04 18	704	0.2- 0.5-	1998 04 28	566 (0.2- 3.5-)

1975 SG₁ = 1998 FO₈₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	105.64798	(2000.0)	P		Q	
<i>n</i>	0.23520720	ω	48.34500	+0.28073030	-0.95679302	
<i>a</i>	2.5991757	Ω	25.64889	+0.82036920	+0.19823918	
<i>e</i>	0.0947717	<i>i</i>	10.07830	+0.49818156	+0.21271658	
<i>P</i>	4.19	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>
Residuals in seconds of arc						
1975 09 30	675 0.1- 0.1+	1998 03 24	704	0.7- 1.2-	1998 03 25	704 1.7+ 0.1-
1975 10 01	675 0.5- 0.4+	1998 03 24	704	1.3- 0.5+	1998 03 25	704 0.5+ 1.2+
1975 10 02	675 2.2+ 0.1-	1998 03 24	704	0.7- 0.4-	1998 03 25	704 1.6- 0.8+
1975 10 15	675 0.7- 0.9+	1998 03 24	704	0.1+ 0.8+	1998 03 25	704 1.4+ 0.0
1975 10 16	675 0.8- 1.3-	1998 03 25	704	0.6+ 1.4-		

1977 DH₄ = 1998 FR₁₀₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	125.76394	(2000.0)	P		Q	
<i>n</i>	0.23849986	ω	79.80583	+0.35299427	-0.93489795	
<i>a</i>	2.5751980	Ω	349.30032	+0.76167050	+0.31003905	
<i>e</i>	0.1635550	<i>i</i>	11.46069	+0.54337197	+0.17274726	
<i>P</i>	4.13	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>
Residuals in seconds of arc						
1977 02 18	381 1.5+ 0.7-	1998 03 26	566	0.2- 0.2-	1998 04 18	704 0.3- 0.1-
1977 02 18	381 1.1+ 1.2-	1998 03 26	566	0.3+ 0.2-	1998 04 18	704 0.4- 0.8+
1977 02 19	381 0.8- 0.9+	1998 03 31	704	0.7+ 0.2+	1998 04 18	704 0.0 0.5-
1977 03 12	381 1.0- 0.4+	1998 03 31	704	0.1- 0.5-	1998 04 18	704 0.8- 0.2-
1977 03 12	381 1.0- 0.4+	1998 03 31	704	0.3+ 0.4-	1998 04 19	704 0.4- 0.3+
1998 03 20	704 0.5+ 0.0	1998 03 31	704	0.4+ 0.8+	1998 04 19	704 0.0 0.3-
1998 03 20	704 0.2- 0.3-	1998 04 01	704	0.2- 0.2+	1998 04 19	704 0.8- 0.1+
1998 03 20	704 0.5+ 0.9+	1998 04 01	704	0.2- 0.5+	1998 04 19	704 0.4- 0.3+
1998 03 20	704 0.5- 0.1-	1998 04 01	704	0.6+ 0.5+	1998 04 19	704 0.3- 1.2-
1998 03 20	704 0.2- 0.4-	1998 04 01	704	0.6+ 0.7+		
1998 03 26	566 0.0 0.4-	1998 04 01	704	1.1+ 0.5-		

1978 RQ₁ = 1991 GN₁₃ = 1998 HR₅

Id. G. V. Williams, T. B. Spahr

1998 MAY 11

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	283.89429	(2000.0)	P		Q	
<i>n</i>	0.28431329	ω	144.44135	+0.77776712	+0.62852519	
<i>a</i>	2.2905403	Ω	176.59983	-0.59713920	+0.74177677	
<i>e</i>	0.1498739	<i>i</i>	5.67427	-0.19622202	+0.23393013	
<i>P</i>	3.47	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>
Residuals in seconds of arc						
1978 09 05	095 (0.8+ 3.4+)	1998 04 21	704	0.1- 0.1+	1998 04 22	704 0.4- 0.1-
1978 09 07	095 1.1- 0.9-	1998 04 21	704	0.8- 0.2-	1998 04 22	704 0.5- 0.1+
1978 09 12	095 0.2- 0.2-	1998 04 21	704	0.6+ 0.6-	1998 04 22	704 0.5- 0.3+
1978 09 28	095 2.3+ 1.3+	1998 04 21	704	0.1- 0.6+	1998 04 22	704 0.7- 0.6+
1978 10 04	095 1.2- 0.8+	1998 04 21	704	0.4+ 0.0	1998 04 24	910 0.5+ 0.2-
1978 10 09	095 0.0 0.7-	1998 04 21	910	0.5+ 0.2-	1998 04 24	910 0.6+ 0.1-
1991 04 10	809 0.9+ 0.2-	1998 04 21	910	0.4+ 0.0	1998 04 24	910 0.4+ 0.2-
1991 04 10	809 0.5- 0.8+	1998 04 21	910	0.4+ 0.2-		
1991 04 10	809 0.3- 0.0	1998 04 22	704	0.5- 0.1-		

1978 RT₆ = 1998 FB₆₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	321.44757	(2000.0)	P		Q	
<i>n</i>	0.28644411	ω	110.92918	+0.11584831	+0.99293726	
<i>a</i>	2.2791669	Ω	165.65202	-0.94536199	+0.11812839	
<i>e</i>	0.1698585	<i>i</i>	5.92678	-0.30474558	+0.01101253	
<i>P</i>	3.44	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>
Residuals in seconds of arc						
1978 09 02	809 0.1+ 0.3-	1998 03 20	704	0.5- 0.2+	1998 04 20	704 0.2+ 0.4+
1978 09 02	809 1.0- 0.4+	1998 03 20	704	0.9+ 0.7+	1998 04 20	704 0.9+ 0.2+
1978 09 02	809 0.5- 0.2+	1998 03 20	704	0.2- 0.4-	1998 04 20	704 0.6+ 0.5-
1978 09 02	809 0.7+ 1.4+	1998 03 20	704	0.1- 0.2+	1998 04 22	704 0.4+ 0.1+
1978 09 02	809 0.9- 0.2+	1998 03 22	704	0.9+ 0.2-	1998 04 22	704 0.5- 0.5-
1978 09 10	809 0.2+ 0.3+	1998 03 22	704	0.6- 1.4+	1998 04 22	704 0.4+ 0.2-
1978 09 10	809 0.3+ 1.5-	1998 03 22	704	0.1+ 0.1+	1998 04 22	704 1.3- 0.4+
1978 09 10	809 1.2+ 0.0	1998 03 22	704	2.0- 0.3-	1998 04 22	704 0.4+ 1.2-
1978 09 10	809 0.1- 1.0-	1998 03 22	704	0.7+ 0.6+		
1998 03 20	704 0.6- 2.2-	1998 04 20	704	0.4+ 1.0+		

1978 RU₈ = 1992 EN₃₁Id. T. Kobayashi (*MPC* 24226)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	170.56041	(2000.0)	P		Q	
<i>n</i>	0.17818885	ω	225.80811	+0.86234321	-0.50370669	
<i>a</i>	3.1276324	Ω	164.21104	+0.50149731	+0.83571808	
<i>e</i>	0.1849776	<i>i</i>	10.89263	+0.06974699	+0.21875754	
<i>P</i>	5.53	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>
Residuals in seconds of arc						
1978 09 02	809 0.9- 0.6-	1978 09 10	809	0.4+ 1.6+	1998 03 24	704 1.1- 0.4+
1978 09 02	809 0.8- 0.2-	1978 09 10	809	0.6+ 0.1+	1998 03 24	704 1.5+ 1.0+
1978 09 02	809 0.7- 0.1+	1992 03 01	809	0.0 0.3+	1998 03 25	704 0.4+ 0.1-
1978 09 02	809 0.8+ 0.0	1992 03 03	809	0.6- 0.3+	1998 03 25	704 1.0+ 0.6-
1978 09 06	809 0.4+ 0.0	1992 03 06	809	0.7+ 0.4-	1998 03 25	704 1.3+ 0.8+
1978 09 10	809 (0.7- 3.0+)	1998 03 24	704	0.6- 0.1-	1998 03 25	704 (2.2- 2.4-)
1978 09 10	809 0.2+ 0.7-	1998 03 24	704	0.7- 0.3-	1998 03 25	704 1.9- 1.1-

1978 TT₇ = 1998 FP₉₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	219.96254	(2000.0)	P		Q	
<i>n</i>	0.22640076	ω	256.99983	+0.93623307	+0.30161359	
<i>a</i>	2.6661472	Ω	85.22324	-0.20877760	+0.89014499	
<i>e</i>	0.2606004	<i>i</i>	10.42203	-0.28262972	+0.34157157	
<i>P</i>	4.35	<i>H</i>	12.5	<i>G</i>	0.15	<i>U</i>

Residuals in seconds of arc

1978 10 02	095	0.4−	0.2+	1998 03 24	704	0.3−	0.3−	1998 03 25	704	0.3−	0.2−
1978 10 08	095	0.5+	0.1+	1998 03 24	704	0.4+	0.2+	1998 03 25	704	(3.8−	1.3+)
1978 11 01	095	0.0	0.4−	1998 03 24	704	0.7+	0.2−	1998 03 25	704	(2.8−	0.6−)
1998 02 26	566	0.3+	0.6+	1998 03 24	704	0.6−	0.3−	1998 04 28	566	0.2−	0.1+
1998 02 26	566	0.3+	0.2+	1998 03 25	704	0.1−	0.1−	1998 04 28	566	0.2−	0.0
1998 02 26	566	0.0	0.5+	1998 03 25	704	0.3+	0.0	1998 04 28	566	0.4−	0.6−

1979 MA₅ = 1992 BO₂Id. B. G. Marsden (*MPC* 20141)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
<i>M</i>	164.33547	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.19173879	ω	135.23468	+0.80845904	−0.57006717		
<i>a</i>	2.9784894	Ω	260.06333	+0.48976684	+0.78952330		
<i>e</i>	0.1042713	<i>i</i>	8.54439	+0.32637774	+0.22732439		
<i>P</i>	5.14	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1979 06 23	413	1.5+	0.5−	1992 01 30	809	1.8+	0.3−	1998 03 31	704	0.2+	0.0
1979 06 24	413	0.3+	0.2−	1992 01 30	809	2.0+	0.6−	1998 03 31	704	0.2−	1.0+
1979 06 25	413	0.1−	1.1+	1992 01 30	809	1.3+	0.1+	1998 03 31	704	0.6−	1.0−
1979 06 29	413	1.8+	0.7+	1992 02 02	809	1.1+	0.7+	1998 03 31	704	0.5−	0.5+
1979 07 24	413	0.9−	1.5−	1992 02 02	809	0.3−	0.4+	1998 04 01	704	0.2+	0.3+
1979 07 26	675	0.6−	0.5−	1992 02 02	809	1.9−	1.2+	1998 04 01	704	0.3−	0.5−
1979 07 26	675	1.2−	1.3+	1992 02 06	809	0.4−	0.7−	1998 04 01	704	0.6+	0.3−
1979 07 27	675	0.7−	0.1−	1992 02 06	809	2.1−	0.3−	1998 04 01	704	0.5+	0.0
1979 07 28	413	(3.3−	1.2−)	1992 02 06	809	1.6−	0.5−				

1980 KE = 1988 SD₄ = 1998 FA₉₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
<i>M</i>	273.24427	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.26718298	ω	53.67841	+0.64609831	+0.75101494		
<i>a</i>	2.3874275	Ω	257.14986	−0.73737460	+0.56812900		
<i>e</i>	0.2179425	<i>i</i>	8.02673	−0.19706769	+0.33646100		
<i>P</i>	3.69	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1980 05 22	809	1.0−	1.8+	1980 06 02	809	0.6+	0.2−	1988 09 16	095	0.1−	0.6−
1980 05 22	809	0.9−	1.5+	1980 06 04	809	0.7+	1.1+	1988 09 16	095	0.1+	0.6+
1980 05 22	809	1.1−	1.9+	1980 06 04	809	0.1+	1.2+	1998 03 31	704	0.8+	0.1+
1980 05 23	809	(2.2+	5.1+)	1980 06 04	809	0.1−	1.0+	1998 03 31	704	0.4+	0.3−
1980 05 23	809	(2.5+	5.5+)	1980 06 05	809	0.9−	0.8+	1998 03 31	704	0.3−	0.8−
1980 05 23	809	(2.1+	5.8+)	1980 06 05	809	0.7−	0.6+	1998 03 31	704	0.8−	0.2−
1980 05 24	809	0.8+	2.0−	1980 06 05	809	0.0	0.2−	1998 03 31	704	0.8−	0.4−
1980 05 24	809	2.1+	2.0−	1980 06 11	809	0.1−	1.8−	1998 04 01	704	0.2+	0.1−
1980 06 01	809	0.5−	0.0	1980 06 11	809	0.6−	1.3−	1998 04 01	704	1.2+	0.4−
1980 06 01	809	0.2+	0.0	1980 06 11	809	0.7−	0.7−	1998 04 01	704	0.4−	0.1+
1980 06 01	809	0.3+	0.5−	1980 06 12	809	1.6+	0.2−	1998 04 01	704	0.6−	0.9+
1980 06 02	809	0.3+	0.2−	1980 06 12	809	0.4+	0.2−	1998 04 01	704	0.2+	0.9+
1980 06 02	809	0.2−	0.4−	1980 06 12	809	0.1−	0.3−				

1981 DA₂ = 1998 FO₁₀₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
<i>M</i>	167.31542	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.17496786	ω	99.47573	+0.80692996	−0.58117930		
<i>a</i>	3.1659001	Ω	296.12970	+0.48537465	+0.75409704		
<i>e</i>	0.1115156	<i>i</i>	6.73754	+0.33656425	+0.30588932		
<i>P</i>	5.63	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1981 02 09	413	0.6−	0.7+	1981 03 12	413	2.1−	0.7+	1998 03 31	704	0.4+	1.1−
1981 02 12	413	0.8−	0.2+	1981 03 12	413	0.9−	1.6+	1998 03 31	704	0.6−	1.4−
1981 02 28	413	0.6−	1.0−	1981 04 09	413	0.7−	0.2−	1998 04 01	704	0.9−	1.2+
1981 03 01	413	2.4+	0.5−	1981 04 09	413	0.4−	0.2−	1998 04 01	704	0.1−	0.7+
1981 03 06	413	0.3−	0.4+	1981 05 01	413	3.5+	1.8−	1998 04 01	704	3.4+	0.1+

1981 03 06	413	1.2+	0.7−	1981 05 03	413	1.6+	0.3−	1998 04 01	704	0.9+	0.6+
1981 03 08	413	1.6−	0.9+	1981 05 03	413	0.7−	0.4+	1998 04 01	704	3.3−	0.8−
1981 03 08	413	0.5−	0.0	1981 05 03	413	0.8+	0.2+				

1981 DQ₃ = 1998 FX₁₂₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
<i>M</i>	306.19052	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.22374974	ω	260.84268	−0.72999799	+0.67394553		
<i>a</i>	2.6871652	Ω	321.40109	−0.53348425	−0.66577176		
<i>e</i>	0.1494075	<i>i</i>	10.48967	−0.42719724	−0.32022710		
<i>P</i>	4.40	<i>H</i>	12.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1981 02 12	413	0.6−	0.6+	1981 03 08	413	0.6+	0.4+	1998 03 16	327	0.3−	0.5+
1981 02 28	413	0.6+	1.0+	1981 03 12	413	1.1−	0.2−	1998 03 16	327	0.1−	0.2−
1981 03 06	413	0.1−	1.0−	1981 03 12	413	0.2+	0.5+	1998 03 19	327	0.3+	0.2−
1981 03 06	413	2.0+	2.2−	1981 05 01	413	0.6−	0.1−	1998 03 19	327	0.1+	0.3+
1981 03 08	413	1.3−	0.4+	1981 05 02	413	0.3+	0.6+	1998 03 19	327	0.0	0.3−

1981 EP₁ = 1996 XV₃₁ = 1997 XG₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
<i>M</i>	38.78644	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.17680959	ω	161.90963	−0.94220602	−0.33499225		
<i>a</i>	3.1438767	Ω	358.48733	+0.27727661	−0.77081383		
<i>e</i>	0.1728169	<i>i</i>	11.56359	+0.18805714	−0.54187289		
<i>P</i>	5.57	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1981 03 07	809	0.1−	1.2−	1996 12 18	327	0.4+	0.8+	1998 03 22	704	0.1−	0.8+
1981 03 07	809	0.0	1.1−	1996 12 18	327	0.0	0.9+	1998 03 22	704	0.8+	0.1−
1981 03 07	809	0.3+	0.8−	1996 12 18	327	0.4−	0.7+	1998 03 22	704	0.7+	0.1+
1981 03 09	809	0.1+	0.4−	1996 12 18	327	0.1+	0.9+	1998 03 22	704	0.1+	0.2−
1981 03 09	809	0.5+	0.3−	1997 12 07	910	1.5−	0.7−	1998 04 04	699	0.3+	0.6+
1981 03 09	809	0.6+	0.4−	1997 12 07	910	1.4−	0.6−	1998 04 04	699	0.8+	0.9+
1981 03 12	809	0.0	0.6−	1997 12 07	910	1.3−	0.7−	1998 04 04	699	0.0	0.6+
1981 03 12	809	0.3−	0.4−	1997 12 08	910	1.3−	0.6−	1998 04 18	704	0.9−	1.7+
1981 03 12	809	0.3−	0.1+	1997 12 08	910	1.3−	0.5−	1998 04 18	704	1.0+	1.0+
1981 03 13	809	1.4−	0.1+	1997 12 08	910	1.4−	0.6−	1998 04 18	704	0.3+	1.4+
1981 03 13	809	1.2−	0.1+	1998 03 20	704	0.3−	0.3−	1998 04 18	704	1.0+	0.3+
1981 03 13	809	1.2−	0.2+	1998 03 20	704	0.3+	0.2−	1998 04 19	704	0.3+	0.7+
1996 12 12	327	0.6−	1.0+	1998 03 20	704	1.0+	0.5−	1998 04 19	704	0.1+	1.3+
1996 12 12	327	1.4−	0.6+	1998 03 20	704	1.1+	1.2−	1998 04 19	704	0.5+	1.1+
1996 12 12	327	1.1+	1.1+	1998 03 20	704	0.3+	0.4−	1998 04 19	704	0.3+	0.2−
1996 12 18	327	0.0	0.7+	1998 03 22	704	0.1+	0.0	1998 04 19	704	0.2+	0.5+

1981 EL₂ = 1998 FC₁₀₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
<i>M</i>	252.24114	(2000.0)		<i>P</i>	<i>Q</i>		
<i>n</i>	0.23253985	ω	97.43250	+0.81142327	+0.56761987		
<i>a</i>	2.6190139	Ω	228.10136	−0.58229793	+0.76465670		
<i>e</i>	0.1623769	<i>i</i>	10.78517	−0.05021356	+0.30513574		
<i>P</i>	4.24	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1981 02 02	413	0.3−	0.7+	1981 04 09	413	0.7−	0.9−	1998 04 01	704	1.3+	0.4+
1981 02 02	413	0.4+	1.3+	1981 04 09	413	0.2+	1.1−	1998 04 01	704	1.0+	1.0+
1981 03 02	413	0.2−	0.1−	1998 03 31	704	1.0−	0.0	1998 04 01	704	1.6+	0.3+
1981 03 07	413	2.1−	0.1−	1998 03 31	704	2.4−	0.7−	1998 04 01	704	1.5−	0.2−
1981 03 07	413	1.7+	1.6−	1998 03 31	704	1.1+	0.7+				
1981 03 10	413	0.1−	0.7−	1998 03 31	704	0.7+	1.4+				

M.P.C. 31708

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	88.57605	(2000.0)	P		Q	
<i>n</i>	0.17665023	ω	225.71773	-0.19120499	-0.97449686	
<i>a</i>	3.1457671	Ω	235.65652	+0.93620517	-0.14510951	
<i>e</i>	0.2318299	<i>i</i>	8.17856	+0.29489071	-0.17116981	
<i>P</i>	5.58	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i> 4

Residuals in seconds of arc

1951 11 28	675	0.4-	0.2-	1981 04 07	413	0.1+	0.8-	1998 04 01	704	1.0+	0.4-
1951 11 28	675	0.1+	0.2-	1981 04 08	413	0.8-	0.0	1998 04 01	704	0.9+	1.4-
1981 02 02	413	1.1-	0.8-	1981 04 08	413	1.0+	0.9-	1998 04 01	704	1.3-	0.8-
1981 02 14	413	0.2+	2.1-	1981 04 09	413	0.6-	0.7+	1998 04 20	704	0.2+	0.5-
1981 03 02	413	0.1+	0.6+	1981 04 09	413	0.5+	0.5-	1998 04 20	704	0.1-	0.4-
1981 03 02	413	1.5+	0.0	1981 05 03	413	0.2-	0.4+	1998 04 20	704	0.9-	0.7+
1981 03 07	413	0.3-	1.0+	1998 03 31	704	0.1+	0.3-	1998 04 20	704	0.5-	1.9+
1981 03 07	413	1.1+	0.2-	1998 03 31	704	0.2+	0.8+	1998 04 20	704	(3.0-	1.5-)
1981 03 10	413	0.7-	1.7+	1998 03 31	704	0.3+	0.7-	1998 04 22	704	1.0+	0.9+
1981 03 10	413	1.2+	0.5+	1998 03 31	704	0.5+	0.1+	1998 04 22	704	0.1-	0.7-
1981 03 12	413	0.8-	1.3+	1998 03 31	704	0.1+	1.1-	1998 04 22	704	0.5-	0.1+
1981 03 12	413	2.0+	0.5-	1998 04 01	704	0.5+	0.0	1998 04 22	704	0.5-	0.9+
1981 04 07	413	2.0-	0.8+	1998 04 01	704	0.7-	0.1+	1998 04 22	704	1.2-	1.0-

1981 EW₅

Id. P. Comba (1998 observations)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	196.90706	(2000.0)	P		Q	
<i>n</i>	0.24174870	ω	189.40103	+0.60108310	-0.78472283	
<i>a</i>	2.5520741	Ω	223.84721	+0.74670421	+0.61894624	
<i>e</i>	0.1506489	<i>i</i>	12.62049	+0.28483667	+0.03340114	
<i>P</i>	4.08	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i> 5

Residuals in seconds of arc

1981 02 02	413	0.9-	2.0-	1981 03 12	413	0.2-	0.7+	1981 04 29	413	0.1+	0.5-
1981 02 09	413	0.7-	0.1-	1981 03 12	413	1.7+	1.2-	1981 04 27	684	0.3-	0.1-
1981 03 07	413	0.0	1.2+	1981 04 07	413	1.1-	1.7+	1981 04 27	684	0.5-	0.1-
1981 03 07	413	1.5+	0.6-	1981 04 07	413	0.3-	0.2-	1998 04 29	684	0.5+	0.0
1981 03 10	413	0.5-	1.3+	1981 04 09	413	0.8-	0.4+	1998 04 29	684	0.3+	0.0
1981 03 10	413	0.1+	0.9+	1981 04 09	413	0.9+	1.9-				

1981 EE₇ = 1998 FE₁₁₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	348.46788	(2000.0)	P		Q	
<i>n</i>	0.29105075	ω	303.03673	-0.27508351	+0.95796219	
<i>a</i>	2.2550538	Ω	310.77657	-0.84231975	-0.28099194	
<i>e</i>	0.1921638	<i>i</i>	6.17618	-0.46349381	-0.05789623	
<i>P</i>	3.39	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i> 5

Residuals in seconds of arc

1981 02 09	413	0.5+	0.4+	1981 04 08	413	0.8+	0.2-	1998 03 31	704	0.8+	0.5+
1981 02 12	413	0.6-	0.2+	1981 04 08	413	1.5+	0.1+	1998 03 31	704	0.9-	0.7-
1981 03 06	413	1.6-	0.5-	1981 04 09	413	0.9-	0.2+	1998 04 01	704	0.6+	1.4-
1981 03 06	413	0.7+	1.9-	1981 04 09	413	1.3+	0.0	1998 04 01	704	0.6-	0.6+
1981 03 08	413	1.1-	1.0+	1981 05 01	413	0.4-	1.0+	1998 04 01	704	1.0+	0.1+
1981 03 08	413	1.9+	0.7+	1981 05 03	413	0.3-	0.3-	1998 04 01	704	1.3-	1.0+
1981 03 12	413	1.6-	0.1+	1998 03 31	704	0.4-	0.6-				
1981 03 12	413	0.0	0.1+	1998 03 31	704	0.4+	0.4-				

1981 ER₈ = 1998 FA₁₀₉

Id. G. V. Williams, S. J. Bus (1979 observations)

1998 MAY 11

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	86.23671	(2000.0)	P		Q	
<i>n</i>	0.23357282	ω	155.59752	-0.42403678	-0.90419866	
<i>a</i>	2.6112865	Ω	319.43951	+0.81744720	-0.35781253	
<i>e</i>	0.1162631	<i>i</i>	4.51276	+0.38983700	-0.23322732	
<i>P</i>	4.22	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i> 3

Residuals in seconds of arc

1979 10 18	675	0.4+	0.6-	1981 03 11	413	0.2+	0.4-	1998 03 31	704	1.9+	0.2+
1979 10 18	675	0.6-	1.4+	1981 03 15	413	1.3-	0.6-	1998 03 31	704	1.4-	1.0+
1981 02 09	413	0.3+	0.7+	1981 03 15	413	0.6+	1.1-	1998 04 01	704	0.4+	0.2-
1981 02 13	413	0.2+	1.3-	1981 04 12	413	2.3-	1.1+	1998 04 01	704	1.3-	1.2-
1981 03 01	413	0.6-	1.0+	1981 04 12	413	1.4+	1.5-	1998 04 01	704	2.1+	0.2+
1981 03 01	413	1.6+	0.4+	1981 04 30	413	0.4-	0.2-	1998 04 01	704	1.1+	1.6+
1981 03 07	413	0.6-	0.2-	1981 05 02	413	1.2+	1.0-	1998 04 01	704	0.2-	1.0+
1981 03 07	413	0.4-	0.4+	1998 03 31	704	0.3-	0.8-				
1981 03 11	413	0.6-	0.7+	1998 03 31	704	1.1-	0.8+				

1981 EM₁₀ = 1992 DJ₁₃Id. E. Bowell (*MPC* 26899), G. V. Williams (*ibid.*)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	209.64935	(2000.0)	P		Q	
<i>n</i>	0.17403660	ω	15.74659	+0.98686430	+0.14874099	
<i>a</i>	3.1771836	Ω	335.43123	-0.15970024	+0.83928768	
<i>e</i>	0.0696401	<i>i</i>	8.72166	-0.02438635	+0.52294580	
<i>P</i>	5.66	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i> 4

Residuals in seconds of arc

1981 02 09	413	(2.8+	2.8-)	1981 04 12	413	0.4+	0.3-	1998 04 01	704	0.5+	1.9-
1981 02 12	413	0.6-	0.0	1981 04 12	413	0.4-	0.4+	1998 04 01	704	0.7+	0.6-
1981 02 13	413	1.2+	0.9-	1981 05 03	413	1.0+	1.4-	1998 04 01	704	0.5+	0.2-
1981 03 01	413	1.7-	0.1-	1992 02 25	675	0.1-	0.3+	1998 04 01	704	0.6-	0.3+
1981 03 01	413	0.6+	0.6-	1992 02 25	675	1.3+	0.6+	1998 04 18	704	0.1+	0.6+
1981 03 07	413	0.8+	0.2+	1992 02 29	691	0.1-	0.3-	1998 04 18	704	1.0+	0.4+
1981 03 07	413	1.5+	0.9+	1992 02 29	691	0.6-	0.4-	1998 04 18	704	0.2+	1.4-
1981 03 15	413	0.5-	0.6+	1992 02 29	691	0.6-	0.5-	1998 04 18	704	1.6-	0.2+
1981 03 15	413	2.1+	1.2+	1998 03 03	704	0.7-	0.5+	1998 04 19	704	(1.1+	2.3-)
1981 04 05	413	1.3-	1.0+	1998 03 03	704	0.1+	0.3-	1998 04 19	704	0.7-	1.4+
1981 04 05	413	0.7-	0.1+	1998 03 03	704	(1.9-	2.1+)	1998 04 19	704	1.8+	0.6+
1981 04 06	413	0.9-	0.5+	1998 03 04	704	1.2-	0.0	1998 04 19	704	(0.0	2.4-)
1981 04 06	413	0.7+	0.6-	1998 03 04	704	(3.3-	1.2+)	1998 04 19	704	0.1-	1.1-
1981 04 07	413	1.5-	0.1-	1998 03 04	704	0.5-	0.8+				

1981 EO₁₀ = 1998 HM₂₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	179.65487	(2000.0)	P		Q	
<i>n</i>	0.23367683	ω	194.09720	+0.86423544	-0.49816721	
<i>a</i>	2.6105115	Ω	196.35296	+0.48235250	+0.86015294	
<i>e</i>	0.0855223	<i>i</i>	14.43567	+0.14294465	+0.10939082	
<i>P</i>	4.22	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i> 5

Residuals in seconds of arc

1981 02 02	413	0.8+	0.1-	1981 03 15	413	0.6-	1.0+	1998 04 20	704	0.8+	1.1+
1981 02 14	413	1.2-	3.5-	1981 04 06	413	0.9-	0.4+	1998 04 20	704	0.6-	1.7-
1981 03 01	413	2.0-	1.7+	1981 04 06	413	1.7+	2.3-	1998 04 22	704	0.8-	1.1-
1981 03 07	413	0.2+	1.3+	1981 05 02	413	0.8-	2.7+	1998 04 22	704	0.5+	1.0+
1981 03 07	413	0.9+	1.2+	1981 05 03	413	0.8-	0.1-	1998 04 22	704	0.7+	0.5+
1981 03 11	413	0.7-	1.3+	1998 04 20	704	0.1+	0.5+	1998 04 22	704	1.2-	0.1-
1981 03 11	413	3.4+	2.0-	1998 04 20	704	0.9+	1.1-	1998 04 22	704	0.7-	0.5-

1998 MAY 11

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1981 ER₁₀ = 1996 TP₄₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.28594248	ω	97.71208	+0.99309029	+0.11110662		
<i>a</i>	2.2818316	Ω	255.91450	-0.11703177	+0.91386781		
<i>e</i>	0.1510142	<i>i</i>	2.23204	-0.00867406	+0.39051369		
<i>P</i>	3.45	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	3
Residuals in seconds of arc							
1978 05 09	675	1.7-	0.2+	1981 04 06	413	0.8+	1.0-
1978 05 10	675	1.9+	1.7-	1981 04 06	413	1.1+	0.4-
1978 05 10	675	1.2-	0.9-	1981 04 07	413	2.0-	0.9+
1981 02 13	413	0.2-	0.8+	1981 04 07	413	1.1+	1.0-
1981 03 01	413	1.5-	1.1+	1981 04 12	413	0.8+	0.9-
1981 03 01	413	0.4+	0.3+	1981 04 30	413	0.1-	1.5-
1981 03 07	413	0.1-	0.7+	1981 05 02	413	2.0-	2.0-
1981 03 07	413	0.4+	1.3+	1996 10 04	809	(0.6+	3.6-)
1981 03 11	413	(3.0-	1.7+)	1996 10 04	809	(0.7-	4.3-)
1981 03 11	413	0.7+	0.1+	1996 10 04	809	(0.4-	4.3-)
1981 03 15	413	(2.9-	0.9+)	1996 10 05	809	1.0+	1.4-
1981 03 15	413	0.5+	0.6+	1996 10 05	809	0.4+	1.8-

1981 EB₁₂ = 1998 FL₉₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17340881	ω	322.25172	-0.72614031	+0.68057403		
<i>a</i>	3.1848473	Ω	260.93692	-0.60427608	-0.69948769		
<i>e</i>	0.0974325	<i>i</i>	5.67605	-0.32797967	-0.21802742		
<i>P</i>	5.68	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	5
Residuals in seconds of arc							
1981 02 09	413	1.0-	0.2+	1981 04 09	413	0.2+	1.0+
1981 02 14	413	1.1+	0.1-	1981 04 09	413	0.2+	0.5+
1981 03 01	413	0.5+	0.6-	1981 05 01	413	0.0	0.0
1981 03 06	413	0.7+	1.1+	1981 05 03	413	0.3-	0.5-
1981 03 08	413	1.1-	0.6+	1981 03 31	704	0.4+	3.1-
1981 03 08	413	1.0+	0.4-	1981 03 31	704	0.1+	0.2-
1981 03 12	413	0.6-	0.1+	1981 03 31	704	1.5+	0.5-
1981 03 12	413	0.2-	0.8-	1981 03 31	704	1.3-	0.0

1981 EZ₁₂ = 1998 FU₁₂₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29104131	ω	133.49729	+0.61604884	-0.78383324		
<i>a</i>	2.2551025	Ω	278.31175	+0.69804377	+0.58914147		
<i>e</i>	0.1212200	<i>i</i>	4.52317	+0.36499140	+0.19625949		
<i>P</i>	3.39	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5
Residuals in seconds of arc							
1981 02 09	413	0.6+	0.1-	1981 04 09	413	0.5+	0.8-
1981 02 12	413	0.7-	0.3+	1981 05 03	413	0.9-	2.3-
1981 03 01	413	0.2-	0.3-	1981 05 03	413	0.3+	0.6-
1981 03 01	413	(5.9-	0.5-)	1981 03 31	704	1.9-	2.5+
1981 03 06	413	0.7-	1.3+	1981 03 31	704	0.8+	0.3+
1981 03 08	413	1.2+	0.2-	1981 03 31	704	0.3+	0.6+
1981 03 12	413	0.5-	1.3-	1981 03 31	704	0.6+	0.4+
1981 04 09	413	1.2-	0.3+	1981 04 01	704	0.2+	0.2+

1981 EE₁₃ = 1998 FE₁₁₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.23556624	ω	322.41890	+0.31644318	+0.94581476		
<i>a</i>	2.5965340	Ω	325.85456	-0.83584387	+0.24171820		
<i>e</i>	0.1953872	<i>i</i>	7.45106	-0.44858526	+0.21681041		
<i>P</i>	4.18	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1981 02 12	413	0.1+	1.0-	1981 04 09	413	0.1-	0.1-
1981 02 12	413	1.0-	0.4-	1981 05 03	413	0.4+	0.0
1981 03 01	413	0.2+	1.2+	1981 03 31	704	0.7+	0.9-
1981 03 08	413	(3.2-	1.1+)	1981 03 31	704	0.2-	0.6-
1981 03 12	413	0.3+	0.2-	1981 03 31	704	0.7-	0.7-
1981 04 08	413	1.3-	0.9+	1981 03 31	704	(2.4+	0.4+)
1981 04 09	413	1.5+	0.3-	1981 04 01	704	0.4-	0.3-

1981 EO₁₃ = 1998 FZ₁₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29237762	ω	228.90938	-0.97491313	+0.21665835		
<i>a</i>	2.2482260	Ω	323.51886	-0.16967797	-0.87175654		
<i>e</i>	0.0631271	<i>i</i>	4.92318	-0.14406169	-0.43943111		
<i>P</i>	3.37	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1981 02 12	413	0.7+	0.7-	1981 04 08	413	0.2+	0.0
1981 02 12	413	0.7+	1.1+	1981 04 09	413	1.2-	0.4+
1981 03 01	413	0.4+	0.0	1981 04 09	413	0.1-	0.7-
1981 03 06	413	0.8-	0.7+	1981 05 01	413	0.8+	0.8-
1981 03 06	413	0.2+	0.1-	1981 05 01	413	0.1-	1.0-
1981 03 08	413	1.3-	0.2-	1981 05 03	413	1.9-	1.5-
1981 03 08	413	0.5+	0.5-	1981 05 03	413	1.1-	1.4-
1981 03 12	413	2.1+	0.1+	1981 03 31	704	0.3+	1.1+
1981 04 08	413	1.2-	0.7+	1981 03 31	704	0.0	2.3+

1981 EQ₁₃ = 1998 FE₉₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.23122948	ω	203.43755	-0.99630264	+0.02588796		
<i>a</i>	2.6288991	Ω	337.57787	+0.02559316	-0.82079673		
<i>e</i>	0.2331542	<i>i</i>	12.40213	-0.08201240	-0.57063346		
<i>P</i>	4.26	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	3
Residuals in seconds of arc							
1981 02 12	413	0.1+	0.3+	1981 04 07	413	1.3+	0.0
1981 02 12	413	0.9+	1.2-	1981 04 08	413	1.4-	0.6+
1981 03 01	413	0.1-	0.4+	1981 04 08	413	1.6+	0.4+
1981 03 01	413	1.2+	0.6+	1981 04 09	413	0.8-	0.5+
1981 03 06	413	1.3+	0.5+	1981 04 09	413	1.0+	0.7+
1981 03 08	413	0.6-	0.3+	1981 05 02	413	0.3-	0.3-
1981 03 08	413	1.8+	0.9+	1981 05 02	413	1.5-	0.9-
1981 03 12	413	0.9-	0.2-	1981 03 31	704	0.8+	0.2-
1981 03 12	413	1.0+	0.2+	1981 03 31	704	1.3+	0.2-
1981 03 12	413	0.6-	0.6+	1981 03 31	704	0.8+	0.5-
1981 03 12	413	1.3+	1.0+	1981 03 31	704	0.8+	0.2+
1981 04 07	413	1.5-	1.1+	1981 03 31	704	0.2-	1.4-

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1981 EV₁₃ = 1998 FH₁₂₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17391130	ω	69.94404	+0.12055922	+0.98951171		
<i>a</i>	3.1787096	Ω	207.35687	-0.96318333	+0.09719384		
<i>e</i>	0.1678704	<i>i</i>	9.97182	-0.24029845	+0.10686410		
<i>P</i>	5.67	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1981 02 09	413	0.3+	0.5+	1998 03 03	704	1.0+	0.8-	1998 03 22	704	0.3-	0.5+
1981 02 12	413	0.3-	0.1+	1998 03 03	704	0.4-	0.8+	1998 03 22	704	0.3-	1.5-
1981 03 01	413	0.0	0.0	1998 03 03	704	0.7-	0.2+	1998 03 30	910	1.0+	0.8-
1981 03 06	413	0.1-	0.2+	1998 03 03	704	1.5+	1.3-	1998 03 30	910	0.8+	0.8-
1981 03 06	413	0.0	1.1-	1998 03 03	704	(2.3-	0.0)	1998 03 30	910	0.9+	0.8+
1981 03 08	413	0.3-	0.8+	1998 03 04	704	(0.2-	2.1-)	1998 04 18	704	0.5-	0.0
1981 03 08	413	1.0+	0.1+	1998 03 04	704	0.7+	1.2+	1998 04 18	704	0.2+	0.1+
1981 03 12	413	1.5-	1.2+	1998 03 04	704	(2.6-	0.1+)	1998 04 18	704	0.6+	1.0-
1981 03 12	413	0.5+	0.4-	1998 03 04	704	1.8-	0.8-	1998 04 18	704	0.5-	0.2-
1981 04 06	413	0.4-	0.7+	1998 03 04	704	(6.0-	1.0+)	1998 04 18	704	0.0	1.4+
1981 04 06	413	(5.5+	3.2-)	1998 03 20	704	0.2+	0.6+	1998 04 19	704	0.3+	0.2-
1981 04 08	413	1.5-	0.0	1998 03 20	704	0.6-	0.5-	1998 04 19	704	0.0	0.4+
1981 04 08	413	0.2+	0.8-	1998 03 20	704	0.2+	0.5+	1998 04 19	704	0.7-	0.1+
1981 04 09	413	0.3-	0.5+	1998 03 20	704	0.2+	0.7+	1998 04 19	704	1.2-	1.6+
1981 04 09	413	1.1+	0.8-	1998 03 20	704	1.1-	0.6+	1998 04 19	704	0.2-	1.0+
1981 05 01	413	0.7+	0.7-	1998 03 22	704	1.0+	1.2-				
1981 05 03	413	0.6+	1.3-	1998 03 22	704	0.1-	0.2-				

1981 EV₁₅ = 1998 FX₁₀₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.23232995	ω	217.77939	-0.90549751	+0.42238814		
<i>a</i>	2.6205910	Ω	347.01976	-0.33149143	-0.76406386		
<i>e</i>	0.0483939	<i>i</i>	10.45880	-0.26492961	-0.48764196		
<i>P</i>	4.24	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1981 02 12	413	0.2-	0.8+	1981 04 09	413	0.9+	0.0	1998 04 01	704	1.3-	0.9+
1981 02 12	413	0.4+	0.0	1981 05 01	413	0.3+	0.7-	1998 04 01	704	0.5+	0.4+
1981 03 01	413	2.0-	0.2+	1981 05 03	413	1.0-	0.3-	1998 04 01	704	1.5+	0.4+
1981 03 01	413	2.2+	0.8-	1998 03 26	566	0.5+	1.1-	1998 04 18	704	0.0	0.3+
1981 03 06	413	(3.0-	0.5+)	1998 03 26	566	0.6+	0.5-	1998 04 18	704	0.7+	0.3+
1981 03 08	413	1.5-	0.7-	1998 03 26	566	0.6+	0.5-	1998 04 18	704	1.5+	1.3-
1981 03 08	413	1.0+	0.3-	1998 03 31	704	(2.4-	0.3-)	1998 04 18	704	1.6-	0.2+
1981 03 12	413	0.6+	0.1+	1998 03 31	704	0.6-	0.8+	1998 04 19	704	0.5+	0.2-
1981 04 08	413	1.3-	0.1+	1998 03 31	704	0.9-	0.3-	1998 04 19	704	0.7+	1.9+
1981 04 08	413	0.6+	0.1-	1998 03 31	704	0.3-	0.2+	1998 04 19	704	0.5+	0.2+
1981 04 09	413	0.9-	0.4+	1998 04 01	704	0.4-	0.1-	1998 04 19	704	1.9-	0.5-

1981 ED₁₆ = 1998 FH₁₁₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29087856	ω	290.51536	-0.94465808	+0.32205787		
<i>a</i>	2.2559436	Ω	268.31348	-0.27288427	-0.87707567		
<i>e</i>	0.1447487	<i>i</i>	3.58193	-0.18208593	-0.35639444		
<i>P</i>	3.39	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1981 02 09	413	0.3+	0.3-	1981 04 09	413	0.9+	0.4-	1998 03 31	704	0.0	1.1-
1981 02 12	413	0.3+	0.0	1981 05 01	413	0.1+	0.9-	1998 04 01	704	0.5+	1.0+
1981 03 01	413	0.7-	0.2-	1998 03 22	699	0.3-	0.5-	1998 04 01	704	0.0	0.4+
1981 03 06	413	0.7-	0.4+	1998 03 22	699	0.5+	0.7+	1998 04 01	704	0.6+	0.6+
1981 03 06	413	1.3+	0.6-	1998 03 22	699	1.7-	0.4+	1998 04 01	704	0.2-	0.4+
1981 03 08	413	(3.2-	0.5+)	1998 03 31	704	0.5-	0.8-	1998 04 01	704	0.1+	0.1+
1981 03 08	413	0.3-	0.6+	1998 03 31	704	0.9+	0.6+				
1981 04 09	413	1.0-	1.0+	1998 03 31	704	0.3+	1.4-				

1998 MAY 11

1981 EN₂₅ = 1998 EL₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.28707174	ω	339.43907	-0.87804576	-0.47850583		
<i>a</i>	2.2758436	Ω	171.95825	+0.44689959	-0.82596283		
<i>e</i>	0.1115356	<i>i</i>	3.37487	+0.17122036	-0.29802276		
<i>P</i>	3.43	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1981 02 09	413	1.3+	1.0-	1981 04 05	413	1.9+	0.6-	1998 03 03	704	0.2-	1.0-
1981 02 13	413	0.5+	1.5+	1981 04 06	413	(2.9-	2.2+)	1998 03 03	704	0.4-	0.6+
1981 03 02	413	1.1-	0.4+	1981 04 06	413	0.5+	0.3-	1998 03 03	704	0.2+	0.3-
1981 03 02	413	0.2-	1.1-	1981 04 10	413	0.3+	0.8-	1998 03 03	704	0.6-	0.6+
1981 03 06	413	1.1-	0.8+	1981 04 26	413	0.6+	0.1-	1998 03 04	704	1.2+	0.9+
1981 03 11	413	1.3-	0.2-	1981 05 01	413	0.2-	1.8+	1998 03 04	704	0.5+	1.1+
1981 03 11	413	0.1+	1.2-	1998 02 27	566	0.2+	0.5-	1998 03 04	704	(1.1-	2.3+)
1981 03 15	413	2.1-	1.1+	1998 02 27	566	1.0+	0.7-	1998 03 04	704	1.8-	0.2-
1981 03 15	413	0.9+	0.3-	1998 02 27	566	0.4+	0.4-				
1981 04 05	413	(7.6-	4.9+)	1998 03 03	704	0.4-	0.4+				

1981 ER₂₉ = 1998 FX₁₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.23321518	ω	309.00250	-0.78312435	-0.61971580		
<i>a</i>	2.6139554	Ω	192.97828	+0.61757480	-0.76529242		
<i>e</i>	0.1360836	<i>i</i>	13.29823	+0.07292196	-0.17401100		
<i>P</i>	4.23	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1981 02 09	413	1.8-	0.1-	1998 03 20	704	0.1-	0.1-	1998 04 20	704	0.4+	0.3+
1981 02 12	413	1.5-	0.1-	1998 03 20	704	0.4-	0.1-	1998 04 20	704	0.3-	0.0
1981 03 01	413	0.6-	1.1+	1998 03 20	704	0.8+	0.4+	1998 04 20	704	0.4-	0.3-
1981 03 01	413	0.9+	1.3-	1998 03 20	704	0.7+	0.0	1998 04 20	704	1.0-	0.7-
1981 03 06	413	1.8+	0.4-	1998 03 20	704	0.5-	1.8-	1998 04 22	704	0.4+	0.1+
1981 03 06	413	0.7+	0.0	1998 03 22	704	(1.5+	3.0+)	1998 04 22	704	0.6-	0.6-
1981 03 08	413	0.8-	1.3+	1998 03 22	704	0.3+	1.5+	1998 04 22	704	0.8-	0.3+
1981 03 08	413	1.0+	0.2-	1998 03 22	704	0.4-	0.8+	1998 04 22	704	0.4+	0.0
1981 03 12	413	1.1+	0.8-	1998 03 22	704	0.7+	1.0+	1998 04 22	704	0.3+	0.0
1981 05 01	413	1.3-	0.0	1998 04 20	704	0.4+	0.3-				

1981 EV₃₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.28550056	ω	231.20323	+0.75297878	-0.65786086		
<i>a</i>	2.2841857	Ω	169.90075	+0.62790724	+0.71121951		
<i>e</i>	0.1545554	<i>i</i>	5.09011	+0.19686408	+0.24776175		
<i>P</i>	3.45	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1981 02 12	413	0.3+	0.6+	1981 03 15	413	1.2+	0.4-	1998 03 03	809	1.1-	0.5+
1981 02 12	413	1.2-	0.5-	1981 04 05	413	(2.8-	1.4+)	1998 03 03	809	0.5-	0.2+
1981 02 13	413	0.6+	1.6-	1981 04 05	413	0.2+	0.4+	1998 03 04	809	0.2+	0.7+
1981 03 02	413	0.6-	0.4+	1981 04 26	413	0.2-	0.3-	1998 03 04	809	0.7+	0.6-
1981 03 06	413	(4.3+	2.3-)	1981 05 01	413	1.1-	1.0+	1998 03 04	809	0.7+	0.3-
1981 03 15	413	0.4+	0.0	1998 03 03	809	0.0	0.1+				

1981 EU₃₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29184264	ω	43.32868	-0.38171461	+0.92400089		
<i>a</i>	2.2509727	Ω	204.25814	-0.86239117	-0.36489227		
<i>e</i>	0.1338645	<i>i</i>	3.17044	-0.33252883	-0.11435027		
<i>P</i>	3.38	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4

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Residuals in seconds of arc

1981 02 12	413	0.8−	0.0	1981 04 05	413	1.9+	1.2−	1998 03 25	704	0.2−	1.0+
1981 02 12	413	0.3−	0.1−	1981 04 06	413	1.4−	0.6+	1998 03 25	699	0.2+	0.5+
1981 03 01	413	0.5−	0.7+	1981 04 06	413	0.1+	0.5−	1998 03 25	699	0.1−	0.4+
1981 03 01	413	0.8+	0.1+	1981 04 07	413	1.4−	0.6+	1998 03 25	704	0.3+	0.3−
1981 03 06	413	0.7+	0.5−	1981 04 07	413	2.0+	1.5−	1998 04 01	704	0.1+	0.4+
1981 03 08	413	0.5−	0.3+	1981 04 10	413	1.8−	0.7+	1998 04 01	704	0.0	0.3+
1981 03 08	413	1.4+	0.4−	1981 04 10	413	1.0+	2.1−	1998 04 01	704	0.9−	0.0
1981 03 11	413	0.2−	0.3+	1981 05 01	413	0.3−	0.5−	1998 04 01	704	0.7−	0.1+
1981 03 11	413	0.7+	0.0	1981 05 03	413	0.1−	0.5−	1998 04 01	704	0.5+	0.3+
1981 03 12	413	0.9−	0.7+	1998 03 25	704	0.5+	0.1−	1998 04 22	104	0.2+	0.1−
1981 03 12	413	1.0+	0.3+	1998 03 25	704	0.0	0.1+	1998 04 22	104	0.3+	0.1−
1981 03 15	413	0.9−	0.0	1998 03 25	704	0.1−	0.7−	1998 04 22	104	0.3+	0.1−
1981 04 05	413	1.2−	0.8+	1998 03 25	699	0.2+	0.4+				

1981 EA₄₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17773442	ω	324.15419	−0.84413443	−0.53609097		
<i>a</i>	3.1329612	Ω	183.44785	+0.51390077	−0.80556421		
<i>e</i>	0.0553060	<i>i</i>	6.29803	+0.15278435	−0.25233466		
<i>P</i>	5.55	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1978 10 03	675	1.3+	1.0−	1981 03 11	413	1.3−	0.6−	1998 04 21	704	(5.2−	2.0+)
1978 10 04	675	0.7−	1.0−	1981 03 15	413	1.7+	0.4+	1998 04 22	704	0.1−	0.3−
1981 02 12	413	0.1−	0.2−	1981 04 26	413	1.3+	2.1−	1998 04 22	704	1.3+	0.9+
1981 02 13	413	0.9−	1.1+	1981 05 01	413	1.7+	1.5−	1998 04 22	704	0.6+	0.1+
1981 03 02	413	1.4−	0.6+	1998 04 21	704	0.0	0.5−	1998 04 22	704	1.6+	1.4−
1981 03 02	413	0.5+	1.1−	1998 04 21	704	0.0	0.6+	1998 04 22	704	1.1−	0.3+
1981 03 06	413	1.1−	0.9+	1998 04 21	704	2.0−	0.7−				
1981 03 11	413	0.7−	0.5+	1998 04 21	704	0.4−	0.7+				

1981 EP₄₅ = 1998 FB₇₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17311168	ω	269.32610	−0.24770728	+0.96714534		
<i>a</i>	3.1884906	Ω	345.92821	−0.76873319	−0.23213174		
<i>e</i>	0.1603509	<i>i</i>	13.60504	−0.58965277	−0.10365689		
<i>P</i>	5.69	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1981 02 12	413	0.3+	0.9−	1981 05 01	413	0.4+	1.0−	1998 03 25	704	1.4+	1.2+
1981 02 12	413	1.0−	0.3−	1981 05 03	413	1.4−	0.7−	1998 03 25	704	0.9+	1.0−
1981 03 01	413	0.1−	0.1+	1998 03 24	704	0.8+	0.4−	1998 03 25	704	1.5−	0.7−
1981 03 01	413	3.0+	0.2+	1998 03 24	704	1.2−	1.5−	1998 03 25	704	0.1−	0.6+
1981 03 08	413	2.3−	0.2+	1998 03 24	704	1.4+	0.2+	1998 03 25	704	0.7−	1.0−
1981 03 12	413	0.8−	1.2+	1998 03 24	704	0.7−	0.9+	1998 03 25	704	0.8+	1.5+
1981 03 12	413	0.1+	0.8+	1998 03 24	704	(4.8−	0.1−)	1998 03 25	704	1.1−	0.1−
1981 04 08	413	0.7+	0.8+	1998 03 25	704	0.2+	0.6−	1998 03 25	704	0.8+	0.5−
1981 04 08	413	0.3−	0.3+	1998 03 25	704	0.1+	0.3+	1998 03 25	704	1.6−	0.6+
1981 04 09	413	1.0+	0.4−	1998 03 25	704	0.2+	0.4−	1998 03 25	704	0.0	0.6−
1981 04 09	413	1.0+	0.6+	1998 03 25	704	0.9+	1.3−	1998 03 25	704	1.4−	1.6+

1981 EG₄₇ = 1998 GL

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.23473078	ω	350.07559	−0.54883781	+0.83487980		
<i>a</i>	2.6026915	Ω	246.62581	−0.76378903	−0.52119756		
<i>e</i>	0.1247260	<i>i</i>	2.61412	−0.33971073	−0.17699949		
<i>P</i>	4.20	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1981 02 12	413	0.8−	0.3−	1998 04 02	360	0.2+	0.5+	1998 04 21	704	(2.4+	0.7−)
1981 02 13	413	0.1−	1.1−	1998 04 02	360	0.0	0.4+	1998 04 21	704	1.2+	0.7−

1981 03 02	413	(10.7+	4.9−)	1998 04 03	360	0.1−	0.1+	1998 04 21	704	(0.0	3.0−)
1981 03 06	413	0.5+	0.5+	1998 04 03	360	0.2+	0.3+	1998 04 21	704	0.2+	0.5−
1981 03 11	413	0.6−	0.9+	1998 04 03	360	0.1+	0.1−	1998 04 22	704	(2.9+	1.6−)
1981 03 11	413	0.9+	0.0	1998 04 19	360	0.1+	0.1−	1998 04 22	704	0.4−	0.7+
1981 03 15	413	(3.9+	1.3+)	1998 04 19	360	0.6+	0.3−	1998 04 22	704	0.6−	1.0+
1998 04 02	360	0.2−	0.2−	1998 04 19	360	0.3+	0.1+	1998 04 22	704	1.5−	1.2−

1981 SE₉ = 1981 RG = 1992 UX₁ = 1998 FP₁₂₀Id. K. Hurukawa (d, *MPC* 10531), G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27224180	ω	214.35202	+0.85302662	+0.51928090		
<i>a</i>	2.3577596	Ω	114.28209	−0.46511772	+0.80159255		
<i>e</i>	0.2418465	<i>i</i>	3.26361	−0.23666661	+0.29630515		
<i>P</i>	3.62	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1981 09 03	688	0.6−	0.5+	1981 09 26	323	1.8−	0.3−	1998 03 20	704	1.6+	1.1+	
1981 09 03	688	0.3+	1.3−	1981 09 28	323	(2.3−	3.4−)	1998 03 20	704	1.4−	1.2−	
1981 09 24	323	(3.4+	1.2−)	1981 10 02	323	0.4−	0.8+	1998 03 20	704	0.5+	1.4+	
1981 09 24	323	0.5+	1.3+	1992 10 21	403	(4.3−	2.1−)Y	1998 03 22	704	0.4+	1.3+	
1981 09 26	688	(1.1+	3.2−)	1992 10 21	403	0.4+	0.6+	Y	1998 03 22	704	0.3−	0.6−
1981 09 26	688	(1.1−	3.2−)	1992 10 26	403	(1.1+	4.2−)	1998 03 22	704	(2.5+	0.2+)	
1981 09 26	688	1.8+	0.5−	1992 10 26	403	0.3−	0.9−	1998 03 22	704	0.9−	1.4−	
1981 09 26	688	(3.6−	2.0−)	1998 03 20	704	0.1+	0.4−					

1982 SC = 1997 EW₃₂ = 1998 FZ₁₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.23088760	ω	353.39295	+0.95141718	+0.30603093		
<i>a</i>	2.6314935	Ω	348.61131	−0.27405310	+0.79144793		
<i>e</i>	0.2430742	<i>i</i>	9.89063	−0.14035760	+0.52910797		
<i>P</i>	4.27	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1982 08 17	095	(1.4+	8.7+)	1982 09 20	675	0.4+	3.7+	1998 03 31	704	0.1+	0.0
1982 08 19	675	0.3+	2.0+	1982 09 20	675	0.9+	2.8+	1998 03 31	704	0.3+	1.3−
1982 08 19	675	1.7+	0.9+	1982 09 22	688	2.2+	2.2−	1998 03 31	704	0.2−	0.4−
1982 09 11	046	0.7+	0.6−	1982 09 22	688	(4.1+	0.0)	1998 03 31	704	1.4−	1.8−
1982 09 11	046	(8.7−	1.1−)	1997 03 04	704	0.4−	0.1+	1998 04 01	704	0.2−	0.6+
1982 09 14	046	0.3−	1.9−	1997 03 04	704	0.9+	0.8−	1998 04 01	704	0.8+	1.4+
1982 09 14	046	0.2+	2.4−	1997 03 05	704	0.4+	0.5+	1998 04 01	704	1.0+	0.0
1982 09 15	046	0.6−	1.5−	1997 03 05	704	0.1−	0.8−	1998 04 01	704	0.3+	0.4+
1982 09 15	046	2.3−	0.8−	1997 03 06	704	0.7−	0.2−	1998 04 01	704	1.3−	0.5−
1982 09 16	046	0.9−	0.6−	1997 03 06	704	0.2−	0.4+				
1982 09 16	046	1.3−	0.4−	1998 03 31	704	0.2−	0.7+				

1982 SC₈ = 1992 SH₂₅Id. K. Ichikawa (*MPC* 23970)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29554633	ω	323.55028	+0.60524500	+0.79587430		
<i>a</i>	2.2321275	Ω	343.67621	−0.71605031	+0.53542159		
<i>e</i>	0.1748359	<i>i</i>	3.30512	−0.34777930	+0.28267970		
<i>P</i>	3.33	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1982 09 19	095	2.3−	0.9+	1992 10 03	675	0.0	1.0−	1998 04 22	704	0.2−	0.4−
1982 09 24	095	1.8+	1.1−	1998 04 01	704	0.1−	0.0	1998 04 22	704	0.8−	0.1−
1982 09 27	095	0.4−	2.0+	1998 04 01	704	0.8+	0.0	1998 04 22	704	0.4−	0.0
1992 09 30	675	0.8+	0.2−	1998 04 01	704	0.1+	1.2+	1998 04 22	704	0.9+	0.1−
1992 09 30	675	0.3−	0.9−	1998 04 01	704	0.3+	0.2−	1998 04 22	704	0.3−	0.0
1992 10 03	675	0.4+	0.3+	1998 04 01	704	0.1−	0.3−				

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1982 UX₅ = 1989 GJ₁Id. S. Nakano (*MPC* 14784)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	137.56544		(2000.0)	P		Q			
<i>n</i>	0.21857549	ω	162.48389	+0.24373072		−0.96729675			
<i>a</i>	2.7294077	Ω	273.36529	+0.88117884		+0.25111567			
<i>e</i>	0.0938739	<i>i</i>	4.03420	+0.40511627		+0.03574806			
<i>P</i>	4.51	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc									
1982 10 20	095	1.6+	1.7+	1998 03 25	699	0.1+	0.5+	1998 04 20	704 (0.7− 3.4+)
1982 10 22	095	1.3−	0.6−	1998 03 25	699	0.8−	0.5+	1998 04 20	704 0.7+ 0.9+
1982 10 24	095	0.3−	1.1−	1998 03 25	699	0.8−	0.4+	1998 04 20	704 0.3+ 1.2+
1989 04 03	809	0.2−	0.3−	1998 03 31	704	1.4−	0.5−	1998 04 21	704 0.4− 0.4+
1989 04 03	809	0.3+	0.7−	1998 03 31	704	1.3+	1.3+	1998 04 21	704 0.7+ 0.1−
1989 04 03	809	0.0	1.5−	1998 03 31	704	0.0	0.7+	1998 04 21	704 0.5+ 0.2+
1989 04 05	809	1.4+	1.4−	1998 03 31	704	1.9−	0.2+	1998 04 21	704 0.3− 0.2−
1989 04 05	809	0.1+	0.4−	1998 03 31	704	(3.0− 1.8+)		1998 04 21	704 0.6+ 0.0
1989 04 05	809	0.2−	0.6−	1998 04 01	704	0.1+	0.2+	1998 04 22	704 0.4+ 0.4+
1989 04 08	809	0.6−	0.1−	1998 04 01	704	0.4+	0.9+	1998 04 22	704 0.7+ 1.1−
1989 04 08	809	0.8−	0.2+	1998 04 01	704	1.8−	0.4+	1998 04 22	704 0.9+ 0.2−
1989 04 08	809	0.6−	0.3−	1998 04 01	704	0.9−	0.6+	1998 04 22	704 0.9+ 0.5−
1989 04 10	809	0.4−	1.2−	1998 04 01	704	0.9+	1.0−	1998 04 22	704 (3.7− 0.8−)
1989 04 10	809	0.4−	0.3+	1998 04 20	704	0.7+	0.6−		
1989 04 10	809	0.5−	0.7+	1998 04 20	704	1.0+	0.6+		

1985 DA = 1998 EQ₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	39.37827		(2000.0)	P		Q			
<i>n</i>	0.37660374	ω	4.94280	−0.94285500		−0.29225787			
<i>a</i>	1.8990933	Ω	156.08777	+0.29057947		−0.95623503			
<i>e</i>	0.0738892	<i>i</i>	23.25406	+0.16305832		+0.01413897			
<i>P</i>	2.62	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc									
1985 02 24	675	1.2+	1.3−	1985 03 21	801	0.3−	0.0	1998 03 03	704 0.0 0.7−
1985 02 24	675	1.0−	0.3+	1985 04 18	801	0.9+	0.2+	1998 03 03	704 0.3+ 0.4+
1985 02 26	675	1.8+	1.3+	1998 02 27	566	0.8−	0.6+	1998 03 04	704 1.4− 0.4−
1985 02 26	675	(3.7− 9.6+)		1998 02 27	566	0.6−	0.6+	1998 03 04	704 1.1+ 0.1−
1985 02 27	675	0.3−	1.3+	1998 02 27	566	0.4−	0.6+	1998 03 04	704 1.1+ 0.3−
1985 02 27	675	2.4−	0.2−	1998 03 03	704	0.2−	0.0	1998 03 04	704 0.5+ 0.4−
1985 03 19	801	0.3+	1.0−	1998 03 03	704	0.3−	0.2+	1998 03 04	704 0.7+ 1.0−

1985 PL₁ = 1985 QH₂ = 1985 QY₃ = 1988 CK₇Id. H. Oishi (d, *JAM* 2074), S. Nakano (*MPC* 13449)

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	218.36919		(2000.0)	P		Q			
<i>n</i>	0.20117033	ω	143.24551	+0.90889109		+0.41464429			
<i>a</i>	2.8846520	Ω	192.49159	−0.41456357		+0.88671529			
<i>e</i>	0.0573191	<i>i</i>	11.89339	−0.04532133		+0.20446541			
<i>P</i>	4.90	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	3		
Residuals in seconds of arc									
1985 08 13	801	2.1+	0.6−	1988 02 16	809	0.9+	1.0+	1998 03 03	704 (2.9+ 2.8−)
1985 08 16	675	(3.7− 0.3−)		1988 02 21	809	0.2−	0.5−	1998 03 03	704 0.1− 0.1−
1985 08 16	675	0.6−	2.2+	1988 02 21	809	0.4+	0.5−	1998 03 04	704 0.6− 0.1+
1985 08 17	675	1.9−	1.9−	1988 02 21	809	0.7+	0.4−	1998 03 04	704 0.0 0.1+
1985 08 17	675	0.5+	0.3+	1988 02 23	809	0.2−	0.3−	1998 03 04	704 0.4+ 0.0
1985 08 23	675(34.0− 1.4−)			1988 02 23	809	1.0−	0.5+	1998 03 04	704 0.4− 0.3+
1988 02 15	809	1.1−	0.5−	1988 02 23	809	0.1+	0.2−	1998 03 04	704 0.7+ 0.3−
1988 02 16	809	0.4+	0.2+	1998 03 03	704	(2.7+ 0.1−)			
1988 02 16	809	0.0	0.7+	1998 03 03	704	(3.3+ 0.1−)			

1985 QW₁ = 1998 FA₉₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	157.07775		(2000.0)	P		Q			
<i>n</i>	0.27664746	ω	176.52994	+0.74522017		−0.66080668			
<i>a</i>	2.3326608	Ω	225.26271	+0.60872609		+0.72885729			
<i>e</i>	0.1062991	<i>i</i>	7.22516	+0.27221213		+0.17916916			
<i>P</i>	3.56	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	6		
Residuals in seconds of arc									
1985 08 16	675	(3.0− 1.2−)		1998 03 03	704	(3.5+ 2.6−)		1998 03 31	704 0.9+ 1.5+
1985 08 16	675	1.1+	0.6+	1998 03 03	704	(2.3− 2.2−)		1998 03 31	704 (2.5+ 1.3−)
1985 08 17	675	2.1−	1.2−	1998 03 04	704	1.1+ 0.3+		1998 03 31	704 (0.6− 2.6−)
1985 08 17	675	0.3+	0.6+	1998 03 04	704	0.6− 0.8−		1998 03 31	704 1.6− 0.1−
1985 08 23	675	0.7+	0.0	1998 03 04	704	0.1+ 0.3+		1998 04 01	704 0.1− 0.5−
1985 08 23	675	(2.8+ 1.7+)		1998 03 04	704	(1.1+ 2.1+)		1998 04 01	704 0.1− 0.5+
1998 03 03	704	(3.3+ 0.9−)		1998 03 04	704	(3.2− 2.3+)		1998 04 01	704 0.4+ 0.9−
1998 03 03	704	(4.0+ 0.7+)		1998 03 31	704	0.0 0.6−		1998 04 01	704 0.1− 0.2+

1986 PY = 1998 FN₉₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	231.83878		(2000.0)	P		Q			
<i>n</i>	0.30431421	ω	195.38014	+0.94736464		+0.31071129			
<i>a</i>	2.1890443	Ω	146.20465	−0.27714918		+0.91661222			
<i>e</i>	0.2470073	<i>i</i>	7.97721	−0.16027657		+0.25155622			
<i>P</i>	3.24	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc									
1986 08 06	071	0.0	0.0	1986 09 04	809	0.3−	0.6−	1986 09 08	809 0.2+ 0.6+
1986 08 06	071	1.7+	1.0+	1986 09 04	809	0.2−	0.7−	1986 09 08	809 0.5+ 0.3+
1986 08 07	033	1.5+	1.2−	1986 09 04	809	0.4−	1.0+	1986 09 10	809 0.6+ 0.4−
1986 08 08	033	0.6+	0.7−	1986 09 04	809	0.2−	1.0+	1986 09 10	809 0.5+ 0.4−
1986 08 08	071	(3.8− 4.0+)		1986 09 04	809	0.1+	1.0+	1986 09 10	809 0.3+ 0.4−
1986 08 09	071	1.9−	1.3−	1986 09 05	809	0.4+	0.2+	1986 09 12	809 0.2+ 1.1−
1986 08 09	071	2.2−	0.3−	1986 09 05	809	0.6+	0.0	1986 09 12	809 0.1+ 1.3−
1986 09 01	809	0.8−	0.2+	1986 09 05	809	0.6+	0.2−	1986 09 12	809 0.2+ 1.4−
1986 09 01	809	0.4−	0.4+	1986 09 06	809	0.1+	0.8+	1998 03 24	704 1.7− 0.1+
1986 09 01	809	0.1+	0.5+	1986 09 06	809	0.0	0.7+	1998 03 24	704 0.3+ 0.7−
1986 09 02	809	0.6−	0.2+	1986 09 06	809	0.0	0.7+	1998 03 24	704 0.2− 0.9−
1986 09 02	809	0.5−	0.1+	1986 09 06	071	(1.7− 9.5−)		1998 03 24	704 (3.3− 1.4+)
1986 09 02	809	0.3−	0.2+	1986 09 06	071	(2.8− 5.3−)		1998 03 25	704 0.2+ 0.3+
1986 09 03	809	0.3−	0.9+	1986 09 07	809	0.2−	0.6−	1998 03 25	704 (3.1+ 0.6+)
1986 09 03	809	0.2−	0.9+	1986 09 07	809	0.0	0.5−	1998 03 25	704 1.0− 0.5+
1986 09 03	809	0.1−	0.9+	1986 09 07	809	0.4+	0.3−	1998 03 25	704 1.4+ 0.1+
1986 09 04	809	0.3−	0.7−	1986 09 08	809	0.1+	0.8+	1998 03 25	704 1.2+ 1.3+

1986 RW₅ = 1996 UH = 1998 FM₄₂

Id. A. Doppler

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	216.62994		(2000.0)		P		Q			
<i>n</i>	0.30000871	ω	138.82637		+0.99772858		+0.05582725			
<i>a</i>	2.2099383	Ω	218.02317		−0.06555728		+0.93339904			
<i>e</i>	0.1711131	<i>i</i>	3.50853		+0.01548973		+0.35447080			
<i>P</i>	3.29	<i>H</i>	14.5		<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc										
1986 09 07	095	0.4+	0.8+	1998 03 20	704	0.1−	0.3+	1998 04 01	704	0.3− 0.4−
1986 09 11	095	0.3−	0.9−	1998 03 20	704	0.7−	0.6+	1998 04 18	704	0.2+ 0.7−
1986 10 05	095	(2.1+ 3.3−)		1998 03 22	704	0.2−	1.0+	1998 04 18	704	0.1+ 0.6−
1986 10 10	095	(4.7+ 2.3+)		1998 03 22	704	0.7+	1.0+	1998 04 18	704	0.1− 0.3+
1996 10 16	411	0.1−	0.3+	1998 03 22	704	0.4+	1.7−	1998 04 18	704	0.0 1.0−
1996 10 16	411	0.3+	0.2−	1998 03 22	704	0.8+	0.8−	1998 04 19	704	0.0 0.2−
1996 10 17	411	0.0	1.0−	1998 03 22	704	1.1−	1.3−	1998 04 19	704	0.6− 0.6+
1996 10 17	411	0.1−	0.6+	1998 04 01	704	0.7+	0.1−	1998 04 19	704	0.6+ 0.7+
1998 03 20	704	0.4+	0.5+	1998 04 01	704	0.6+	0.3+	1998 04 19	704	0.4− 0.7−

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1998 03 20 704 0.7+ 1.6+ 1998 04 01 704 0.1- 1.2- 1998 04 19 704 1.3- 0.3+
 1998 03 20 704 0.4- 1.0+ 1998 04 01 704 (0.6- 3.2-)

1987 BW₁ = 1987 CK = 1996 TR₈ = 1998 FH₁₂₆Id. E. W. Elst (d, *MPC* 11982), G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

<i>M</i>	118.21337		(2000.0)		P		Q
<i>n</i>	0.28050827	ω	211.66177	-0.08993744		-0.99399375	
<i>a</i>	2.3112075	Ω	243.56388	+0.92768729		-0.06083087	
<i>e</i>	0.1548999	<i>i</i>	3.99289	+0.36236383		-0.09097274	
<i>P</i>	3.51	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1987 01 25	809	0.3+	0.3+	1996 10 13	566	0.6-	0.6+	1998 04 21	704	0.7-	1.3-
1987 01 25	809	0.8+	0.6-	1998 03 22	428	0.1-	1.7-	1998 04 21	704	1.6+	0.4+
1987 01 25	809	0.8-	1.2-	1998 03 23	428	1.2+	0.8-	1998 04 21	704	0.1+	0.9-
1987 01 26	809	0.5-	1.2-	1998 03 23	428	0.6+	0.8-	1998 04 21	704	1.4+	0.3+
1987 01 26	809	1.9-	1.0-	1998 03 24	428	1.1+	0.5+	1998 04 21	691	0.8-	0.1+
1987 01 31	809	0.1+	1.6+	1998 03 25	428	0.8+	0.5+	1998 04 21	691	0.5-	0.1+
1987 01 31	809	0.6-	1.4+	1998 03 30	428	1.7+	0.4+	1998 04 21	691	0.3-	0.0
1987 02 03	809	0.9-	2.0+	1998 04 01	704	0.7+	0.7+	1998 04 22	704	0.3-	0.3+
1987 02 03	809	0.3-	0.8+	1998 04 01	704	0.2-	0.6-	1998 04 22	704	0.1+	0.1-
1987 02 05	809	2.2+	0.4+	1998 04 01	704	0.3+	0.0	1998 04 22	704	0.6+	0.5+
1987 02 05	809	1.5+	2.0-	1998 04 01	704	(6.0-	1.7-)	1998 04 22	704	0.0	0.0
1987 02 06	809	0.1-	0.9-	1998 04 19	691	1.8-	0.2+	1998 04 22	704	0.0	0.0
1987 02 06	809	0.3+	0.4+	1998 04 19	691	1.8-	0.1+	1998 04 23	046	0.3-	0.2+
1996 10 09	566	0.3-	0.3-	1998 04 19	691	1.5-	0.4+	1998 04 23	046	0.1+	0.0
1996 10 09	566	0.3-	0.3-	1998 04 20	691	0.5-	0.1+	1998 04 23	046	0.0	0.1+
1996 10 09	566	0.1-	0.3-	1998 04 20	691	0.5-	0.1+	1998 04 23	046	0.0	0.1-
1996 10 13	566	0.7+	1.0-	1998 04 20	691	0.6-	0.2+				
1996 10 13	566	0.9+	0.6+	1998 04 21	704	(3.0+	2.2-)				

1987 KF₁ = 1998 HV₁₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	348.07772		(2000.0)		P		Q
<i>n</i>	0.26602065	ω	103.37119	+0.01369147		+0.99893402	
<i>a</i>	2.3943768	Ω	167.16697	-0.97693632		+0.02275953	
<i>e</i>	0.2948421	<i>i</i>	11.44783	-0.21309147		-0.04015992	
<i>P</i>	3.71	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1987 05 30	675	0.4+	0.3+	1987 06 23	675	0.7+	0.4+	1998 04 25	566	0.1-	0.6+
1987 05 31	675	0.3-	0.6-	1998 04 23	566	0.0	0.6-	1998 04 25	566	0.0	0.7+
1987 06 20	675	1.0-	0.4+	1998 04 23	566	0.1-	0.5-	1998 04 25	566	0.0	0.6+
1987 06 22	675	0.1+	0.5-	1998 04 23	566	0.1+	0.6-				

1988 CW₁ = 1998 FN₁₀₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	71.12167		(2000.0)		P		Q
<i>n</i>	0.20900335	ω	182.86547	-0.61366367		-0.78045283	
<i>a</i>	2.8121202	Ω	305.02129	+0.72728780		-0.49975546	
<i>e</i>	0.1015646	<i>i</i>	8.39947	+0.30735869		-0.37568320	
<i>P</i>	4.72	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	6

Residuals in seconds of arc

1988 02 11	809	1.5-	0.9+	1988 02 21	809	0.9+	0.1-	1998 03 31	704	0.8-	1.9-
1988 02 15	809	1.5+	0.1-	1988 02 21	809	0.3-	0.3+	1998 03 31	704	0.4+	0.4+
1988 02 16	809	0.6+	0.8-	1988 02 21	809	2.2-	0.1+	1998 03 31	704	0.5-	1.2-
1988 02 16	809	0.6-	0.5-	1988 02 23	809	1.5+	0.5+	1998 04 01	704	0.3+	0.7+
1988 02 16	809	0.7-	0.4-	1988 02 23	809	0.4-	0.2-	1998 04 01	704	0.8+	0.2+
1988 02 17	809	0.3+	0.7-	1988 02 23	809	1.7-	0.9-	1998 04 01	704	0.2+	0.0
1988 02 17	809	1.0+	0.7+	1998 03 31	704	0.2-	0.6-	1998 04 01	704	0.5-	1.0+
1988 02 17	809	1.7+	1.1+	1998 03 31	704	0.2+	1.4+				

1988 PE = 1998 FS₁₀₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	300.49225		(2000.0)		P		Q
<i>n</i>	0.27994569	ω	321.47400	+0.50068152		+0.86362794	
<i>a</i>	2.3143029	Ω	338.37622	-0.74936285		+0.39838847	
<i>e</i>	0.2641491	<i>i</i>	9.19127	-0.43332820		+0.30892297	
<i>P</i>	3.52	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1988 08 09	675	1.6+	0.5-	1998 03 04	704	(2.5-	0.6-)	1998 04 01	704	1.2+	1.6-
1988 08 11	675	(4.3-	0.6+)	1998 03 04	704	(4.2-	0.4+)	1998 04 01	704	0.2+	0.9-
1988 09 05	675	0.8-	0.2-	1998 03 04	704	(2.7-	0.7-)	1998 04 18	704	0.3-	0.0
1988 09 07	675	1.3-	1.3+	1998 03 31	704	0.4+	0.5-	1998 04 18	704	0.1+	0.6+
1998 02 27	566	0.1-	0.0	1998 03 31	704	0.5-	0.2+	1998 04 18	704	0.6-	0.8-
1998 02 27	566	0.1+	0.3-	1998 03 31	704	0.8+	0.6+	1998 04 18	704	0.8-	0.0
1998 02 27	566	0.0	0.0	1998 03 31	699	0.1-	0.9+	1998 04 19	704	0.5-	0.4+
1998 03 03	704	0.0	0.4+	1998 03 31	699	1.7+	0.1-	1998 04 19	704	0.7-	0.7+
1998 03 03	704	0.3-	0.6-	1998 03 31	704	0.2+	1.5+	1998 04 19	704	1.2-	0.1+
1998 03 03	704	0.2-	0.6-	1998 03 31	699	1.7+	0.7-	1998 04 19	704	0.2+	0.8+
1998 03 03	704	0.6+	0.5+	1998 03 31	704	0.8+	0.7+	1998 04 19	704	0.7-	0.3+
1998 03 03	704	1.0-	1.1+	1998 04 01	704	0.3+	0.0	1998 04 28	566	0.4-	0.7-
1998 03 04	704	1.7-	0.2-	1998 04 01	704	0.0	0.0	1998 04 28	566	0.2-	0.6-
1998 03 04	704	(2.7-	0.1+)	1998 04 01	704	1.1+	0.2+	1998 04 28	566	0.1-	0.5-

1988 RM₃ = 1998 FF₁₁₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	244.94281		(2000.0)		P		Q
<i>n</i>	0.26786834	ω	354.29886	+0.98631808		+0.16455406	
<i>a</i>	2.3833535	Ω	356.18671	-0.14473625		+0.83554750	
<i>e</i>	0.1450365	<i>i</i>	8.58741	-0.07891812		+0.52419685	
<i>P</i>	3.68	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1988 09 08	033	0.4-	0.3+	1988 09 15	675	1.0+	1.2+	1998 04 20	704	(3.1+	1.2-)
1988 09 09	033	0.2-	0.7-	1998 03 31	704	0.4-	0.7+	1998 04 20	704	1.0-	0.8-
1988 09 09	033	0.2-	0.3+	1998 03 31	704	0.0	0.2+	1998 04 20	704	0.8+	0.4-
1988 09 10	033	0.6-	0.4-	1998 03 31	704	0.5+	0.5-	1998 04 20	704	0.3-	1.1-
1988 09 10	033	1.0-	0.2-	1998 03 31	704	0.1+	0.2+	1998 04 22	704	0.2-	0.3+
1988 09 11	033	0.9-	0.1+	1998 03 31	704	0.7+	1.2+	1998 04 22	704	0.1-	0.4-
1988 09 11	675	0.9+	0.6-	1998 04 01	704	0.2-	0.1-	1998 04 22	704	0.1-	0.8-
1988 09 11	675	1.3+	0.5-	1998 04 01	704	0.5-	0.5+	1998 04 22	704	0.6+	0.1-
1988 09 15	675	0.2+	0.3+	1998 04 01	704	0.6-	0.0	1998 04 22	704	0.2+	0.3+
1988 09 15	675	0.8+	1.3+	1998 04 01	704	0.1-	0.2+				
1988 09 15	675	1.0-	0.9-	1998 04 20	704	0.7+	0.9+				

1988 RZ₅ = 1998 FE₁₂₃

Id. G. V. Williams, E. Bowell (1991 observations)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	253.91122		(2000.0)		P		Q
<i>n</i>	0.27121572	ω	166.02961	+0.91940772		+0.39319348	
<i>a</i>	2.3637025	Ω	170.80031	-0.36626117		+0.86465045	
<i>e</i>	0.1135671	<i>i</i>	3.37004	-0.14332548		+0.31269552	
<i>P</i>	3.63	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1988 09 03	809	1.3-	0.1-	1988 09 13	809	1.6-	1.0-	1998 03 22	704	0.1-	1.5-
1988 09 03	809	1.2-	0.0	1988 09 13	809	1.6-	1.0-	1998 03 26	566	0.6-	0.4-
1988 09 03	809	0.9-	0.1+	1988 09 13	809	1.6-	1.1-	1998 03 26	566	0.2-	1.1-
1988 09 05	809	0.1+	0.9+	1988 09 16	809	1.4+	1.7-	1998 03 26	566	0.5-	0.4-
1988 09 05	809	0.1-	0.8+	1988 09 16	809	1.2+	1.8-	1998 04 20	704	0.3+	0.8+
1988 09 05	809	0.1-	0.6+	1988 09 16	809	1.1+	1.7-	1998 04 20	704	1.6-	1.5-
1988 09 06	809	1.0+	0.3+	1988 11 03	807	0.7-	0.7-	1998 04 20	704	0.6+	0.0
1988 09 06	809	1.2+	0.2+	1988 11 05	807	0.7+	0.2-	1998 04 20	704	1.0+	0.5-
1988 09 06	809	1.4+	0.2+	1991 05 18	675	0.2+	0.3+	1998 04 20	704	(3.7-	3.5+)
1988 09 08	809	0.8+	0.9+	1991 05 18	675	0.2+	1.4+	1998 04 22	704	0.3-	1.0-

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1988 09 08	809	0.8+	1.0+	1988 03 20	704	(0.1+	2.2-)	1988 04 22	704	0.7+	0.4+
1988 09 08	809	1.0+	0.9+	1988 03 20	704	0.9-	1.1-	1988 04 22	704	0.4+	0.3-
1988 09 10	675	0.9+	0.4+	1988 03 20	704	0.2+	0.3-	1988 04 22	704	0.7-	0.8+
1988 09 10	675	0.8+	0.4+	1988 03 20	704	0.8-	0.2+	1988 04 22	704	0.1+	0.5-
1988 09 10	809	1.4-	0.1-	1988 03 20	704	0.8-	1.4+	1988 04 24	699	0.1+	0.7+
1988 09 10	809	1.5-	0.2-	1988 03 22	704	0.2+	0.5+	1988 04 24	699	0.2+	0.4+
1988 09 10	809	1.5-	0.2-	1988 03 22	704	0.9+	0.2-	1988 04 24	699	0.3+	0.4+
1988 09 12	675	0.8+	0.3-	1988 03 22	704	0.4-	0.2-				
1988 09 12	675	0.9+	0.4+	1988 03 22	704	0.6+	0.5-				

1988 SM₂ = 1998 HJ₃₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	283.90016		(2000.0)		P		Q
<i>n</i>	0.16921981	ω	164.90896		+0.57808866		+0.81568548
<i>a</i>	3.2371929	Ω	140.40051		-0.75212224		+0.54297433
<i>e</i>	0.1407707	<i>i</i>	1.95053		-0.31642635		+0.19958975
<i>P</i>	5.82	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1988 09 15	675	0.9-	1.7-	1988 11 05	807	0.0	0.1+	1988 04 22	704	1.6+	2.0-
1988 09 15	675	0.1+	0.4-	1988 11 07	807	0.1+	0.2+	1988 04 22	704	0.7+	1.2-
1988 09 16	807	0.9+	1.4+	1988 04 20	704	0.2+	0.6+	1988 04 22	704	1.0-	2.4+
1988 09 18	807	0.4+	0.3+	1988 04 20	704	0.6-	2.4-	1988 04 22	704	1.0+	1.3+
1988 10 04	807	0.5-	0.2+	1988 04 20	704	1.1-	1.5+	1988 04 22	704	0.5-	1.3-
1988 10 05	807	0.6-	0.1+	1988 04 20	704	2.5+	0.9+				
1988 10 08	807	0.4+	0.0	1988 04 20	704	2.8-	0.5+				

1988 ST₂ = 1981 JH₅Id. E. Bowell (*MPC* 19864)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	297.34215		(2000.0)		P		Q
<i>n</i>	0.17341614	ω	228.59783		+0.63366714		+0.77263880
<i>a</i>	3.1847576	Ω	80.76548		-0.69756834		+0.59228037
<i>e</i>	0.1317460	<i>i</i>	2.24521		-0.33446132		+0.22854595
<i>P</i>	5.68	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1981 05 08	675	0.9-	0.3-	1988 10 04	807	0.5-	0.1-	1988 04 22	704	0.3-	0.3+
1981 05 09	675	0.7+	0.5-	1988 10 05	807	0.9+	0.1-	1988 04 22	704	0.2-	0.5+
1988 09 10	675	0.1+	0.1+	1988 10 08	807	0.8+	1.4-	1988 04 22	704	0.6-	0.9-
1988 09 10	675	0.4+	0.6-	1988 11 05	807	0.3+	0.0	1988 04 22	704	0.3+	0.2+
1988 09 12	675	0.0	0.7+	1988 11 07	807	0.3-	0.3+	1988 04 22	704	1.0-	1.0+
1988 09 12	675	1.8-	0.9-	1988 04 21	704	0.3-	0.4+	1988 04 29	566	0.4+	0.4+
1988 09 15	675	1.0-	0.1-	1988 04 21	704	1.0+	0.5+	1988 04 29	566	0.2+	0.0
1988 09 15	675	0.9-	0.6+	1988 04 21	704	0.7+	0.5-	1988 04 29	566	0.0	0.0
1988 09 16	807	1.0+	0.8+	1988 04 21	704	0.2+	0.8-				
1988 09 18	807	1.1+	0.5+	1988 04 21	704	0.2-	0.4-				

1988 TQ₁ = 1998 FZ₁₁₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	152.29159		(2000.0)		P		Q
<i>n</i>	0.25592188	ω	82.69516		+0.35867502		-0.93314442
<i>a</i>	2.4569582	Ω	346.20996		+0.81103600		+0.32445065
<i>e</i>	0.1428132	<i>i</i>	5.86718		+0.46213941		+0.15483302
<i>P</i>	3.85	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1988 10 15	888	(7.2-	2.1-)	1988 11 03	888	1.5+	0.5-	1988 03 31	704	0.3-	1.0+
1988 10 15	888	3.2-	0.1-	1988 11 07	888	0.3+	2.7-	1988 03 31	704	0.2-	0.5+
1988 10 19	888	0.8+	0.7+	1988 11 07	888	1.2+	0.6-	1988 03 31	704	0.9-	1.5-
1988 10 19	888	1.8+	0.5+	1988 11 11	888	1.0-	2.0+	1988 04 01	704	0.1-	1.6+
1988 11 02	888	0.3+	0.6-	1988 11 11	888	1.5-	2.2+	1988 04 01	704	0.0	0.0
1988 11 02	888	0.9-	0.7-	1988 03 31	704	0.8+	0.0	1988 04 01	704	1.1+	1.4-
1988 11 03	888	0.8+	0.1-	1988 03 31	704	0.3-	0.2-				

1998 MAY 11

1989 AG₇ = 1998 GQ₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	340.15549		(2000.0)		P		Q
<i>n</i>	0.23322641	ω	121.82727		-0.21674150		+0.96371680
<i>a</i>	2.6138715	Ω	134.79023		-0.95336628		-0.17461613
<i>e</i>	0.1364735	<i>i</i>	12.68140		-0.21003775		-0.20188891
<i>P</i>	4.23	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1989 01 10	033	0.4-	0.4+	1998 03 08	699	0.6+	0.7+	1998 04 03	704	0.3-	0.2+
1989 01 11	033	0.3+	0.2+	1998 03 08	699	1.9-	0.3+	1998 04 03	704	1.0+	0.8-
1989 01 12	033	0.2-	0.2-	1998 04 02	704	0.0	0.2-	1998 04 03	704	0.0	0.1+
1989 02 02	033	0.2-	0.0	1998 04 02	704	0.2+	0.1+	1998 04 03	704	0.5+	0.2-
1989 02 04	033	0.4+	0.6-	1998 04 02	704	0.8-	0.2-				
1998 03 08	699	0.6+	1.0+	1998 04 03	704	0.0	0.5-				

1989 SP₃ = 1998 HN₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	70.45807		(2000.0)		P		Q
<i>n</i>	0.27089824	ω	298.54778		-0.64118194		-0.76314277
<i>a</i>	2.3655489	Ω	192.37272		+0.76688783		-0.64101344
<i>e</i>	0.3187086	<i>i</i>	22.10047		-0.02772661		-0.08194443
<i>P</i>	3.64	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1989 09 26	809	0.6+	1.7-	1989 10 03	809	0.7+	1.6+	1998 04 23	704	0.1-	0.0
1989 09 26	809	1.0+	1.9-	1989 10 07	809	0.7-	0.5+	1998 04 23	704	0.3-	0.5+
1989 09 26	809	1.1+	1.6-	1989 10 07	809	1.3-	0.9+	1998 04 23	704	1.0+	0.2+
1989 09 28	809	1.7-	0.4+	1989 10 07	809	0.4-	1.0+	1998 04 23	704	0.2+	1.0+
1989 09 28	809	0.9-	0.2-	1989 10 08	809	1.3-	0.9+	1998 04 24	704	0.1+	0.4-
1989 09 28	809	0.2-	1.3+	1989 10 08	809	0.3-	0.0	1998 04 24	704	0.4-	0.1-
1989 09 29	675	0.9+	1.1-	1989 10 08	809	0.8-	0.6+	1998 04 24	704	0.4+	0.3-
1989 09 29	675	0.0	0.9-	1989 11 06	675	0.9+	1.0-	1998 04 24	704	0.8-	0.7-
1989 10 03	809	1.3+	1.0+	1989 11 06	675	0.5+	0.4-	1998 04 24	704	0.4-	0.4-
1989 10 03	809	0.7+	0.6+	1998 04 23	704	0.2+	0.3+				

1989 SB₄ = 1996 TO₄₂Id. B. G. Marsden (*MPC* 28296)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	96.86593		(2000.0)		P		Q
<i>n</i>	0.27689580	ω	344.05421		-0.26915068		-0.96118551
<i>a</i>	2.3312658	Ω	121.52420		+0.89122046		-0.27244651
<i>e</i>	0.1737467	<i>i</i>	4.08112		+0.36508083		-0.04353509
<i>P</i>	3.56	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1989 09 26	809	1.7-	1.7-	1996 10 07	809	(3.2-	0.6+)	1998 03 25	704	0.0	0.4+
1989 09 26	809	(3.8-	0.4-)	1996 10 07	809	(3.3-	0.6+)	1998 03 25	704	0.3-	0.8+
1989 09 26	809	(2.7-	0.8-)	1996 10 07	809	(2.9-	0.9+)	1998 03 25	704	1.3+	1.0+
1989 09 28	809	0.6-	0.8+	1996 10 08	809	0.5-	0.1+	1998 03 25	704	0.5-	0.6+
1989 09 28	809	0.1+	0.0	1996 10 08	809	1.9-	0.2-	1998 03 26	566	0.7-	0.1+
1989 09 28	809	0.4-	0.4-	1996 10 08	809	0.2+	0.8+	1998 03 26	566	0.6-	0.1+
1989 09 29	675	0.4-	0.9+	1996 10 10	809	1.0+	0.6+	1998 03 26	566	0.6-	0.3+
1989 09 29	675	0.7+	0.9-	1996 10 10	809	0.5+	0.0	1998 04 20	704	0.9+	0.4-
1989 10 03	809	1.6+	0.9+	1996 10 10	809	0.1-	0.6+	1998 04 20	704	0.1+	0.9-
1989 10 03	809	1.2+	0.9+	1998 03 24	704	0.1-	0.6+	1998 04 20	704	0.1+	1.2-
1989 10 03	809	1.2+	0.2+	1998 03 24	704	1.0-	0.9+	1998 04 20	704	1.4+	0.9-
1989 10 07	809	0.9-	1.2-	1998 03 24	704	1.0-	0.4+	1998 04 20	704	0.1+	0.4-
1989 10 07	809	0.7-	0.9-	1998 03 24	704	0.9-	0.2+	1998 04 22	704	0.5+	0.6-
1989 10 07	809	1.1-	1.1-	1998 03 24	704	1.2-	0.3+	1998 04 22	704	0.3+	0.1+
1989 10 08	809	1.6+	0.1+	1998 03 25	699	1.5-	0.4-	1998 04 22	704	0.9+	0.9-
1989 10 08	809	0.2+	0.4-	1998 03 25	699	1.2+	0.0	1998 04 22	704	1.2+	0.3-
1989 10 08	809	0.1+	0.1+	1998 03 25	699	0.8-	0.1+	1998 04 22	704	1.0+	1.0-

1998 MAY 11

M.P.C. 31715

1989 UD₁ = 1998 BO₄₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	130.60245		(2000.0)	P		Q		Gnädig	
<i>n</i>	0.27343162	ω	35.41673	+0.79349977		−0.60855731			
<i>a</i>	2.3509148	Ω	2.08163	+0.52977147		+0.68749388			
<i>e</i>	0.1196160	<i>i</i>	6.34594	+0.29950009		+0.39624509			
<i>P</i>	3.60	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5		

Residuals in seconds of arc

1989 09 24	809	0.6−	0.1+	1989 09 28	809	0.3−	0.6−	1989 10 26	888	0.8+	1.4−
1989 09 24	809	0.3−	0.0	1989 09 28	809	0.4+	0.4−	1989 10 29	888	0.3+	0.2−
1989 09 24	809	0.0	0.0	1989 09 28	809	0.6+	0.4−	1989 10 29	888	1.1−	1.1+
1989 09 25	809	0.2+	0.0	1989 09 29	809	0.0	0.2+	1998 01 25	566	0.8−	0.0
1989 09 25	809	0.6+	0.1+	1989 09 29	809	0.6+	0.2+	1998 01 25	566	1.1−	0.6−
1989 09 25	809	1.0+	0.1+	1989 09 29	809	1.1+	0.2+	1998 01 25	566	0.9−	0.3−
1989 09 26	809	1.4−	0.1+	1989 10 25	888	0.3+	0.3+	1998 01 31	910	0.9+	0.3+
1989 09 26	809	0.9−	0.0	1989 10 25	888	0.0	0.1+	1998 01 31	910	0.9+	0.2+
1989 09 26	809	0.3−	0.1+	1989 10 26	888	1.0−	0.4+	1998 01 31	910	0.9+	0.4+

1990 ES₁ = 1991 OA₁Id. G. V. Williams (*MPC* 18819)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	328.17303		(2000.0)	P		Q		Williams	
<i>n</i>	0.25903777	ω	352.36579	+0.18637789		+0.97623123			
<i>a</i>	2.4372158	Ω	288.32559	−0.89513650		+0.12232210			
<i>e</i>	0.0953536	<i>i</i>	6.69162	−0.40496165		+0.17891310			
<i>P</i>	3.80	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	2		

Residuals in seconds of arc

1990 02 24	809	0.6−	0.2−	1991 07 16	675	0.2−	1.3−	1996 12 19	327	0.1−	0.0
1990 02 24	809	0.8−	0.8−	1991 07 16	675	0.5+	1.9−	1996 12 19	327	0.2+	0.1+
1990 02 24	809	1.3−	1.2−	1991 07 18	675	0.7+	1.2−	1998 05 01	566	0.1−	0.5+
1990 03 02	809	0.3+	1.1−	1991 07 18	675	1.1+	1.6−	1998 05 01	566	0.5+	1.0+
1990 03 02	809	0.4−	1.2−	1991 08 07	675	(2.6+	1.9−)	1998 05 01	566	0.0	1.2+
1990 03 02	809	0.8+	1.3−	1991 08 07	675	(0.6+	2.6−)	1998 05 02	566	0.0	0.6+
1990 03 04	809	(0.2+	2.3−)	1991 08 10	675	1.2+	1.3−	1998 05 02	566	0.1+	0.7+
1990 03 04	809	1.1−	1.8−	1991 08 10	675	(2.4+	1.3−)	1998 05 02	566	0.8+	0.8+
1990 03 04	809	1.6−	1.4−	1996 12 19	327	0.1+	0.1−				

1990 ER₂ = 1998 HJ₁₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	340.76837		(2000.0)	P		Q		Williams	
<i>n</i>	0.25010424	ω	4.38511	−0.51094258		+0.85718707			
<i>a</i>	2.4949127	Ω	234.90125	−0.79106170		−0.49825771			
<i>e</i>	0.0810168	<i>i</i>	4.52583	−0.33639124		−0.13026733			
<i>P</i>	3.94	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5		

Residuals in seconds of arc

1990 02 24	809	0.0	0.2−	1998 03 20	704	1.1−	1.2+	1998 04 18	704	0.0	0.4−
1990 02 24	809	0.9−	0.4−	1998 03 20	704	1.0−	1.0+	1998 04 18	704	0.3−	0.0
1990 02 24	809	1.0−	0.1−	1998 03 20	704	0.8−	0.7−	1998 04 18	704	0.6−	1.0−
1990 03 02	809	0.5+	0.4+	1998 03 26	566	0.1+	0.1−	1998 04 18	704	0.1+	0.7−
1990 03 02	809	0.2+	0.3−	1998 03 26	566	0.2−	0.4−	1998 04 19	704	0.2−	0.8+
1990 03 02	809	0.5−	0.7+	1998 03 26	566	0.3−	0.1−	1998 04 19	704	0.5−	0.9+
1990 03 04	809	0.2+	0.4+	1998 04 01	704	0.2+	0.3+	1998 04 19	704	0.9+	0.9+
1990 03 04	809	1.5+	0.5−	1998 04 01	704	0.9+	0.6+	1998 04 19	704	0.6+	0.8−
1990 03 04	809	(3.5+	1.9−)	1998 04 01	704	0.1+	0.1+	1998 04 19	704	0.9−	0.7−
1998 03 20	704	1.6+	1.7−	1998 04 01	704	0.7+	0.4−				
1998 03 20	704	0.3+	0.2+	1998 04 01	704	0.3+	0.9+				

1990 HY = 1998 GA₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	319.97196		(2000.0)	P		Q		Williams	
<i>n</i>	0.23662472	ω	156.89630	−0.40564930		+0.86978151			
<i>a</i>	2.5887849	Ω	88.17680	−0.87635050		−0.28275933			
<i>e</i>	0.0784126	<i>i</i>	16.32497	−0.25972764		−0.40438507			
<i>P</i>	4.17	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	5		

Residuals in seconds of arc

1990 04 26	675	1.7−	0.5−	1990 05 22	675	1.4−	0.1+	1998 04 02	704	0.0	0.9−
1990 04 26	675	0.5−	0.1−	1990 05 22	675	0.8−	0.7+	1998 04 03	704	0.7−	1.2+
1990 04 29	675	0.9+	0.2+	1998 04 02	704	0.1−	0.9+	1998 04 03	704	0.1−	1.2+
1990 04 29	675	1.1+	0.7+	1998 04 02	704	0.0	0.0	1998 04 03	704	0.4−	0.4+
1990 05 19	675	0.6+	0.4−	1998 04 02	704	0.3+	0.4+	1998 04 03	704	0.2+	0.7−
1990 05 19	675	1.8+	0.7−	1998 04 02	704	0.0	0.9−	1998 04 03	704	0.7+	1.6−

1990 KD = 1998 GE₁₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	342.62822		(2000.0)	P		Q		Williams	
<i>n</i>	0.24286220	ω	164.04589	−0.06648513		+0.97019209			
<i>a</i>	2.5442674	Ω	101.69781	−0.93950261		+0.01778499			
<i>e</i>	0.2510880	<i>i</i>	13.76743	−0.33602764		−0.24168368			
<i>P</i>	4.06	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5		

Residuals in seconds of arc

1990 05 19	413	0.4+	0.1+	1990 05 27	675	0.5+	1.0−	1998 04 02	704	0.1+	0.2−
1990 05 19	413	1.3+	0.4+	1990 05 29	413	(4.3−	0.2−)	1998 04 02	704	0.0	0.0
1990 05 20	413	1.3−	1.0−	1990 05 29	413	(2.3+	2.5+)	1998 04 03	704	0.5+	0.5+
1990 05 20	413	0.7−	0.7+	1998 03 08	699	0.3+	0.7+	1998 04 03	704	0.0	0.0
1990 05 26	413	(2.9−	0.8−)	1998 03 08	699	1.1−	0.4+	1998 04 03	704	0.2−	0.3−
1990 05 26	413	0.1+	0.2+	1998 03 08	699	0.6+	0.7+	1998 04 03	704	0.2−	0.5−
1990 05 27	675	0.3−	0.9+	1998 04 02	704	0.6+	1.2−	1998 04 03	704	0.8−	0.2−

1990 QF₂ = 1988 FS₃ = 1991 XP₄ = 1998 EF₁₃

Id. A. Gnädig, C. S. Shoemaker

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	248.05535		(2000.0)	P		Q		Williams	
<i>n</i>	0.20170384	ω	182.05920	+0.69014914		+0.72253532			
<i>a</i>	2.8795631	Ω	131.58583	−0.66317612		+0.65384705			
<i>e</i>	0.0466639	<i>i</i>	3.10073	−0.28964046		+0.22455901			
<i>P</i>	4.89	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	2		

Residuals in seconds of arc

1988 03 22	675	0.4+	1.5+	1998 03 01	809	0.6−	0.6+	1998 03 22	704	1.0+	0.1−
1990 08 22	675	1.1−	0.9+	1998 03 02	809	(0.7−	2.3+)	1998 03 22	704	0.7+	0.4−
1990 08 22	675	1.5−	0.8+	1998 03 02	809	(1.6−	2.2+)	1998 03 22	704	0.6−	1.2+
1990 08 28	675	1.3−	1.3+	1998 03 02	809	0.9−	1.8+	1998 03 22	704	0.1−	0.4+
1990 08 28	675	(2.1−	1.2+)	1998 03 20	704	0.2−	0.1−	1998 03 22	704	0.0	0.6+
1990 09 14	675	0.2−	2.0+	1998 03 20	704	0.4+	0.5+	1998 03 22	704	1.4−	0.7+
1990 09 14	675	0.1+	1.8+	1998 03 20	704	0.1−	0.4+	1998 03 24	566	0.7+	0.5+
1990 09 19	675	0.4+	1.9+	1998 03 20	704	0.5+	0.0	1998 03 24	566	0.6+	0.5+
1990 09 19	675	(0.1+	2.7+)	1998 03 20	704	0.2−	0.9+	1998 03 24	566	0.6+	0.7+
1991 12 01	675	(1.0−	29.1−)	1998 03 22	704	0.7+	0.1−	1998 03 24	566	0.2+	0.5−
1991 12 01	675	0.1+	0.9+	1998 03 22	704	0.6+	0.1+	1998 03 24	566	0.1+	0.4−
1998 03 01	809	0.2+	0.3+	1998 03 22	704	0.8+	0.2−	1998 03 24	566	0.1+	0.6−
1998 03 01	809	0.6−	1.4+	1998 03 22	704	0.4+	0.5−				

M.P.C. 31716

1998 MAY 11

1990 SS₇ = 1998 HS₄₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	129.79002		(2000.0)	P	Q
<i>n</i>	0.19644545	ω	351.11762	+0.19323416	-0.97945334
<i>a</i>	2.9307227	Ω	87.72575	+0.90370076	+0.15476254
<i>e</i>	0.0991281	<i>i</i>	3.31162	+0.38208047	+0.12930475
<i>P</i>	5.02	<i>H</i>	13.0	<i>G</i> 0.15	<i>U</i> 6

Residuals in seconds of arc

1990 09 14	809	2.8-	0.9+	1990 09 25	809	0.3-	0.1+	1998 04 21	704	0.5-	0.3-
1990 09 14	809	1.7+	0.3-	1998 04 20	704	0.3+	0.1+	1998 04 21	704	0.4-	0.1-
1990 09 14	809	1.1+	0.5-	1998 04 20	704	0.1+	0.3+	1998 04 21	704	0.1+	0.5-
1990 09 22	809	0.1-	0.3+	1998 04 20	704	0.3+	0.7+	1998 04 22	704	0.2+	0.5+
1990 09 22	809	0.4+	0.2+	1998 04 20	704	1.1+	0.7+	1998 04 22	704	0.8+	0.2+
1990 09 22	809	0.0	0.2-	1998 04 20	704	0.4-	0.6-	1998 04 22	704	0.3-	0.3-
1990 09 25	809	0.1-	0.3-	1998 04 21	704	0.1+	0.0	1998 04 22	704	0.7-	0.3-
1990 09 25	809	0.3+	0.3-	1998 04 21	704	0.7-	0.1+	1998 04 22	704	0.1+	0.4-

1990 SS₈ = 1998 ES₁₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

<i>M</i>	217.51631		(2000.0)	P	Q
<i>n</i>	0.19200819	ω	159.76133	+0.80656645	+0.58897569
<i>a</i>	2.9757028	Ω	163.84533	-0.56430034	+0.79260796
<i>e</i>	0.0924345	<i>i</i>	10.47381	-0.17611270	+0.15773474
<i>P</i>	5.13	<i>H</i>	14.0	<i>G</i> 0.15	<i>U</i> 5

Residuals in seconds of arc

1990 09 14	809	0.1-	0.9+	1990 09 22	809	0.4+	0.2+	1998 03 03	809	0.2+	0.8-
1990 09 14	809	0.3+	0.3-	1990 09 25	809	0.1+	0.8-	1998 03 03	809	0.8-	1.3-
1990 09 14	809	0.3-	0.7-	1990 09 25	809	0.2+	0.2+	1998 03 04	809	1.0-	1.5+
1990 09 22	809	0.0	0.2+	1990 09 25	809	0.2-	0.1-	1998 03 04	809	1.1+	1.1+
1990 09 22	809	0.4-	0.3+	1998 03 03	809	0.2+	1.2-	1998 03 04	809	0.3+	0.8+

1990 UM₂ = 1998 FS₉₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	214.06158		(2000.0)	P	Q
<i>n</i>	0.18753978	ω	277.25164	+0.92513080	+0.33778891
<i>a</i>	3.0227840	Ω	63.13667	-0.22345874	+0.85350725
<i>e</i>	0.1128639	<i>i</i>	11.20148	-0.30691888	+0.39676696
<i>P</i>	5.26	<i>H</i>	12.5	<i>G</i> 0.15	<i>U</i> 5

Residuals in seconds of arc

1990 10 16	809	0.7-	0.9-	1990 10 24	809	0.0	1.2-	1998 03 24	704	0.7-	0.8+
1990 10 16	809	1.0-	0.3+	1990 10 24	809	0.4-	2.0-	1998 03 24	704	0.1+	0.4-
1990 10 16	809	1.3-	0.2-	1990 10 24	809	0.2-	1.4-	1998 03 24	704	0.1+	0.9-
1990 10 19	809	1.4+	0.7+	1990 10 24	400	1.7+	0.2-	1998 03 25	704	0.6-	0.6+
1990 10 19	809	0.0	0.5+	1990 10 24	400	0.4+	2.2+	1998 03 25	704	0.2-	0.3+
1990 10 19	809	0.4+	2.0+	1990 11 13	400	2.3-	1.6-	1998 03 25	704	1.0-	0.1+
1990 10 21	400	0.7+	0.1-	1990 11 13	400	1.4+	1.8+	1998 03 25	704	1.8+	0.5+
1990 10 21	400	(5.9+	1.8+)	1998 03 24	704	0.4+	0.9-	1998 03 25	704	(5.2-	1.4-)

1990 UZ₄ = 1996 XR₃₂Id. G. V. Williams (*MPC* 28844)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	89.88716		(2000.0)	P	Q
<i>n</i>	0.17272243	ω	0.58193	+0.05396943	-0.98772734
<i>a</i>	3.1932791	Ω	86.33065	+0.91555054	-0.00963947
<i>e</i>	0.1641349	<i>i</i>	8.44549	+0.39856556	+0.15589029
<i>P</i>	5.71	<i>H</i>	13.5	<i>G</i> 0.15	<i>U</i> 3

Residuals in seconds of arc

1990 10 16	809	1.0-	0.4+	1996 12 06	399	1.2+	0.3+	1998 03 24	704	0.3-	0.8+
1990 10 16	809	1.2-	1.2-	1996 12 06	399	0.0	1.0-	1998 03 24	704	0.4-	0.0
1990 10 16	809	1.2-	0.0	1996 12 07	399	0.5-	0.3+	1998 03 25	704	0.7+	0.6+

1990 10 19	809	1.4+	0.7+	1996 12 07	399	0.7-	0.8+	1998 03 25	704	0.6+	0.5+
1990 10 19	809	0.8-	0.3-	1998 02 24	566	1.4-	1.6-	1998 03 25	704	1.1+	0.5-
1990 10 19	809	1.3-	0.1-	1998 02 24	566	(2.3-	1.3-)	1998 03 25	704	0.7+	0.0
1990 10 24	809	1.7+	0.1+	1998 02 24	566	1.0-	0.7-	1998 03 25	704	0.1-	0.0
1990 10 24	809	1.6+	0.1+	1998 03 24	704	0.3-	0.3-				
1990 10 24	809	0.9+	0.1+	1998 03 24	704	0.4+	1.0+				

1990 VM = 1998 FN₁₃

Id. A. Gnädig

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	133.70773		(2000.0)	P	Q
<i>n</i>	0.17467398	ω	277.53679	+0.82960960	-0.54127766
<i>a</i>	3.1694501	Ω	115.32723	+0.55313997	+0.76333624
<i>e</i>	0.1637226	<i>i</i>	8.71725	+0.07605312	+0.35261349
<i>P</i>	5.64	<i>H</i>	12.5	<i>G</i> 0.15	<i>U</i> 5

Residuals in seconds of arc

1990 10 16	095	1.1-	1.5-	1990 11 09	413	0.9-	0.6-	1998 03 25	704	0.8-	2.0+
1990 10 16	095	0.3+	0.5+	1990 11 09	413	1.7+	0.7+	1998 03 25	704	0.7+	0.3+
1990 10 19	402	1.4+	1.3+	1998 03 24	704	1.5+	0.8+	1998 03 25	704	0.0	0.6+
1990 10 19	402	0.9+	1.5+	1998 03 24	704	0.4+	0.9+	1998 03 26	566	0.1-	0.4-
1990 10 20	402	1.1-	0.4-	1998 03 24	704	1.8+	2.1+	1998 03 26	566	0.9-	0.8-
1990 10 20	402	0.1+	0.5+	1998 03 24	704	0.8-	0.6+	1998 03 26	566	0.3-	0.4-
1990 10 28	402	1.2+	0.5-	1998 03 24	704	0.1+	0.4+	1998 03 27	566	0.4-	1.9-
1990 10 28	402	2.1-	1.3-	1998 03 25	704	0.4+	0.1+	1998 03 27	566	1.5-	2.1-
1990 11 08	413	0.4-	0.2-	1998 03 25	704	0.8+	0.1+	1998 03 27	566	0.9-	2.2-

1990 WR₅ = 1996 XC₃₅ = 1998 GS₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	235.42735		(2000.0)	P	Q
<i>n</i>	0.18953786	ω	240.28461	+0.91458953	+0.36516940
<i>a</i>	3.0015027	Ω	97.82834	-0.28312069	+0.88496538
<i>e</i>	0.0888989	<i>i</i>	10.09904	-0.28873632	+0.28894219
<i>P</i>	5.20	<i>H</i>	13.5	<i>G</i> 0.15	<i>U</i> 3

Residuals in seconds of arc

1990 11 11	809	2.2+	1.3-	1996 12 11	691	0.3+	0.0	1998 04 16	611	0.6+	0.6-
1990 11 11	809	0.0	0.9-	1996 12 11	691	0.4+	0.3-	1998 04 16	611	0.6+	0.9-
1990 11 11	809	0.1+	0.9-	1996 12 14	691	0.5-	0.0	1998 04 19	611	0.8-	0.2+
1990 11 18	809	0.7+	0.1-	1996 12 14	691	0.5-	0.2+	1998 04 19	611	0.3-	0.3+
1990 11 18	809	0.1+	1.3+	1996 12 14	691	0.1-	0.1+	1998 04 19	611	0.3-	0.5+
1990 11 18	809	1.0-	0.9+	1998 04 14	611	0.4-	0.2+	1998 04 19	611	0.4-	0.1-
1990 11 20	809	0.9+	0.4+	1998 04 14	611	1.1-	0.0	1998 04 22	611	0.9+	0.8+
1990 11 20	809	2.0-	0.5+	1998 04 14	611	0.6-	0.2+	1998 04 22	611	1.6+	0.2-
1990 11 20	809	1.1-	0.5+	1998 04 16	611	0.2+	0.1+				
1996 12 11	691	0.4+	0.3-	1998 04 16	611	0.1+	0.3-				

1991 GU₃ = 1981 QY = 1998 FS₂₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

Gnädig

<i>M</i>	249.95941		(2000.0)	P	Q
<i>n</i>	0.27205947	ω	122.00653	+0.74875326	+0.66196082
<i>a</i>	2.3588128	Ω	196.62742	-0.64139086	+0.71048432
<i>e</i>	0.0933462	<i>i</i>	6.88431	-0.16729110	+0.23878841
<i>P</i>	3.62	<i>H</i>	15.0	<i>G</i> 0.15	<i>U</i> 3

Residuals in seconds of arc

1981 08 28	046	0.6+	0.0	1991 04 15	675	1.9+	2.0-	1998 03 20	704	0.5-	0.6-
1981 08 28	046	0.3-	0.7-	1991 04 15	675	0.3+	1.9-	1998 03 20	704	0.5-	0.6-
1991 04 08	809	0.1+	1.1+	1991 04 19	809	1.0-	0.6-	1998 03 22	704	0.3-	0.2-
1991 04 08	809	1.2+	1.6+	1991 04 19	809	2.5-	0.4+	1998 03 22	704	0.0	0.2-
1991 04 08	809	0.3-	1.8+	1991 04 19	809	0.2+	1.1-	1998 03 22	704	0.0	0.0
1991 04 10	809	0.7-	1.1+	1998 03 20	704	1.0-	0.2+	1998 03 22	704	0.4+	0.7-
1991 04 10	809	0.0	0.6+	1998 03 20	704	1.2+	0.2-	1998 03 22	704	0.5-	0.4+
1991 04 10	809	1.0+	0.1-	1998 03 20	704	0.8+	0.2+				

1991 GL₇ = 1998 FL₁₁₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q		Williams	
<i>n</i>	0.27877006	ω	169.32241	+0.48219699	-0.87362173				
<i>a</i>	2.3208049	Ω	251.82133	+0.79861717	+0.46901162				
<i>e</i>	0.0439493	<i>i</i>	3.94433	+0.36013426	+0.12966563				
<i>P</i>	3.54	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	6		
Residuals in seconds of arc									
1991 04 08	809	0.4+	0.1-	1998 03 31	704	0.2+	0.7+	1998 04 19	704
1991 04 08	809	0.2-	0.2-	1998 03 31	704	0.3+	0.2-	1998 04 19	704
1991 04 08	809	1.5-	1.4-	1998 03 31	704	(3.9-	1.7+)	1998 04 20	704
1991 04 10	809	0.1+	0.2+	1998 04 01	704	0.5+	0.6+	1998 04 20	704
1991 04 10	809	1.1-	0.1-	1998 04 01	704	0.4-	0.6+	1998 04 20	704
1991 04 10	809	0.0	1.7-	1998 04 01	704	1.6-	0.9-	1998 04 20	704
1991 04 19	809	0.6+	0.8+	1998 04 01	704	0.4+	1.0-	1998 04 20	704
1991 04 19	809	0.6+	0.7+	1998 04 18	704	0.0	0.2-	1998 04 22	704
1991 04 19	809	0.8+	1.1+	1998 04 18	704	0.5-	0.9+	1998 04 22	704
1998 03 24	699	0.8+	0.2-	1998 04 18	704	0.6-	1.2-	1998 04 22	704
1998 03 24	699	0.3+	0.2-	1998 04 18	704	0.5-	0.2+	1998 04 22	704
1998 03 24	699	0.6+	0.0	1998 04 19	704	0.8+	0.0	1998 04 22	704
1998 03 31	704	0.0	1.0+	1998 04 19	704	0.0	0.4+		

1991 GJ₈ = 1992 SK₂₂Id. A. Doppler (*MPC* 31380)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q		Williams	
<i>n</i>	0.28490844	ω	154.58917	-0.99033378	-0.13205055				
<i>a</i>	2.2873494	Ω	17.97583	+0.09168888	-0.85286114				
<i>e</i>	0.0358798	<i>i</i>	7.90530	+0.10407759	-0.50516386				
<i>P</i>	3.46	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc									
1991 04 08	809	0.6-	0.2+	1991 04 19	809	1.3+	0.5+	1998 04 21	704
1991 04 08	809	0.2-	0.0	1991 04 19	809	0.6+	0.5-	1998 04 21	704
1991 04 08	809	0.8-	0.1+	1992 09 22	809	0.7-	0.4-	1998 04 21	704
1991 04 10	809	(0.6-	2.9+)	1992 09 22	809	(3.1-	1.9-)	1998 04 21	704
1991 04 10	809	(0.6-	2.9+)	1992 09 22	809	(2.7-	2.0-)	1998 04 22	704
1991 04 10	809	0.9-	0.6+	1992 09 23	809	0.4+	0.3+	1998 04 22	704
1991 04 15	675	0.1-	1.1-	1992 09 23	809	0.2+	0.3-	1998 04 22	704
1991 04 15	675	0.3+	0.3-	1992 09 23	809	0.0	0.4+	1998 04 22	704
1991 04 19	809	0.5+	0.7+	1998 04 21	704	0.5+	0.0		

1991 GF₉ = 1977 EF₈ = 1998 HD₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q		Williams	
<i>n</i>	0.28392704	ω	89.07539	-0.14585278	+0.98925501				
<i>a</i>	2.2926172	Ω	172.51535	-0.93565367	-0.13462769				
<i>e</i>	0.1214385	<i>i</i>	4.43567	-0.32137077	-0.05700799				
<i>P</i>	3.47	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5		
Residuals in seconds of arc									
1977 03 12	381	1.4-	1.0-	1991 04 10	809	0.8-	1.6+	1998 04 22	910
1977 03 12	381	0.9+	1.1-	1991 04 19	809	0.3-	0.9+	1998 04 22	910
1991 03 20	809	0.0	0.2+	1991 04 19	809	0.3+	1.3+	1998 04 22	704
1991 03 20	809	0.1+	0.2+	1991 04 19	809	0.6+	1.0+	1998 04 22	704
1991 03 20	809	0.5+	0.1-	1998 04 21	704	0.8-	0.4+	1998 04 22	704
1991 03 23	809	(1.6-	2.7+)	1998 04 21	704	0.3-	0.3+	1998 04 22	704
1991 03 23	809	(1.0-	2.5+)	1998 04 21	704	0.6-	0.0	1998 04 22	704
1991 03 23	809	(0.6-	2.4+)	1998 04 21	704	1.0-	0.6+	1998 04 24	910
1991 04 10	809	0.4+	1.2+	1998 04 21	704	0.2-	1.4-	1998 04 24	910
1991 04 10	809	0.7+	0.1+	1998 04 21	910	1.0+	0.4-	1998 04 24	910

1991 JF = 1998 FU₉₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q		Williams	
<i>n</i>	0.26887111	ω	23.16985	-0.13164423	+0.98691540				
<i>a</i>	2.3774239	Ω	239.38039	-0.92559033	-0.15599908				
<i>e</i>	0.1019565	<i>i</i>	6.21073	-0.35489765	+0.04077098				
<i>P</i>	3.67	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5		
Residuals in seconds of arc									
1991 05 03	385	0.5-	0.0	1991 05 17	385	0.0	0.7-	1998 03 31	704
1991 05 03	385	0.3+	0.4+	1998 03 03	704	1.5+	0.6+	1998 03 31	704
1991 05 05	385	(2.7-	0.0)	1998 03 03	704	1.5+	1.2+	1998 03 31	704
1991 05 05	385	0.0	0.1+	1998 03 03	704	0.6+	0.3-	1998 03 31	704
1991 05 07	385	0.9-	1.3-	1998 03 03	704	1.6+	0.1+	1998 03 31	704
1991 05 07	385	0.5-	0.4+	1998 03 03	704	1.2+	0.4+	1998 04 01	704
1991 05 13	675	0.9-	0.8-	1998 03 04	704	1.6-	0.5+	1998 04 01	704
1991 05 13	675	0.2+	1.1+	1998 03 04	704	1.8-	0.6+	1998 04 01	704
1991 05 15	675	0.3+	0.1-	1998 03 04	704	1.2-	0.6+	1998 04 01	704
1991 05 15	675	0.5+	0.2-	1998 03 04	704	1.8-	0.5+	1998 04 01	704
1991 05 17	385	1.7+	1.7+	1998 03 04	704	1.1-	0.9+		

1991 LR = 1998 GJ₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q		Williams	
<i>n</i>	0.26827309	ω	189.23651	+0.57540740	+0.78438992				
<i>a</i>	2.3809556	Ω	116.23438	-0.73292912	+0.62020451				
<i>e</i>	0.2324959	<i>i</i>	14.96307	-0.36293420	-0.00887814				
<i>P</i>	3.67	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc									
1991 06 07	675	0.6-	0.3-	1991 07 10	675	0.2+	0.2-	1998 04 03	704
1991 06 07	675	0.1-	0.2-	1991 07 10	675	1.2+	0.5+	1998 04 03	704
1991 06 11	675	1.4+	0.4-	1991 07 11	675	1.1-	0.0	1998 04 03	704
1991 06 11	675	0.3-	1.0-	1991 07 11	675	0.4-	0.6-	1998 04 03	704
1991 06 14	675	0.9-	0.3-	1998 04 02	704	0.1+	0.6-	1998 04 26	566
1991 06 14	675	1.5+	0.7+	1998 04 02	704	0.9-	0.1+	1998 04 26	566
1991 06 16	675	0.6-	0.8+	1998 04 02	704	0.3+	0.1-	1998 04 26	566
1991 06 16	675	0.3-	0.8+	1998 04 03	704	0.3+	0.1-		

1991 NB₁ = 1998 FL₉₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q		Williams	
<i>n</i>	0.25348804	ω	71.41232	+0.62848361	+0.76957105				
<i>a</i>	2.4726600	Ω	238.05565	-0.75438693	+0.56768814				
<i>e</i>	0.2440117	<i>i</i>	7.65253	-0.18949591	+0.29238772				
<i>P</i>	3.89	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc									
1991 07 10	675	0.8+	0.1-	1991 08 16	675	0.5+	0.1-	1998 04 01	704
1991 07 10	675	0.6+	0.4+	1998 03 31	704	0.4-	1.4-	1998 04 01	704
1991 07 11	675	1.5-	0.3-	1998 03 31	704	0.6+	0.1+	1998 04 01	704
1991 08 15	675	0.0	0.7+	1998 03 31	704	1.7-	0.7-	1998 04 01	704
1991 08 15	675	0.7-	0.3-	1998 03 31	704	0.5+	1.3+	1998 04 01	704
1991 08 16	675	0.3+	0.3-	1998 03 31	704	1.9-	1.1-		

1991 NG₅ = 1998 FQ₁₁₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q		Williams	
<i>n</i>	0.26815458	ω	359.02385	+0.37334428	+0.92506332				
<i>a</i>	2.3816571	Ω	292.89538	-0.85062728	+0.31133487				
<i>e</i>	0.2254331	<i>i</i>	4.34537	-0.37019896	+0.21755102				
<i>P</i>	3.68	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5		

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Residuals in seconds of arc

1991 07 10	809	0.6−	0.1+	1991 07 23	809	0.4+	0.0	1998 04 01	704	0.1−	0.1−
1991 07 10	809	0.2+	0.3−	1991 07 24	809	0.4−	0.1−	1998 04 01	704	0.6−	0.8+
1991 07 10	809	0.8+	0.3−	1991 07 24	809	0.4+	0.1+	1998 04 01	704	0.8+	0.5−
1991 07 11	809	0.8−	0.0	1998 03 31	704	0.0	0.0	1998 04 01	704	0.3+	0.5−
1991 07 11	809	0.1−	0.2+	1998 03 31	704	0.9−	1.4−	1998 04 01	704	0.3−	0.1+
1991 07 11	809	0.5+	0.3+	1998 03 31	704	0.2−	1.5+				
1991 07 23	809	0.4−	0.0	1998 03 31	704	1.0+	0.1+				

1991 RP₂₃ = 1998 FQ₉₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	292.78071	(2000.0)	Williams		<i>P</i>	<i>Q</i>
<i>n</i>	0.23611976	ω	265.86159	+0.09425028	+0.99455339	
<i>a</i>	2.5924745	Ω	9.88358	−0.77918642	+0.10151674	
<i>e</i>	0.0908853	<i>i</i>	15.02648	−0.61966556	+0.02361994	
<i>P</i>	4.17	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i> 5

Residuals in seconds of arc

1991 09 15	675	0.1−	0.2+	1991 10 16	691	0.1+	0.3−	1998 03 25	704	0.1+	0.1−
1991 09 15	675	0.6−	0.4−	1991 10 16	691	0.2+	0.3−	1998 03 25	704	0.3+	0.2+
1991 09 17	675	0.4+	0.9−	1991 10 16	691	0.0	0.4−	1998 03 25	704	0.0	1.3+
1991 09 17	675	0.4+	0.1+	1998 03 24	704	0.2−	0.4−	1998 03 25	704	0.0	0.2−
1991 10 02	691	0.2−	0.6+	1998 03 24	704	0.1+	0.4−	1998 03 25	704	0.1−	0.4+
1991 10 02	691	0.3−	0.8+	1998 03 24	704	0.1+	0.2−				
1991 10 02	691	0.1+	0.6+	1998 03 24	704	0.2−	0.4−				

1991 SR = 1998 GO₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	174.33842	(2000.0)	Williams		<i>P</i>	<i>Q</i>
<i>n</i>	0.23329309	ω	266.87383	+0.72225340	−0.66604146	
<i>a</i>	2.6133734	Ω	134.78418	+0.69148672	+0.68993372	
<i>e</i>	0.1084042	<i>i</i>	15.22432	+0.01400531	+0.28351408	
<i>P</i>	4.22	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i> 5

Residuals in seconds of arc

1991 09 15	675	0.4+	0.7−	1998 04 02	704	0.1+	0.2−	1998 04 03	704	1.4−	1.5+
1991 09 15	675	0.7−	0.6+	1998 04 02	704	0.5+	0.3+	1998 04 03	704	0.5+	0.3+
1991 09 30	413	0.8+	0.6+	1998 04 02	704	0.2+	0.2+	1998 04 03	704	0.1−	0.3−
1991 10 01	413	0.3−	0.5−	1998 04 03	704	0.3−	1.1−				
1991 10 09	413	0.2−	0.0	1998 04 03	704	0.5+	0.7−				

1991 SD₁ = 1998 GN₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	354.26649	(2000.0)	Williams		<i>P</i>	<i>Q</i>
<i>n</i>	0.24188799	ω	90.36272	−0.71025250	+0.68182925	
<i>a</i>	2.5510943	Ω	132.63451	−0.70249433	−0.67054787	
<i>e</i>	0.1334959	<i>i</i>	13.76677	−0.04520062	−0.29236009	
<i>P</i>	4.07	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i> 4

Residuals in seconds of arc

1991 09 05	413	0.1+	0.4−	1998 02 27	566	0.5+	0.0	1998 04 03	704	0.2−	0.8+
1991 09 05	413	0.1−	0.4−	1998 02 27	566	0.3+	0.0	1998 04 03	704	0.1−	0.9+
1991 09 14	675	0.4+	0.2−	1998 02 27	566	0.2+	0.1+	1998 04 03	704	1.8+	0.6−
1991 09 30	413	1.5+	0.9+	1998 04 02	704	0.0	0.4+	1998 04 03	704	0.2−	0.7−
1991 10 01	413	0.4−	1.0+	1998 04 02	704	0.3−	0.4+	1998 04 25	566	0.7−	0.1−
1991 10 02	413	1.3−	0.4−	1998 04 02	704	0.6+	0.0	1998 04 25	566	0.6−	0.1−
1991 10 05	413	0.2+	0.9+	1998 04 02	704	0.0	0.3+	1998 04 25	566	0.8−	0.2−
1991 10 09	413	0.6−	1.6−	1998 04 02	704	0.5−	0.7−				

1991 TC₂ = 1998 HG₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	129.25698	(2000.0)	Williams		<i>P</i>	<i>Q</i>
<i>n</i>	0.37017207	ω	55.37686	+0.16861885	−0.96694620	
<i>a</i>	1.9210276	Ω	26.93614	+0.70808925	−0.01615896	
<i>e</i>	0.1198247	<i>i</i>	24.97506	+0.68569476	+0.25446796	
<i>P</i>	2.66	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i> 5

Residuals in seconds of arc

1991 10 10	675	1.3−	1.0−	1991 11 03	675	0.4−	0.1+	1998 04 20	704	1.8−	1.7+
1991 10 10	675	0.3+	1.3+	1991 11 05	675	0.5−	0.1+	1998 04 20	704	0.3+	0.6+
1991 10 12	675	1.1+	1.1−	1991 11 05	675	1.6+	0.1−	1998 04 20	704	0.3−	0.1−
1991 10 12	675	0.0	0.7+	1998 04 19	704	0.1−	0.6−	1998 04 20	704	0.0	0.0
1991 11 01	675	2.2+	0.2−	1998 04 19	704	0.8+	0.5−	1998 04 20	704	0.4−	0.2−
1991 11 01	675	1.5−	0.3+	1998 04 19	704	0.7+	0.1−				
1991 11 03	675	1.5−	0.1−	1998 04 19	704	0.7+	0.8−				

1991 TD₄ = 1998 FG₁₂₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	242.41731	(2000.0)	Williams		<i>P</i>	<i>Q</i>
<i>n</i>	0.23324173	ω	160.42485	+0.91011605	+0.41344931	
<i>a</i>	2.6137570	Ω	174.89752	−0.40921013	+0.90722835	
<i>e</i>	0.2666828	<i>i</i>	17.91508	−0.06508341	+0.07743639	
<i>P</i>	4.23	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i> 6

Residuals in seconds of arc

1991 10 10	675	1.8+	1.0+	1991 11 01	675	2.6+	0.2−	1998 03 20	704	0.3+	2.1−
1991 10 10	675	1.9−	0.1−	1998 03 20	704	0.0	0.6−	1998 03 22	704	0.3−	1.9+
1991 10 13	675	0.3−	1.4−	1998 03 20	704	1.1−	0.6−	1998 03 22	704	0.3−	1.0+
1991 10 13	675	0.1+	0.3+	1998 03 20	704	0.6+	0.4+	1998 03 22	704	0.5−	1.0+
1991 11 01	675	2.2−	0.5+	1998 03 20	704	1.1+	0.4−	1998 03 22	704	0.2+	0.6−

1991 TL₁₃ = 1991 SB₅ = 1998 HO₂₁Id. S. Nakano (d, *MPC* 22572), G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	230.75432	(2000.0)	Williams		<i>P</i>	<i>Q</i>
<i>n</i>	0.23480731	ω	337.03070	+0.98434345	+0.17211063	
<i>a</i>	2.6021259	Ω	13.22906	−0.12458322	+0.83197050	
<i>e</i>	0.1385215	<i>i</i>	9.56468	−0.12468758	+0.52744953	
<i>P</i>	4.20	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i> 5

Residuals in seconds of arc

1991 09 17	675	1.7−	0.5−	1991 10 04	033	0.1+	0.5+	1998 04 20	704	0.3−	0.4+
1991 09 17	675	0.1−	1.1−	1991 10 05	033	0.5+	0.2−	1998 04 22	704	0.7+	0.2−
1991 09 17	675	0.3−	1.1+	1998 04 20	704	0.7+	0.6−	1998 04 22	704	0.6−	1.9+
1991 09 17	675	1.6+	0.4+	1998 04 20	704	2.2+	1.1+	1998 04 22	704	0.9+	2.3−
1991 10 04	033	0.1−	0.3−	1998 04 20	704	0.9−	0.5−	1998 04 22	704	2.7−	0.2+

1991 VC₆ = 1986 PV = 1998 FK₈₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	272.03617	(2000.0)	Williams		<i>P</i>	<i>Q</i>
<i>n</i>	0.22685843	ω	203.63100	+0.57895317	+0.80210773	
<i>a</i>	2.6625602	Ω	102.05702	−0.72217837	+0.58781307	
<i>e</i>	0.2477288	<i>i</i>	8.61038	−0.37851238	+0.10535170	
<i>P</i>	4.34	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i> 3

Residuals in seconds of arc

1998 08 02	675	0.3−	0.2−	1991 11 06	809	0.9−	0.3−	1998 03 24	704	0.3+	0.2−
1986 08 02	675	0.3+	0.0	1991 11 09	809	0.6+	0.5+	1998 03 24	704	0.5−	1.2−
1986 08 04	675(35.0−	1.1+)		1991 11 09	809	1.2+	0.2+	1998 03 24	704	0.0	0.6−
1991 11 02	809	0.8+	0.9+	1991 11 09	809	0.4+	0.5+	1998 03 25	704	0.1−	0.9+
1991 11 02	809	0.4−	0.5+	1991 11 12	809	1.0+	1.3−	1998 03 25	704	0.3−	0.2+
1991 11 02	809	1.7−	0.5+	1991 11 12	809	1.2−	0.4−	1998 03 25	704	0.0	0.2+

1998 MAY 11

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1991 11 06 809 0.3+ 0.7- 1991 11 12 809 0.0 0.5- 1998 03 25 704 0.4- 0.9+
 1991 11 06 809 0.2+ 0.1- 1998 03 24 704 0.3+ 0.3- 1998 03 25 704 0.6+ 0.0

1991 VJ₆ = 1998 FC₄₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	184.30973	(2000.0)	P	Q
<i>n</i>	0.21123559	ω	181.62264	+0.96191301 -0.26970848
<i>a</i>	2.7922737	Ω	194.26545	+0.25278942 +0.93962935
<i>e</i>	0.1380829	<i>i</i>	10.40530	+0.10402339 +0.21060392
<i>P</i>	4.67	<i>H</i>	13.5	<i>G</i> 0.15 <i>U</i> 5

Residuals in seconds of arc

1991 11 06	809	1.9-	0.2+	1991 11 12	809	0.3+	1.3+	1998 03 22	704	1.3-	0.4-
1991 11 06	809	0.0	1.3-	1991 11 12	809	0.7+	1.2+	1998 03 22	704	0.3-	1.6-
1991 11 06	809	0.2+	0.1-	1991 11 12	809	0.3-	1.0+	1998 03 22	704	(0.0	2.3+)
1991 11 07	675	0.1-	1.2-	1998 03 20	704	0.9-	1.5+	1998 04 01	704	0.2+	1.1+
1991 11 07	675	1.6+	0.2+	1998 03 20	704	0.8+	1.6+	1998 04 01	704	0.0	1.2-
1991 11 09	809	(1.1-	2.9+)	1998 03 20	704	0.3-	1.0-	1998 04 01	704	0.1-	1.1-
1991 11 09	809	1.2-	0.3-	1998 03 20	704	0.3+	0.1+	1998 04 01	704	0.3-	0.4-
1991 11 09	675	(0.7+	2.0-)	1998 03 20	704	0.3+	0.2+				
1991 11 09	675	0.7+	1.1-	1998 03 22	704	1.3+	1.1+				

1991 VZ₈ = 1998 HS₄₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	204.36104	(2000.0)	P	Q
<i>n</i>	0.22375576	ω	315.89688	+0.95798412 -0.26764820
<i>a</i>	2.6871169	Ω	59.89097	+0.28490360 +0.84647006
<i>e</i>	0.1525210	<i>i</i>	6.84523	+0.03311143 +0.46027479
<i>P</i>	4.40	<i>H</i>	14.5	<i>G</i> 0.15 <i>U</i> 5

Residuals in seconds of arc

1991 10 17	675	0.0	0.0	1991 11 06	691	0.3-	0.5+	1998 04 20	704	1.1-	0.6+
1991 11 04	691	0.3+	0.1+	1991 11 06	691	0.1-	0.1+	1998 04 20	704	1.7-	0.3+
1991 11 04	691	0.1+	0.2-	1991 11 06	691	0.3-	0.1+	1998 04 20	704	0.2-	0.6-
1991 11 04	691	0.1+	0.0	1991 11 08	691	0.2-	0.1-	1998 04 22	704	0.3-	1.3+
1991 11 05	691	0.0	0.1-	1991 11 08	691	0.1-	0.0	1998 04 22	704	0.1-	1.7-
1991 11 05	691	0.2-	0.0	1991 11 08	691	0.0	0.2-	1998 04 22	704	0.6+	0.4-
1991 11 05	691	0.6+	0.2-	1998 04 20	704	1.3+	0.4-	1998 04 22	704	1.4+	0.7+

1991 VY₁₂ = 1998 HO₃₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	191.12934	(2000.0)	P	Q
<i>n</i>	0.21837355	ω	147.90867	+0.88653830 -0.45829145
<i>a</i>	2.7310901	Ω	239.49586	+0.40741111 +0.83824737
<i>e</i>	0.1736138	<i>i</i>	4.21950	+0.21923967 +0.29548315
<i>P</i>	4.51	<i>H</i>	13.5	<i>G</i> 0.15 <i>U</i> 5

Residuals in seconds of arc

1991 11 11	399	0.2-	0.2-	1991 12 05	399	0.5+	0.7+	1998 04 21	704	0.7+	0.2+
1991 11 11	399	0.7-	0.0	1991 12 09	399	1.7-	0.9+	1998 04 21	704	1.4+	1.9+
1991 11 13	399	0.6+	0.4-	1991 12 09	399	0.4-	1.2-	1998 04 21	704	1.7+	0.2+
1991 11 13	399	0.1+	0.6+	1991 12 14	399	1.2+	1.4-	1998 04 21	704	0.1-	0.5+
1991 12 01	675	0.8+	0.8+	1991 12 14	399	1.8-	0.0	1998 04 21	704	0.1-	0.4-
1991 12 01	675	0.5-	1.2+	1998 04 20	704	0.1-	1.1-	1998 04 22	704	0.7-	0.2+
1991 12 03	675	0.2+	0.2-	1998 04 20	704	0.1-	0.3+	1998 04 22	704	1.6-	1.6-
1991 12 03	675	0.0	0.1+	1998 04 20	704	0.4+	1.1-	1998 04 22	704	1.2+	0.9+
1991 12 05	399	1.9+	0.9-	1998 04 20	704	2.5-	1.2+	1998 04 22	704	0.2-	0.9-

1991 XD = 1998 HQ₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	161.98370	(2000.0)	P	Q
<i>n</i>	0.36554540	ω	11.56084	+0.23871770 -0.90538022
<i>a</i>	1.9372031	Ω	65.46050	+0.85735347 +0.02669165
<i>e</i>	0.1014967	<i>i</i>	22.70632	+0.45602510 +0.42376198
<i>P</i>	2.70	<i>H</i>	14.0	<i>G</i> 0.15 <i>U</i> 4

Residuals in seconds of arc

1991 12 03	675	0.2-	1.1+	1992 01 11	675	1.5+	0.1+	1998 04 23	704	0.2-	0.7+
1991 12 07	675	0.3+	0.8-	1992 01 11	675	0.4-	1.5-	1998 04 23	704	0.3-	0.2-
1991 12 07	675	0.5-	0.0	1992 04 05	675	0.2+	1.8+	1998 04 24	704	0.0	0.5-
1991 12 08	675	0.5+	1.1-	1992 04 05	675	1.9-	0.9+	1998 04 24	704	0.3-	0.4-
1991 12 08	675	0.3-	1.4-	1998 04 23	704	0.4-	0.2-	1998 04 24	704	0.4-	0.1-
1992 01 09	675	0.3-	1.2+	1998 04 23	704	0.3-	0.5-				
1992 01 09	675	0.5+	0.7+	1998 04 23	704	0.6+	0.2-				

1992 AY = 1998 GM₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	68.00209	(2000.0)	P	Q
<i>n</i>	0.17818958	ω	18.11460	-0.47406450 -0.84108316
<i>a</i>	3.1276238	Ω	100.89792	+0.77147755 -0.53935450
<i>e</i>	0.1517802	<i>i</i>	15.38172	+0.42436451 +0.04093702
<i>P</i>	5.53	<i>H</i>	12.5	<i>G</i> 0.15 <i>U</i> 4

Residuals in seconds of arc

1992 01 04	877	1.2+	1.4-	1992 02 09	877	1.3-	0.3+	1998 04 03	704	0.5+	0.2-
1992 01 04	877	0.2+	0.9-	1992 02 10	877	0.9-	0.2+	1998 04 03	704	0.9+	0.1+
1992 01 10	877	(2.4-	0.5+)	1992 02 10	877	(3.2+	1.2-)	1998 04 03	704	0.4+	0.4+
1992 01 10	877	1.0-	0.5+	1992 02 24	877	0.0	1.2-	1998 04 03	704	0.7-	0.1+
1992 01 24	877	1.5+	1.6+	1992 02 24	877	0.3-	0.0	1998 04 03	704	0.7-	0.6+
1992 01 24	877	1.9+	0.9+	1998 04 02	704	0.3+	0.2-	1998 04 26	566	0.1+	0.8-
1992 01 28	877	0.7-	0.4+	1998 04 02	704	0.3+	0.6+	1998 04 26	566	0.1+	0.6-
1992 01 28	877	(4.3+	1.5-)	1998 04 02	704	0.2-	0.1+	1998 04 26	566	0.5-	0.9-
1992 02 09	877	0.6-	1.0-	1998 04 02	704	0.2-	0.1+				
1992 02 09	877	(1.6-	3.5-)	1998 04 02	704	0.2-	0.7+				

1992 BR = 1931 AM = 1953 AB = 1996 BU₁₇ = 1998 FS₁₀₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	117.35571	(2000.0)	P	Q
<i>n</i>	0.17873270	ω	111.09304	+0.36091084 -0.92239963
<i>a</i>	3.1212847	Ω	316.94599	+0.76329936 +0.37690860
<i>e</i>	0.1669184	<i>i</i>	11.62441	+0.53583342 +0.08437311
<i>P</i>	5.51	<i>H</i>	12.0	<i>G</i> 0.15 <i>U</i> 1

Residuals in seconds of arc

1931 01 11	690	(3.4-	2.1+)	1992 02 03	675	(0.6-	2.7+)	1998 03 31	704	0.1+	0.1+
1931 01 12	690	0.8+	0.7+	1996 01 23	704	1.5+	1.6+	1998 03 31	704	0.6+	0.1+
1931 01 13	690	2.1-	1.1-	1996 01 23	704	1.3+	1.3+	1998 03 31	704	0.4-	0.1+
1953 01 12	012	(4.4+	1.8+)	1996 01 23	704	1.0-	0.2-	1998 04 01	704	0.1+	0.4+
1953 01 13	012	1.4+	1.0-	1996 01 24	704	0.6-	1.0+	1998 04 01	704	0.5+	0.7+
1992 01 26	364	0.7+	0.2-	1996 01 24	704	1.1-	0.2+	1998 04 01	704	(0.2+	2.1+)
1992 01 26	364	0.4+	1.5+	1996 01 24	704	0.8-	0.2+	1998 04 01	704	0.1+	0.1-
1992 01 27	364	0.7-	0.9+	1996 01 27	704	0.7-	1.6-	1998 04 01	704	0.1-	0.1-
1992 01 27	364	0.5-	0.4-	1996 01 27	704	0.2+	0.1-	1998 04 30	566	0.3-	0.7-
1992 02 02	675	0.1-	0.3+	1998 03 31	704	0.5+	0.1+	1998 04 30	566	0.3-	0.8-
1992 02 03	675	(1.3+	3.2+)	1998 03 31	704	0.3+	1.1+	1998 04 30	566	0.3-	0.6-

1992 CZ₁ = 1992 DX = 1986 AU = 1998 HS₃₃Id. S. Nakano (d, *MPC* 19983), G. V. Williams

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Epoch 1998 July 6.0 TT = JDT 2451000.5

M	46.22610		(2000.0)	P	Q
n	0.17747693	ω	198.68073	-0.94516748	-0.32438614
a	3.1359908	Ω	322.32358	+0.30697224	-0.84286805
e	0.1367235	i	3.54975	+0.11147410	-0.42935659
P	5.55	H	11.5	G 0.15	U 5

Residuals in seconds of arc

1986 01 11	688	0.5-	1.9-	1992 02 25	364	0.6-	1.3-	1998 04 20	704	0.6-	0.1-
1986 01 11	688	0.1+	0.5-	1992 02 25	364	0.1+	1.3+	1998 04 20	704	0.5+	0.9+
1992 02 01	364	0.5+	0.5+	1992 02 27	675	0.0	0.5+	1998 04 20	704	0.5-	0.3-
1992 02 01	364	1.5+	0.1+	1992 02 27	675	0.3-	0.3+	1998 04 22	704	0.3+	0.2-
1992 02 04	675	0.0	1.2+	1992 02 28	675	0.8+	0.7+	1998 04 22	704	0.5-	0.3-
1992 02 04	675	0.2-	0.3+	1992 02 28	675	0.4+	0.8+	1998 04 22	704	0.6+	0.6-
1992 02 12	303	0.1+	1.2-	1998 04 20	704	0.5-	0.4-	1998 04 22	704	0.1-	0.5-
1992 02 13	303	0.9-	0.5-	1998 04 20	704	0.0	0.2+	1998 04 22	704	0.3-	0.7-

1992 DW₅ = 1977 RF₁₈ = 1983 TM₁ = 1998 FL₈₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	221.55357		(2000.0)	P	Q
n	0.17044051	ω	296.76602	+0.93364209	+0.35748775
a	3.2217178	Ω	42.29856	-0.31551043	+0.85069923
e	0.2010422	i	1.93232	-0.16960429	+0.38537427
P	5.78	H	12.5	G 0.15	U 3

Residuals in seconds of arc

1977 09 09	675	0.3-	0.7-	1998 03 24	704	0.5-	0.7-	1998 03 24	704	1.4-	0.1+
1977 09 10	675	0.4+	0.4+	1998 03 24	704	0.4+	0.8+	1998 03 25	704	0.6+	0.8-
1983 10 12	688	0.7+	0.9-	1998 03 24	704	0.7+	0.3-	1998 03 25	704	(0.7-	3.3-)
1983 10 12	688	0.9-	1.3+	1998 03 24	704	0.1+	1.4+	1998 03 25	704	0.0	0.8-
1992 02 29	809	0.0	0.4-	1998 03 24	704	0.2+	0.7+	1998 03 25	704	0.8+	0.7+
1992 03 03	809	0.7-	0.4-	1998 03 24	704	0.0	0.5-	1998 03 25	704	0.0	0.1-
1992 03 07	809	0.2+	0.2-	1998 03 24	704	1.1-	0.5-				
1998 03 24	704	0.4+	0.4+	1998 03 24	704	0.4+	0.7+				

1992 GM₂ = 1998 FX₁₁₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	293.46125		(2000.0)	P	Q
n	0.31704627	ω	343.42198	+0.25865683	+0.96585833
a	2.1300393	Ω	301.56627	-0.88429801	+0.23066159
e	0.0931291	i	0.98451	-0.38873343	+0.11795300
P	3.11	H	15.0	G 0.15	U 5

Residuals in seconds of arc

1992 04 04	809	0.4-	0.7-	1992 04 25	809	0.4+	0.4+	1998 03 20	704	0.1+	0.2-
1992 04 04	809	0.0	1.5-	1992 04 25	809	0.6+	1.2+	1998 03 20	704	0.6+	0.4-
1992 04 04	809	0.6-	1.8-	1992 04 25	809	0.2-	0.7+	1998 03 22	704	0.3+	1.5+
1992 04 06	809	0.1-	0.2+	1998 02 27	566	0.0	0.2-	1998 03 22	704	0.3-	0.4-
1992 04 06	809	0.0	0.2-	1998 02 27	566	0.2-	0.3-	1998 03 22	704	0.4-	0.1+
1992 04 06	809	1.0-	0.2-	1998 02 27	566	0.2-	0.1-	1998 03 22	704	0.1+	0.9+
1992 04 23	809	0.4-	1.7+	1998 03 20	704	0.1-	0.1-	1998 03 22	704	0.8-	0.2+
1992 04 23	809	1.4+	0.6-	1998 03 20	704	1.1+	0.2+				
1992 04 23	809	(1.2+	3.7-)	1998 03 20	704	0.3+	0.2-				

1992 OB₃ = 1998 FV₉₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	312.20455		(2000.0)	P	Q
n	0.29308829	ω	323.29087	-0.01609743	+0.99646295
a	2.2445902	Ω	305.64304	-0.89154159	-0.05164762
e	0.1055256	i	5.82497	-0.45265270	+0.06628815
P	3.36	H	15.0	G 0.15	U 6

1998 MAY 11

Residuals in seconds of arc

1992 07 24	809	0.2-	0.9+	1992 07 30	809	0.4-	0.4-	1998 04 01	704	0.5+	0.6-
1992 07 24	809	1.0-	0.7-	1992 07 30	809	1.0-	0.1+	1998 04 01	704	1.6-	2.0-
1992 07 24	809	0.7-	0.4-	1998 03 31	704	0.0	0.0	1998 04 01	704	0.4-	0.5+
1992 07 26	809	1.2+	0.5+	1998 03 31	704	0.5-	0.4+	1998 04 01	704	1.4+	1.3+
1992 07 26	809	1.0+	0.2+	1998 03 31	704	0.4+	0.1-	1998 04 01	704	1.7-	0.0
1992 07 26	809	0.2+	0.0	1998 03 31	704	1.2+	0.5+				
1992 07 30	809	0.9+	0.2-	1998 03 31	704	0.9+	0.1-				

1992 RW₂ = 1998 FY₁₀₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	262.47124		(2000.0)	P	Q
n	0.28708028	ω	0.00688	+0.85438849	+0.51672369
a	2.2757985	Ω	328.68540	-0.47676064	+0.73745925
e	0.1407040	i	6.06644	-0.20668720	+0.43491433
P	3.43	H	15.0	G 0.15	U 4

Residuals in seconds of arc

1992 09 02	809	0.6+	0.2-	1992 09 28	399	0.2+	0.0	1998 04 01	704	0.2+	0.1-
1992 09 02	809	0.5+	0.2-	1992 09 28	399	1.5-	0.9+	1998 04 18	704	(2.4-	1.0+)
1992 09 02	809	0.1-	0.6-	1998 03 31	704	1.3+	1.5-	1998 04 18	704	(2.3-	0.7-)
1992 09 03	809	0.1-	1.1+	1998 03 31	704	0.3+	0.2-	1998 04 18	704	0.4-	0.3+
1992 09 22	809	1.2+	0.3-	1998 03 31	704	(1.7+	2.6-)	1998 04 18	704	(2.2-	0.2+)
1992 09 22	809	0.3+	0.8-	1998 03 31	704	1.1-	1.3-	1998 04 19	704	0.5+	0.3+
1992 09 22	809	0.4+	0.1-	1998 04 01	704	0.3-	0.2+	1998 04 19	704	0.1-	0.9+
1992 09 23	809	0.7-	0.5-	1998 04 01	704	1.0+	0.9+	1998 04 19	704	(2.2+	0.4-)
1992 09 23	809	0.5-	0.3+	1998 04 01	704	0.1+	0.2-	1998 04 19	704	0.6-	1.8+
1992 09 23	809	0.3-	0.3+	1998 04 01	704	0.8-	0.2+	1998 04 19	704	0.1-	1.1-

1992 RP₃ = 1998 FA₁₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	69.61548		(2000.0)	P	Q
n	0.25371498	ω	305.02818	-0.34036517	-0.93842810
a	2.4711853	Ω	164.53919	+0.91874829	-0.34530617
e	0.1566271	i	12.83010	+0.20013277	-0.01078675
P	3.88	H	14.0	G 0.15	U 6

Residuals in seconds of arc

1992 09 02	809	0.6+	0.7+	1992 09 23	809	0.2+	0.5+	1998 03 20	704	0.2+	0.6+
1992 09 02	809	0.6+	0.5+	1992 09 23	809	1.0+	1.1-	1998 03 22	704	0.7-	0.2+
1992 09 02	809	0.3-	0.1-	1992 09 23	809	0.5+	1.0-	1998 03 22	704	0.2+	0.5+
1992 09 03	809	0.1-	1.1-	1998 03 20	704	0.6+	0.3-	1998 03 22	704	0.1+	0.2+
1992 09 22	809	0.3-	0.5+	1998 03 20	704	0.4-	0.8-	1998 03 22	704	0.1+	0.4-
1992 09 22	809	0.9-	0.6+	1998 03 20	704	0.5+	0.1-	1998 03 22	704	0.3-	0.3-
1992 09 22	809	1.3-	0.7+	1998 03 20	704	0.4-	0.3+				

1992 SO = 1998 FZ₁₀₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	267.28349		(2000.0)	P	Q
n	0.27896673	ω	79.11319	+0.80089473	+0.59192432
a	2.3197140	Ω	244.53203	-0.58107914	+0.73174826
e	0.1644229	i	5.75409	-0.14461903	+0.33789065
P	3.53	H	14.5	G 0.15	U 4

Residuals in seconds of arc

1992 09 26	402	1.3-	0.2-	1998 03 31	704	(2.8-	3.0+)	1998 04 18	704	0.3+	0.3+
1992 09 26	402	1.0+	0.6+	1998 03 31	704	0.4+	0.3-	1998 04 18	704	0.7-	0.1-
1992 09 27	402	0.3-	0.0	1998 03 31	704	0.6+	0.8+	1998 04 18	704	0.2+	1.0-
1992 09 27	402	0.8+	0.6+	1998 03 31	704	1.4+	0.2+	1998 04 19	704	0.1-	0.3-
1992 10 02	402	0.1-	0.3-	1998 04 01	704	0.7+	0.1-	1998 04 19	704	0.4-	0.3-
1992 10 02	402	0.2-	0.6-	1998 04 01	704	1.4-	0.2+	1998 04 19	704	0.5-	0.3+
1998 02 26	566	0.3-	0.3-	1998 04 01	704	0.2-	0.8+	1998 04 19	704	0.0	0.0
1998 02 26	566	0.6-	0.0	1998 04 01	704	0.1-	0.2+	1998 04 19	704	0.6-	0.1+
1998 02 26	566	0.7-	0.0	1998 04 01	704	0.3+	0.8+				
1998 03 31	704	0.6+	1.0-	1998 04 18	704	0.8+	0.3-				

1998 MAY 11

M.P.C. 31721

1992 SC₁ = 1998 EW₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	170.54952			(2000.0)		P			Q		
<i>n</i>	0.24623474			ω 209.84359		+0.99503971			+0.08556770		
<i>a</i>	2.5209825			Ω 145.13520		-0.06421180			+0.94200696		
<i>e</i>	0.2073680			<i>i</i> 5.09198		-0.07597904			+0.32450124		
<i>P</i>	4.00			<i>H</i> 13.5		<i>G</i> 0.15			<i>U</i> 4		
Residuals in seconds of arc											
1992 09 23	400	0.7+	0.2-	1992 10 26	400	0.4-	0.2+	1998 03 03	704	0.7+	0.4+
1992 09 23	400	0.8-	0.7-	1992 10 26	400	0.1+	0.4+	1998 03 03	704	1.6-	1.9+
1992 09 28	400	0.5+	0.3+	1992 11 26	675	0.1+	0.4-	1998 03 03	704	1.0-	1.3+
1992 09 28	400	1.1+	0.3-	1992 11 26	675	1.1+	0.6-	1998 03 03	704	1.4-	0.1-
1992 09 28	399	0.2-	0.0	1992 11 28	675	0.3+	0.6+	1998 03 04	704	0.8-	0.2-
1992 09 28	399	1.6-	0.8-	1992 11 28	675	0.5-	0.7-	1998 03 04	704	0.9-	1.7-
1992 10 01	400	0.4+	1.0+	1998 02 27	566	1.6+	1.2-	1998 03 04	704	0.6-	0.5+
1992 10 01	400	0.8+	1.1+	1998 02 27	566	1.5+	1.6-	1998 03 04	704	0.5-	1.5+
1992 10 19	400	(0.3+	2.4-)	1998 02 27	566	1.8+	1.2-	1998 03 04	704	(4.9-	0.6-)
1992 10 19	400	1.3-	0.1+	1998 03 03	704	1.1+	0.9+				

1992 SJ₁ = 1994 CB₁₅Id. B. G. Marsden (*MPC* 23674)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	224.74615		(2000.0)		P		Q				
<i>n</i>	0.27916628	ω	284.19644		+0.97310318		-0.21038608				
<i>a</i>	2.3186084	Ω	88.01203		+0.23036879		+0.88753744				
<i>e</i>	0.1968429	<i>i</i>	5.38841		+0.00065001		+0.40989632				
<i>P</i>	3.53	<i>H</i>	14.5	<i>G</i>	0.15		<i>U</i>	3			
Residuals in seconds of arc											
1992 09 23	400	0.9-	0.7-	1998 04 17	691	0.3-	0.2+	1998 04 25	691	1.0-	0.1-
1992 09 23	400	(2.1+	0.5-)	1998 04 17	691	0.0	0.0	1998 04 25	691	0.4-	0.0
1992 09 28	400	1.1+	1.0+	1998 04 17	691	0.1-	0.1-	1998 04 25	691	0.4-	0.0
1992 09 28	400	(3.3+	0.7-)	1998 04 21	704	0.0	0.9-	1998 04 25	691	0.3-	0.4-
1992 10 01	400	(2.1-	0.3+)	1998 04 21	704	1.0+	1.3-	1998 04 25	691	0.2-	0.1-
1992 10 01	400	0.3-	0.3-	1998 04 21	704	0.5+	2.0+	1998 04 25	691	0.3-	0.0
1994 02 08	809	0.6+	0.2-	1998 04 21	704	0.6+	1.0+	1998 04 26	557	0.8+	0.2-
1994 02 08	809	0.4+	0.2+	1998 04 22	704	(2.9+	1.2+)	1998 04 26	557	0.4+	0.6-
1994 02 08	809	0.0	0.4-	1998 04 22	704	0.9+	1.1+	1998 04 26	557	0.3+	1.9-
1994 02 10	809	0.6+	0.2-	1998 04 22	704	0.6-	0.9+	1998 04 27	691	0.1+	0.4-
1994 02 10	809	0.2-	0.8+	1998 04 22	704	0.5+	0.7+	1998 04 27	691	0.6-	0.2-
1994 02 10	809	1.4-	0.3-	1998 04 22	704	0.1-	0.8+	1998 04 27	691	0.7-	0.2-

1992 UW = 1998 FA₁₈

Id. A. Gnädig

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	150.74226		(2000.0)		P		Q				
<i>n</i>	0.24194169	ω	19.16397	+0.93060306			-0.36602437				
<i>a</i>	2.5507168	Ω	2.30963	+0.32892082			+0.83381502				
<i>e</i>	0.2357393	<i>i</i>	2.88124	+0.16058965			+0.41325376				
<i>P</i>	4.07	<i>H</i>	13.5	<i>G</i>	0.15		<i>U</i>	4			
Residuals in seconds of arc											
1992 09 30	095	0.7+	1.4+	1992 10 26	894	0.8+	0.4-	1992 11 24	894	0.8-	0.6+
1992 09 30	095	0.0	0.9-	1992 10 27	894	0.6+	0.8-	1992 11 26	894	0.1+	0.2+
1992 10 20	675	0.3+	0.3-	1992 10 27	894	0.2+	0.7-	1992 11 26	894	0.1-	1.8+
1992 10 20	675	0.2+	0.2-	1992 10 30	894	0.3+	0.3+	1998 03 20	704	0.1-	0.0
1992 10 21	894	0.4-	0.8-	1992 10 30	894	0.6-	0.2+	1998 03 20	704	0.3-	0.5-
1992 10 21	894	0.7-	0.5-	1992 11 18	894	0.4+	0.1+	1998 03 20	704	0.0	0.4-
1992 10 22	675	0.4-	0.3+	1992 11 18	894	0.2-	0.5-	1998 03 20	704	0.3+	1.6-
1992 10 22	675	0.0	0.2+	1992 11 18	894	1.3+	0.1+	1998 03 20	704	0.3-	0.4-
1992 10 22	675	0.5-	0.4+	1992 11 21	894	0.3-	0.2+	1998 03 22	704	0.2-	0.4+
1992 10 22	675	0.4+	0.6+	1992 11 21	894	1.0+	1.5-	1998 03 22	704	0.8+	0.9+
1992 10 24	894	0.0	1.0-	1992 11 23	894	1.1-	0.6+	1998 03 22	704	0.5-	1.0+

1992 10 24	894	0.4-	0.3-	1992 11 23	894	0.1-	0.9+	1998 03 22	704	0.2-	0.1+
1992 10 26	894	0.2+	0.1+	1992 11 24	894	0.8-	0.1-	1998 03 22	704	0.1+	0.2-

1992 UT₂ = 1978 PG₅ = 1998 FE₇₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	272.22868		(2000.0)		P		Q				
<i>n</i>	0.28699411	ω	260.20454		+0.87394659		+0.47236301				
<i>a</i>	2.2762540	Ω	71.53104		-0.38509124		+0.81661655				
<i>e</i>	0.2103394	<i>i</i>	6.92827		-0.29651659		+0.33167844				
<i>P</i>	3.43	<i>H</i>	14.0		<i>G</i>	0.15	<i>U</i>	3			
Residuals in seconds of arc											
1978 08 01	808	0.3+	1.1-	1992 11 28	675	(1.4-	2.5-)	1998 04 20	704	0.2-	0.0
1978 08 01	808	0.2-	0.4+	1998 03 24	704	1.1-	0.3+	1998 04 20	704	0.0	0.5+
1992 10 19	400	0.0	0.3+	1998 03 24	704	0.1-	0.0	1998 04 20	704	0.5+	0.8+
1992 10 19	400	1.4+	0.6-	1998 03 24	704	1.5-	0.4+	1998 04 20	704	(2.3-	1.4+)
1992 10 26	400	0.2-	1.0+	1998 03 24	704	0.3-	0.8-	1998 04 20	704	(6.1-	0.4-)
1992 10 26	400	0.3+	0.3-	1998 03 24	704	0.7-	0.4-	1998 04 21	704	0.3-	0.3-
1992 11 01	400	(2.6+	0.5+)	1998 03 25	704	0.7+	0.2+	1998 04 21	704	0.3+	0.0
1992 11 01	400	(3.1-	0.3-)	1998 03 25	704	0.7+	0.0	1998 04 21	704	0.0	1.3-
1992 11 26	675	0.1-	1.9-	1998 03 25	704	0.3-	0.7-	1998 04 21	704	0.4-	1.2-
1992 11 26	675	0.1-	1.1-	1998 03 25	704	0.8+	0.2+	1998 04 21	704	0.2+	0.3+
1992 11 28	675	0.5-	0.3-	1998 03 25	704	0.1+	0.9-				

1992 UW₂ = 1998 HQ₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	269.20369			(2000.0)		P		Q			
<i>n</i>	0.28615300			ω	284.82177	+0.92863195		+0.36143458			
<i>a</i>	2.2807123			Ω	54.05810	-0.28803998		+0.84459224			
<i>e</i>	0.2150257			<i>i</i>	5.93488	-0.23382830		+0.39500506			
<i>P</i>	3.44			<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc											
1992 09 23	033	0.6+	1.2+	1992 10 25	894	0.9+	0.0	1992 11 18	399	0.6-	1.9+
1992 09 25	033	0.1+	0.8+	1992 10 25	894	0.6+	1.3-	1992 11 18	399	1.6-	0.2+
1992 09 25	033	0.2+	1.0+	1992 10 27	894	1.1+	1.5-	1998 04 21	910	0.0	0.5-
1992 09 27	033	0.6-	0.3+	1992 10 27	894	1.7-	1.8-	1998 04 21	910	0.0	0.3-
1992 09 28	033	0.1-	0.4+	1992 10 30	894	2.0+	0.7-	1998 04 21	910	0.1-	0.4-
1992 09 30	675	0.0	0.7-	1992 10 30	894	0.2+	0.6-	1998 04 23	910	0.2-	0.0
1992 09 30	675	0.4-	0.7-	1992 10 31	894	0.3+	1.7-	1998 04 24	910	0.3-	0.2-
1992 10 03	675	0.3-	0.3-	1992 10 31	894	0.1+	0.4-	1998 04 24	910	0.2-	0.2-
1992 10 03	675	0.0	0.3+	1992 11 16	399	0.1-	1.5+				
1992 10 21	894	0.4+	0.3+	1992 11 16	399	1.0-	1.0+				

1992 UZ₆ = 1998 FY₂₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

Gnädig

<i>M</i>	151.95136		(2000.0)		P		Q				
<i>n</i>	0.24387895	ω	120.86291		+0.82768246		-0.55732705				
<i>a</i>	2.5371911	Ω	273.08508		+0.48977000		+0.77459177				
<i>e</i>	0.1792375	<i>i</i>	3.77769		+0.27398375		+0.29898856				
<i>P</i>	4.04	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4				
Residuals in seconds of arc											
1992 10 28	400	0.3-	0.5+	1992 11 21	400	0.5+	0.1+	1998 03 20	704	0.8+	1.4-
1992 10 28	400	0.3-	0.9-	1992 11 21	400	0.5-	0.1+	1998 03 22	704	0.8-	1.0-
1992 11 01	400	0.9-	1.2+	1998 03 20	704	1.2+	0.1-	1998 03 22	704	1.3+	0.4-
1992 11 01	400	1.6+	0.6-	1998 03 20	704	0.2+	0.8+	1998 03 22	704	0.1-	0.2+
1992 11 16	400	0.1-	0.5-	1998 03 20	704	0.2+	0.0	1998 03 22	704	1.3-	0.4+
1992 11 16	400	(4.1-	0.7-)	1998 03 20	704	1.0-	0.8+	1998 03 22	704	0.5-	0.6+

1992 WB₂ = 1975 RM₂ = 1990 EY₆ = 1998 EC₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	189.90031		(2000.0)	P		Q	
<i>n</i>	0.23927516	ω	5.59730	+0.94419734	+0.32915998		
<i>a</i>	2.5696323	Ω	335.17446	−0.30330263	+0.85460145		
<i>e</i>	0.1695749	<i>i</i>	1.64393	−0.12844800	+0.40163425		
<i>P</i>	4.12	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1975 09 09	808	0.2+	0.2+	1992 11 21	399	0.4+	1.0−	1998 03 03	704	0.4+	0.2+
1975 09 09	808	0.4−	0.3+	1992 11 25	691	0.6−	0.7+	1998 03 03	704	0.4+	0.7−
1990 03 02	809	0.0	0.7+	1992 11 25	691	0.3−	0.6+	1998 03 03	704	0.2+	0.0
1990 03 02	809	0.1+	0.2+	1992 11 25	691	0.8−	0.4+	1998 03 03	704	0.9+	0.1−
1990 03 02	809	0.2+	0.3−	1992 11 25	675	0.0	0.3+	1998 03 03	704	0.2−	0.0
1990 03 03	809	(3.8− 45.9−)		1992 11 25	675	0.2+	0.5+	1998 03 04	704	0.5+	0.4−
1990 03 03	809	(3.8− 46.4−)		1992 11 28	675	0.7+	0.6+	1998 03 04	704	0.4+	0.4+
1990 03 03	809	(3.6− 46.6−)		1992 11 28	675	1.0+	0.4−	1998 03 04	704	0.1−	1.2−
1992 11 18	399	0.0	0.1+	1998 02 26	566	0.6−	0.9+	1998 03 04	704	0.4−	0.6−
1992 11 18	399	(1.2+ 2.8+)		1998 02 26	566	0.5−	0.8+	1998 03 04	704	0.5−	0.2−
1992 11 21	399	0.6−	1.7−	1998 02 26	566	0.6−	0.8+				

1992 WZ₃ = 1998 FD₁₀₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	94.42766		(2000.0)	P		Q	
<i>n</i>	0.23946258	ω	240.45107	−0.25124352	−0.95621898		
<i>a</i>	2.5682913	Ω	224.93218	+0.94523709	−0.20901562		
<i>e</i>	0.1172818	<i>i</i>	12.26814	+0.20833515	−0.20483584		
<i>P</i>	4.12	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1992 11 17	400	1.3+	0.3+	1998 02 27	566	0.3−	1.3−	1998 04 01	704	0.6+	0.4+
1992 11 17	400	1.2+	1.5−	1998 02 27	566	0.4−	1.6−	1998 04 18	704	0.5−	0.4+
1992 11 18	400	0.1−	1.1−	1998 02 27	566	0.1−	1.7−	1998 04 18	704	0.3+	0.4−
1992 11 18	400	0.9−	1.0−	1998 03 31	704	1.4−	2.3+	1998 04 18	704	0.4+	2.2−
1992 11 21	691	0.5−	0.0	1998 03 31	704	0.1−	1.2+	1998 04 18	704	0.8−	2.9−
1992 11 21	691	1.1−	0.1+	1998 03 31	704	0.0	2.5+	1998 04 19	704	0.3+	0.2+
1992 11 21	691	0.3−	0.4+	1998 03 31	704	1.0+	1.1+	1998 04 19	704	0.5−	0.5−
1992 11 21	399	0.2−	0.9+	1998 04 01	704	1.0+	0.4+	1998 04 19	704	0.3−	0.6+
1992 11 21	399	1.4−	0.0	1998 04 01	704	0.4+	1.2+	1998 04 19	704	0.6−	0.0
1992 11 27	399	1.3+	1.8+	1998 04 01	704	0.8+	0.5+	1998 04 19	704	1.2−	0.0
1992 11 27	399	0.4+	0.2+	1998 04 01	704	1.3+	0.8−				

1993 BK₂ = 1977 RF₁₉ = 1998 FX₄₂

Id. G. V. Williams, S. Nakano

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	81.38700		(2000.0)	P		Q	
<i>n</i>	0.21407139	ω	141.14876	−0.38050326	−0.92452513		
<i>a</i>	2.7675595	Ω	331.19711	+0.83683829	−0.33424133		
<i>e</i>	0.0919047	<i>i</i>	2.58054	+0.39359744	−0.18312842		
<i>P</i>	4.60	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1977 09 09	675	0.1+	0.3−	1993 01 30	372	(2.7+ 0.3−)	1998 04 01	704	(2.3− 1.2+)
1977 09 10	675	0.5+	0.9−	1998 03 20	704	0.2− 0.7+	1998 04 01	704	(0.5− 2.1−)
1993 01 19	372	(2.4+ 0.8−)		1998 03 20	704	0.3+ 0.8+	1998 04 18	704	0.4+ 0.5−
1993 01 19	372	0.3− 0.8+		1998 03 20	704	0.6+ 0.1+	1998 04 18	704	1.0− 0.5−
1993 01 22	399	0.8− 0.5+		1998 03 20	704	0.4+ 0.4−	1998 04 18	704	1.6− 0.4−
1993 01 22	399	(2.3− 1.0+)		1998 03 20	704	0.5+ 0.3−	1998 04 18	704	1.0− 0.5−
1993 01 22	372	(1.7+ 4.2−)		1998 03 22	704	0.0 0.7+	1998 04 18	704	0.3− 0.4−
1993 01 22	372	(3.9+ 0.2+)		1998 03 22	704	0.4+ 0.3+	1998 04 19	704	0.3+ 0.9−
1993 01 25	372	(0.1− 2.8−)		1998 03 22	704	0.1− 0.4+	1998 04 19	704	0.8− 0.7−
1993 01 25	372	1.7+ 0.1+		1998 03 22	704	0.3− 0.7+	1998 04 19	704	0.8+ 0.3+
1993 01 28	372	1.3− 1.2−		1998 03 22	704	0.3+ 0.2+	1998 04 19	704	0.6+ 0.4+
1993 01 28	372	0.5+ 1.0−		1998 04 01	704	0.9+ 0.6−	1998 04 19	704	0.3+ 0.1+
1993 01 30	372	(2.8− 1.1+)		1998 04 01	704	0.9− 0.6−			

1993 BR₄ = 1998 FG₁₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	244.25414		(2000.0)	P		Q	
<i>n</i>	0.20874533	ω	327.78152	+0.59767053	+0.80171893		
<i>a</i>	2.8144370	Ω	338.91978	−0.73196591	+0.54255663		
<i>e</i>	0.0575103	<i>i</i>	0.96500	−0.32713275	+0.25075698		
<i>P</i>	4.72	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1993 01 27	010	0.3+	0.0	1993 02 22	010	0.8−	0.9−	1998 03 22	704	0.9−	0.7+
1993 01 27	010	0.1−	1.2−	1993 02 23	010	0.1+	0.0	1998 03 22	704	0.1+	1.4+
1993 01 27	010	0.9+	0.4−	1998 03 20	704	1.4+	0.8+	1998 03 22	704	4.8−	1.2+)
1993 01 28	010	0.3−	1.0+	1998 03 20	704	0.1+	0.5+	1998 03 26	566	0.2−	0.5−
1993 01 28	010	0.1+	0.6+	1998 03 20	704	1.1+	0.5−	1998 03 26	566	0.1+	1.3−
1993 01 28	010	0.7−	1.8+	1998 03 20	704	0.7+	0.5−	1998 03 26	566	0.4−	0.0
1993 02 20	010	0.2+	0.3−	1998 03 20	704	0.1+	0.1+	1998 03 27	566	0.4−	0.4−
1993 02 20	010	0.3−	0.4−	1998 03 22	704	0.4−	0.5+	1998 03 27	566	0.2−	0.4−
1993 02 20	010	0.7+	0.7−	1998 03 22	704	0.7−	0.5+	1998 03 27	566	0.3−	0.6−

1993 BM₅ = 1998 FG₂₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	274.37072		(2000.0)	P		Q	
<i>n</i>	0.21017658	ω	186.63325	+0.22478931	+0.97388546		
<i>a</i>	2.8016454	Ω	96.36072	−0.89252053	+0.21892004		
<i>e</i>	0.0628920	<i>i</i>	1.83871	−0.39099472	+0.06017578		
<i>P</i>	4.69	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1993 01 27	010	1.1+	0.4+	1993 02 20	010	0.5+	0.9−	1998 03 20	704	0.3−	0.7−
1993 01 27	010	0.4+	0.8+	1993 02 20	010	0.5+	0.5−	1998 03 20	704	0.6−	1.0−
1993 01 27	010	0.2+	0.7+	1993 02 22	010	1.5−	1.2+	1998 03 20	704	0.1+	1.0−
1993 01 28	010	0.7+	0.6−	1993 02 23	010	1.6−	1.2+	1998 03 20	704	0.1−	0.3−
1993 01 28	010	0.4+	0.5−	1998 02 25	809	1.1+	1.5−	1998 03 20	704	0.3+	0.5−
1993 01 28	010	0.5+	0.1−	1998 02 25	809	0.8−	0.1−	1998 03 22	704	0.0	0.0
1993 01 29	691	0.6−	0.7−	1998 02 25	809	1.4−	0.7−	1998 03 22	704	0.2−	0.2−
1993 01 29	691	0.6−	0.5−	1998 02 26	809	1.3+	2.3+	1998 03 22	704	0.5−	0.5−
1993 01 29	691	1.2−	0.4−	1998 02 26	809	0.4+	2.1+	1998 03 22	704	0.2+	0.7+
1993 02 20	010	1.0+	0.8−	1998 02 26	809	0.5+	1.9+	1998 03 22	704	0.1+	0.0

1993 FT₅ = 1977 EQ₄ = 1987 DR₄ = 1998 FK₁₂₅

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Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	33.08202		(2000.0)	P		Q	
<i>n</i>	0.18429051	ω	336.82029	−0.81318657	−0.58081716		
<i>a</i>	3.0582107	Ω	167.46433	+0.55717885	−0.79535147		
<i>e</i>	0.0466739	<i>i</i>	9.85138	+0.16816460	−0.17339973		
<i>P</i>	5.35	<i>H</i>	12.0	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1977 03 15	381	0.2+	1.0−	1993 03 18	372	(5.8+ 0.2+)	1998 03 04	704	0.6+	0.4−	
1977 03 15	381	0.7−	0.9−	1993 03 23	809	0.3+	0.3+	1998 03 04	704	1.8−	0.1−
1987 02 28	010	0.2−	1.1+	1993 04 16	413	(4.0+ 2.2+)	1998 03 04	704	0.4+	0.7−	
1987 02 28	010	0.4+	1.2−	1998 03 03	704	0.2+	0.3−	1998 03 04	704	0.7+	0.6−
1987 02 28	010	0.2−	0.3+	1998 03 03	704	0.8+	0.7−	1998 03 04	704	1.3+	0.8−
1993 03 17	809	0.5−	1.3+	1998 03 03	704	0.1−	0.0	1998 03 18	372	1.5−	0.7+
1993 03 18	809	0.5+	0.2+	1998 03 03	704	0.1+	0.4+	1998 03 22	372	0.6−	0.9+
1993 03 18	372	(6.9+ 1.0+)		1998 03 03	704	0.1−	0.3+	1998 03 25	372	0.2−	1.2+

1993 FU₆ = 1990 SL₂₄ = 1998 EM₁₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Gnädig					
<i>M</i>	17.77101		(2000.0)	P		Q			
<i>n</i>	0.19492116	ω	100.82865	−0.99826225		+0.01388635			
<i>a</i>	2.9459818	Ω	79.98495	−0.03601356		−0.91299287			
<i>e</i>	0.0432819	<i>i</i>	3.33388	+0.04664234		−0.40773911			
<i>P</i>	5.06	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc									
1990 09 25	809	0.7+	1.6+	1993 04 14	691	0.6−	0.3+	1998 03 25	566 0.2− 0.2+
1990 09 25	809	0.5−	1.2−	1993 04 16	413	0.6−	0.4+	1998 03 25	566 0.0 0.2+
1990 09 25	809	0.1−	0.4−	1998 03 01	809	2.3+	0.0	1998 03 25	566 0.4− 0.2+
1993 03 17	809	0.3+	0.5+	1998 03 01	809	2.0+	0.1−	1998 03 26	566 1.6− 0.5+
1993 03 18	809	0.8−	0.2+	1998 03 01	809	1.0+	0.3+	1998 03 26	566 1.8− 0.3+
1993 03 23	809	1.0+	1.3−	1998 03 02	809	1.0+	0.2−	1998 03 26	566 1.2− 0.4+
1993 04 14	691	0.7+	0.5+	1998 03 02	809	0.3−	0.8−		
1993 04 14	691	0.0	0.5−	1998 03 02	809	0.8−	1.2−		

1993 FE₁₉ = 1998 FH₈₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	29.73398		(2000.0)	P		Q			
<i>n</i>	0.18863389	ω	42.13276	−0.93675733		−0.33655495			
<i>a</i>	3.0110842	Ω	117.96382	+0.28504888		−0.89285180			
<i>e</i>	0.0873951	<i>i</i>	6.23998	+0.20305869		−0.29924309			
<i>P</i>	5.22	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	6		
Residuals in seconds of arc									
1993 03 17	809	1.2−	0.2+	1998 03 24	704	0.1+	1.5+	1998 03 25	704 0.3+ 0.1+
1993 03 18	809	0.1+	0.4+	1998 03 24	704	0.4−	0.2+	1998 03 25	704 0.3+ 0.7−
1993 03 23	809	2.7+	0.5−	1998 03 24	704	1.5+	1.0−	1998 03 25	704 1.0+ 0.7+
1993 04 16	413	1.6−	0.1+	1998 03 24	704	0.5−	0.1+	1998 03 25	704 2.3− 1.1−

1993 FA₂₀ = 1998 FF₉₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	145.67561		(2000.0)	P		Q			
<i>n</i>	0.18581822	ω	339.61810	+0.80766633		−0.56944584			
<i>a</i>	3.0414255	Ω	56.02883	+0.56331978		+0.66853211			
<i>e</i>	0.1498670	<i>i</i>	10.63076	+0.17420082		+0.47832651			
<i>P</i>	5.30	<i>H</i>	12.5	<i>G</i>	0.15	<i>U</i>	6		
Residuals in seconds of arc									
1993 03 17	809	0.4−	0.1−	1998 03 24	704	0.2+	0.8−	1998 03 25	704 0.7− 0.8+
1993 03 18	809	0.0	0.1+	1998 03 24	704	0.3+	0.7−	1998 03 25	704 0.4− 0.4+
1993 03 23	809	0.6+	0.3−	1998 03 24	704	1.2+	0.3−	1998 03 25	704 0.3+ 0.4+
1993 04 16	413	0.2−	0.2+	1998 03 25	704	0.0	0.3+		
1998 03 24	704	0.8−	1.1−	1998 03 25	704	0.2−	1.0+		

1993 FZ₂₃ = 1998 FJ₈₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	252.09034		(2000.0)	P		Q			
<i>n</i>	0.17781482	ω	298.49649	+0.63942029		+0.76665832			
<i>a</i>	3.1320168	Ω	11.80616	−0.56791831		+0.52190525			
<i>e</i>	0.2195582	<i>i</i>	16.49990	−0.51827646		+0.37396515			
<i>P</i>	5.54	<i>H</i>	12.5	<i>G</i>	0.15	<i>U</i>	5		
Residuals in seconds of arc									
1993 03 21	809	0.6−	0.0	1998 03 24	704	0.0	0.6+	1998 03 25	704 0.3+ 0.3+
1993 03 22	809	0.6+	0.2+	1998 03 24	704	0.7−	0.4−	1998 03 25	704 0.9+ 0.9−
1993 03 26	809	0.0	0.2−	1998 03 24	704	1.0−	0.0	1998 03 25	704 0.0 0.2+
1993 04 16	413	0.0	0.0	1998 03 25	704	0.2−	0.5+		
1998 03 24	704	0.7+	0.5−	1998 03 25	704	0.0	0.2+		

1993 FL₂₉ = 1990 VE₉ = 1990 VO₉ = 1998 FQ₁₁₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	164.55787		(2000.0)	P		Q			
<i>n</i>	0.18152508	ω	79.28295	+0.98224646		−0.17701140			
<i>a</i>	3.0891925	Ω	290.89040	+0.13535358		+0.89800433			
<i>e</i>	0.1721405	<i>i</i>	3.81244	+0.12988960		+0.40280911			
<i>P</i>	5.43	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc									
1990 11 10	046 (0.6− 13.0−)			1998 03 03	704	1.1+	0.3−	1998 03 20	704 0.7+ 1.3+
1990 11 10	046 1.2− 0.6−			1998 03 03	704	0.4+	0.1+	1998 03 20	704 0.2+ 1.1−
1990 11 13	046 1.9+	0.3−		1998 03 03	704	1.8+	0.3−	1998 03 20	704 0.1− 1.5+
1990 11 13	046 0.7− 0.9+			1998 03 03	704	0.2+	0.8−	1998 03 20	704 0.7− 0.4+
1993 03 21	809 1.0− 0.1+			1998 03 04	704	0.1+	0.9+	1998 03 22	704 (1.6+ 2.2+)
1993 03 22	809 0.2+	0.9−		1998 03 04	704	0.7−	0.6+	1998 03 22	704 (0.3− 2.3+)
1993 03 26	809 0.1− 0.6−			1998 03 04	704	0.7−	0.6−	1998 03 22	704 0.5+ 0.1−
1993 04 17	413 0.8+	1.2+		1998 03 04	704	1.7−	0.4−	1998 03 22	704 1.6− 0.1−
1998 03 03	704 0.7+	0.2−		1998 03 20	704	0.0	0.5−		

1993 FQ₃₂ = 1998 FA₆₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	215.36266		(2000.0)	P		Q			
<i>n</i>	0.19647855	ω	314.48546	+0.99943553		−0.01006420			
<i>a</i>	2.9303936	Ω	46.11981	+0.02276022		+0.90459538			
<i>e</i>	0.0968958	<i>i</i>	2.54866	−0.02471012		+0.42615245			
<i>P</i>	5.02	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	7		
Residuals in seconds of arc									
1993 03 21	809 0.7− 1.9−			1998 03 22	704	0.7+	0.9−	1998 04 20	704 0.2+ 0.0
1993 03 22	809 0.2+	2.1−		1998 03 22	704	0.6+	1.1+	1998 04 22	704 0.7− 0.3+
1993 03 24	809 0.4− 3.1+			1998 03 22	704	0.5+	0.7+	1998 04 22	704 1.4− 1.1+
1993 04 18	413 0.2+	0.7−		1998 03 22	704	3.0−	1.1−	1998 04 22	704 0.2− 0.1−
1998 03 20	704 0.0	1.0+		1998 04 20	704	1.1+	0.7−	1998 04 22	704 2.8+ 2.4+
1998 03 20	704 0.8− 1.9−			1998 04 20	704	1.0−	0.5−	1998 04 22	704 0.6− 1.4−
1998 03 20	704 3.1+	1.0+		1998 04 20	704	0.1+	0.2−		
1998 03 20	704 0.1− 0.9+			1998 04 20	704	0.7−	0.1−		

1993 FK₃₇ = 1996 XW₁₃ = 1998 HR₃₉

Id. A. Gnädig, G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	184.65135		(2000.0)	P		Q			
<i>n</i>	0.20139358	ω	350.22820	+0.84351762		−0.53626398			
<i>a</i>	2.8825198	Ω	42.24623	+0.49574287		+0.75586850			
<i>e</i>	0.0801380	<i>i</i>	2.55603	+0.20668099		+0.37561118			
<i>P</i>	4.89	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	5		
Residuals in seconds of arc									
1993 03 19	809 0.7+ 0.1−			1996 12 11	691	0.2+	0.1−	1998 04 20	704 1.4+ 0.9+
1993 03 20	809 0.7+ 0.2−			1996 12 11	691	0.0	0.2−	1998 04 20	704 1.5− 0.1+
1993 03 24	809 0.3+ 0.5+			1996 12 14	691	0.2+	0.1+	1998 04 22	704 0.5+ 0.3−
1993 04 18	413 1.4− 0.5+			1996 12 14	691	0.2+	0.1+	1998 04 22	704 0.2+ 0.3−
1996 12 04	691 0.2− 0.2+			1996 12 14	691	0.1+	0.1+	1998 04 22	704 0.1+ 1.7−
1996 12 04	691 0.4− 0.1+			1998 04 20	704	0.2+	1.1+	1998 04 22	704 0.8+ 1.4−
1996 12 04	691 0.4− 0.3−			1998 04 20	704	2.5−	1.1+	1998 04 22	704 0.4− 1.2−
1996 12 11	691 0.3+ 0.2−			1998 04 20	704	0.8+	1.0+		

1993 FC₄₂ = 1998 FQ₈₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams					
<i>M</i>	290.26255		(2000.0)	P		Q			
<i>n</i>	0.18655243	ω	253.61652	−0.09636214		+0.99482544			
<i>a</i>	3.0334403	Ω	11.00478	−0.83669426		−0.06343902			
<i>e</i>	0.0542642	<i>i</i>	9.71047	−0.53912619		−0.07935887			
<i>P</i>	5.28	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	4		

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Residuals in seconds of arc

1993 03 19	809	0.2+	0.4-	1993 04 21	413	0.7+	0.3-	1998 03 25	704	0.4+	0.0
1993 03 20	809	0.7+	0.8-	1998 02 26	809	(4.1+	1.1-)	1998 03 25	704	0.4+	0.3+
1993 03 24	809	1.2+	0.8-	1998 02 26	809	(3.3+	1.6-)	1998 03 25	704	0.4+	0.5+
1993 03 28	691	0.9-	0.5+	1998 02 26	809	(3.2+	0.8-)	1998 03 25	704	0.3-	0.7+
1993 03 28	691	1.2-	1.3+	1998 03 24	704	0.2+	0.2-	1998 03 25	704	0.2+	0.2+
1993 04 17	691	0.2-	0.2+	1998 03 24	704	0.8-	0.3-	1998 04 28	566	0.3-	0.1+
1993 04 17	691	0.3-	0.2+	1998 03 24	704	0.1-	0.6-	1998 04 28	566	0.5-	0.0
1993 04 17	691	0.2-	0.0	1998 03 24	704	0.3-	0.5-	1998 04 28	566	0.6+	0.2-

1993 FB₄₄ = 1998 HA₃₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	161.19162		(2000.0)	P	Q
n	0.20337820	ω	201.75396	+0.57347776	-0.81909321
a	2.8637369	Ω	213.25790	+0.75545876	+0.53559485
e	0.0506045	i	1.51265	+0.31686798	+0.20548594
P	4.85	H	13.5	G 0.15	U 7

Residuals in seconds of arc

1993 03 19	809	0.5+	1.2+	1998 04 20	704	0.7-	0.8+	1998 04 22	704	1.1+	0.2-
1993 03 20	809	1.3+	0.4+	1998 04 20	704	0.5+	0.0	1998 04 22	704	0.1-	0.0
1993 03 24	809	0.8+	1.0-	1998 04 20	704	0.5+	0.7+	1998 04 22	704	0.4-	0.8-
1993 04 17	691	1.4-	0.0	1998 04 21	704	0.3+	0.3+	1998 04 22	704	1.4-	1.7-
1993 04 17	691	1.3-	0.0	1998 04 21	704	1.6-	0.5-	1998 04 24	699	0.2-	1.5+
1993 04 17	691	1.2-	0.1+	1998 04 21	704	0.6+	0.1+	1998 04 24	699	0.7+	1.1+
1993 04 21	413	0.9+	1.3-	1998 04 21	704	0.2+	0.4-	1998 04 24	699	0.2-	1.6+
1998 04 20	704	0.6+	0.1+	1998 04 21	704	1.0+	0.7-				
1998 04 20	704	1.4-	1.4-	1998 04 22	704	0.8+	0.1+				

1993 FL₈₂ = 1998 HP₄₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	17.57837		(2000.0)	P	Q
n	0.20188859	ω	42.24515	-0.93747492	+0.34679336
a	2.8778061	Ω	157.99328	-0.33671012	-0.88211972
e	0.0857021	i	4.52809	-0.08813103	-0.31874624
P	4.88	H	14.0	G 0.15	U 6

Residuals in seconds of arc

1993 03 19	809	1.3+	1.2-	1993 03 23	691	0.7-	0.1+	1998 04 20	704	1.0+	0.7-
1993 03 20	809	1.7+	2.3-	1993 04 16	413	0.1-	0.4+	1998 04 21	704	0.9-	1.5-
1993 03 23	809	0.8-	2.4+	1998 04 20	704	0.1+	0.6+	1998 04 21	704	0.5-	1.0+
1993 03 23	691	0.8-	0.4+	1998 04 20	704	0.5+	1.3-	1998 04 21	704	0.4-	0.8-
1993 03 23	691	0.5-	0.3+	1998 04 20	704	0.7+	1.3+	1998 04 21	704	0.5-	1.2+

1994 AG₁ = 1998 HB₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	44.97188		(2000.0)	P	Q
n	0.27169030	ω	14.85997	-0.99481570	-0.09676260
a	2.3609491	Ω	159.50931	+0.08178519	-0.94409155
e	0.1680634	i	5.12736	+0.06043921	-0.31516368
P	3.63	H	15.0	G 0.15	U 5

Residuals in seconds of arc

1994 01 06	675	0.2-	0.8-	1994 01 21	411	(1.9+	3.0-)	1998 04 22	691	0.7-	0.4+
1994 01 06	675	1.5-	0.3+	1994 02 07	411	0.2-	0.6-	1998 04 22	704	0.5+	0.5-
1994 01 07	411	0.7+	0.1+	1994 02 07	411	0.2+	0.4+	1998 04 22	691	0.4-	0.0
1994 01 07	411	0.1-	0.5-	1994 02 07	411	0.5-	0.8+	1998 04 22	704	0.9+	0.2+
1994 01 09	411	0.9+	0.9+	1998 04 19	691	1.2-	1.0+	1998 04 22	691	0.5-	0.1+
1994 01 09	411	1.0+	1.0+	1998 04 19	691	1.0-	0.5+	1998 04 22	704	1.0+	0.5-
1994 01 09	411	0.4-	0.3-	1998 04 19	691	0.9-	0.4+	1998 04 22	704	0.5+	0.6-
1994 01 14	411	0.4-	0.6-	1998 04 21	704	0.7+	0.3-	1998 04 22	704	0.9+	0.5+
1994 01 14	411	0.4-	0.1+	1998 04 21	704	0.7+	0.2+	1998 04 27	691	0.7-	0.2+
1994 01 14	411	0.1-	0.8+	1998 04 21	704	0.2+	0.3-	1998 04 27	691	0.5-	0.0
1994 01 21	411	0.9+	0.4-	1998 04 21	704	0.7+	0.7-	1998 04 27	691	0.6-	0.0
1994 01 21	411	0.1-	1.3-	1998 04 21	704	0.3+	0.6-				

1994 AO₃ = 1998 FO₈₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	96.44536		(2000.0)	P	Q
n	0.26159928	ω	349.33261	+0.17603320	-0.98232532
a	2.4212800	Ω	90.50676	+0.90777586	+0.13699199
e	0.1558716	i	3.64857	+0.38072997	+0.12755457
P	3.77	H	14.5	G 0.15	U 6

Residuals in seconds of arc

1994 01 15	411	0.9+	0.7+	1994 02 07	411	0.3-	0.2-	1998 03 24	704	0.0	0.6-
1994 01 15	411	0.7+	0.7+	1994 02 07	411	0.5-	2.7-	1998 03 24	704	1.8+	0.3+
1994 01 15	411	0.1+	1.3+	1994 02 07	411	1.2-	2.1-	1998 03 25	704	0.7+	1.3+
1994 01 19	411	0.0	0.1-	1994 02 14	411	0.5+	1.3+	1998 03 25	704	0.9-	0.8+
1994 01 19	411	0.3-	0.1+	1994 02 14	411	0.7+	0.9+	1998 03 25	704	0.2-	0.7+
1994 01 19	411	0.4-	0.7-	1994 02 14	411	1.1+	1.0-	1998 03 25	704	0.4+	0.4-
1994 01 21	411	0.5-	0.7+	1998 03 24	704	0.6-	0.7-	1998 03 25	704	1.5-	0.5+
1994 01 21	411	0.5-	0.1-	1998 03 24	704	0.2+	0.7-				
1994 01 21	411	0.3-	0.7+	1998 03 24	704	0.3+	0.6-				

1994 AK₁₆ = 1998 FN₉₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	78.86677		(2000.0)	P	Q
n	0.26658439	ω	264.85563	-0.47344627	-0.87850955
a	2.3910000	Ω	213.64163	+0.84687947	-0.43409444
e	0.1013756	i	6.61235	+0.24216482	-0.19945673
P	3.70	H	14.5	G 0.15	U 4

Residuals in seconds of arc

1994 01 14	033	0.0	0.0	1998 03 03	704	1.3+	1.1+	1998 03 31	704	0.8+	0.2-
1994 01 15	033	0.1+	0.2-	1998 03 04	704	0.5-	0.1-	1998 03 31	704	0.7+	0.2-
1994 01 15	033	0.3-	0.0	1998 03 04	704	1.1-	0.2-	1998 04 01	704	0.5-	0.1-
1994 02 16	033	0.4-	0.2-	1998 03 04	704	0.0	0.3+	1998 04 01	704	0.0	0.4+
1994 02 16	033	0.7+	0.9+	1998 03 04	704	0.7-	0.1-	1998 04 01	704	0.5-	1.0-
1994 02 17	033	0.2-	0.8-	1998 03 04	704	1.2-	0.0	1998 04 01	704	0.3+	0.2-
1998 03 03	704	(1.5-	2.7+)	1998 03 31	704	0.6+	0.1+	1998 04 01	704	0.5-	0.2-
1998 03 03	704	1.2+	0.8+	1998 03 31	704	0.1+	0.5-				
1998 03 03	704	(2.2+	0.8+)	1998 03 31	704	0.0	0.2+				

1994 BH₁ = 1998 FV₁₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	55.63859		(2000.0)	P	Q
n	0.27147784	ω	184.55124	-0.97557670	-0.21592858
a	2.3621807	Ω	342.81707	+0.20559517	-0.83299710
e	0.0544226	i	7.84250	+0.07733517	-0.50940228
P	3.63	H	15.0	G 0.15	U 4

Residuals in seconds of arc

1994 01 23	411	0.6+	0.5-	1994 02 13	411	0.4-	0.1-	1998 03 31	704	0.8-	0.5+
1994 01 23	411	0.3+	0.2-	1994 02 13	411	0.5-	0.3-	1998 03 31	704	0.7-	1.1-
1994 01 24	411	1.2-	0.9+	1998 03 25	699	0.9+	0.6+	1998 03 31	704	1.2-	0.5-
1994 01 24	411	0.0	0.2-	1998 03 25	699	0.1+	0.6+	1998 03 31	704	1.4+	0.1-
1994 01 24	411	0.5+	0.2+	1998 03 25	699	0.0	0.5+	1998 04 01	704	0.3-	0.4-
1994 02 02	411	0.1-	0.1+	1998 03 25	699	0.4+	0.3-	1998 04 01	704	0.1+	0.5+
1994 02 02	411	0.6+	0.4-	1998 03 25	699	0.6+	0.3+	1998 04 01	704	0.7-	0.1-
1994 02 02	411	0.2+	0.1+	1998 03 25	699	0.1-	0.3-	1998 04 01	704	0.1+	0.6-
1994 02 13	411	0.0	0.3+	1998 03 31	704	0.1+	1.1+	1998 04 01	704	0.1-	0.4-

1998 MAY 11

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1994 CZ₁₇ = 1998 FU₁₂₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	353.58373		(2000.0)		P		Q				
<i>n</i>	0.24621744	ω	64.87298		-0.87327061		+0.47097736				
<i>a</i>	2.5211006	Ω	142.86563		-0.48718238		-0.84025653				
<i>e</i>	0.0980404	<i>i</i>	11.93223		-0.00719459		-0.26860621				
<i>P</i>	4.00	<i>H</i>	15.0		<i>G</i>	0.15	<i>U</i>	6			
Residuals in seconds of arc											
1994 02 08	809	0.4-	0.6-	1994 02 13	809	1.2+	1.9+	1998 03 24	704	2.7-	0.1+
1994 02 08	809	0.1+	0.2-	1994 02 13	809	0.7-	0.7+	1998 03 25	704	0.1-	0.5-
1994 02 08	809	0.5-	0.5-	1994 02 13	809	0.0	1.1-	1998 03 25	704	0.1+	0.3+
1994 02 10	809	0.0	1.1+	1998 03 24	704	1.4+	1.2-	1998 03 25	704	0.5+	1.5+
1994 02 10	809	1.0+	1.1-	1998 03 24	704	0.5+	1.6-	1998 03 25	704	1.3-	0.7+
1994 02 10	809	0.7-	0.1+	1998 03 24	704	0.6+	1.9-	1998 03 25	704	0.8+	2.2+

1994 CP₁₈ = 1994 EW₅ = 1998 FO₁₂₄

Id. S. Nakano (d, MPC 27543), G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	263.23937		(2000.0)		P		Q				
n	0.25318122	ω	259.10665		+0.58989304		+0.80548027				
a	2.4746573	Ω	47.19642		-0.70731063		+0.54937580				
e	0.0695251	i	4.44115		-0.38953546		+0.22223360				
P	3.89	H	15.0		G	0.15	U	7			
Residuals in seconds of arc											
1994 02 08	809	0.5+	0.1+	1994 03 09	010	(2.8-	3.7-)	1998 03 24	704	1.4+	1.4-
1994 02 08	809	0.2-	1.3+	1994 03 09	010	(3.7-	4.7-)	1998 03 24	704	0.4+	2.2+
1994 02 08	809	0.4+	1.7-	1994 03 10	010	0.6+	0.1-	1998 03 25	704	0.9+	0.2+
1994 02 10	809	0.4+	0.1-	1994 03 10	010	0.2-	1.2-	1998 03 25	704	0.1-	0.4+
1994 02 10	809	0.2-	0.1-	1994 03 10	010	0.3-	1.3+	1998 03 25	704	0.4-	0.3-
1994 02 10	809	1.0-	0.5+	1998 03 24	704	1.0-	0.5-	1998 03 25	704	1.4-	1.5-
1994 03 09	010	(4.6-	5.3-)	1998 03 24	704	0.3+	1.1+				

1994 EL₂ = 1998 FN₂₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	8.66301		(2000.0)		P		Q				
<i>n</i>	0.24225066	ω	193.84095		-0.96091159		+0.27671916				
<i>a</i>	2.5485475	Ω	2.27911		-0.22866692		-0.77558509				
<i>e</i>	0.1927282	<i>i</i>	12.61336		-0.15607802		-0.56735727				
<i>P</i>	4.07	<i>H</i>	14.5		<i>G</i>	0.15	<i>U</i>	4			
Residuals in seconds of arc											
1994 03 08	675	1.0-	0.1+	1994 03 19	391	0.5+	0.9-	1998 03 20	704	0.3+	0.3-
1994 03 08	675	0.1+	0.2-	1998 02 25	809	1.0+	0.4-	1998 03 20	704	0.1-	0.2+
1994 03 10	675	1.1-	0.2+	1998 02 25	809	0.5+	1.2-	1998 03 20	704	0.3-	0.2-
1994 03 10	675	0.4+	1.5+	1998 02 25	809	0.6+	0.3-	1998 03 22	704	0.3+	0.2-
1994 03 18	391	0.1+	1.2+	1998 02 26	809	0.7-	0.6+	1998 03 22	704	0.5+	0.3+
1994 03 18	391	1.8+	0.3-	1998 02 26	809	1.0-	0.1+	1998 03 22	704	0.4+	0.5+
1994 03 19	391	0.5-	1.0-	1998 02 26	809	1.2-	1.0+	1998 03 22	704	0.1+	0.2+
1994 03 19	391	0.1-	0.7-	1998 03 20	704	0.6-	0.7+	1998 03 22	704	0.8+	0.2+
1994 03 19	391	0.6-	0.3-	1998 03 20	704	0.2-	0.5-				

1994 EP₃ = 1979 WZ₂ = 1998 HU₄₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	31.01998		(2000.0)			P		Q			
<i>n</i>	0.22466740	<i>ω</i>	112.94600			−0.69405794		−0.71418991			
<i>a</i>	2.6798430	<i>Ω</i>	21.83393			+0.53832000		−0.59845288			
<i>e</i>	0.1753277	<i>i</i>	14.10624			+0.47801166		−0.36302468			
<i>P</i>	4.39	<i>H</i>	13.0			<i>G</i>	0.15	<i>U</i>	3		
Residuals in seconds of arc											
1979 11 16	095	0.3+	0.7−	1994 04 02	894	0.1−	0.8−	1994 04 05	400	1.6−	0.2+
1994 03 14	675	0.5−	0.6+	1994 04 02	894	1.3−	0.3+	1998 04 18	699	1.1−	0.9+

1994 03 14	675	1.4+	2.2+	1994 04 03	675	0.1-	0.2+	1998 04 18	699	0.5+	0.1+
1994 03 14	400	0.7+	0.3+	1994 04 03	675	0.1+	0.5-	1998 04 18	699	0.3+	0.3+
1994 03 14	400	0.3+	0.8-	1994 04 03	894	0.6+	0.5+	1998 04 19	699	0.6+	0.6-
1994 03 18	400	1.0-	2.5-	1994 04 03	894	0.4-	0.1-	1998 04 19	699	0.0	0.2+
1994 03 18	400	0.6+	1.5-	1994 04 05	400	0.7+	1.0+	1998 04 19	699	0.2+	0.1+

1994 EO₆ = 1998 HO₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	193.83077		(2000.0)		P		Q				
<i>n</i>	0.27176869	<i>ω</i>	317.79171		+0.84683868		−0.52497862				
<i>a</i>	2.3604951	<i>Ω</i>	74.06393		+0.50857850		+0.75244607				
<i>e</i>	0.0987583	<i>i</i>	5.08431		+0.15560256		+0.39777174				
<i>P</i>	3.63	<i>H</i>	14.5		<i>G</i>	0.15	<i>U</i>	5			
Residuals in seconds of arc											
1994 02 10	809	0.7−	0.2+	1994 03 09	010	1.5+	0.2+	1998 04 17	691	0.3−	0.5−
1994 02 10	809	1.2−	1.2−	1994 03 09	010	0.1+	0.2+	1998 04 17	691	0.3−	0.1−
1994 02 10	809	1.3−	0.3+	1994 03 09	010	0.3+	0.1+	1998 04 17	691	0.3−	0.0
1994 02 13	809	1.9+	0.1+	1994 03 10	010	0.5−	0.3−	1998 04 25	691	0.6+	0.8+
1994 02 13	809	0.9+	0.9+	1994 03 10	010	0.8−	1.0−	1998 04 25	691	0.2+	0.3−
1994 02 13	809	1.3+	1.3+	1994 03 10	010	1.4−	1.1−	1998 04 25	691	0.2+	0.3+

1994 FE = 1998 FD₉₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	354.75319		(2000.0)			P		Q			
n	0.24330974	ω	61.15668			-0.77910227		+0.61481274			
a	2.5411466	Ω	156.11952			-0.62666105		-0.76915557			
e	0.1212901	i	17.61281			+0.01719237		-0.17437031			
P	4.05	H	15.0	G	0.15	U	5				
Residuals in seconds of arc											
1994 03 11	413	0.5-	0.7+	1994 05 04	413	0.2+	0.1+	1998 03 24	566	0.7-	0.1-
1994 03 11	413	0.3+	1.4-	1994 05 04	413	0.3-	0.1-	1998 03 24	566	0.6-	0.2+
1994 03 19	413	0.5+	1.2+	1998 03 24	704	0.8-	0.8+	1998 03 25	704	0.1-	0.1+
1994 03 20	413	0.0	0.0	1998 03 24	704	0.6-	1.1+	1998 03 25	704	1.1+	1.2+
1994 03 20	413	0.2-	0.0	1998 03 24	704	0.2-	0.7+	1998 03 25	704	1.3+	0.7-
1994 03 22	413	0.0	0.4-	1998 03 24	704	0.1-	0.6+	1998 03 25	704	1.1+	3.1-
1994 03 22	413	0.1+	0.1+	1998 03 24	566	1.1-	0.0	1998 03 25	704	0.9+	0.7-

1994 GG₁ = 1985 CD₁ = 1998 HX₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	347.73386		(2000.0)		P		Q				
n	0.22907314	ω	69.80484		-0.82857340		+0.54227961				
a	2.6453711	Ω	142.65342		-0.55982536		-0.79895695				
e	0.1569916	i	13.27321		-0.00785421		-0.26000120				
P	4.30	H	13.0		G	0.15	U	4			
Residuals in seconds of arc											
1985 02 13	046	1.1+	1.2-	1994 04 15	400	0.3-	0.6+	1998 04 22	888	0.2-	0.0
1985 02 13	046	1.1-	1.2+	1994 05 06	400	1.5+	0.3-	1998 04 22	888	0.1-	0.1-
1994 04 13	400	1.0+	0.6-	1994 05 06	400	0.6-	0.4-	1998 04 22	888	0.4-	0.1+
1994 04 13	400	(3.3+	3.7-)	1998 04 20	385	0.2+	0.3+				
1994 04 15	400	1.5-	0.8+	1998 04 20	385	0.5+	0.4-				

1994 GT₈ = 1998 FT₇₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q		Gnädig	
<i>n</i>	0.22379015	ω	346.48152	-0.99397249	-0.05588401				
<i>a</i>	2.6868417	Ω	191.62215	+0.04944844	-0.99637343				
<i>e</i>	0.0810061	<i>i</i>	27.91587	-0.09784450	+0.06416361				
<i>P</i>	4.40	<i>H</i>	12.0	<i>G</i>	0.15	<i>U</i>	5		

Residuals in seconds of arc

1994 04 11	675	0.1+	0.1+	1994 05 08	675	0.2-	0.4-	1998 03 20	699	0.3+	1.0-
1994 04 11	675	0.6-	0.6+	1994 05 08	675	1.2+	0.2-	1998 03 20	699	0.1-	1.0+
1994 04 13	675	1.1+	0.4-	1998 03 19	699	0.1-	0.1-	1998 03 20	699	0.1+	1.1+
1994 04 13	675	0.4+	0.6-	1998 03 19	699	0.1-	0.3-				
1994 05 04	675	1.9-	0.9+	1998 03 19	699	0.1-	0.6-				

1994 JB = 1998 HH₄₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams					
<i>M</i>	314.24359	(2000.0)	P		Q			
<i>n</i>	0.24253766	ω	222.70360	+0.31914903	+0.94636813			
<i>a</i>	2.5465366	Ω	65.96474	-0.85396461	+0.31019655			
<i>e</i>	0.1881885	<i>i</i>	3.15791	-0.41096027	+0.09036298			
<i>P</i>	4.06	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	6	

Residuals in seconds of arc

1994 05 03	589	0.3+	0.1-	1994 05 10	589	2.1-	0.5+	1998 04 21	704	0.0	0.5+
1994 05 03	589	0.2+	0.6-	1994 05 10	589	1.3+	0.1-	1998 04 21	704	1.6-	0.2+
1994 05 03	589	0.3-	0.6-	1994 05 10	589	0.5+	1.0+	1998 04 21	704	1.0-	0.2-
1994 05 03	589	0.1+	0.2-	1994 05 15	589	0.2-	1.0-	1998 04 21	704	0.5+	0.0
1994 05 03	589	0.1-	0.0	1994 05 15	589	0.5+	0.4+	1998 04 21	704	0.4-	0.4+
1994 05 04	589	0.0	0.1-	1998 04 20	704	0.7+	0.8+	1998 04 22	704	0.5+	0.2-
1994 05 04	589	0.8+	0.0	1998 04 20	704	0.9+	0.4+	1998 04 22	704	0.4-	2.1-
1994 05 04	589	0.3+	0.8+	1998 04 20	704	0.1+	0.7+	1998 04 22	704	0.1+	1.0-
1994 05 06	589	0.7-	0.4-	1998 04 20	704	0.7-	0.4-	1998 04 22	704	1.4+	0.2-
1994 05 06	589	0.3-	0.4+	1998 04 20	704	0.0	1.0+				

1994 JR = 1998 GU₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams					
<i>M</i>	332.60674	(2000.0)	P		Q			
<i>n</i>	0.23698807	ω	167.93256	-0.32186322	+0.91089752			
<i>a</i>	2.5861382	Ω	82.85875	-0.88886441	-0.19679443			
<i>e</i>	0.1200839	<i>i</i>	15.08333	-0.32607381	-0.36268121			
<i>P</i>	4.16	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4	

Residuals in seconds of arc

1994 05 05	675	1.7+	0.0	1998 04 03	704	0.1-	0.0	1998 04 03	704	0.4+	0.1-
1994 05 05	675	(3.8+	0.9-)	1998 04 03	704	0.3-	0.5+	1998 04 03	704	0.2+	0.3+
1994 05 09	675	0.9-	0.5-	1998 04 03	704	0.3+	0.2+	1998 04 03	704	0.7+	1.3+
1994 05 09	675	0.1+	1.1+	1998 04 03	704	0.3+	0.7+	1998 04 03	704	0.6+	0.2+
1994 06 09	675	0.0	0.9-	1998 04 03	704	0.4+	0.0	1998 04 03	704	0.1-	0.9-
1994 06 09	675	0.2-	0.7-	1998 04 03	704	0.2-	0.2-	1998 04 03	704	0.4-	1.5-
1994 06 11	675	0.6-	1.4+	1998 04 03	704	0.1+	0.0	1998 04 03	704	0.3-	1.4-
1994 06 11	675	(3.5-	0.5+)	1998 04 03	704	0.2+	0.1+	1998 04 03	704	1.6-	0.4+
1998 04 02	704	0.3+	0.2+	1998 04 03	704	0.1-	0.5-	1998 04 03	704	0.8-	0.8+
1998 04 02	704	0.1+	0.6+	1998 04 03	704	0.2-	0.2+	1998 04 03	704	0.6-	1.0+
1998 04 02	704	0.6-	0.3+	1998 04 03	704	0.2-	0.1+	1998 04 24	566	0.3+	0.3-
1998 04 03	704	0.3+	0.1-	1998 04 03	704	0.4+	1.0-	1998 04 24	566	0.6+	0.3-
1998 04 03	704	0.3-	0.3-	1998 04 03	704	0.3+	0.2-	1998 04 24	566	0.3+	0.3-

1994 JU₈ = 1998 JK₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams					
<i>M</i>	322.17987	(2000.0)	P		Q			
<i>n</i>	0.24606878	ω	58.20979	+0.30877343	+0.92711111			
<i>a</i>	2.5221159	Ω	231.29114	-0.93847324	+0.26064597			
<i>e</i>	0.1211543	<i>i</i>	15.79653	-0.15468337	+0.26931148			
<i>P</i>	4.01	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	6	

Residuals in seconds of arc

1994 05 08	894	0.5-	1.3+	1994 05 16	894	0.0	1.4+	1998 05 01	566	0.1+	0.6+
1994 05 08	894	0.7+	0.9-	1994 05 16	894	0.4+	0.9-	1998 05 02	566	0.2+	0.8-
1994 05 12	894	0.6-	0.3+	1998 05 01	566	0.1+	0.4+	1998 05 02	566	0.7-	0.5-
1994 05 12	894	0.0	1.1-	1998 05 01	566	0.2+	0.6+	1998 05 02	566	0.1+	0.4-

1994 PC₁₂ = 1994 PK₃₀ = 1998 FN₁₀₂Id. G. V. Williams (d, *MPC* 24886; unpublished)

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams					
<i>M</i>	330.59225	(2000.0)	P		Q			
<i>n</i>	0.17911592	ω	285.04916	-0.38933419	+0.91041355			
<i>a</i>	3.1168310	Ω	321.08692	-0.73619263	-0.39883585			
<i>e</i>	0.1194828	<i>i</i>	12.86690	-0.55356960	-0.10989603			
<i>P</i>	5.50	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4	

Residuals in seconds of arc

1994 08 10	809	0.7-	0.3-	1994 08 13	809	0.3-	2.0+	1994 09 06	809	0.5+	0.2-
1994 08 10	809	0.3-	0.8-	1994 08 13	809	0.9-	1.2+	1998 03 31	704	0.2+	1.2-
1994 08 10	809	1.2-	0.3+	1994 09 01	691	0.9-	0.5-	1998 03 31	704	0.4-	0.0
1994 08 11	809	1.4+	1.0-	1994 09 01	691	0.9-	0.5-	1998 03 31	704	1.5+	0.8+
1994 08 11	809	1.1+	2.0-	1994 09 01	691	0.8-	0.2-	1998 03 31	704	0.2-	0.1+
1994 08 11	809	1.2+	0.9-	1994 09 05	809	0.3-	0.2+	1998 03 31	704	1.0-	1.1-
1994 08 12	809	1.0+	0.6+	1994 09 05	809	0.6+	0.2+	1998 04 01	704	0.5-	1.8+
1994 08 12	809	0.2+	0.6+	1994 09 05	809	1.3-	0.1+	1998 04 01	704	1.3+	0.4-
1994 08 12	809	1.3-	0.1+	1994 09 06	809	1.5+	0.2+	1998 04 01	704	0.7+	0.5+
1994 08 13	809	0.3+	0.8+	1994 09 06	809	1.3+	0.1+	1998 04 01	704	1.8-	0.6-

1994 PJ₁₃ = 1980 FZ₄Id. K. Ichikawa (*MPC* 25219)

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams					
<i>M</i>	202.44586	(2000.0)	P		Q			
<i>n</i>	0.17152144	ω	229.36950	+0.87572751	-0.48274185			
<i>a</i>	3.2081680	Ω	159.49139	+0.44945533	+0.80918929			
<i>e</i>	0.1508956	<i>i</i>	1.28400	+0.17632706	+0.33492237			
<i>P</i>	5.75	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	5	

Residuals in seconds of arc

1980 03 16	809	0.1+	0.7+	1994 08 11	809	0.4+	0.3-	1998 04 21	704	0.3-	0.8+
1980 03 16	809	0.0	0.5-	1994 08 11	809	0.3-	0.0	1998 04 21	704	0.2-	0.9+
1980 03 16	809	0.5-	0.5+	1994 09 03	809	(3.9+	1.3+)	1998 04 21	704	0.3+	0.9+
1980 03 16	809	0.1+	0.2-	1994 09 03	809	(4.0+	1.8+)	1998 04 21	704	0.2-	1.0+
1980 03 23	809	0.2+	0.9-	1994 09 03	809	(3.5+	2.0+)	1998 04 22	704	0.8+	1.6-
1994 08 10	809	0.4+	0.1-	1994 09 04	809	0.4+	0.6+	1998 04 22	704	0.1-	1.0-
1994 08 10	809	0.9-	0.6-	1994 09 04	809	(3.0+	0.5+)	1998 04 22	704	1.4-	0.8-
1994 08 10	809	0.7-	0.4-	1994 09 04	809	(2.5+	0.7+)	1998 04 22	704	0.7+	0.4-
1994 08 11	809	0.9+	0.4+	1998 04 21	704	0.1-	0.6+	1998 04 22	704	0.7+	0.1-

1994 PQ₁₄ = 1998 FE₆₆

Id. A. Gnädig

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams					
<i>M</i>	335.40827	(2000.0)	P		Q			
<i>n</i>	0.18004478	ω	50.36678	-0.42389004	+0.90554290			
<i>a</i>	3.1061018	Ω	194.58275	-0.85090723	-0.40481665			
<i>e</i>	0.1052363	<i>i</i>	4.00537	-0.31028071	-0.12694700			
<i>P</i>	5.47	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4	

Residuals in seconds of arc

1994 08 10	809	0.2-	1.6+	1998 03 20	704	0.2-	0.7+	1998 03 25	566	0.3-	1.7-
1994 08 10	809	0.9-	1.0+	1998 03 20	704	0.4-	0.3+	1998 04 01	704	0.3-	0.1+
1994 08 10	809	1.1-	1.7+	1998 03 20	704	0.9-	0.4-	1998 04 01	704	0.1-	0.7+
1994 08 11	809	1.1+	0.8+	1998 03 20	704	1.3-	0.9+	1998 04 01	704	0.3+	0.9+
1994 08 11	809	0.8+	0.8+	1998 03 22	704	0.4-	0.2-	1998 04 01	704	0.5+	0.5+
1994 08 11	809	0.3-	1.3+	1998 03 22	704	0.6-	0.5-	1998 04 01	704	0.8+	0.1+
1994 09 03	809	0.6+	1.2-	1998 03 22	704	1.4-	0.2-	1998 04 04	699	0.6+	0.0
1994 09 03	809	0.3-	0.7-	1998 03 22	704	0.5-	0.1+	1998 04 04	699	0.9+	0.5-
1994 09 03	809	0.4-	0.2-	1998 03 22	704	1.1-	0.3+	1998 04 04	699	1.2+	1.2+
1994 09 04	809	1.4+	0.2-	1998 03 24	699	0.0	0.2+	1998 04 20	704	0.4+	0.1+
1994 09 04	809	1.0+	0.1+	1998 03 24	699	0.1+	0.0	1998 04 20	704	0.5+	0.1-
1994 09 04	809	0.5+	0.4-	1998 03 24	699	1.5+	0.5-	1998 04 20	704	0.6+	0.7-
1994 09 05	809	(0.2+	3.1-)	1998 03 25	704	0.5+	0.0	1998 04 20	704	0.3-	1.0-

1998 MAY 11

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1994 09 05	809	(1.2− 2.8−)	1998 03 25	704	0.1− 0.1+	1998 04 20	704	0.4− 1.5−
1994 09 05	809	1.1− 1.9−	1998 03 25	704	0.5− 0.8−	1998 04 22	704	0.6+ 1.3+
1994 09 06	809	(0.8+ 2.6−)	1998 03 25	704	0.2− 0.4+	1998 04 22	704	0.8+ 0.1+
1994 09 06	809	0.4− 1.9−	1998 03 25	704	0.4+ 0.4−	1998 04 22	704	0.3+ 0.5−
1994 09 06	809	0.4− 1.6−	1998 03 25	566	0.4− 0.2−	1998 04 22	704	0.0 0.7+
1998 03 20	704	1.2− 0.3−	1998 03 25	566	0.4− 0.5−	1998 04 22	704	0.6+ 0.2+

1994 PZ₁₇ = 1998 FU₁₀₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		Williams		<i>P</i>		<i>Q</i>	
<i>n</i>	0.16741311	ω	351.06428	+0.76897866	+0.63288338				
<i>a</i>	3.2604415	Ω	329.08709	−0.57514490	+0.62334733				
<i>e</i>	0.0548224	<i>i</i>	10.10873	−0.27907017	+0.45923496				
<i>P</i>	5.89	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4		

Residuals in seconds of arc

1994 08 10	809	0.7− 0.5−	1994 09 06	809	1.1+ 0.8+	1998 04 01	704	0.5− 0.9+
1994 08 10	809	0.8− 0.2−	1994 09 06	809	0.6+ 0.8+	1998 04 18	704	0.3+ 0.3−
1994 08 10	809	1.7− 0.1+	1998 03 31	704	0.5+ 1.4+	1998 04 18	704	0.2+ 0.4+
1994 08 11	809	0.6+ 0.0	1998 03 31	704	0.3− 0.1+	1998 04 18	704	1.6− 1.3+
1994 08 11	809	0.1− 0.4−	1998 03 31	704	0.2− 0.5+	1998 04 18	704	1.6+ 1.4+
1994 08 11	809	0.9+ 0.4−	1998 03 31	704	0.1− 0.3+	1998 04 19	704	0.4− 0.6−
1994 09 05	809	0.0 0.5−	1998 04 01	704	0.1− 0.8−	1998 04 19	704	0.4+ 0.9−
1994 09 05	809	0.5+ 0.4−	1998 04 01	704	0.4+ 0.5−	1998 04 19	704	0.6− 1.2−
1994 09 05	809	0.0 0.0	1998 04 01	704	1.0+ 0.7+	1998 04 19	704	0.6− 1.4−
1994 09 06	809	0.6− 1.0+	1998 04 01	704	1.8+ 0.8+	1998 04 19	704	1.4− 1.7−

1994 PF₂₀ = 1978 EE₉ = 1998 FY₁₂₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		Williams		<i>P</i>		<i>Q</i>	
<i>n</i>	0.19903669	ω	269.26666	−0.28113773	+0.95824197				
<i>a</i>	2.9052306	Ω	344.10427	−0.78695159	−0.26138039				
<i>e</i>	0.2231138	<i>i</i>	11.00564	−0.54924383	−0.11598539				
<i>P</i>	4.95	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	3		

Residuals in seconds of arc

1978 03 15	675	1.0− 0.1+	1994 09 06	809	1.0+ 1.0+	1998 04 01	704	0.0 0.1+
1978 03 16	675	0.5+ 0.8−	1994 09 06	809	0.1+ 1.1+	1998 04 01	704	0.0 0.9+
1994 08 12	809	0.3− 1.6−	1994 09 06	809	0.6+ 0.5+	1998 04 01	704	0.0 0.8−
1994 08 12	809	0.0 0.5−	1998 03 22	699	0.0 1.2+	1998 04 01	704	0.3− 0.4+
1994 08 12	809	0.6− 1.1−	1998 03 22	699	0.2− 1.3+	1998 04 01	704	0.2− 0.7+
1994 08 13	809	0.4+ 0.3−	1998 03 22	699	0.3+ 0.7+	1998 05 01	566	0.0 0.8−
1994 08 13	809	0.5+ 0.7−	1998 03 31	704	0.6+ 0.2+	1998 05 01	566	0.1+ 0.3−
1994 08 13	809	0.5− 0.5−	1998 03 31	704	0.6+ 0.9−	1998 05 01	566	0.8+ 0.5−
1994 09 05	809	0.4− 0.6+	1998 03 31	704	0.0 0.7+	1998 05 02	566	0.1+ 0.4−
1994 09 05	809	0.3− 1.0+	1998 03 31	704	1.9− 1.1−	1998 05 02	566	0.4+ 0.1−
1994 09 05	809	0.8− 0.7+	1998 03 31	704	0.3− 0.2+	1998 05 02	566	0.5+ 0.4−

1994 PZ₂₈ = 1998 FY₇₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		Williams		<i>P</i>		<i>Q</i>	
<i>n</i>	0.19109682	ω	181.54713	+0.45686265	+0.88634588				
<i>a</i>	2.9851563	Ω	115.64319	−0.81523500	+0.45106030				
<i>e</i>	0.1371652	<i>i</i>	4.79022	−0.35590506	+0.10457335				
<i>P</i>	5.16	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4		

Residuals in seconds of arc

1994 08 12	809	0.8+ 0.6+	1994 09 06	809	0.7+ 0.2−	1998 03 25	704	(2.9− 0.8−)
1994 08 12	809	0.3+ 0.4+	1994 09 06	809	0.0 0.9−	1998 04 21	704	1.0+ 0.2+
1994 08 12	809	1.0− 0.1+	1998 03 24	704	(2.4+ 1.5+)	1998 04 21	704	(2.3− 0.2−)
1994 08 13	809	0.4− 0.6−	1998 03 24	704	0.2− 0.4+	1998 04 21	704	0.3− 0.7−
1994 08 13	809	0.0 0.3−	1998 03 24	704	0.5− 0.7−	1998 04 21	704	0.9− 1.1−
1994 08 13	809	0.0 0.4−	1998 03 24	704	(2.9− 0.4+)	1998 04 21	704	0.1− 0.7−
1994 09 05	809	0.2− 0.2−	1998 03 25	704	1.4+ 0.1−	1998 04 22	704	0.4+ 1.5+
1994 09 05	809	0.2+ 0.5+	1998 03 25	704	(3.8+ 3.0+)	1998 04 22	704	0.0 1.7+

1994 09 05	809	1.3− 0.7+	1998 03 25	704	0.1+ 0.1+	1998 04 22	704	(2.5− 0.5+)
1994 09 06	809	0.7+ 0.3+	1998 03 25	704	0.4− 0.6+	1998 04 22	704	0.4− 1.3−

1994 RN = 1998 HW₄₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		Williams		<i>P</i>		<i>Q</i>	
<i>n</i>	0.17444663	ω	72.05415	−0.48370344	+0.87464410				
<i>a</i>	3.1722031	Ω	168.85134	−0.85262084	−0.46261501				
<i>e</i>	0.0467959	<i>i</i>	9.54810	−0.19765800	−0.14486215				
<i>P</i>	5.65	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4		

Residuals in seconds of arc

1994 08 10	809	0.9+	0.2+	1994 09 09	589	0.1+	0.1-	1998 04 21	704	0.2+	1.3+
1994 08 10	809	0.2+	0.7+	1994 10 04	589	0.0	0.2+	1998 04 21	704	0.2-	1.0-
1994 08 10	809	0.3+	0.8+	1994 10 04	589	0.0	1.2+	1998 04 21	704	2.0-	0.9-
1994 08 11	809	0.6-	0.3-	1994 10 04	589	0.4-	0.1+	1998 04 21	704	0.2+	0.4+
1994 08 11	809	0.8-	0.3+	1994 10 08	589	0.1+	0.5-	1998 04 22	704	1.2-	0.0
1994 08 11	809	0.6-	0.2-	1994 10 08	589	0.2-	0.7+	1998 04 22	704	1.2+	0.6+
1994 09 07	589	0.1+	0.0	1998 04 20	704	0.2-	0.2+	1998 04 22	704	0.9-	0.9+
1994 09 07	589	0.7-	0.8-	1998 04 20	704	0.9+	0.1+	1998 04 22	704	0.7+	0.9-
1994 09 07	589	0.4-	0.2-	1998 04 20	704	1.7+	2.2+	1998 04 22	704	1.0-	2.6-
1994 09 09	589	0.6+	0.0	1998 04 20	704	0.8+	0.2-				
1994 09 09	589	1.3+	1.8-	1998 04 20	704	(5.0-	0.3-)				

1994 RL₂ = 1998 FX₁₂₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		Williams		<i>P</i>		<i>Q</i>	
<i>n</i>	0.17686784	ω	338.35423	+0.68181608	+0.72754176				
<i>a</i>	3.1431864	Ω	334.43577	−0.64257516	+0.54585469				
<i>e</i>	0.1809682	<i>i</i>	10.17385	−0.34960548	+0.41560275				
<i>P</i>	5.57	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4		

Residuals in seconds of arc

1994 08 09	675	1.3+ 1.1−	1994 09 03	809	0.2+ 1.4+	1998 03 24	704	1.1− 0.9−
1994 08 09	675	0.2− 1.1+	1994 09 03	809	0.8+ 1.4+	1998 03 25	704	0.2− 0.6−
1994 08 11	675	0.9− 0.1+	1994 09 03	809	1.3+ 1.6+	1998 03 25	704	0.5+ 0.6−
1994 08 11	675	0.3− 0.5−	1994 09 04	809	0.3− 0.3−	1998 03 25	704	1.2+ 0.1+
1994 08 12	809	(3.7+ 4.1+)	1994 09 04	809	0.0 0.4−	1998 03 25	704	0.8+ 0.9+
1994 08 12	809	(3.6+ 4.9+)	1994 09 04	809	0.5+ 0.3−	1998 03 25	704	0.3− 0.1+
1994 08 12	809	(2.9+ 4.3+)	1994 09 08	691	0.3− 0.6−	1998 03 25	704	0.4+ 0.2+
1994 08 13	809	(2.9+ 4.4+)	1994 09 08	691	0.3− 0.9−	1998 03 25	704	0.2− 1.0−
1994 08 13	809	(4.0+ 4.9+)	1994 09 08	691	0.5− 0.6−	1998 03 25	704	0.6− 0.1+
1994 08 13	809	(3.7+ 4.4+)	1998 03 24	704	0.6+ 0.2+	1998 03 25	704	1.2− 0.8+
1994 09 01	691	0.6− 0.6−	1998 03 24	704	0.1− 1.6+	1998 03 25	704	0.7+ 0.4+
1994 09 01	691	0.4− 0.2−	1998 03 24	704	1.0+ 0.3−			
1994 09 01	691	0.3− 0.2−	1998 03 24	704	1.5− 1.0−			

1995 CE = 1988 BU₁ = 1997 WA₅₇

Id. A. Gnädig, G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		Williams		<i>P</i>		<i>Q</i>	
<i>n</i>	0.28266872	ω	4.57269	−0.15651710	−0.98322438				
<i>a</i>	2.2994160	Ω	94.45249	+0.90316910	−0.18085983				
<i>e</i>	0.1134427	<i>i</i>	5.39052	+0.39973488	+0.02365462				
<i>P</i>	3.49	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	2		

Residuals in seconds of arc

1988 01 22	511	1.4+ 0.2−	1995 02 10	411	0.0 0.3+	1997 11 29	704	0.5− 0.7−
1988 01 22	511	1.2− 0.8+	1995 02 19	411	0.5+ 0.3+	1997 12 04	704	0.8+ 0.0
1995 02 01	411	0.8− 0.3−	1995 02 19	411	0.9+ 0.1−	1997 12 04	704	0.5+ 0.0
1995 02 01	411	0.1+ 0.6−	1995 03 01	411	0.5− 0.4−	1997 12 04	704	0.2− 0.5−
1995 02 03	411	0.4+ 0.1−	1995 03 01	411	0.1− 0.6−	1997 12 04	704	3.0+ 0.5−
1995 02 03	411	0.0 0.3−	1997 11 29	704	0.1− 2.1+	1997 12 04	704	1.0− 0.2+
1995 02 07	411	0.2+ 0.3+	1997 11 29	704	1.4− 1.4−	1998 01 27	910	0.4− 0.6+

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1998 MAY 11

1995 02 07	411	0.5−	0.2+	1997 11 29	704	0.0	0.1−	1998 01 27	910	0.4−	0.6+
1995 02 10	411	0.6−	0.3+	1997 11 29	704	0.4−	0.3−	1998 01 27	910	0.3−	0.6+

1995 FU₁₂ = 1989 AJ₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Gnädig

<i>M</i>	55.81372		(2000.0)	P	Q
<i>n</i>	0.19554382	ω	354.91591	+0.99272031	−0.12023307
<i>a</i>	2.9397246	Ω	11.99661	+0.11167281	+0.89675951
<i>e</i>	0.1599999	<i>i</i>	1.95722	+0.04511730	+0.42587132
<i>P</i>	5.04	<i>H</i>	14.5	<i>G</i>	0.15
				<i>U</i>	6

Residuals in seconds of arc

1989 01 04	413	0.1−	0.8−	1995 03 27	691	0.5+	1.4+	1995 04 07	691	0.2+	0.5−
1989 01 04	413	0.2+	1.0−	1995 03 27	691	0.5−	0.4+	1995 04 07	691	2.0−	0.4−
1989 01 10	413	1.4−	1.3+	1995 04 05	691	0.6+	0.4−	1995 04 07	691	0.4−	0.5−
1989 01 10	413	1.2+	0.4+	1995 04 05	691	0.6+	0.3−				
1995 03 27	691	0.4+	0.8+	1995 04 05	691	0.7+	0.6−				

1995 QR = 1998 HD₂₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	277.12111		(2000.0)	P	Q
<i>n</i>	0.25881951	ω	278.53488	+0.72658873	+0.68644406
<i>a</i>	2.4385858	Ω	38.12402	−0.61017370	+0.66433581
<i>e</i>	0.1775235	<i>i</i>	2.72798	−0.31584311	+0.29572365
<i>P</i>	3.81	<i>H</i>	14.5	<i>G</i>	0.15
				<i>U</i>	4

Residuals in seconds of arc

1995 08 16	905	0.8−	0.5+	1995 09 17	905	0.4−	0.3+	1998 04 22	704	0.1−	1.0+
1995 08 16	905	0.2−	0.1−	1995 09 17	905	0.3−	0.5−	1998 04 22	704	0.5+	0.4+
1995 08 18	905	0.9+	0.9−	1995 09 17	905	0.2−	0.0	1998 04 22	704	0.8+	0.5−
1995 08 18	905	0.3−	0.5−	1998 04 20	704	0.3+	0.4−	1998 04 22	704	0.5+	0.6−
1995 08 20	905	0.0	0.3−	1998 04 20	704	0.1−	0.5−	1998 04 28	566	0.9−	0.2−
1995 08 20	905	0.4−	0.0	1998 04 20	704	0.3−	1.5+	1998 04 28	566	0.2+	0.3−
1995 09 01	905	0.2+	0.1+	1998 04 20	704	0.7−	0.2−	1998 04 28	566	0.3−	0.1−
1995 09 01	905	1.3+	1.3+	1998 04 22	704	0.2+	0.1−				

1995 QT₃

Id. E. Colombini (1998 observations)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

<i>M</i>	315.81174		(2000.0)	P	Q
<i>n</i>	0.28301641	ω	329.96704	+0.46042905	+0.88726613
<i>a</i>	2.2975323	Ω	327.42482	−0.80388440	+0.40354880
<i>e</i>	0.2403313	<i>i</i>	2.94254	−0.37653016	+0.22339913
<i>P</i>	3.48	<i>H</i>	16.5	<i>G</i>	0.15
				<i>U</i>	4

Residuals in seconds of arc

1995 08 31	552	0.4+	0.6+	1995 09 23	552	0.1−	0.6−	1995 10 20	552	0.4−	0.6+
1995 08 31	552	0.4+	0.7+	1995 09 23	552	0.1−	0.6+	1998 04 21	552	(1.5+	3.7−)
1995 08 31	552	0.3+	0.2+	1995 09 25	552	0.1+	0.6+	1998 04 21	552	(2.4−	2.7−)
1995 09 01	552	0.1−	0.4+	1995 09 25	552	0.0	0.6−	1998 04 22	552	0.2+	0.2−
1995 09 01	552	0.9−	1.7−	1995 09 29	552	0.7+	1.0−	1998 04 22	552	0.7−	0.7+
1995 09 15	552	0.4−	0.3−	1995 09 29	552	(0.9+	3.3−)	1998 04 22	552	0.5+	0.5−
1995 09 15	552	0.2−	0.6+	1995 10 20	552	0.2+	0.0				

1995 QY₃ = 1998 FF₁₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	329.64748		(2000.0)	P	Q
<i>n</i>	0.25343351	ω	17.88249	−0.15471247	+0.98493244
<i>a</i>	2.4730147	Ω	243.27703	−0.91667533	−0.17228321
<i>e</i>	0.1299223	<i>i</i>	4.96348	−0.36847035	+0.01505261
<i>P</i>	3.89	<i>H</i>	14.5	<i>G</i>	0.15
				<i>U</i>	4

Residuals in seconds of arc

1995 08 28	358	1.1+	0.1−	1998 03 31	704	0.1−	0.1−	1998 04 19	704	0.1−	0.4+
1995 08 28	358	(5.0+	1.1+)	1998 03 31	704	0.5−	0.7−	1998 04 19	704	0.4+	0.4−
1995 08 29	358	0.1+	0.2−	1998 03 31	704	0.7+	0.5−	1998 04 20	704	0.0	0.6+
1995 08 29	358	(0.6−	2.3+)	1998 04 01	704	0.3−	0.2+	1998 04 20	704	1.4+	0.9+
1995 09 01	358	0.2−	0.7+	1998 04 01	704	0.0	0.3+	1998 04 20	704	0.2−	0.6+
1995 09 01	358	1.5−	0.9−	1998 04 01	704	0.4−	0.6−	1998 04 20	704	0.1−	0.4+
1995 09 03	358	0.4−	1.0−	1998 04 01	704	0.7+	0.2−	1998 04 20	704	2.0−	0.9+
1995 09 03	358	(0.5−	3.3+)	1998 04 01	704	0.2−	0.1+	1998 04 22	704	0.1−	0.6−
1995 09 17	358	0.3−	0.6+	1998 04 18	704	0.2+	0.2−	1998 04 22	704	0.7−	0.1−
1995 09 17	358	0.2+	1.3+	1998 04 18	704	0.3+	0.4+	1998 04 22	704	0.1+	0.2+
1995 09 21	358	(1.7−	3.0−)	1998 04 18	704	0.2+	1.3−	1998 04 22	704	0.7−	1.1−
1995 09 21	358	1.0+	0.5−	1998 04 18	704	0.3−	0.1+	1998 04 22	704	0.4+	0.6−
1998 03 31	704	0.4+	0.5−	1998 04 19	704	0.6+	0.4+				
1998 03 31	704	0.2−	0.5+	1998 04 19	704	0.4+	0.7+				

1995 SO

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	105.89049		(2000.0)	P	Q
<i>n</i>	0.19026607	ω	285.00531	−0.42213766	−0.90600492
<i>a</i>	2.9938393	Ω	190.13142	+0.88452143	−0.40418316
<i>e</i>	0.0925680	<i>i</i>	10.11750	+0.19854884	−0.12566245
<i>P</i>	5.18	<i>H</i>	15.0	<i>G</i>	0.15
				<i>U</i>	3

Residuals in seconds of arc

1995 09 17	691	0.8−	0.0	1995 09 22	557	0.2+	0.3+	1998 04 07	557	0.3+	0.5−
1995 09 17	691	1.1−	0.2+	1995 09 22	557	0.9+	0.2+	1998 04 07	557	0.5+	0.4−
1995 09 17	691	1.3−	0.3+	1995 09 22	557	0.2+	0.1+	1998 04 07	557	0.5+	0.0
1995 09 18	557	0.4+	0.4−	1995 10 21	557	0.0	0.0	1998 04 07	557	0.0	0.8−
1995 09 18	557	0.0	0.5−	1995 10 22	557	0.0	0.0	1998 04 20	557	0.5−	0.5+
1995 09 18	557	0.2+	0.1−	1995 10 25	557	0.0	0.1−	1998 04 20	557	0.1−	0.2+
1995 09 19	557	0.3+	0.0	1995 10 25	557	0.1+	0.0	1998 04 20	557	0.1−	0.4+
1995 09 19	557	0.1−	0.2+	1995 10 25	557	0.0	0.3−	1998 04 22	557	0.5−	0.1+
1995 09 19	557	0.5+	0.4−	1995 11 21	557	0.6+	0.2+	1998 04 22	557	0.0	0.3+

1995 SV₄₃ = 1998 FL₁₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	172.15380		(2000.0)	P	Q
<i>n</i>	0.18695424	ω	193.81085	+0.80777444	−0.58742551
<i>a</i>	3.0290923	Ω	202.38443	+0.55239989	+0.78349951
<i>e</i>	0.1205601	<i>i</i>	7.44015	+0.20580285	+0.20263214
<i>P</i>	5.27	<i>H</i>	13.5	<i>G</i>	0.15
				<i>U</i>	4

Residuals in seconds of arc

1995 09 25	691	0.1−	0.1+	1995 10 20	010	(1.7−	2.5−)	1998 03 20	704	0.5−	0.5+
1995 09 25	691	0.1+	0.0	1995 10 23	010	(1.1+	3.8+)	1998 03 20	704	0.9+	0.1−
1995 09 25	691	0.3+	0.1+	1995 10 23	010	(1.1+	2.6+)	1998 03 20	704	1.0−	1.2+
1995 09 30	691	0.0	0.2+	1995 10 23	010	(1.2+	3.0+)	1998 03 22	704	(0.7+	2.4+)
1995 09 30	691	0.2−	0.1−	1995 10 24	033	0.1−	0.4−	1998 03 22	704	0.8+	0.4−
1995 09 30	691	0.2−	0.2−	1995 10 24	033	0.3+	0.4−	1998 03 22	704	0.7−	0.1−
1995 10 20	010	(2.0−	2.4−)	1995 10 25	033	0.1−	0.7+				
1995 10 20	010	(1.8−	2.5−)	1998 03 20	704	0.5+	1.2−				

1995 SK₅₁ = 1998 FN₃₅

Id. A. Doppler

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	353.06403		(2000.0)	P	Q
<i>n</i>	0.18646656	ω	208.79085	−0.85357057	+0.52097440
<i>a</i>	3.0343714	Ω	2.60869	−0.47045665	−0.76937517
<i>e</i>	0.1113195	<i>i</i>	2.16551	−0.22380309	−0.36965865
<i>P</i>	5.29	<i>H</i>	14.0	<i>G</i>	0.15
				<i>U</i>	5

Residuals in seconds of arc

1995 09 26	691	0.5+	0.2−	1998 03 20	704	1.0−	0.8+	1998 03 22	704	0.5+	1.1−
1995 09 26	691	0.4+	0.4−	1998 03 20	704	0.3+	0.6−	1998 03 25	566	0.1−	0.6+

1995 09 26	691	0.3+	0.2−	1998 03 20	704	0.6−	0.2−	1998 03 25	566	0.0	0.3+
1995 09 29	691	0.4−	0.2+	1998 03 20	704	0.7−	0.7+	1998 03 25	566	0.3+	0.4+
1995 09 29	691	0.5−	0.4+	1998 03 20	704	0.4−	0.2+	1998 04 01	704	0.2−	0.9+
1995 09 29	691	0.1−	0.3+	1998 03 22	704	0.4+	0.8+	1998 04 01	704	0.4−	0.3+
1995 10 02	691	0.0	0.1−	1998 03 22	704	0.5+	0.1−	1998 04 01	704	0.4+	0.6−
1995 10 02	691	0.1+	0.1−	1998 03 22	704	0.1+	0.7−	1998 04 01	704	0.2−	0.7−
1995 10 02	691	0.2−	0.0	1998 03 22	704	1.0+	0.6−	1998 04 01	704	0.1+	0.8−

1995 UZ₃ = 1998 FH₁₂₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	203.24784		(2000.0)	P		Q	
<i>n</i>	0.18054494	ω	340.48890	+0.96021438	−0.18829264		
<i>a</i>	3.1003627	Ω	32.62810	+0.27865518	+0.69474547		
<i>e</i>	0.0222099	<i>i</i>	22.48867	−0.01842933	+0.69417189		
<i>P</i>	5.46	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1995 10 20	411	1.7+	0.9+	1998 03 24	704	0.2+	0.0	1998 04 20	704	0.2+	0.2+
1995 10 20	411	0.0	0.0	1998 03 24	704	1.3+	0.1+	1998 04 21	704	0.2+	0.5+
1995 10 25	411	0.3+	0.7−	1998 03 24	704	1.1−	0.2+	1998 04 21	704	1.3+	0.4−
1995 10 25	411	0.5+	0.0	1998 03 24	704	1.1−	0.3+	1998 04 21	704	0.4−	0.3+
1995 10 27	411	0.2−	1.2+	1998 03 25	704	0.3−	0.5+	1998 04 21	704	0.3+	0.2−
1995 10 27	411	0.5−	0.1−	1998 03 25	704	0.4+	1.9+	1998 04 21	704	0.0	0.6−
1995 11 01	411	0.8+	0.3−	1998 03 25	704	0.2+	0.3+	1998 04 22	704	0.7−	0.5−
1995 11 09	411	0.3−	0.3−	1998 03 25	704	0.1−	1.0−	1998 04 22	704	0.6−	0.0
1995 11 09	411	1.0−	0.5−	1998 03 25	704	0.9−	0.6−	1998 04 22	704	0.5−	1.0−
1995 11 09	411	0.8−	0.9+	1998 04 20	704	0.1−	1.2−	1998 04 22	704	0.4+	0.0
1995 11 18	411	0.3+	0.1−	1998 04 20	704	(2.4+	0.6−)	1998 04 22	704	0.6−	0.9−
1995 11 18	411	0.6−	1.1−	1998 04 20	704	1.5+	0.6+				
1998 03 24	704	0.7−	0.2−	1998 04 20	704	0.9+	1.6+				

1995 UG₈ = 1980 TM₁₀Id. S. Nakano (*MPC* 28859)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	272.87492		(2000.0)	P		Q	
<i>n</i>	0.20209396	ω	5.52045	+0.79694832	+0.60390590		
<i>a</i>	2.8758561	Ω	317.32037	−0.55493838	+0.72343345		
<i>e</i>	0.0610744	<i>i</i>	1.10545	−0.23857235	+0.33457691		
<i>P</i>	4.88	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc (or two decimals in units of degrees)

1980 10 15	095	(0.31−	0.14−)	1997 01 07	411	0.1−	0.3+	1998 04 21	704	0.4+	0.7+
1995 10 27	411	0.7+	0.4+	1997 01 07	411	0.8+	0.1−	1998 04 21	704	0.9−	0.4+
1995 10 27	411	0.9−	0.1+	1998 04 05	426	0.2−	0.1+	1998 04 21	704	0.2−	0.2−
1995 11 01	411	0.5−	0.5+	1998 04 05	426	0.4−	0.0	1998 04 21	704	0.5+	0.2+
1995 11 01	411	0.8−	0.3+	1998 04 05	426	0.2−	0.4−	1998 04 21	704	0.1−	0.9+
1995 11 03	411	0.5+	0.5+	1998 04 15	426	0.9+	0.6−	1998 04 22	704	0.5−	0.3−
1995 11 03	411	0.9+	0.1+	1998 04 15	426	0.2+	0.0	1998 04 22	704	0.1−	0.0
1995 11 11	411	0.0	0.6+	1998 04 15	426	0.1+	0.2+	1998 04 22	704	1.1+	0.2+
1995 11 11	411	0.5−	0.5−	1998 04 16	426	0.2−	0.2−	1998 04 22	704	0.1+	0.3+
1997 01 06	411	0.6−	0.5−	1998 04 16	426	0.0	0.4+	1998 04 22	704	0.3−	0.1+
1997 01 06	411	0.3−	0.1−	1998 04 16	426	0.4+	0.1+				

1995 WX₈ = 1983 RJ₈ = 1998 FS₅₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	210.94682		(2000.0)	P		Q	
<i>n</i>	0.17413131	ω	279.54921	+0.99860945	+0.03644425		
<i>a</i>	3.1760316	Ω	78.36927	−0.01793081	+0.91428711		
<i>e</i>	0.1809452	<i>i</i>	2.22882	−0.04957481	+0.40342396		
<i>P</i>	5.66	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1983 09 11	095	0.1−	0.2+	1995 11 29	369	0.0	0.7−	1998 03 20	704	0.6+	0.3−
1995 11 27	691	0.8−	0.1+	1995 11 29	369	0.4+	0.4−	1998 03 20	704	0.0	1.2+
1995 11 27	691	0.8−	0.0	1995 11 29	369	0.3+	0.6+	1998 03 20	704	1.0+	1.2+

1995 11 27	691	0.6−	0.2+	1995 12 19	566	0.2+	0.2+	1998 03 22	704	0.1−	0.1+
1995 11 27	369	0.3−	0.0	1995 12 19	566	0.4+	0.0	1998 03 22	704	1.6−	0.6−
1995 11 27	369	0.4+	0.2+	1995 12 19	566	0.5+	0.1−	1998 03 22	704	0.6−	0.2+
1995 11 27	369	0.4+	0.0	1998 03 20	704	1.3+	0.5+	1998 03 22	704	0.5−	2.1−

1995 WO₄₂ = 1998 HC₄₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	183.47456		(2000.0)	P		Q	
<i>n</i>	0.17991065	ω	342.18938	+0.87736164	−0.42401091		
<i>a</i>	3.1076455	Ω	45.12042	+0.46972130	+0.66338585		
<i>e</i>	0.1264893	<i>i</i>	18.48076	+0.09797169	+0.61655005		
<i>P</i>	5.48	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1995 11 30	327	0.8+	0.4+	1996 01 11	327	0.3+	0.1−	1998 04 20	704	0.5−	0.1−
1995 11 30	327	0.0	0.2+	1996 01 11	327	0.0	0.2−	1998 04 20	704	0.4+	0.6−
1995 11 30	327	0.2−	0.7−	1996 01 12	327	0.2−	0.8+	1998 04 21	704	1.3+	0.0
1995 12 07	327	0.3+	0.5+	1996 01 12	327	0.3−	0.3+	1998 04 21	704	1.6−	0.7+
1995 12 07	327	0.3−	0.2−	1996 01 12	327	0.0	0.2−	1998 04 21	704	0.6+	0.6+
1995 12 07	327	0.4−	0.3−	1998 04 20	704	0.5+	1.0+	1998 04 21	704	0.0	0.1−
1996 01 11	327	0.0	0.4−	1998 04 20	704	0.9+	1.1−	1998 04 21	704	1.8−	0.7−

1996 OM₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	95.38922		(2000.0)	P		Q	
<i>n</i>	0.21770969	ω	126.70628	+0.87994344	−0.45511010		
<i>a</i>	2.7366392	Ω	260.72998	+0.37983822	+0.84627301		
<i>e</i>	0.2239862	<i>i</i>	7.93740	+0.28534622	+0.27694185		
<i>P</i>	4.53	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1996 07 23	599	0.4+	0.0	1996 08 14	104	0.0	0.5+	1996 09 25	658	0.7−	0.4+
1996 07 23	599	0.5+	0.5+	1996 08 14	104	0.0	0.7+	1997 10 27	104	0.9−	0.1−
1996 07 24	599	0.5+	0.2−	1996 08 23	658	1.0−	0.9−	1997 10 27	104	0.8−	1.2−
1996 07 24	599	0.7+	0.2−	1996 08 23	658	1.2−	0.9−	1998 01 28	104	0.1+	1.4+
1996 08 04	104	1.0+	0.6+	1996 08 23	658	1.0−	0.8−	1998 01 28	104	0.8+	0.8+
1996 08 04	104	0.7+	0.2−	1996 08 24	658	0.4−	0.3+	1998 01 28	104	0.7+	0.3+
1996 08 14	104	0.1+	0.6+	1996 08 24	658	0.3−	0.3+				
1996 08 14	104	0.2+	0.7+	1996 08 24	658	0.5−	0.3+				

1996 RO₄ = 1998 FM₇₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	102.53430		(2000.0)	P		Q	
<i>n</i>	0.27563986	ω	343.69991	−0.13954617	−0.98987476		
<i>a</i>	2.3383421	Ω	114.31566	+0.91165789	−0.13867172		
<i>e</i>	0.2091826	<i>i</i>	1.63351	+0.38653170	−0.03030038		
<i>P</i>	3.58	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1996 09 13	566	0.5+	0.4+	1996 10 06	809	0.4+	0.5+	1998 03 24	704	0.8+	0.1−
1996 09 13	566	0.2+	0.3+	1996 10 06	809	0.6+	0.2+	1998 03 24	704	1.0+	0.0
1996 09 13	566	0.5+	0.4+	1996 10 07	809	0.6−	0.5−	1998 03 24	704	0.3+	0.1+
1996 09 17	566	0.4−	0.6−	1996 10 07	809	0.0	0.9−	1998 03 25	704	0.3+	0.6+
1996 09 17	566	0.6−	0.5−	1996 10 07	809	0.3−	0.5−	1998 03 25	704	1.2−	1.3−
1996 09 17	566	0.5−	0.5−	1998 03 24	704	1.3−	0.4−	1998 03 25	704	0.2+	0.1−
1996 10 06	809	0.4+	1.8+	1998 03 24	704	1.0+	0.3−	1998 03 25	704	1.1−	1.6+

1996 RC₁₂ = 4240 T-1 = 1998 EA₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	50.16009		(2000.0)	P		Q	
<i>n</i>	0.28943831	ω	351.61281	−0.68566123	−0.72596345		
<i>a</i>	2.2634211	Ω	141.64846	+0.67274341	−0.65997158		
<i>e</i>	0.0725586	<i>i</i>	4.93203	+0.27800177	−0.19342849		
<i>P</i>	3.41	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4

M.P.C. 31730

Residuals in seconds of arc

1971 03 24	675	(3.6+ 2.2-)	1996 09 11	691	0.0	0.1-	1998 03 03	704	0.0	0.5-
1971 03 26	675	0.3+	1996 09 17	691	0.2-	0.4+	1998 03 03	704	0.5-	0.1+
1971 03 26	675	0.6+	1996 09 17	691	0.1-	0.1+	1998 03 03	704	(5.7- 0.4+)	
1971 03 27	675	0.9-	1998 02 26	566	0.1+	0.0	1998 03 04	704	0.2-	1.1+
1996 09 08	691	0.1-	1998 02 26	566	1.2-	0.7-	1998 03 04	704	1.0-	0.1-
1996 09 08	691	0.1+	1998 02 26	566	0.8+	1.0-	1998 03 04	704	(1.3- 2.6-)	
1996 09 08	691	0.0	1998 03 03	704	0.3+	0.6+	1998 03 04	704	1.0+	0.3-
1996 09 11	691	0.3+	1998 03 03	704	0.0	0.1-	1998 03 04	704	0.4+	0.7+

1996 RH₂₅ = 1998 FF₅₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	83.28523	(2000.0)	P	Q
<i>n</i>	0.27252668	ω	119.31384	-0.33668837
<i>a</i>	2.3561162	Ω	350.33071	-0.83260027
<i>e</i>	0.1828335	<i>i</i>	4.75712	+0.43979283
<i>P</i>	3.62	<i>H</i>	15.5	<i>U</i>
				4

Residuals in seconds of arc

1996 09 11	566	0.1-	0.5+	1996 10 19	910	0.2+	0.9+	1998 03 24	566	0.2+	0.0
1996 09 11	566	0.1-	0.0	1996 10 19	910	0.1+	0.5+	1998 04 01	704	0.0	0.2-
1996 09 11	566	0.4+	0.3+	1998 01 30	910	0.1+	0.0	1998 04 01	704	0.6+	0.3+
1996 09 12	691	1.1-	0.2-	1998 01 30	910	0.3-	0.1-	1998 04 01	704	0.4-	0.2+
1996 09 12	691	1.1-	0.0	1998 01 30	910	0.1+	0.1-	1998 04 01	704	1.0-	0.7+
1996 09 12	691	1.0-	0.2+	1998 03 20	704	0.4+	0.3-	1998 04 01	704	0.0	1.9+
1996 10 05	809	(3.4+ 4.7+)		1998 03 20	704	0.7-	0.0	1998 04 18	704	1.0-	1.1+
1996 10 05	809	(4.5+ 4.4+)		1998 03 20	704	0.4+	0.4+	1998 04 18	704	1.0-	0.7+
1996 10 05	809	(7.2+ 3.6+)		1998 03 20	704	0.3+	0.1-	1998 04 18	704	1.0-	0.0
1996 10 06	809	(2.7+ 7.3+)		1998 03 20	704	0.8+	0.5-	1998 04 18	704	0.0	2.0-
1996 10 06	809	(2.8+ 6.0+)		1998 03 22	704	0.4+	0.2+	1998 04 18	704	0.4-	0.0
1996 10 06	809	(3.5+ 5.9+)		1998 03 22	704	0.1+	0.1+	1998 04 19	704	0.5-	0.1+
1996 10 17	910	0.4+	0.8-	1998 03 22	704	0.4+	0.4+	1998 04 19	704	1.2+	1.9-
1996 10 17	910	0.5+	0.6-	1998 03 22	704	0.6+	1.0+	1998 04 19	704	1.1-	0.0
1996 10 17	910	1.0+	1.2-	1998 03 22	704	(2.9- 1.1+)		1998 04 19	704	0.1+	0.9-
1996 10 19	910	0.4+	0.6+	1998 03 24	566	0.2-	0.6-	1998 04 19	704	1.7+	0.0
1996 10 19	910	0.3+	0.7+	1998 03 24	566	0.3+	0.4-				

1996 SA₁ = 1998 HN₃₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	114.73229	(2000.0)	P	Q
<i>n</i>	0.29868777	ω	87.24115	-0.15487070
<i>a</i>	2.2164491	Ω	11.81943	+0.83136417
<i>e</i>	0.1006585	<i>i</i>	9.15804	+0.53371218
<i>P</i>	3.30	<i>H</i>	15.5	<i>U</i>
				4

Residuals in seconds of arc

1996 09 18	327	0.9+	0.3+	1996 09 23	327	0.3-	0.2-	1996 10 13	566	0.1-	0.5-
1996 09 18	327	0.5+	0.3-	1996 09 23	327	0.7+	0.2-	1998 04 20	704	0.1-	0.6+
1996 09 18	327	0.6-	0.1-	1996 09 23	327	0.1+	0.2-	1998 04 20	704	0.3-	0.1-
1996 09 21	327	0.4+	0.1-	1996 10 03	327	0.6+	0.5+	1998 04 20	704	1.0+	1.8-
1996 09 21	327	0.7-	0.2+	1996 10 03	327	0.1-	0.5+	1998 04 20	704	2.3-	0.5-
1996 09 21	327	0.2+	0.2-	1996 10 03	327	0.0	0.7+	1998 04 22	704	1.0+	0.1-
1996 09 22	327	0.5-	0.0	1996 10 08	566	0.3-	0.0	1998 04 22	704	0.2-	1.2+
1996 09 22	327	0.8-	0.1-	1996 10 08	566	0.1+	0.2-	1998 04 22	704	0.3+	0.6+
1996 09 22	327	0.1-	0.0	1996 10 08	566	0.3+	0.2-	1998 04 22	704	1.0+	0.7-
1996 09 22	327	0.1+	0.4+	1996 10 13	566	0.3-	0.1+	1998 04 22	704	0.4-	0.6+
1996 09 23	327	0.0	0.2-	1996 10 13	566	0.0	0.3-				

1998 MAY 11

1996 SQ₄ = 1998 FK₉₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	70.50456	(2000.0)	P	Q
<i>n</i>	0.22684119	ω	274.84578	-0.38606175
<i>a</i>	2.6626951	Ω	200.27629	+0.91695836
<i>e</i>	0.1527778	<i>i</i>	27.30905	-0.10071586
<i>P</i>	4.34	<i>H</i>	15.0	<i>U</i>
				4

Residuals in seconds of arc

1996 09 20	327	0.4-	0.3-	1996 09 22	327	0.1-	0.3+	1996 10 12	566	0.4-	0.5+
1996 09 20	327	0.0	0.1+	1996 10 05	327	0.2+	0.4-	1998 03 31	704	0.3-	1.2-
1996 09 20	327	0.4+	0.2+	1996 10 05	327	0.4+	0.3-	1998 03 31	704	0.3-	0.1+
1996 09 20	327	0.4-	0.3+	1996 10 05	327	0.6-	0.7-	1998 03 31	704	0.7+	0.2-
1996 09 21	327	0.7-	0.5-	1996 10 11	566	0.0	0.3+	1998 03 31	704	0.3-	0.6+
1996 09 21	327	0.2-	0.1-	1996 10 11	566	0.0	0.3+	1998 03 31	704	0.7+	0.4-
1996 09 21	327	0.1-	0.1+	1996 10 11	566	0.6+	0.4+	1998 04 01	704	0.3+	0.7+
1996 09 22	327	0.7+	0.4+	1996 10 12	566	0.5-	1.0-	1998 04 01	704	0.7-	2.6-
1996 09 22	327	0.6-	0.4+	1996 10 12	566	0.1+	0.1-	1998 04 01	704	0.2-	2.2+
1996 09 22	327	0.8+	0.0	1996 10 12	566	0.3+	0.1+	1998 04 01	704	0.0	0.7+
1996 09 22	327	0.0	0.2-	1996 10 12	566	0.2-	0.3+				
1996 09 22	327	0.5+	0.1-	1996 10 12	566	0.5+	0.4+				

1996 TD = 1998 HJ₁₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	155.77309	(2000.0)	P	Q
<i>n</i>	0.28450261	ω	112.60918	+0.74555999
<i>a</i>	2.2895240	Ω	288.99883	+0.58282937
<i>e</i>	0.1701044	<i>i</i>	4.01786	+0.32318760
<i>P</i>	3.46	<i>H</i>	15.0	<i>U</i>
				4

Residuals in seconds of arc

1996 09 20	549	0.1-	0.3+	1996 10 04	809	(2.6+ 2.0+)	1998 03 31	704	0.4+	0.6+	
1996 09 20	549	0.4+	0.6+	1996 10 04	809	(2.9+ 1.9+)	1998 03 31	704	(1.2+ 2.6+)		
1996 09 21	549	1.4-	0.2-	1996 10 04	809	(2.4+ 2.1+)	1998 03 31	704	0.2-	1.2+	
1996 09 21	549	0.0	0.2-	1996 10 04	549	1.0-	0.3-	1998 04 18	704	0.1+	0.9-
1996 10 01	549	(2.2+ 1.1+)		1996 10 04	549	0.9+	0.4-	1998 04 18	704	0.8-	0.9+
1996 10 01	549	0.9+	0.3-	1996 10 05	549	0.5+	0.2+	1998 04 18	704	0.3+	0.6-
1996 10 01	549	0.3+	0.9-	1996 10 10	691	0.9-	0.1-	1998 04 18	704	(2.6- 1.9-)	
1996 10 02	549	1.1+	0.2-	1996 10 10	691	0.9-	0.3-	1998 04 19	704	1.2+	0.1+
1996 10 03	549	1.3+	0.3+	1996 10 10	691	0.9-	0.0	1998 04 19	704	0.6+	0.5+
1996 10 03	549	0.9+	0.4+	1996 10 18	691	1.0-	0.4-	1998 04 19	704	(0.6+ 2.3+)	
1996 10 03	809	0.5+	1.0+	1996 10 18	691	1.2-	0.3-	1998 04 19	704	0.7-	1.3+
1996 10 03	809	0.5+	1.1+	1996 10 18	691	1.7-	0.4-	1998 04 19	704	0.8-	0.1+
1996 10 03	809	0.8+	1.4+	1998 03 31	704	0.6+	1.5-				

1996 TQ = 1998 HT₂₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	127.99060	(2000.0)	P	Q
<i>n</i>	0.27431000	ω	357.01759	+0.10557493
<i>a</i>	2.3458935	Ω	86.91783	+0.91345894
<i>e</i>	0.1799048	<i>i</i>	3.06874	+0.39299706
<i>P</i>	3.59	<i>H</i>	16.0	<i>U</i>
				4

Residuals in seconds of arc

1996 10 03	595	1.0+	0.3+	1996 11 01	595	0.3-	0.6-	1996 12 05	595	0.2-	0.2-
1996 10 04	595	0.4+	0.1-	1996 11 01	595	0.6-	0.3+	1996 12 05	595	0.2-	0.2+
1996 10 04	595	0.8-	0.5-	1996 11 02	595	0.4+	0.2+	1998 04 20	595	0.1-	0.7+
1996 10 04	595	0.4+	0.0	1996 11 02	595	0.5+	0.2-	1998 04 20	595	1.0-	0.4-
1996 10 09	595	0.5-	0.5-	1996 12 04	595	0.5+	0.2+	1998 04 21	595	0.4+	0.3-
1996 10 09	595	0.2-	0.8+	1996 12 04	595	0.2-	0.5-	1998 04 22	595	0.5+	0.6-

1996 TD₇ = 1991 ER₁ = 1998 HU₄

Id. G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

<i>M</i>	43.14257		(2000.0)	P	Q
<i>n</i>	0.29019357	ω	154.12075	−0.98967676	+0.12958509
<i>a</i>	2.2594923	Ω	33.50194	−0.14301909	−0.86543505
<i>e</i>	0.1004135	<i>i</i>	6.36770	−0.00924353	−0.48397301
<i>P</i>	3.40	<i>H</i>	15.5	<i>G</i> 0.15	<i>U</i> 4

Residuals in seconds of arc

1991 03 14	046	0.4−	0.2−	1996 11 04	684	0.0	0.1+	1998 04 22	704	0.4+	0.1−
1991 03 14	046	0.4+	0.2+	1998 04 20	120	0.4−	0.6+	1998 04 22	704	0.6−	1.7−
1996 10 11	684	0.1+	0.3−	1998 04 20	120	0.4−	1.2+	1998 04 22	704	0.2+	0.9−
1996 10 11	684	0.1+	0.2−	1998 04 21	704	0.5−	0.0	1998 04 22	704	0.7+	1.2−
1996 10 11	684	0.2+	0.2−	1998 04 21	704	0.1+	0.2+	1998 04 23	120	0.5+	0.0
1996 10 12	684	0.0	0.5−	1998 04 21	704	0.7−	0.2+	1998 04 23	120	0.3+	0.3+
1996 10 12	684	0.2−	0.4−	1998 04 21	704	0.3−	0.5+	1998 04 23	120	0.5+	0.4+
1996 10 12	684	0.3−	0.8−	1998 04 21	704	1.1−	0.6+	1998 04 27	684	0.4−	0.4−
1996 10 15	684	0.3+	0.2+	1998 04 21	120	0.1+	0.4+	1998 04 27	684	0.2−	0.6−
1996 10 15	684	0.4+	0.1+	1998 04 21	120	0.2+	0.5+	1998 04 28	684	0.4+	0.7−
1996 11 04	684	0.0	0.2+	1998 04 21	120	0.1−	0.4+	1998 04 28	684	0.3+	0.7−
1996 11 04	684	0.0	0.2+	1998 04 22	704	0.4+	0.4−				

1996 TC₁₃ = 1998 FM₇₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Gnädig

<i>M</i>	148.30999		(2000.0)	P	Q
<i>n</i>	0.22790873	ω	226.84883	+0.94114065	−0.33585997
<i>a</i>	2.6543737	Ω	152.71002	+0.32921276	+0.88522467
<i>e</i>	0.2144535	<i>i</i>	4.76791	+0.07663709	+0.32183127
<i>P</i>	4.32	<i>H</i>	16.0	<i>G</i> 0.15	<i>U</i> 4

Residuals in seconds of arc

1996 10 12	595	0.1−	1.2−	1996 11 03	595	0.5+	0.4−	1998 03 21	621	0.1+	0.1+
1996 10 12	595	0.9−	0.2−	1996 11 03	595	0.1−	0.8−	1998 03 23	621	0.1−	0.4−
1996 10 18	595	0.1+	0.1−	1996 12 04	595	0.9−	0.4+	1998 03 23	621	0.2−	0.1−
1996 10 18	595	1.0+	0.4+	1996 12 04	595	0.1−	1.0+	1998 03 23	621	1.1−	0.3−
1996 11 02	595	0.1−	0.3+	1998 03 21	621	0.3+	0.1+				
1996 11 02	595	0.5+	0.5+	1998 03 21	621	0.7+	0.1−				

1996 TF₁₈ = 1998 HU₃₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	45.35870		(2000.0)	P	Q
<i>n</i>	0.28453751	ω	150.25752	−0.99658718	−0.06876304
<i>a</i>	2.2893368	Ω	25.91882	+0.03832417	−0.87543276
<i>e</i>	0.0910180	<i>i</i>	5.99732	+0.07311122	−0.47842359
<i>P</i>	3.46	<i>H</i>	16.5	<i>G</i> 0.15	<i>U</i> 5

Residuals in seconds of arc

1996 10 04	691	0.0	0.1−	1996 10 15	691	0.1−	0.2−	1998 04 21	704	0.6−	1.2−
1996 10 04	691	0.3+	0.2+	1996 10 15	691	0.2−	0.3−	1998 04 21	704	1.0+	1.6+
1996 10 04	691	0.0	0.0	1998 04 20	704	0.9+	0.6−	1998 04 21	704	0.2+	0.1+
1996 10 12	691	0.1−	0.6+	1998 04 20	704	2.5−	1.9−	1998 04 21	704	1.8+	2.6+
1996 10 12	691	0.2+	0.0	1998 04 20	704	0.5+	0.4+	1998 04 21	704	(4.6−	1.5+)
1996 10 12	691	0.1+	0.1+	1998 04 20	704	2.0+	0.2−				
1996 10 15	691	0.2−	0.3−	1998 04 20	704	3.3−	0.8−				

1996 TS₁₈ = 1987 GM = 1998 FY₇₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	56.69009		(2000.0)	P	Q
<i>n</i>	0.27414356	ω	144.26027	−0.94737265	−0.32004341
<i>a</i>	2.3468429	Ω	17.07896	+0.28740421	−0.86069348
<i>e</i>	0.0884769	<i>i</i>	1.47659	+0.14101020	−0.39595321
<i>P</i>	3.60	<i>H</i>	15.5	<i>G</i> 0.15	<i>U</i> 4

Residuals in seconds of arc

1987 04 01	675	1.9−	0.7−	1998 03 24	704	0.8+	0.1+	1998 03 25	704	0.6+	0.9+
1987 04 01	675	1.9+	0.8−	Y 1998 03 24	704	0.7+	0.4−	1998 03 25	704	(0.1+	2.3+)
1987 04 03	675	1.9−	0.3+	1998 03 24	704	(2.1+	0.5+)	1998 04 20	704	0.6−	0.0
1987 04 03	675	0.8+	1.4−	1998 03 24	704	1.6+	0.6+	1998 04 20	704	0.8+	0.1−
1996 10 04	691	0.1−	0.2+	1998 03 24	704	(0.8+	2.2+)	1998 04 20	704	0.7+	0.9−
1996 10 04	691	0.0	0.4+	1998 03 24	704	(1.8−	2.3+)	1998 04 20	704	0.5−	1.1−
1996 10 04	691	0.1−	0.1+	1998 03 24	704	0.3−	1.2+	1998 04 20	704	1.8−	0.6+
1996 10 10	691	0.6−	0.1−	1998 03 24	704	0.8−	0.2−	1998 04 22	704	0.6+	0.2+
1996 10 10	691	0.8−	0.6+	1998 03 24	704	0.4+	0.8+	1998 04 22	704	0.1−	0.1+
1996 10 17	691	0.4+	0.2+	1998 03 24	704	0.7−	0.9+	1998 04 22	704	0.8−	0.1−
1996 10 17	691	0.1+	0.4+	1998 03 25	704	(2.1+	1.5+)	1998 04 22	704	(6.7−	0.0)
1996 10 17	691	0.3+	0.5+	1998 03 25	704	1.2+	1.8+				

1996 TX₂₈ = 1998 FP₈₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	106.87497		(2000.0)	P	Q
<i>n</i>	0.25197977	ω	4.41484	+0.11722148	−0.98718772
<i>a</i>	2.4825172	Ω	78.87999	+0.90774521	+0.06229269
<i>e</i>	0.0767949	<i>i</i>	6.33423	+0.40281232	+0.14690145
<i>P</i>	3.91	<i>H</i>	15.0	<i>G</i> 0.15	<i>U</i> 5

Residuals in seconds of arc

1996 10 07	691	0.5−	0.3+	1996 10 10	566	0.6+	0.4−	1998 03 24	704	1.4+	0.6−
1996 10 07	691	0.0	0.2−	1996 10 10	566	1.0+	0.5−	1998 03 24	704	1.6−	0.0
1996 10 07	691	0.3−	0.0	1996 10 10	566	1.7+	0.5−	1998 03 25	704	0.3−	0.9+
1996 10 08	691	0.3−	0.1−	1996 10 12	691	0.6−	0.3+	1998 03 25	704	0.4−	1.2+
1996 10 08	691	0.3−	0.0	1996 10 12	691	0.4−	0.3+	1998 03 25	704	0.1−	0.8+
1996 10 09	691	0.1−	0.4+	1996 10 12	691	0.3−	0.1+	1998 03 25	704	1.1−	0.1−
1996 10 09	691	0.3−	0.3+	1998 03 24	704	1.4+	1.6−	1998 03 25	704	0.6+	0.5+
1996 10 09	691	0.1−	0.0	1998 03 24	704	0.1+	1.1−				

1996 TL₂₉ = 1985 VM₃ = 1998 FW₁₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	155.90179		(2000.0)	P	Q
<i>n</i>	0.26640714	ω	196.16998	+0.63646445	−0.77020998
<i>a</i>	2.3920604	Ω	214.33236	+0.71548793	+0.60947005
<i>e</i>	0.1939194	<i>i</i>	4.17951	+0.28807990	+0.18794372
<i>P</i>	3.70	<i>H</i>	14.5	<i>G</i> 0.15	<i>U</i> 3

Residuals in seconds of arc

1985 11 10	095	0.1+	1.3−	1996 10 15	691	0.1−	0.0	1996 11 20	327	0.4+	0.2−
1996 10 07	691	0.4+	0.1−	1996 11 09	327	0.5+	0.2+	1996 11 20	327	0.6+	0.4−
1996 10 07	691	0.6+	0.2−	1996 11 09	327	0.7+	0.2+	1998 03 20	704	0.2+	0.4−
1996 10 07	691	0.6+	0.3−	1996 11 09	327	0.5+	0.1+	1998 03 20	704	0.3−	0.3−
1996 10 12	691	0.7−	0.2−	1996 11 12	399	0.9+	0.9+	1998 03 20	704	0.8+	0.0
1996 10 12	691	0.8−	0.1−	1996 11 12	399	0.7−	0.5−	1998 03 20	704	0.2+	0.4+
1996 10 12	691	0.4−	0.3−	1996 11 15	399	0.5−	1.8+	1998 03 22	704	0.6−	0.2−
1996 10 15	691	0.3−	0.1+	1996 11 15	399	2.0−	0.5+	1998 03 22	704	1.0−	0.9+
1996 10 15	691	0.3−	0.5−	1996 11 20	327	0.3+	0.1−	1998 03 22	704	0.7+	0.3−

1996 TN₃₅ = 1998 ES₁₀

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Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

<i>M</i>	45.25228		(2000.0)	P	Q
<i>n</i>	0.27323559	ω	55.60367	−0.89729950	−0.43541956
<i>a</i>	2.3520391	Ω	98.48850	+0.37709534	−0.84155037
<i>e</i>	0.0569853	<i>i</i>	4.20659	+0.22946180	−0.31969168
<i>P</i>	3.61	<i>H</i>	15.5	<i>G</i> 0.15	<i>U</i> 4

Residuals in seconds of arc

1996 10 11	691	0.1+	0.1+	1998 02 25	566	0.0	1.5−	1998 03 24	704	0.2−	0.2−
1996 10 11	691	0.0	0.1+	1998 02 25	566	0.1−	1.3−	1998 03 24	704	0.3+	1.0−
1996 10 11	691	0.2+	0.1+	1998 02 25	566	0.3−	1.5−	1998 03 24	704	1.6+	0.9−
1996 10 15	691	0.6−	0.3+	1998 02 26	809	(2.3−	3.6−)	1998 03 24	704	1.3−	0.3+

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1996 10 15	691	0.6−	0.1−	1998 02 26	809	(0.0	4.5−)	1998 03 25	704	0.9+	0.0
1996 10 15	691	0.5−	0.2+	1998 02 26	809	(2.1+	3.6−)	1998 03 25	704	0.1+	0.6+
1996 10 15	691	0.6−	0.0	1998 03 01	809	(2.1+	1.2+)	1998 03 25	704	0.0	0.6+
1996 10 15	691	0.5−	0.1+	1998 03 01	809	0.4+	1.4+	1998 03 25	704	0.2−	0.7+
1996 10 15	691	0.3−	0.1+	1998 03 01	809	1.2+	0.8+	1998 03 25	704	0.2+	0.4+
1996 10 18	566	0.4+	0.3−	1998 03 02	809	0.0	1.7+	1998 03 25	566	0.6−	0.1+
1996 10 18	566	1.1+	0.4−	1998 03 02	809	0.4−	1.1+	1998 03 25	566	0.7−	0.9−
1996 10 18	566	1.2+	0.3−	1998 03 02	809	0.4−	0.1−	1998 03 25	566	0.5−	0.6−

1996 TE₄₇ = 1998 EL₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	140.26037										
<i>n</i>	0.26535300	ω	73.04331	+0.80232034	−0.59345441						
<i>a</i>	2.3983913	Ω	323.28795	+0.49879893	+0.72547891						
<i>e</i>	0.0447432	<i>i</i>	6.14433	+0.32784403	+0.34855733						
<i>P</i>	3.71	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5				

Residuals in seconds of arc

1996 10 03	809	0.7+	0.1+	1996 10 11	691	0.8−	0.2−	1998 03 03	704	(5.5−	0.3−)
1996 10 03	809	0.2−	0.2+	1996 10 18	691	0.2+	0.4+	1998 03 04	704	0.1−	0.7+
1996 10 03	809	0.2+	0.2+	1996 10 18	691	0.1+	0.3+	1998 03 04	704	0.0	0.5−
1996 10 04	809	0.4+	0.3+	1996 10 18	691	0.2+	0.5+	1998 03 04	704	0.8+	0.0
1996 10 04	809	0.3+	0.5−	1998 03 03	704	1.0−	0.1−	1998 03 04	704	1.1+	0.5−
1996 10 04	809	0.3+	1.0−	1998 03 03	704	1.0−	1.0+	1998 03 04	704	1.2+	0.2+
1996 10 11	691	0.7−	0.2−	1998 03 03	704	0.1+	0.5+				
1996 10 11	691	0.7−	0.2−	1998 03 03	704	1.1−	1.4−				

1996 VM₁ = 1990 DT₆ = 1998 FO₇₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	95.68418										
<i>n</i>	0.25750978	ω	63.03193	−0.45641777	−0.88412403						
<i>a</i>	2.4468475	Ω	54.47901	+0.76655859	−0.44780624						
<i>e</i>	0.1007249	<i>i</i>	7.06014	+0.45174190	−0.13339518						
<i>P</i>	3.83	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	3				

Residuals in seconds of arc

1990 02 23	046	0.9+	0.5−	1998 03 24	704	0.4+	0.2+	1998 04 20	704	0.6−	0.0
1990 02 23	046	1.4−	0.8−	1998 03 24	704	0.0	0.2−	1998 04 21	704	0.3−	0.1+
1996 11 03	901	0.5−	0.5−	1998 03 24	704	0.1+	0.1+	1998 04 21	704	0.3−	0.8+
1996 11 06	901	1.2−	0.3−	1998 03 24	704	0.1−	0.1+	1998 04 21	704	0.2−	0.1−
1996 11 06	901	2.2−	1.0−	1998 03 25	704	0.9+	0.4+	1998 04 21	704	0.1+	0.8−
1996 11 07	400	0.1−	1.6+	1998 03 25	704	0.5+	0.9+	1998 04 21	704	0.3+	0.1−
1996 11 08	400	1.3+	1.6−	1998 03 25	704	0.4+	0.5−	1998 04 22	704	0.1−	0.6+
1996 11 08	400	0.7+	0.4−	1998 03 25	704	0.9+	0.7−	1998 04 22	704	0.6−	0.2+
1996 11 15	400	0.3+	1.0+	1998 03 25	704	1.4+	0.4+	1998 04 22	704	0.7−	0.5−
1996 11 15	400	0.8+	1.5+	1998 04 20	704	0.4+	0.1+	1998 04 22	704	0.6−	0.5+
1996 11 16	400	0.1−	0.7+	1998 04 20	704	0.8−	0.5+	1998 04 22	704	0.3−	0.1−
1996 11 16	400	0.1+	0.6+	1998 04 20	704	0.1−	0.0				
1998 03 24	704	0.6+	0.2+	1998 04 20	704	0.1−	0.2+				

1996 VD₂ = 1998 HL₄₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	131.68060										
<i>n</i>	0.24257891	ω	16.55450	+0.24742817	−0.95781725						
<i>a</i>	2.5462480	Ω	59.33083	+0.86858288	+0.15241952						
<i>e</i>	0.1398921	<i>i</i>	9.78428	+0.42935193	+0.24362761						
<i>P</i>	4.06	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1996 11 06	411	1.0−	0.1−	1996 12 11	411	0.1−	0.1−	1998 04 20	704	0.1−	2.0+
1996 11 06	411	0.8+	0.7+	1996 12 11	411	0.0	0.3−	1998 04 20	704	0.2+	0.5+
1996 11 10	411	0.2+	0.1−	1996 12 11	411	0.5−	0.5−	1998 04 21	704	0.0	0.0
1996 11 10	411	0.2−	0.2−	1996 12 17	327	0.4−	0.3+	1998 04 21	704	0.8−	0.2−
1996 11 15	411	0.2+	0.4−	1996 12 17	327	0.3+	0.1+	1998 04 21	704	0.0	0.7−
1996 11 15	411	0.0	0.0	1996 12 17	327	0.0	0.3+	1998 04 21	704	1.2+	1.3−

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1996 11 30	411	0.4+	0.0	1998 04 20	704	1.5−	0.3−
1996 11 30	411	0.2+	0.4+	1998 04 20	704	1.0+	0.0

1996 VR₄ = 1998 FE₇₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	153.82323										
<i>n</i>	0.23853455	ω	347.58365	+0.66540843	−0.73499285						
<i>a</i>	2.5749484	Ω	60.54029	+0.69705739	+0.54926349						
<i>e</i>	0.1961408	<i>i</i>	8.61658	+0.26710038	+0.39761178						
<i>P</i>	4.13	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1996 11 13	411	0.3−	0.0	1996 12 03	894	0.3−	0.1−	1998 03 24	704	0.4−	0.3−
1996 11 13	411	0.1+	0.3+	1996 12 03	894	1.3−	0.4−	1998 03 24	704	0.1+	0.8+
1996 11 14	411	0.2+	0.4−	1996 12 07	894	0.1−	0.6−	1998 03 24	704	0.0	1.0+
1996 11 14	411	1.0−	0.1−	1996 12 07	894	1.1−	0.7+	1998 03 25	704	0.6+	0.5+
1996 11 19	411	0.8+	0.4+	1996 12 08	411	0.9+	0.1−	1998 03 25	704	0.5+	0.2+
1996 11 19	411	0.8+	0.1−	1996 12 08	411	0.8+	0.1−	1998 03 25	704	0.5+	0.7−
1996 11 30	411	0.0	0.3+	1998 03 24	704	0.5+	0.2+	1998 03 25	704	0.2+	0.3−
1996 11 30	411	0.6+	0.2+	1998 03 24	704	1.7−	0.5−	1998 03 25	704	0.2−	0.8−

1996 VJ₅ = 1929 YE = 1934 UB = 1998 GB₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	116.20550										
<i>n</i>	0.19119448	ω	8.13996	+0.66130204	−0.71325008						
<i>a</i>	2.9841397	Ω	40.91957	+0.66670454	+0.41695815						
<i>e</i>	0.2642233	<i>i</i>	20.77054	+0.34377997	+0.56340059						
<i>P</i>	5.16	<i>H</i>	12.5	<i>G</i>	0.15	<i>U</i>	3				

Residuals in seconds of arc

1929 12 21	024	(6.4−	22.5−)	1996 11 07	400	0.4−	0.4+	1998 04 02	704	0.1−	0.3+
1934 10 29	012	(13.1−	0.4+)	1996 11 07	400	0.3−	0.5+	1998 04 02	704	0.8−	0.0
1934 11 01	012	1.9+	2.2−	1996 11 08	400	0.2+	0.5−	1998 04 02	704	0.4−	0.4−
1934 11 02	012	(13.0−	0.1+)	1996 11 08	400	0.6−	0.6+	1998 04 02	704	0.8+	1.3−
1996 11 03	400	0.4+	0.1−	1996 11 13	400	1.0−	0.3+	1998 04 02	704	0.5+	1.4−
1996 11 03	400	0.9+	0.2−	1996 11 13	400	0.9−	0.3+	1998 04 03	704	0.5+	0.6+
1996 11 06	400	0.6+	1.0+	1996 12 30	400	0.0	0.3−	1998 04 03	704	1.2−	0.9+
1996 11 06	400	0.4−	0.3+	1996 12 30	400	0.4+	0.6−	1998 04 03	704	0.1+	0.5+

1996 VF₈ = 1998 HT₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	130.07285										
<i>n</i>	0.23474022	ω	33.45621	+0.40125821	−0.90654191						
<i>a</i>	2.6026217	Ω	33.43112	+0.77956189	+0.26287377						
<i>e</i>	0.1605670	<i>i</i>	13.76059	+0.48091071	+0.33027132						
<i>P</i>	4.20	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3				

Residuals in seconds of arc

1996 11 06	400	(1.2+	2.7−)	1998 02 27	566	0.5+	0.1−	1998 04 20	704	0.6−	0.4−
1996 11 06	400	0.8−	0.1−	1998 02 27	566	0.7+	0.4−	1998 04 20	704	(2.1−	0.4−)
1996 11 07	400	0.8+	0.4−	1998 02 27	566	0.6+	0.0	1998 04 22	704	0.6−	0.6−
1996 11 07	400	1.1−	0.8−	1998 03 25	704	0.5−	0.9+	1998 04 22	704	0.3+	0.0
1996 11 08	400	0.3−	0.2+	1998 03 25	704	0.8−	0.6+	1998 04 22	704	0.2+	0.4+
1996 11 08	400	0.6+	0.5+	1998 03 25	704	0.1−	1.1+	1998 04 22	704	0.6−	0.3−
1996 11 16	400	0.0	0.1+	1998 03 25	704	0.1−	0.1−	1998 04 22	704	0.7+	0.8+
1996 11 16	400	0.1−	0.4+	1998 04 20	704	0.8+	0.0	1998 04 28	566	0.1−	0.8−
1997 01 01	400	0.8+	0.0	1998 04 20	704	0.6−	0.3+	1998 04 28	566	0.7+	1.3−
1997 01 01	400	0.6+	0.1−	1998 04 20	704	0.4−	0.2−	1998 04 28	566	(1.6+	2.9−)

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1996 VC₉ = 1998 FZ₇₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	191.05979		(2000.0)		P		Q		
<i>n</i>	0.29053467	ω	314.18355		+0.85922297		−0.49786307		
<i>a</i>	2.2577234	Ω	76.00599		+0.49716268		+0.75825109		
<i>e</i>	0.1838545	<i>i</i>	6.97092		+0.12068620		+0.42093663		
<i>P</i>	3.39	<i>H</i>	14.0		<i>G</i>	0.15	<i>U</i>	4	
Residuals in seconds of arc									
1996 11 07	400	1.3+	0.7−	1996 12 30	400	0.8+	0.2+	1998 03 25	704 0.0 0.5+
1996 11 07	400	0.1+	0.3+	1996 12 30	400	0.1+	0.6−	1998 03 25	704 0.6− 0.2−
1996 11 08	400	1.6+	0.5−	1997 01 01	400	1.0+	0.4−	1998 04 20	704 1.7+ 0.4+
1996 11 08	400	0.4−	0.6+	1997 01 01	400	0.2+	0.6−	1998 04 20	704 2.0+ 0.7+
1996 11 13	400	0.2−	0.0	1998 03 24	704	0.1+	0.5+	1998 04 20	704 (2.3+ 1.2+)
1996 11 13	400	0.7−	0.3−	1998 03 24	704	0.1+	0.2−	1998 04 20	704 0.1− 0.6+
1996 11 16	400	0.2+	0.0	1998 03 24	704	0.2−	0.9−	1998 04 20	704 1.8− 0.2+
1996 11 16	400	0.3+	0.3+	1998 03 24	704	0.3+	0.2−	1998 04 21	704 0.2+ 1.2−
1996 12 06	399	1.2−	0.1+	1998 03 24	704	1.1−	0.8+	1998 04 21	704 0.5+ 1.0−
1996 12 06	399	0.2−	0.6−	1998 03 25	704	0.1−	0.0	1998 04 21	704 0.3− 0.3−
1996 12 07	399	0.7−	0.7+	1998 03 25	704	0.0	0.1+	1998 04 21	704 0.8+ 0.3+
1996 12 07	399	1.9−	1.2+	1998 03 25	704	0.9−	1.0+	1998 04 21	704 0.7− 0.9−

1996 VG₁₁ = 1998 FT₁₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	51.68094		(2000.0)			P		Q	
<i>n</i>	0.28065839	ω	186.00824			−0.96699907		−0.25140992	
<i>a</i>	2.3103833	Ω	339.28829			+0.23834915		−0.83539857	
<i>e</i>	0.1459172	<i>i</i>	6.70645			+0.09001381		−0.48877631	
<i>P</i>	3.51	<i>H</i>	15.0		<i>G</i>	0.15		<i>U</i>	5
Residuals in seconds of arc									
1996 11 04	691	0.1−	0.1−	1996 11 17	691	0.2+	0.2+	1998 03 31	704 1.5− 1.0−
1996 11 04	691	0.1−	0.2−	1998 03 25	699	0.3+	0.4+	1998 04 01	704 0.1+ 0.5+
1996 11 04	691	0.2−	0.4−	1998 03 25	699	0.7+	0.3−	1998 04 01	704 0.2+ 0.5+
1996 11 10	691	0.1+	0.2+	1998 03 25	699	1.0+	0.1+	1998 04 01	704 0.6+ 0.2+
1996 11 10	691	0.0	0.0	1998 03 31	704	0.1−	0.0	1998 04 01	704 0.3− 0.2+
1996 11 10	691	0.1+	0.1−	1998 03 31	704	0.3−	0.7−	1998 04 01	704 0.2− 0.3+
1996 11 17	691	0.1−	0.2+	1998 03 31	704	0.1+	0.1−		
1996 11 17	691	0.1+	0.0	1998 03 31	704	0.7−	0.1−		

1996 VP₃₀ = 1998 FA₁₀₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	158.14976		(2000.0)		P		Q		
<i>n</i>	0.23657188	ω	154.76060		+0.87405902		−0.45675625		
<i>a</i>	2.5891704	Ω	233.42642		+0.40342171		+0.87221597		
<i>e</i>	0.2469932	<i>i</i>	11.89358		+0.27068754		+0.17496580		
<i>P</i>	4.17	<i>H</i>	13.0		<i>G</i>	0.15	<i>U</i>	4	
Residuals in seconds of arc									
1996 11 07	399	1.1+	1.2+	1996 12 06	399	0.5+	0.5−	1998 04 01	704 0.7+ 0.7−
1996 11 07	399	0.7−	1.4−	1996 12 07	399	1.4−	0.8−	1998 04 01	704 0.8+ 1.2−
1996 11 12	399	0.7+	1.3−	1996 12 07	399	0.7−	0.3−	1998 04 01	704 0.4+ 1.3−
1996 11 12	399	0.5−	1.2−	1998 03 31	704	1.2−	1.0+	1998 04 01	704 1.0+ 0.6−
1996 11 15	399	0.1−	1.6+	1998 03 31	704	0.2−	0.9+	1998 04 01	704 0.4− 0.9−
1996 11 15	399	0.6−	1.6+	1998 03 31	704	2.2−	3.4+		
1996 12 06	399	1.8+	1.0+	1998 03 31	704	1.1+	0.5−		

1996 VA₃₁ = 1998 HR₄₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	116.70093		(2000.0)			P		Q		
n	0.23963206	ω	59.36316			−0.04339634		−0.99738250		
a	2.5670802	Ω	33.27489			+0.87675492		−0.06577389		
e	0.1367021	i	6.05093			+0.47897554		+0.03003248		
P	4.11	H	15.0	G	0.15	U	5			
Residuals in seconds of arc										
1996 11 02	327	0.4−	0.1−	1996 11 20	327	0.2−	0.1+	1998 04 21	704	0.1− 0.8−
1996 11 02	327	0.5+	0.1−	1996 11 20	327	0.2+	0.5−	1998 04 21	704	1.1− 0.5+
1996 11 02	327	0.2−	0.1−	1998 04 20	704	1.7+	0.3−	1998 04 21	704	0.7+ 1.6+
1996 11 13	327	0.3−	0.0	1998 04 20	704	1.2+	3.0+	1998 04 21	704	0.8− 1.3−
1996 11 13	327	0.4−	0.2+	1998 04 20	704	1.0−	0.4+	1998 04 21	704	0.6+ 0.8−
1996 11 13	327	1.0+	0.6+	1998 04 20	704	0.2−	1.7−			
1996 11 20	327	0.1−	0.2−	1998 04 20	704	1.1−	0.6−			

1996 WG = 1998 FM₁₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	102.04946			(2000.0)		P			Q		
n	0.26219430			ω	240.21504	−0.37466844			−0.92421109		
a	2.4176154			Ω	231.97510	+0.87974312			−0.32922285		
e	0.0308752			i	5.38109	+0.29270395			−0.19351014		
P	3.76			H	15.0	G	0.15		U	4	
Residuals in seconds of arc											
1996 11 08	691	0.1+	0.4−	1998 03 31	704	0.3−	0.1+	1998 04 20	704	0.5−	0.2−
1996 11 08	691	0.0	0.6−	1998 03 31	704	0.7+	0.3+	1998 04 20	704	1.0+	0.6−
1996 11 08	691	0.2+	0.5−	1998 03 31	704	(2.5−	1.0−)	1998 04 20	704	0.5+	1.4−
1996 11 17	817	0.3+	0.1+	1998 03 31	704	(5.9−	0.2−)	1998 04 20	704	(4.7−	1.4−)
1996 11 17	817	0.2+	0.1+	1998 04 01	704	0.1+	0.3−	1998 04 22	704	1.0−	0.3+
1996 11 18	817	0.1−	0.1+	1998 04 01	704	0.0	0.4+	1998 04 22	704	1.3+	1.1+
1996 11 18	817	0.4−	0.1+	1998 04 01	704	0.5+	0.2−	1998 04 22	704	(0.9−	2.1+)
1996 11 28	817	0.4−	0.7+	1998 04 01	704	0.6−	0.6−	1998 04 22	704	0.8−	0.6+
1996 11 28	817	0.1+	0.1+	1998 04 01	704	0.3+	0.9+	1998 04 22	704	1.1−	0.7−
1998 03 31	704	0.1+	0.8+	1998 04 20	704	0.4−	0.8−				

1996 WX

Id. P. G. Comba (1998 observations)

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	142.26735		(2000.0)		P		Q				
n	0.29361717	ω	47.08531		−0.05691164		−0.99459703				
a	2.2418941	Ω	46.39682		+0.87751745		−0.09130696				
e	0.1113148	i	6.88609		+0.47615564		+0.04939416				
P	3.36	H	16.0		G	0.15	U	4			
Residuals in seconds of arc											
1996 11 08	691	0.0	0.1−	1996 12 01	684	0.3−	0.3+	1998 04 18	684	0.3+	0.7−
1996 11 08	691	0.1−	0.0	1996 12 01	684	0.2−	0.1+	1998 04 18	684	0.2+	0.2+
1996 11 08	691	0.1−	0.0	1996 12 12	684	0.2+	0.3−	1998 04 19	684	0.5−	0.2+
1996 11 19	684	0.1−	0.0	1996 12 12	684	0.1+	0.3−	1998 04 19	684	0.1+	0.1+
1996 11 19	684	0.2−	0.1−	1996 12 12	684	0.0	0.3−	1998 04 19	684	0.2−	0.0
1996 11 20	684	0.1+	0.2+	1996 12 30	684	0.5−	0.1−	1998 04 20	684	0.2+	0.2+
1996 11 20	684	0.3+	0.1+	1996 12 30	684	0.4+	0.1+	1998 04 20	684	0.0	0.1+
1996 11 20	684	0.3+	0.2+	1996 12 30	684	0.1+	0.4+				

1996 WE₃ = 1998 FS₁₁₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	348.38943		(2000.0)	$\mathbf{P}$	$\mathbf{Q}$
n	0.28531671	ω	11.62526	−0.33454549	+0.93896022
a	2.2851668	Ω	238.87596	−0.87195292	−0.34070446
e	0.0903066	i	5.37611	−0.35745968	−0.04768835
P	3.45	H	15.0	G 0.15	U 4

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1998 MAY 11

Residuals in seconds of arc

1996 11 22	595	0.2+	0.7-	1997 01 30	595	0.2-	0.7+	1998 04 20	860	0.3+	0.3-
1996 11 22	595	0.7+	0.7-	1997 02 01	595	0.8+	0.1+	1998 04 21	704	0.3-	0.5+
1996 11 23	595	0.4+	1.1-	1997 02 01	595	0.8+	0.1+	1998 04 21	704	0.6-	0.4-
1996 12 01	595	0.1-	0.7+	1998 03 31	704	0.0	1.0+	1998 04 21	704	0.6+	1.1-
1996 12 01	595	0.2-	0.3-	1998 03 31	704	0.6-	0.6+	1998 04 21	704	0.1+	0.6-
1996 12 02	595	0.3-	0.4-	1998 03 31	704	0.4-	0.5+	1998 04 21	704	0.6-	1.3-
1996 12 02	595	0.2+	0.1-	1998 03 31	704	0.5+	0.3-	1998 04 22	704	0.1-	0.1+
1996 12 15	595	0.3+	0.3+	1998 03 31	704	0.6-	1.3+	1998 04 22	704	0.0	0.3-
1996 12 15	595	0.2-	0.3+	1998 04 01	704	0.0	0.2-	1998 04 22	704	0.5-	0.3-
1997 01 07	595	1.1-	0.9+	1998 04 01	704	0.0	0.9+	1998 04 22	704	0.6-	0.3-
1997 01 07	595	1.7-	1.1-	1998 04 01	704	0.6+	0.9+	1998 04 22	704	0.1+	0.7-
1997 01 08	595	0.5+	0.1-	1998 04 01	704	0.0	0.1-	1998 04 29	566	0.5+	0.1+
1997 01 08	595	0.3+	0.3+	1998 04 01	704	0.0	0.5-	1998 04 29	566	0.6+	0.1+
1997 01 30	595	0.3+	0.2+	1998 04 20	860	0.3+	0.4-	1998 04 29	566	0.1+	0.1-
1997 01 30	595	0.4-	0.0	1998 04 20	860	0.5+	0.1+				

1996 XW = 1998 FU₉₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	101.47076	(2000.0)	
<i>n</i>	0.19237659	ω	13.25378
<i>a</i>	2.9719026	Ω	66.41497
<i>e</i>	0.0914646	<i>i</i>	11.33154
<i>P</i>	5.12	<i>H</i>	13.5
		<i>G</i>	0.15
		<i>U</i>	4

Residuals in seconds of arc

1996 12 01	369	0.5+	0.0	1996 12 08	369	0.3-	0.5-	1998 03 24	704	(5.2-	2.0-)
1996 12 01	369	0.7+	0.1+	1996 12 28	369	0.1-	0.3-	1998 03 25	704	0.2+	0.4+
1996 12 02	369	0.2-	0.4+	1996 12 28	369	0.3-	0.0	1998 03 25	704	0.4+	0.1-
1996 12 02	369	0.6-	0.7+	1996 12 28	369	0.6+	0.6+	1998 03 25	704	0.1-	0.6+
1996 12 06	369	0.1+	0.0	1998 03 24	704	0.2-	1.1-	1998 03 25	704	2.2-	0.9+
1996 12 06	369	0.1+	0.2-	1998 03 24	704	0.5+	0.3+	1998 03 25	704	2.8+	0.9+
1996 12 08	369	0.5-	0.7-	1998 03 24	704	1.3-	1.8-				

1996 XC₁ = 1991 GN₃Id. S. Nakano (*MPC* 28870)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	302.56967	(2000.0)	
<i>n</i>	0.28419980	ω	96.57702
<i>a</i>	2.2911501	Ω	197.99324
<i>e</i>	0.0587898	<i>i</i>	2.05865
<i>P</i>	3.47	<i>H</i>	14.5
		<i>G</i>	0.15
		<i>U</i>	4

Residuals in seconds of arc

1991 04 08	809	0.7+	0.0	1996 12 08	411	0.8-	0.3-	1998 04 21	704	0.1-	0.1+
1991 04 08	809	0.5+	0.1-	1996 12 08	411	0.0	0.3-	1998 04 21	704	0.0	0.5-
1991 04 08	809	0.5-	0.3-	1996 12 19	411	(2.9+	0.3+)	1998 04 21	704	0.2-	0.0
1991 04 10	809	0.0	0.5+	1996 12 19	411	(4.4+	0.2+)	1998 04 22	704	0.4+	0.2+
1991 04 10	809	0.6-	1.0-	1996 12 28	411	1.0+	1.0+	1998 04 22	704	0.3+	0.4+
1991 04 10	809	0.8-	0.9-	1996 12 28	411	1.1+	0.6+	1998 04 22	704	0.4-	0.1+
1996 12 02	411	1.4-	0.2-	1997 01 15	599	0.8-	0.8+	1998 04 22	704	0.2+	0.2-
1996 12 02	411	0.2-	1.2-	1997 01 15	599	0.8+	0.2+	1998 04 22	704	0.4+	0.1+
1996 12 03	411	0.1+	0.2-	1998 04 21	704	0.3+	0.9+				
1996 12 03	411	0.2+	0.1+	1998 04 21	704	0.5-	0.7+				

1996 XS₁ = 1989 EM₁₁ = 1998 FY₁₀₁

Id. G. V. Williams, S. Nakano

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	217.45133	(2000.0)	
<i>n</i>	0.22194774	ω	62.20731
<i>a</i>	2.7016903	Ω	289.67340
<i>e</i>	0.1315269	<i>i</i>	4.35696
<i>P</i>	4.44	<i>H</i>	13.5
		<i>G</i>	0.15
		<i>U</i>	4

Residuals in seconds of arc

1989 03 12	808	0.3+	0.6+	1996 12 08	369	0.1-	0.5+	1998 04 01	704	0.2+	0.0
1989 03 12	808	0.3-	0.4-	1996 12 08	411	0.1-	0.0	1998 04 01	704	0.2+	1.1+
1996 12 02	411	0.3-	0.6-	1996 12 08	411	0.2-	0.3-	1998 04 01	704	1.4+	1.4+
1996 12 02	411	0.1-	0.1-	1996 12 14	369	0.1+	0.0	1998 04 01	704	(5.9-	2.1+)
1996 12 03	411	0.5+	0.2+	1996 12 14	369	0.7+	1.5-	1998 04 18	704	0.6+	1.4-
1996 12 03	411	0.2-	0.1+	1996 12 19	369	0.1-	0.2-	1998 04 18	704	1.3-	1.0-
1996 12 04	104	0.6+	0.1+	1996 12 19	369	(4.5-	4.4-)	1998 04 18	704	0.4-	1.2-
1996 12 04	104	0.1-	0.5+	1996 12 28	411	0.1-	0.4-	1998 04 18	704	(1.6-	2.2-)
1996 12 04	104	0.4-	1.0+	1996 12 28	411	0.0	0.1-	1998 04 19	704	0.2-	0.0
1996 12 05	104	0.4+	0.6-	1998 03 31	704	1.0+	0.3+	1998 04 19	704	0.1-	1.0-
1996 12 05	104	0.0	0.1-	1998 03 31	704	(0.6+	2.9+)	1998 04 19	704	1.2-	0.2-
1996 12 05	104	0.3-	0.2+	1998 03 31	704	1.3-	1.3+	1998 04 19	704	(0.6-	2.9-)
1996 12 05	104	0.5-	0.6+	1998 03 31	704	0.1-	0.4-	1998 04 19	704	(3.7-	0.7+)
1996 12 08	369	0.2+	0.4+	1998 03 31	704	0.9+	0.9+				

1996 XF₂ = 1998 GK₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	125.81090	(2000.0)	
<i>n</i>	0.21235456	ω	350.65458
<i>a</i>	2.7824561	Ω	75.07931
<i>e</i>	0.1468352	<i>i</i>	14.71704
<i>P</i>	4.64	<i>H</i>	14.0
		<i>G</i>	0.15
		<i>U</i>	4

Residuals in seconds of arc

1996 12 01	610	0.2+	0.7-	1996 12 05	610	0.3-	0.1+	1998 03 25	566	0.4-	0.4+
1996 12 01	610	0.3+	0.1+	1996 12 05	610	0.2-	0.1+	1998 04 02	704	0.0	1.0+
1996 12 01	610	0.5+	0.9+	1996 12 05	610	0.0	0.1+	1998 04 02	704	0.9+	0.3+
1996 12 02	610	0.1-	0.5-	1996 12 28	104	0.8+	0.9+	1998 04 02	704	0.1+	0.7-
1996 12 02	610	0.0	0.2-	1996 12 28	104	0.4-	0.7+	1998 04 02	704	0.5+	0.7+
1996 12 02	610	0.2+	0.0	1996 12 28	104	1.0-	0.7+	1998 04 02	704	0.1+	1.2-
1996 12 03	610	0.1+	0.1+	1996 12 28	104	0.3-	0.3+	1998 04 03	704	0.9+	0.0
1996 12 03	610	0.1-	0.1+	1996 12 28	104	0.8-	0.4-	1998 04 03	704	0.2-	0.8-
1996 12 03	610	0.3-	0.0	1997 02 06	104	1.2+	0.6-	1998 04 03	704	0.2-	0.3-
1996 12 04	610	0.1-	0.2-	1997 02 06	104	1.1+	1.9-	1998 04 03	704	0.9-	0.2-
1996 12 04	610	0.1-	0.0	1998 03 25	566	0.4-	0.5+				
1996 12 04	610	0.2-	0.0	1998 03 25	566	0.3-	0.7+				

1996 XX₂ = 1998 HF₃₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	164.56696	(2000.0)	
<i>n</i>	0.24503719	ω	27.67700
<i>a</i>	2.5291895	Ω	23.04313
<i>e</i>	0.1418740	<i>i</i>	2.34582
<i>P</i>	4.02	<i>H</i>	14.0
		<i>G</i>	0.15
		<i>U</i>	6

Residuals in seconds of arc

1996 12 03	411	0.2+	0.3+	1996 12 26	112	0.5-	2.3-	1998 04 20	704	1.4-	0.6+
1996 12 03	411	0.5+	0.7-	1996 12 27	112	1.7-	0.3+	1998 04 21	704	1.4-	0.5+
1996 12 06	411	0.2-	0.9+	1996 12 27	112	0.2+	0.8+	1998 04 21	704	1.4+	0.0
1996 12 06	411	0.3+	0.5+	1996 12 27	112	0.8-	0.9-	1998 04 21	704	0.4-	0.1-
1996 12 12	411	0.2-	0.8-	1996 12 29	411	0.5+	1.1+	1998 04 21	704	0.1-	1.1-
1996 12 12	411	0.6-	0.1-	1996 12 29	411	0.5+	0.9+	1998 04 21	704	0.0	0.1+
1996 12 19	411	0.5-	0.2+	1998 04 20	704	0.2+	0.1+	1998 04 22	704	0.5-	0.7-
1996 12 19	411	0.1+	0.9+	1998 04 20	704	0.7-	0.5+	1998 04 22	704	0.6+	1.3-
1996 12 26	112	1.9+	0.7-	1998 04 20	704	2.0+	0.2-	1998 04 22	704	0.6-	0.1-
1996 12 26	112	0.4+	0.4-	1998 04 20	704	0.3+	3.5+	1998 04 22	704	0.6+	1.7-

1998 MAY 11

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1996 XS₅ = 1998 FU₇₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18017578	ω	32.25662	−0.63820439	−0.76275758		
<i>a</i>	3.1045962	Ω	97.62072	+0.68209603	−0.62309423		
<i>e</i>	0.1149252	<i>i</i>	6.04527	+0.35698762	−0.17307359		
<i>P</i>	5.47	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1996 12 07	411	1.4+	0.9−	1998 03 24	704	(2.3+	0.3+)	1998 04 20	704	0.3−	0.4−
1996 12 07	411	1.7+	0.0	1998 03 24	704	0.5+	0.6−	1998 04 20	704	0.1+	0.3+
1996 12 08	411	0.4+	0.2+	1998 03 24	704	1.1−	1.6−	1998 04 20	704	0.6+	1.1+
1996 12 08	411	0.6+	1.0−	1998 03 24	704	0.8−	1.7+	1998 04 20	704	1.0+	0.3+
1996 12 12	411	1.1−	1.0+	1998 03 24	704	0.1+	0.7+	1998 04 20	704	0.3+	0.6+
1996 12 12	411	0.6−	0.1−	1998 03 25	704	(2.3+	0.3+)	1998 04 21	704	0.1−	0.3+
1996 12 19	411	1.7−	0.1+	1998 03 25	704	(2.5−	0.3−)	1998 04 21	704	0.6−	0.5−
1996 12 19	411	0.8−	0.2+	1998 03 25	704	(0.4+	2.5+)	1998 04 21	704	0.3+	0.9−
1996 12 28	411	0.2+	0.1+	1998 03 25	704	1.0−	1.0−	1998 04 21	704	0.6+	0.6+
1996 12 28	411	0.1+	0.6+	1998 03 25	704	0.1+	0.6−	1998 04 21	704	0.4+	0.1+

1996 XH₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.19940519	ω	244.48640	+0.99377167	+0.09823573		
<i>a</i>	2.9016503	Ω	109.83950	−0.07107392	+0.92235903		
<i>e</i>	0.1072048	<i>i</i>	3.20608	−0.08582750	+0.37363561		
<i>P</i>	4.94	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1996 12 03	905	0.9+	0.6−	1996 12 12	385	0.3+	0.4+	1998 03 03	809	1.9−	0.1−
1996 12 03	905	0.5−	0.1+	1996 12 12	385	0.1+	0.3+	1998 03 03	809	1.7−	0.3−
1996 12 06	905	0.1+	0.2−	1996 12 12	385	0.2+	0.2+	1998 03 03	809	1.3−	0.0
1996 12 06	905	1.8−	0.1−	1997 01 06	385	0.7−	0.3+	1998 03 04	809	1.5+	1.1+
1996 12 08	385	0.3+	0.2+	1997 01 06	385	0.6−	0.2−	1998 03 04	809	1.9+	0.1−
1996 12 08	385	0.3+	0.8+	1997 02 04	385	1.0−	0.4−	1998 03 04	809	1.5+	0.4−
1996 12 08	385	0.5+	0.0	1997 02 04	385	1.8+	1.2−				

1996 XM₁₃ = 1998 FH₃₁

Id. A. Gnädig

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.22815263	ω	193.71970	+0.05229269	+0.99685838		
<i>a</i>	2.6524817	Ω	79.30234	−0.91042057	+0.07206775		
<i>e</i>	0.0615028	<i>i</i>	3.47083	−0.41036552	−0.03285744		
<i>P</i>	4.32	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1996 12 09	817	0.2+	0.0	1998 03 20	704	0.2+	0.5−	1998 03 24	704	0.7+	0.5+
1996 12 09	817	0.3−	0.3+	1998 03 20	704	1.4−	1.2−	1998 03 24	704	0.7+	0.5−
1996 12 09	817	0.1+	0.1−	1998 03 20	704	0.3+	1.0+	1998 03 24	704	0.7+	0.0
1996 12 10	817	0.7+	0.0	1998 03 20	704	0.2+	0.6−	1998 03 24	704	0.4+	0.5−
1996 12 10	817	0.2+	0.3+	1998 03 22	704	0.3−	0.6−	1998 03 25	704	0.6+	0.5+
1996 12 29	327	0.3−	0.1−	1998 03 22	704	1.1−	1.0−	1998 03 25	704	1.0+	0.4+
1996 12 29	327	0.1−	0.2−	1998 03 22	704	0.5−	0.5+	1998 03 25	704	0.3+	0.7−
1996 12 29	327	0.6−	0.2−	1998 03 22	704	1.3−	1.1+	1998 03 25	704	0.6+	0.1−
1998 03 20	704	0.3−	1.0+	1998 03 22	704	1.3−	0.6+	1998 03 25	704	0.6+	0.1+

1996 XS₁₉ = 1998 FL₁₀₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.20118154	ω	239.79005	−0.93821595	−0.30096581		
<i>a</i>	2.8845449	Ω	282.23907	+0.34573719	−0.83623587		
<i>e</i>	0.0835578	<i>i</i>	10.06502	−0.01471845	−0.45839847		
<i>P</i>	4.90	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1996 12 11	411	0.2+	0.2+	1998 02 24	566	0.3−	0.3+	1998 03 31	704	0.0	0.0
1996 12 11	411	0.7+	0.1−	1998 02 24	566	0.3−	0.5−	1998 03 31	704	0.9+	0.5−
1996 12 12	411	0.4−	0.9+	1998 02 24	566	0.5−	0.3+	1998 04 01	704	0.1−	1.7+
1996 12 12	411	0.4+	0.2+	1998 03 25	566	0.7+	0.2−	1998 04 01	704	0.5+	0.2−
1996 12 19	411	0.5−	0.0	1998 03 25	566	0.5+	0.5−	1998 04 01	704	0.4+	0.7+
1996 12 19	411	0.5+	0.1+	1998 03 25	566	1.1+	1.1−	1998 04 01	704	0.4+	0.3−
1996 12 19	411	0.3−	1.2−	1998 03 31	704	1.8−	0.8+	1998 04 01	704	0.3−	0.1+
1996 12 28	411	1.1−	1.0−	1998 03 31	704	1.1−	0.2−				
1996 12 28	411	0.3+	0.8+	1998 03 31	704	0.2−	0.6−				

1996 XM₂₁ = 1998 FZ₆₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.23855468	ω	178.24766	−0.99911153	+0.04136806		
<i>a</i>	2.5748035	Ω	4.14899	−0.03989407	−0.86675128		
<i>e</i>	0.1413511	<i>i</i>	6.38951	−0.01358705	−0.49702204		
<i>P</i>	4.13	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1996 12 08	691	0.1+	0.3−	1996 12 14	691	0.6+	0.2+	1998 03 22	704	0.5+	1.5+
1996 12 08	691	0.3+	0.1+	1998 03 20	704	0.4−	0.7−	1998 04 01	704	0.5−	0.7−
1996 12 08	691	0.1+	0.2−	1998 03 20	704	0.5−	0.3+	1998 04 01	704	0.2−	0.2−
1996 12 13	691	0.8−	0.2+	1998 03 20	704	0.6+	1.0+	1998 04 01	704	0.3+	1.3+
1996 12 13	691	0.8−	0.1+	1998 03 20	704	0.7−	0.2−	1998 04 01	704	(2.1−	2.1+)
1996 12 13	691	0.4−	0.1−	1998 03 22	704	0.1+	1.1−	1998 04 01	704	0.3+	0.3−
1996 12 14	691	0.5+	0.3+	1998 03 22	704	0.5+	0.8−				
1996 12 14	691	0.4+	0.2−	1998 03 22	704	(1.7+	1.6−)				

1996 XB₂₅ = 1998 JC

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.23893474	ω	314.33481	+0.82084422	−0.56383690		
<i>a</i>	2.5720724	Ω	80.19169	+0.54680587	+0.72970684		
<i>e</i>	0.2113857	<i>i</i>	5.30577	+0.16497912	+0.38680212		
<i>P</i>	4.13	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1996 12 03	691	0.0	0.1+	1996 12 09	691	0.0	0.6−	1998 05 01	691	0.1+	0.0
1996 12 03	691	0.4−	0.0	1996 12 14	691	0.3−	0.0	1998 05 01	691	0.0	0.3−
1996 12 03	691	0.1−	0.3+	1996 12 14	691	0.1−	0.0	1998 05 02	691	0.4+	0.2−
1996 12 09	691	0.6+	0.4+	1996 12 14	691	0.1−	0.1+	1998 05 02	691	0.1−	0.4+
1996 12 09	691	0.3+	0.3−	1998 05 01	691	0.6+	0.0	1998 05 02	691	1.0−	0.1+

1996 XU₂₆ = 1998 FP₁₀₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29582472	ω	75.72593	+0.64258103	−0.76423389		
<i>a</i>	2.2307269	Ω	334.03676	+0.64550701	+0.57869074		
<i>e</i>	0.0878037	<i>i</i>	7.23051	+0.41280785	+0.28471667		
<i>P</i>	3.33	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1996 11 01	327	0.2−	0.5+	1998 03 25	566	0.7+	0.3−	1998 04 02	704	0.2+	0.3−
1996 11 01	327	0.1+	0.3+	1998 03 25	566	0.4−	0.5−	1998 04 02	704	0.9−	0.7−
1996 11 01	327	0.0	0.4−	1998 03 25	566	0.1+	0.2−	1998 04 02	704	0.6−	1.0+

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1996 12 08	327	0.4−	0.1−	1998 03 31	704	1.2−	0.2+	1998 04 03	704	0.2−	0.5−
1996 12 08	327	0.1−	0.1+	1998 03 31	704	(1.8+	2.5+)	1998 04 03	704	0.1+	0.5+
1996 12 08	327	0.1−	1.1+	1998 03 31	704	0.7−	1.1+	1998 04 03	704	0.4+	0.4−
1996 12 14	327	0.5+	0.2−	1998 03 31	704	0.2−	0.8+	1998 04 03	704	1.0−	0.2+
1996 12 14	327	0.4+	0.4+	1998 03 31	704	1.2+	0.3−	1998 04 03	704	0.1−	0.3+
1996 12 14	327	0.2+	0.2−	1998 04 01	704	0.0	0.6−	1998 04 03	704	1.1−	0.3+
1996 12 22	327	0.0	0.4−	1998 04 01	704	0.2+	0.7−	1998 04 03	704	0.3−	0.1+
1996 12 22	327	0.1+	0.1+	1998 04 01	704	1.0+	0.3−	1998 04 03	704	0.9+	2.0+
1996 12 22	327	0.2−	1.0−	1998 04 01	704	1.7+	0.8−	1998 04 03	704	0.1+	0.8+
1996 12 22	327	0.5−	0.0	1998 04 01	704	0.5+	1.5−	1998 04 03	704	0.4−	0.4+

1996 XC₃₁ = 1987 QN₃ = 1998 FF₁₀₈
Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	234.38907		(2000.0)	P		Q					
<i>n</i>	0.23813943	ω	67.83639	+0.96925859		+0.20541113					
<i>a</i>	2.5777958	Ω	280.10321	−0.24379844		+0.87600937					
<i>e</i>	0.1652007	<i>i</i>	7.90746	+0.03316773		+0.43636436					
<i>P</i>	4.14	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3				

Residuals in seconds of arc

1987 08 30	010	1.6+	0.8−	1996 12 29	411	0.7+	0.3+	1998 03 31	704	0.9+	0.8−
1987 08 30	010	0.9−	0.2+	1996 12 29	411	1.0−	0.3−	1998 03 31	704	0.9−	1.7+
1987 08 30	010	0.7−	0.8+	1997 01 11	566	0.3+	0.2−	1998 03 31	704	0.5+	0.8−
1996 12 14	411	0.6−	0.2+	1997 01 11	566	0.6+	0.1−	1998 04 01	704	0.3+	2.2+
1996 12 14	411	1.1+	0.5−	1997 01 11	566	0.7+	0.1+	1998 04 01	704	0.3+	0.3−
1996 12 19	411	0.4+	0.3+	1997 01 13	411	0.1−	0.1+	1998 04 01	704	0.1−	0.0
1996 12 19	411	0.0	0.3−	1997 01 13	411	1.0−	0.7+	1998 04 01	704	1.0−	0.3−
1996 12 19	411	1.2−	0.4−	1998 03 31	704	0.2+	1.5−				

1996 XX₃₁ = 1998 FO₁₁₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	321.27088		(2000.0)	P		Q					
<i>n</i>	0.26885417	ω	296.25497	+0.27814605		+0.95977464					
<i>a</i>	2.3775238	Ω	349.67323	−0.78732566		+0.20496190					
<i>e</i>	0.1434174	<i>i</i>	12.33878	−0.55023002		+0.19189387					
<i>P</i>	3.67	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	6				

Residuals in seconds of arc

1996 12 12	327	0.2+	0.5−	1996 12 18	327	0.1−	0.1+	1998 03 31	704	1.0−	0.9−
1996 12 12	327	0.3−	0.7−	1996 12 18	327	0.6−	0.1−	1998 04 01	704	0.2+	0.5+
1996 12 12	327	0.5−	0.1−	1996 12 18	327	0.2−	0.3+	1998 04 01	704	0.2+	0.6+
1996 12 16	327	0.7+	0.1+	1998 03 31	704	0.2+	1.0+	1998 04 01	704	0.2+	0.7+
1996 12 16	327	0.1+	0.2+	1998 03 31	704	0.7+	0.2−	1998 04 01	704	0.5+	0.1−
1996 12 16	327	0.6+	0.7+	1998 03 31	704	0.3−	0.6−	1998 04 01	704	0.7−	0.9−

1996 YU = 1998 HX₄₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	167.27923		(2000.0)	P		Q					
<i>n</i>	0.21143349	ω	281.68386	+0.61756794		−0.78418823					
<i>a</i>	2.7905311	Ω	130.00655	+0.74887998		+0.56276846					
<i>e</i>	0.0926010	<i>i</i>	4.52923	+0.24039263		+0.26142014					
<i>P</i>	4.66	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1996 12 20	411	0.8+	0.2−	1996 12 30	411	0.5−	0.3+	1998 04 24	691	0.1−	1.3−
1996 12 20	411	0.4−	0.5−	1997 01 07	411	0.5−	0.0	1998 04 24	691	0.2−	0.4+
1996 12 21	411	1.2+	0.7−	1997 01 07	411	0.5−	0.0	1998 05 01	691	0.2+	0.5+
1996 12 21	411	0.3−	0.5+	1997 01 26	411	0.4+	0.3−	1998 05 01	691	0.2−	0.3+
1996 12 30	411	0.2+	0.1−	1997 01 26	411	0.4+	0.1+	1998 05 01	691	0.4+	0.2+
1996 12 30	411	0.8−	1.0+	1998 04 24	691	0.1−	0.0				

1998 MAY 11

1996 YC₂ = 1998 FB₁₀₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	175.07187		(2000.0)	P		Q					
<i>n</i>	0.28558080	ω	86.87495	+0.87212102		−0.48007059					
<i>a</i>	2.2837578	Ω	301.79628	+0.39301851		+0.80241144					
<i>e</i>	0.1661032	<i>i</i>	6.38617	+0.29144704		+0.35449699					
<i>P</i>	3.45	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5				

Residuals in seconds of arc

1996 12 22	327	0.5+	0.1+	1997 01 05	327	0.3−	0.3−	1998 03 31	704	0.5−	0.8−
1996 12 22	327	0.6+	0.2−	1997 01 09	327	0.9−	0.2−	1998 04 01	704	1.3+	0.1+
1996 12 22	327	0.4−	0.1+	1997 01 09	327	0.5+	0.5+	1998 04 01	704	0.2+	1.1+
1996 12 23	327	0.7−	0.3+	1997 01 09	327	0.3−	0.3−	1998 04 01	704	0.9−	1.6+
1996 12 23	327	0.0	0.3+	1998 03 31	704	1.4+	0.4+	1998 04 01	704	0.1−	1.9−
1996 12 23	327	0.4−	0.5−	1998 03 31	704	0.6−	0.2+	1998 04 01	704	0.0	0.0
1997 01 05	327	1.0+	0.4+	1998 03 31	704	0.4−	0.1+				
1997 01 05	327	0.3+	0.1−	1998 03 31	704	0.5−	1.0−				

1997 AD₁ = 1998 HJ₂₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	186.80337		(2000.0)	P		Q					
<i>n</i>	0.25284864	ω	294.59321	+0.59178236		−0.80381132					
<i>a</i>	2.4768268	Ω	118.98692	+0.76240018		+0.53367066					
<i>e</i>	0.1660945	<i>i</i>	3.97722	+0.26180070		+0.26283644					
<i>P</i>	3.90	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1997 01 02	411	0.5+	0.1+	1997 01 14	411	0.4+	0.4−	1998 04 20	691	0.0	0.0
1997 01 02	411	0.3+	0.1−	1997 01 26	411	1.2+	0.7−	1998 04 20	691	0.2−	0.2+
1997 01 03	411	1.1−	0.2+	1997 01 26	411	1.1+	0.4−	1998 04 28	691	0.3+	0.4−
1997 01 03	411	0.2−	0.6+	1997 02 01	691	0.8−	0.4+	1998 04 28	691	0.1+	0.1−
1997 01 09	411	0.2−	1.1−	1997 02 01	691	0.9−	0.5+	1998 04 28	691	0.1−	0.2+
1997 01 09	411	0.4−	0.3+	1997 02 01	691	0.5−	0.5+				
1997 01 14	411	0.6+	0.1+	1998 04 20	691	0.1−	0.0				

1997 AG₃ = 1998 FF₅₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Gnädig											
<i>M</i>	276.85260		(2000.0)	P		Q					
<i>n</i>	0.18161965	ω	185.26148	+0.45450142		+0.88896348					
<i>a</i>	3.0881200	Ω	111.78147	−0.81501509		+0.44054180					
<i>e</i>	0.0814837	<i>i</i>	3.47737	−0.35941460		+0.12516728					
<i>P</i>	5.43	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	5				

Residuals in seconds of arc

1996 12 20	327	0.9−	0.0	1997 01 06	691	0.4−	0.6+	1998 03 22	704	0.4−	0.7+
1996 12 20	327	0.2+	0.0	1997 01 06	691	0.2−	0.3+	1998 03 22	704	0.1+	0.5+
1996 12 20	327	0.0	0.2−	1998 03 20	704	0.2−	0.2+	1998 03 22	704	0.4+	0.3+
1997 01 03	691	0.5+	0.4−	1998 03 20	704	0.0	1.0−	1998 03 22	704	0.7−	0.3−
1997 01 03	691	0.5+	0.0	1998 03 20	704	0.6+	0.0	1998 03 22	704	0.4−	0.4+
1997 01 03	691	0.6+	0.0	1998 03 20	704	0.2+	0.6−				
1997 01 06	691	0.5−	0.1−	1998 03 20	704	0.4+	0.4−				

1997 AM₄ = 1998 HA₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	343.67717		(2000.0)	P		Q					
<i>n</i>	0.22491544	ω	143.90096	+0.13313925		+0.97559160					
<i>a</i>	2.6778724	Ω	133.02977	−0.95608481		+0.17284553					
<i>e</i>	0.1494688	<i>i</i>	13.82101	−0.26110492		−0.13544535					
<i>P</i>	4.38	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1997 01 02	691	0.1−	0.5−	1997 01 11	411	0.0	0.4−	1998 04 19	691	0.6−	0.1−
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1998 MAY 11

1997 01 06	411	1.3+	0.0	1997 01 16	411	0.7−	0.1−	1998 04 20	691	0.8+	0.0
1997 01 06	411	0.5+	1.3+	1997 01 16	411	0.6−	0.2+	1998 04 20	691	0.8+	0.1+
1997 01 07	411	0.7+	0.6+	1997 01 28	411	0.9+	0.5+	1998 04 20	691	0.7+	0.0
1997 01 07	411	0.5−	0.6−	1997 01 28	411	0.1+	0.2−				

1997 AR₅ = 1998 GR₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	163.40777		(2000.0)	P	Q						
<i>n</i>	0.19658861	ω	297.76428	+0.62067208	−0.74989751						
<i>a</i>	2.9292997	Ω	111.98922	+0.77778593	+0.55196623						
<i>e</i>	0.2009336	<i>i</i>	14.29509	+0.09907178	+0.36467382						
<i>P</i>	5.01	<i>H</i>	12.5	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1997 01 07	411	0.0	0.1−	1997 01 12	411	0.3−	0.2−	1998 04 02	704	0.7−	0.1−
1997 01 07	411	0.8+	0.5+	1997 01 13	411	0.1+	0.0	1998 04 03	704	0.2+	1.1−
1997 01 08	411	0.9+	0.2+	1997 01 13	411	0.1+	0.1−	1998 04 03	704	1.9−	1.3+
1997 01 08	411	1.2+	0.1−	1997 01 28	411	0.0	0.1−	1998 04 03	704	1.2+	0.4−
1997 01 10	691	1.1−	0.2−	1997 01 28	411	0.3+	0.3+	1998 04 03	704	0.0	0.7−
1997 01 10	691	1.0−	0.1−	1998 04 02	704	1.1+	0.6+	1998 04 03	704	0.4+	0.8+
1997 01 10	691	0.9−	0.2−	1998 04 02	704	0.4−	0.4−				

1997 AQ₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	203.67781		(2000.0)	P	Q						
<i>n</i>	0.39973156	ω	7.50019	+0.25621468	−0.88728581						
<i>a</i>	1.8251158	Ω	68.29428	+0.86404570	+0.03236597						
<i>e</i>	0.0300089	<i>i</i>	24.37927	+0.43333482	+0.46008297						
<i>P</i>	2.47	<i>H</i>	14.2	<i>G</i>	0.15	<i>U</i>	3				

Residuals in seconds of arc

1997 01 06	385	0.1−	0.5−	1997 01 15	566	0.3−	0.1−	1997 02 11	385	0.3−	0.8−
1997 01 06	385	0.3−	0.4−	1997 01 15	566	0.2+	0.0	1997 03 04	385	0.5+	0.0
1997 01 06	385	0.2+	0.4−	1997 01 26	385	0.6−	0.1−	1997 03 04	385	0.3−	0.2−
1997 01 09	385	0.3−	0.1−	1997 01 26	385	1.7+	0.3−	1997 03 04	385	0.5+	0.2−
1997 01 09	385	0.6−	0.3+	1997 01 26	385	0.5+	0.2−	1998 04 03	385	0.3+	0.9+
1997 01 12	385	0.5−	0.8+	1997 02 04	385	0.6+	0.1+	1998 04 03	385	0.3+	0.1+
1997 01 12	385	0.6+	0.7+	1997 02 04	385	0.3+	0.0	1998 04 29	888	0.6−	0.1−
1997 01 12	385	0.2+	0.5+	1997 02 11	385	0.3+	0.9+	1998 04 29	888	0.1+	1.0−
1997 01 15	566	0.4−	0.1−	1997 02 11	385	1.2−	0.4−				

1997 AA₂₂ = 1998 FG₁₀₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	148.55116		(2000.0)	P	Q						
<i>n</i>	0.18884976	ω	71.41994	+0.61591810	−0.78557244						
<i>a</i>	3.0087892	Ω	340.19945	+0.64052152	+0.54319488						
<i>e</i>	0.1084142	<i>i</i>	10.08828	+0.45866881	+0.29633641						
<i>P</i>	5.22	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1997 01 09	369	0.1+	0.1+	1997 02 09	369	0.0	0.4+	1998 03 31	704	0.7+	0.4−
1997 01 09	369	0.0	0.6−	1997 02 09	369	0.5+	1.1+	1998 04 01	704	0.3+	0.7+
1997 01 15	369	0.5−	0.2+	1997 03 01	369	0.5+	0.6+	1998 04 01	704	1.1−	0.3−
1997 01 15	369	0.1−	0.5+	1997 03 01	369	0.0	0.7−	1998 04 01	704	0.7+	0.9−
1997 01 18	369	0.2−	0.3+	1998 03 31	704	1.8+	0.3−	1998 04 01	704	1.6−	0.1+
1997 01 18	369	1.5+	0.5−	1998 03 31	704	0.2−	0.7+	1998 04 01	704	0.6−	3.4−
1997 01 30	369	0.5−	0.6−	1998 03 31	704	1.2+	1.3+				
1997 01 30	369	1.2−	0.7−	1998 03 31	704	1.1−	2.4+				

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1997 BV₄ = 1998 FU₁₀₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	57.20533		(2000.0)	P	Q						
<i>n</i>	0.17699641	ω	136.58890	−0.64838441	−0.76049955						
<i>a</i>	3.1416640	Ω	353.53975	+0.58459203	−0.46773760						
<i>e</i>	0.2009820	<i>i</i>	18.22386	+0.48769848	−0.45040202						
<i>P</i>	5.57	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	3				

Residuals in seconds of arc

1997 01 29	587	0.6−	0.3+	1997 02 10	587	0.1+	1.0+	1998 03 31	704	0.0	0.8+
1997 01 29	587	0.1+	0.4−	1997 02 27	587	0.5+	0.2−	1998 04 01	704	0.2−	0.5−
1997 01 29	587	0.2+	1.4−	1997 02 27	587	0.2−	0.6+	1998 04 01	704	0.2−	0.4+
1997 01 30	587	(0.4+ 2.8−)		1998 03 25	566	0.1+	0.1+	1998 04 01	704	0.4+	0.2−
1997 01 31	587	0.4+	0.5−	1998 03 25	566	0.4−	0.1+	1998 04 01	704	1.0+	0.8−
1997 01 31	587	0.2+	1.4−	1998 03 25	566	0.3−	0.4+	1998 04 01	704	1.2+	0.8−
1997 02 06	587	0.4−	0.1+	1998 03 31	704	0.8−	0.7−	1998 05 01	566	0.4+	0.3−
1997 02 06	587	0.2+	0.7+	1998 03 31	704	0.3−	0.6+	1998 05 01	566	0.1−	0.1+
1997 02 10	587	0.2−	1.2+	1998 03 31	704	0.4−	0.7+	1998 05 01	566	0.6−	0.1−

1997 BH₈ = 1965 UH₂ = 1998 FB₁₀₈

Id. G. V. Williams, S. Nakano

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	236.16878		(2000.0)	P	Q						
<i>n</i>	0.22783732	ω	31.12426	+0.97340639	+0.19246115						
<i>a</i>	2.6549283	Ω	317.20596	−0.22905473	+0.82651718						
<i>e</i>	0.1986527	<i>i</i>	10.53844	+0.00373308	+0.52898777						
<i>P</i>	4.33	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3				

Residuals in seconds of arc

1965 10 23	033	0.8+	0.4+	1997 02 09	369	0.1−	0.1−	1998 03 31	704	0.2−	0.5−
1965 10 23	033	0.0	0.1+	1997 02 09	369	0.0	0.9−	1998 03 31	704	1.0−	0.6+
1965 10 24	033	0.6−	1.0−	1997 02 13	369	0.3−	0.0	1998 03 31	704	0.0	0.2+
1997 01 18	369	0.1−	0.7+	1997 02 13	369	0.4+	0.1+	1998 04 01	704	0.2−	0.9+
1997 01 18	369	0.6+	0.2+	1997 02 13	369	1.1−	0.2−	1998 04 01	704	(1.1+ 6.3+)	
1997 01 18	369	0.5+	0.9+	1997 03 01	369	0.4+	0.4−	1998 04 01	704	0.5−	1.7−
1997 01 30	369	0.6−	0.1−	1997 03 01	369	1.0+	0.6−	1998 04 01	704	0.6−	0.7+
1997 01 30	369	0.2−	0.4+	1998 03 31	704	2.1+	0.2−	1998 04 01	704	0.3−	1.3−
1997 02 09	369	0.3−	0.0	1998 03 31	704	0.5+	0.8+				

1997 CP₁ = 1998 HN₂₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	167.21461		(2000.0)	P	Q						
<i>n</i>	0.26368100	ω	280.41552	+0.32681349	−0.94409215						
<i>a</i>	2.4085195	Ω	150.39510	+0.89783582	+0.29580936						
<i>e</i>	0.1979556	<i>i</i>	5.03920	+0.29509961	+0.14555700						
<i>P</i>	3.74	<i>H</i>	16.0	<i>G</i>	0.15	<i>U</i>	5				

Residuals in seconds of arc

1997 02 02	118	1.3−	0.4−	1997 02 10	118	0.3−	0.4−	1997 03 05	118	0.3−	0.7−
1997 02 02	118	0.0	0.4+	1997 02 10	118	0.4−	0.5+	1997 03 07	118	0.1+	0.3+
1997 02 02	118	0.5−	0.3−	1997 02 14	118	0.3−	0.2+	1997 03 07	118	0.6+	0.1+
1997 02 03	118	1.3+	0.1+	1997 02 14	118	0.0	0.8−	1998 04 21	691	0.1−	0.8+
1997 02 03	118	0.6+	0.3+	1997 02 14	118	0.0	0.4+	1998 04 21	691	0.3−	0.4+
1997 02 03	118	0.6+	0.2+	1997 02 14	118	0.5−	0.1+	1998 04 21	691	0.5+	0.2−
1997 02 06	118	0.3+	0.1+	1997 02 20	118	0.0	0.1+	1998 04 29	691	0.0	0.0
1997 02 06	118	0.1+	0.0	1997 02 20	118	0.5−	0.9+	1998 04 29	691	0.3+	0.4−
1997 02 08	118	0.0	0.0	1997 03 05	118	0.1−	0.6−	1998 04 29	691	0.5−	0.4−
1997 02 08	118	0.1+	0.1−	1997 03 05	118	0.4+	0.5−				

1997 CR₁

Id. M. Tichý (1998 observations)

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

M	178.98888		(2000.0)	P	Q
n	0.19718020	ω	270.02729	+0.68035039	-0.73186590
a	2.9234377	Ω	137.01580	+0.69295688	+0.62520620
e	0.0717577	i	3.25175	+0.23860870	+0.27108951
P	5.00	H	14.0	G 0.15	U 4

Residuals in seconds of arc

1997 02 02	046	0.3+	0.0	1997 02 03	046	0.1-	0.3+	1997 02 27	046	0.2-	0.4+
1997 02 02	046	0.1+	0.0	1997 02 03	046	0.2+	0.3-	1997 03 03	046	0.2+	0.1-
1997 02 02	046	0.1+	0.1-	1997 02 07	046	0.1+	0.4-	1997 03 03	046	0.3+	0.5-
1997 02 02	046	0.2+	0.1+	1997 02 07	046	0.1-	0.5+	1997 03 03	046	0.4-	0.1-
1997 02 02	046	0.3-	0.0	1997 02 07	046	0.2-	0.1+	1998 03 31	046	0.6+	0.1+
1997 02 02	046	0.6-	0.1+	1997 02 07	046	0.3+	0.1-	1998 03 31	046	0.1+	0.2-
1997 02 02	046	0.3-	0.0	1997 02 07	046	0.6+	0.0	1998 03 31	046	0.1+	0.2-
1997 02 02	046	0.4-	0.1+	1997 02 07	046	0.3+	0.3+	1998 04 07	046	0.5+	0.2+
1997 02 02	046	0.2-	0.1+	1997 02 10	046	0.1+	0.4-	1998 04 07	046	0.5-	0.2-
1997 02 02	046	0.0	0.1-	1997 02 10	046	0.2-	0.1-	1998 04 07	046	0.7-	0.3+
1997 02 02	046	0.1-	0.1-	1997 02 10	046	0.2+	0.2-				
1997 02 03	046	0.2+	0.1+	1997 02 27	046	0.1-	0.5+				

1997 CF₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

M	291.27269		(2000.0)	P	Q
n	0.21152616	ω	173.39158	+0.88595368	+0.46239870
a	2.7897160	Ω	158.95228	-0.42992341	+0.84771202
e	0.0298772	i	5.70261	-0.17393087	+0.25994572
P	4.66	H	14.0	G 0.15	U 3

Residuals in seconds of arc

1997 02 13	684	0.0	0.3-	1997 03 05	684	0.1-	0.2+	1997 04 13	684	0.0	0.2-
1997 02 13	684	0.0	0.6-	1997 03 13	684	0.1+	0.2+	1997 04 13	684	0.1+	0.0
1997 02 14	684	0.1+	0.1-	1997 03 13	684	0.2+	0.1+	1997 04 26	684	0.1-	0.3-
1997 02 14	684	0.1+	0.1-	1997 03 13	684	0.2+	0.1+	1997 04 26	684	0.1-	0.2-
1997 02 14	684	0.3+	0.0	1997 03 29	684	0.1+	0.1+	1997 04 26	684	0.2-	0.0
1997 02 15	684	0.1-	0.0	1997 03 29	684	0.2+	0.1+	1998 04 19	684	0.0	0.1+
1997 02 15	684	0.2-	0.0	1997 03 29	684	0.1+	0.0	1998 04 19	684	0.1+	0.2+
1997 02 15	684	0.2-	0.1+	1997 03 30	684	0.2+	0.1-	1998 04 19	684	(4.2-	2.3-)
1997 03 05	684	0.4-	0.3+	1997 03 30	684	0.0	0.2+	1998 04 20	684	0.2+	0.4-
1997 03 05	684	0.4-	0.3+	1997 04 13	684	0.0	0.1-	1998 04 20	684	0.3-	0.1+

1997 CK₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

M	132.26083		(2000.0)	P	Q
n	0.22297975	ω	335.64650	-0.56664424	-0.81461059
a	2.6933477	Ω	148.44526	+0.78945588	-0.57977412
e	0.1144861	i	13.68301	+0.23595280	-0.01647917
P	4.42	H	14.5	G 0.15	U 3

Residuals in seconds of arc

1997 02 14	684	0.3-	0.1-	1997 03 03	684	0.3+	0.1-	1997 04 08	684	0.3-	0.3+
1997 02 14	684	0.2-	0.1-	1997 03 04	684	0.7+	0.3-	1997 04 08	684	0.2+	0.1+
1997 02 14	684	0.2-	0.0	1997 03 04	684	0.2+	0.2+	1997 04 26	684	0.3-	0.1+
1997 02 15	684	0.1-	0.1-	1997 03 13	684	0.0	0.0	1997 04 26	684	0.0	0.0
1997 02 15	684	0.1+	0.1-	1997 03 13	684	0.2-	0.1-	1998 04 22	684	0.2-	0.0
1997 02 15	684	0.0	0.0	1997 03 13	684	0.1-	0.1-	1998 04 22	684	0.2+	0.8+
1997 02 16	684	0.2-	0.0	1997 03 30	684	0.1+	0.1+	1998 04 22	684	0.4+	1.1-
1997 02 16	684	0.1-	0.1+	1997 03 30	684	0.1+	0.1+	1998 04 23	684	0.0	0.2-
1997 02 16	684	0.1-	0.1-	1997 03 30	684	0.0	0.3+	1998 04 23	684	0.4-	0.6+
1997 03 03	684	0.4+	0.1-	1997 04 08	684	0.2-	0.0	1998 04 23	684	0.1+	0.4-

1997 XX₄ = 1991 JV₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	39.34200		(2000.0)	P	Q
n	0.27013640	ω	25.16731	-0.88222522	-0.45465866
a	2.3699943	Ω	127.23791	+0.40180356	-0.86246515
e	0.1307469	i	8.83871	+0.24542322	-0.22234964
P	3.65	H	15.5	G 0.15	U 3

Residuals in seconds of arc

1991 05 13	033	0.1+	0.2+	1997 12 07	910	0.1+	0.4+	1998 03 24	704	0.7-	0.1+
1991 05 13	033	0.8-	0.6+	1997 12 07	910	0.2-	0.1+	1998 03 25	704	0.5+	0.0
1991 05 14	033	0.7+	0.8-	1997 12 07	910	0.5-	0.4+	1998 03 25	704	0.0	0.4-
1997 12 06	910	0.1+	0.3-	1998 03 24	704	0.2+	0.3-	1998 03 25	704	0.1+	0.0
1997 12 06	910	0.3+	0.3-	1998 03 24	704	0.5+	0.2-	1998 03 25	704	0.7+	0.2+
1997 12 06	910	0.1+	0.4-	1998 03 24	704	0.7-	0.4+	1998 03 25	704	0.6-	0.1+

1997 XD₉ = 1984 ED₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	29.81136		(2000.0)	P	Q
n	0.21492551	ω	36.37560	-0.99475138	+0.02031700
a	2.7602224	Ω	144.38714	-0.04623244	-0.96358421
e	0.2103038	i	9.91687	+0.09128115	-0.26663214
P	4.59	H	14.5	G 0.15	U 3

Residuals in seconds of arc

1984 03 01	688	1.6+	0.6-	1997 12 08	910	0.1+	0.3+	1998 04 23	566	0.4+	1.0-
1984 03 01	688	1.9-	0.5-	1998 03 24	704	1.1+	0.2+	1998 04 23	566	0.8+	0.5-
1984 03 06	688	0.4-	1.1+	1998 03 24	704	0.8+	0.4+	1998 04 23	566	0.3+	1.3-
1984 03 06	688	1.5-	0.8+	1998 03 24	704	1.0+	0.0	1998 05 01	566	0.5-	0.3+
1984 03 09	688	0.8+	1.3-	1998 03 24	704	0.7+	0.1+	1998 05 01	566	0.7-	0.3+
1984 03 09	688	1.0+	1.4-	1998 03 24	704	0.9+	0.8-	1998 05 01	566	0.6-	0.2+
1997 12 07	910	0.1-	0.6+	1998 03 25	704	0.4+	0.3-	1998 05 02	566	0.8-	0.2+
1997 12 07	910	0.1-	0.5+	1998 03 25	704	1.1-	0.0	1998 05 02	566	0.6-	0.2+
1997 12 07	910	0.1-	0.3+	1998 03 25	704	0.6-	0.1+	1998 05 02	566	0.9-	0.2+
1997 12 08	910	0.0	0.3+	1998 03 25	704	0.0	0.7+				
1997 12 08	910	0.1-	0.4+	1998 03 25	704	0.2-	1.4+				

1998 BL₉ = 1989 CA₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	112.26943		(2000.0)	P	Q
n	0.22463134	ω	273.07449	+0.57265952	-0.80938594
a	2.6801297	Ω	141.03286	+0.81007503	+0.53430240
e	0.1909371	i	11.94997	+0.12585517	+0.24375263
P	4.39	H	13.0	G 0.15	U 4

Residuals in seconds of arc

1989 02 02	046	1.1-	0.7+	1998 01 24	566	0.0	0.1-	1998 03 24	704	0.1-	0.2-
1989 02 02	046	0.0	0.3-	1998 01 24	566	0.3+	0.1-	1998 03 24	704	0.3-	0.1-
1989 02 03	046	1.0+	0.6-	1998 01 24	566	0.1+	0.1-	1998 03 24	704	0.8+	0.3+
1989 02 03	046	0.1+	0.3+	1998 01 25	566	0.1-	0.0	1998 03 25	704	0.2+	0.5-
1989 02 07	046	(2.2+	3.1-)	1998 01 25	566	0.2-	0.0	1998 03 25	704	0.5-	0.3+
1989 02 07	046	(3.4+	3.8-)	1998 01 25	566	0.1-	0.2+	1998 03 25	704	0.3-	0.2+
1989 03 05	033	(5.8+	2.4+)	1998 03 24	704	0.3+	0.2-	1998 03 25	704	0.4-	0.1-
1989 03 05	033	(5.7+	2.4+)	1998 03 24	704	1.3+	0.4-	1998 03 25	704	1.1-	0.8+

1998 BS₁₅ = 1976 SO₈ = 1981 EV₄₈ = 1983 VO₇ = 1986 PV₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	83.18300		(2000.0)	P	Q
n	0.28915498	ω	99.39594	+0.21940642	-0.97469626
a	2.2648995	Ω	337.78931	+0.84486494	+0.21173203
e	0.1824093	i	6.49437	+0.48791809	+0.07167115
P	3.41	H	13.5	G 0.15	U 2

1998 MAY 11

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Residuals in seconds of arc

1976 09 28	095	1.1−	2.6+	1998 01 24	566	0.2−	0.1−	1998 02 22	566	0.1−	0.3−
1981 03 08	095	0.9+	2.9+	1998 01 24	566	0.2−	0.0	1998 02 22	566	0.6−	0.1−
1983 11 01	330	(15.1−	2.4−)	1998 01 24	566	0.3−	0.1+	1998 02 23	566	0.2+	0.1−
1983 11 05	330	(4.8−	5.2−)	1998 01 28	566	0.3−	0.8−	1998 02 23	566	0.0	0.0
1986 08 01	675	(49.1−	1.8+)	1998 01 28	566	0.4−	0.7−	1998 02 23	566	0.0	0.1−
1986 08 01	675	(46.1−	0.3−)	1998 01 28	566	0.2−	0.9−	1998 04 30	566	2.0+	0.8+
1986 08 02	675	(38.3−	0.3−)	1998 01 29	566	0.1−	0.1−	1998 04 30	566	1.1+	0.8+
1986 08 02	675	(33.4−	1.3+)	1998 01 29	566	0.2−	0.2−	1998 04 30	566	1.2+	0.3−
1986 08 04	675	0.7+	0.9−	1998 01 29	566	0.2−	0.1−				
1986 08 04	675	0.2+	1.6−	1998 02 22	566	0.5−	0.2−				

1998 BQ₄₀ = 1991 RB₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

Nakano

M	175.61810		(2000.0)	$\mathbf{P}$	$\mathbf{Q}$
n	0.21128920	ω	2.61975	+0.95680609	+0.28965179
a	2.7918013	Ω	340.48720	−0.26807792	+0.84575646
e	0.0850332	i	4.28879	−0.11250042	+0.44810474
P	4.66	H	13.9	G 0.15	U 6

Residuals in seconds of arc

1991 09 11	675	1.1+	0.2−	1998 01 24	566	0.3−	0.4+	1998 01 29	566	0.2+	0.8−
1991 09 11	675	0.7−	0.4−	1998 01 24	566	0.0	0.6+	1998 01 29	566	0.6+	0.7−
1991 09 15	675	0.6−	0.6+	1998 01 24	566	0.1−	0.7+	1998 02 02	372	1.6+	0.5−
1991 09 15	675	0.2+	0.1−	1998 01 28	372	1.8−	0.7+	1998 02 02	372	0.9−	0.5+
1998 01 21	372	0.1+	0.9−	1998 01 28	372	1.4−	1.4+				
1998 01 21	372	1.9+	0.3−	1998 01 29	566	0.3+	1.0−				

1998 BN₄₄ = 1979 OK₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	85.72941		(2000.0)	P	Q
n	0.18369734	ω	120.08264	+0.55571143	−0.82048371
a	3.0647905	Ω	295.55756	+0.70240842	+0.54966542
e	0.0927467	i	8.55041	+0.44475524	+0.15708090
P	5.37	H	13.5	G 0.15	U 5

Residuals in seconds of arc

1979 07 24	675	0.1+	0.4+	1998 01 07	699	1.2+	0.3+	1998 01 22	704	0.2−	0.0
1979 07 24	413	1.0−	1.0−	1998 01 08	699	0.3−	0.1−	1998 01 22	704	0.0	0.3+
1979 07 25	675	0.3−	0.5+	1998 01 08	699	0.8−	0.5−	1998 01 22	704	0.6−	0.1−
1979 07 27	675	1.1+	0.1+	1998 01 08	699	0.1+	0.5−	1998 01 28	566	0.5+	0.4−
1998 01 07	699	0.4−	0.2+	1998 01 22	704	0.1−	0.9+	1998 01 28	566	0.4+	0.4−
1998 01 07	699	0.1+	0.2+	1998 01 22	704	0.4−	0.4+	1998 01 28	566	0.4+	0.4−

1998 CB₃ = 1992 PV₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

M	165.97672		(2000.0)	$\mathbf{P}$	$\mathbf{Q}$
n	0.25777856	ω	42.09825	+0.98547240	−0.16829668
a	2.4451463	Ω	327.56961	+0.14226526	+0.89137677
e	0.1940474	i	2.43796	+0.09276178	+0.42086064
P	3.82	H	14.5	G 0.15	U 6

Residuals in seconds of arc

1992 08 02	675	0.7+	0.6+	1998 02 06	809	0.2+	1.1−	1998 03 03	809	0.4−	0.6−
1992 08 02	675	0.4−	0.6+	1998 02 07	809	(2.9+	2.1+)	1998 03 04	809	0.7+	0.3+
1992 08 06	675	0.1+	1.3−	1998 02 07	809	(0.5+	2.7+)	1998 03 04	809	0.1+	0.8+
1992 08 06	675	0.3−	0.2−	1998 02 07	809	1.1−	1.8+	1998 03 04	809	0.6+	0.3−
1998 02 06	809	0.5−	0.2−	1998 03 03	809	0.0	0.1+				
1998 02 06	809	0.4+	0.9−	1998 03 03	809	0.2−	0.3−				

1998 CS₃ = 1991 CO₄ = 1991 EV₇ = 1996 PV₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

M	100.22629		(2000.0)	P	Q
n	0.28388611	ω	282.24282	+0.25700763	−0.96556430
a	2.2928376	Ω	152.76103	+0.91744046	+0.23063102
e	0.1733220	i	5.06469	+0.30372698	+0.12039483
P	3.47	H	15.0	G 0.15	U 4

Residuals in seconds of arc

1991 02 12	511	1.6+	1.1−	1996 08 19	566	0.5+	0.3−	1998 02 07	809	0.4−	1.6−
1991 02 12	511	2.2+	0.6−	1996 08 19	566	0.1−	0.2−	1998 02 07	809	1.3−	1.9−
1991 03 15	809	1.5−	0.9+	1998 01 28	566	1.2−	0.4+	1998 03 03	809	0.7−	0.8−
1991 03 15	809	1.5−	0.2+	1998 01 28	566	1.5−	0.2+	1998 03 03	809	0.6−	0.8−
1991 03 15	809	1.6−	0.5−	1998 01 28	566	1.1−	0.3−	1998 03 03	809	0.5−	1.3−
1996 08 10	566	0.2+	0.2−	1998 02 06	809	1.5+	0.4+	1998 03 04	809	1.9+	1.1+
1996 08 10	566	0.3−	0.4−	1998 02 06	809	0.9+	1.2+	1998 03 04	809	1.6+	1.6+
1996 08 10	566	0.4−	0.3−	1998 02 06	809	0.5+	1.5+	1998 03 04	809	1.4+	1.2+
1996 08 19	566	0.5+	0.2−	1998 02 07	809	0.7−	1.2−				

1998 DD = 1980 BN₂ = 1986 YK₁

Id. A. Gnädig

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

$\dot{M}$	41.86200		(2000.0)	P	Q		
n	0.27534704	ω	91.40574	−0.86467790	−0.49030043		
a	2.3399995	Ω	59.24518	+0.39532049	−0.79838890		
e	0.2116863	i	7.30435	+0.30992553	−0.34954351		
P	3.58	H	14.5	G	0.15	U	3

Residuals in seconds of arc

1980 01 23	095	0.1−	0.2−	1998 02 21	327	0.2+	0.1−	1998 03 22	327	0.2−	0.3+
1986 12 30	675	(16.8−	1.0+)	1998 02 21	327	0.3+	0.0	1998 03 22	327	0.3−	0.5+
1986 12 30	675	(17.7−	0.8+)	1998 02 23	327	0.5+	0.1+	1998 03 24	704	0.4−	0.2−
1987 01 01	675	0.2−	0.2+	1998 02 23	327	0.4+	0.0	1998 03 24	704	0.5−	0.1−
1987 01 01	675	0.3+	0.5−	1998 02 23	327	0.6+	0.0	1998 03 24	704	1.0−	0.9−
1998 02 16	327	0.3−	0.0	1998 03 01	327	0.3+	0.2+	1998 03 24	704	0.6−	0.6−
1998 02 16	327	0.3−	0.2+	1998 03 01	327	0.5+	0.2+	1998 03 25	704	0.5+	0.2+
1998 02 16	327	0.4−	0.2+	1998 03 01	327	0.2+	0.2+	1998 03 25	704	0.0	0.0
1998 02 17	327	0.1+	0.2−	1998 03 08	327	0.1+	0.3+	1998 03 25	704	0.3−	0.3+
1998 02 17	327	0.3−	0.0	1998 03 08	327	0.4+	0.4+	1998 03 25	704	0.4−	0.5−
1998 02 17	327	0.2−	0.1−	1998 03 08	327	0.5+	0.5+	1998 03 25	704	0.5+	1.1−
1998 02 21	327	0.2+	0.1−	1998 03 22	327	0.1−	0.3+				

1998 DL₁ = 1981 TU = 1983 FS

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

$\dot{M}$	94.06830		(2000.0)	P	Q
n	0.25992427	ω	251.88235	+0.29656094	−0.95500786
a	2.4316711	Ω	180.88809	+0.93808102	+0.29196961
e	0.1605029	i	12.69594	+0.17904081	+0.05209362
P	3.79	H	13.5	G 0.15	U 2

Residuals in seconds of arc

1981 10 05	688	(6.4−	6.2−)	1998 02 20	113	(2.2−	0.8−)	1998 03 03	704	(3.0−	0.6+)
1981 10 05	688	0.1+	0.5−	1998 02 20	113	(2.8−	0.9−)	1998 03 04	704	0.8+	0.5+
1983 03 20	095	0.1+	0.5+	1998 02 21	113	0.1+	0.1−	1998 03 04	704	0.7+	1.8+
1998 01 24	566	0.4−	0.2−	1998 02 21	113	0.1+	0.3−	1998 03 04	704	0.0	0.9+
1998 01 24	566	0.7−	0.1−	1998 02 23	113	0.1+	0.2+	1998 03 04	704	0.1+	0.3+
1998 01 24	566	0.3−	0.3−	1998 02 23	113	0.1−	0.1−	1998 03 04	704	0.2−	0.2−
1998 02 18	113	0.1−	0.0	1998 02 23	113	0.0	0.0	1998 03 25	566	0.5−	0.4−
1998 02 18	113	0.6−	0.6+	1998 02 24	566	0.9+	0.4−	1998 03 25	566	0.2−	0.6−
1998 02 18	113	0.0−	0.0	1998 02 24	566	0.5+	0.4−	1998 03 25	566	0.2−	0.1−
1998 02 18	113	0.8−	0.2−	1998 02 24	566	0.9+	0.4−	1998 03 31	113	0.6+	0.9−
1998 02 18	113	0.9−	0.1−	1998 03 01	113	0.6+	1.5+	1998 03 31	113	0.1+	1.2−
1998 02 18	113	0.6−	0.1+	1998 03 03	704	1.1+	0.6+	1998 03 31	113	0.4+	1.2−
1998 02 20	113	1.6−	1.0−	1998 03 03	704	1.2+	0.8+	1998 04 16	113	0.1+	0.6−
1998 02 20	113	(2.6−	0.4−)	1998 03 03	704	(3.8+	0.1−)	1998 04 16	113	0.1+	0.5−

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1998 MAY 11

1998 DN₁ = 1994 NA₉ = 1995 UF₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	265.65864		(2000.0)		P		Q		
n	0.17989627	ω	195.02748		+0.17798850		+0.98321831		
a	3.1078111	Ω	85.23727		-0.89863952		+0.17898100		
e	0.1491131	i	2.30172		-0.40095773		+0.03532080		
P	5.48	H	12.5	G	0.15	U	4		
Residuals in seconds of arc									
1994 07 08	809	0.4+	0.0	1998 02 17	132	1.2-	1.5+	1998 03 03	704 1.6+ 0.1+
1994 07 08	809	0.8+	0.3+	1998 02 17	132	0.8-	1.9+	1998 03 03	704 0.1+ 0.6+
1994 07 08	809	0.2-	1.1+	1998 02 20	627	0.1+	0.6+	1998 03 03	704 0.7+ 0.2+
1994 07 09	809	2.7-	1.5+	1998 02 20	627	0.1+	1.8+	1998 03 03	704 0.2- 0.1+
1994 07 09	809	0.3+	1.3+	1998 02 25	122	0.0	0.1+	1998 03 04	704 0.8+ 0.4+
1994 07 09	809	0.9+	1.7+	1998 02 25	122	0.4-	0.2+	1998 03 04	704 0.5+ 0.0
1995 10 16	114	(8.2-	0.7-)	1998 02 25	122	0.2-	0.0	1998 03 04	704 1.1+ 0.0
1995 10 17	114	0.6-	1.6+	1998 02 25	132	0.3+	0.7+	1998 03 04	704 0.4- 1.0-
1995 10 18	114	1.2-	1.5+	1998 02 25	132	0.7-	0.3-	1998 03 04	704 1.0+ 0.5+
1995 10 19	114	0.7-	0.7+	1998 02 25	132	0.6-	0.9+		
1995 10 19	114	0.5+	1.3+	1998 03 03	704	1.0+	0.3-		

1998 DN₂ = 1991 RE₁₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	239.72711		(2000.0)		P		Q		
<i>n</i>	0.22909664	ω	312.44589		+0.76905052		+0.63470753		
<i>a</i>	2.6451902	Ω	9.10951		−0.34936672		+0.51637791		
<i>e</i>	0.1153264	<i>i</i>	28.50173		−0.53526086		+0.57489147		
<i>P</i>	4.30	<i>H</i>	13.5	<i>G</i>	0.15		<i>U</i>	4	
Residuals in seconds of arc									
1991 09 12	675	0.5+	0.8+	1998 02 21	910	0.2+	0.1+	1998 03 24	704 0.2+ 0.6−
1991 09 12	675	(0.0	3.0+)	1998 02 21	910	0.2+	0.1+	1998 03 25	704 0.2+ 0.3+
1991 09 15	675	0.3+	0.1−	1998 02 21	910	0.1+	0.2+	1998 03 25	704 0.6+ 0.4−
1991 09 15	675	0.2−	0.1−	1998 02 26	566	1.0−	0.2+	1998 03 25	704 0.6− 0.6+
1991 09 17	675	0.0	0.7−	1998 02 26	566	1.1−	0.1+	1998 03 25	704 0.4− 0.2+
1991 09 17	675	0.5−	0.0	1998 02 26	566	1.4−	0.2+	1998 03 25	704 0.4− 1.1−
1998 02 20	910	1.3+	0.5−	1998 03 24	704	0.1+	1.4+	1998 03 26	566 0.2+ 0.4+
1998 02 20	910	0.8+	0.3−	1998 03 24	704	1.0−	1.0−	1998 03 26	566 0.5+ 0.3+
1998 02 20	910	0.7+	0.2−	1998 03 24	704	0.3+	0.2−	1998 03 26	566 0.5+ 0.3+

1998 DM₄ = 1996 TP₄₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	104.47888		(2000.0)		P		Q				
n	0.23248345	ω	154.29008		+0.48825554		-0.87116454				
a	2.6194374	Ω	266.44568		+0.79147253		+0.46701692				
e	0.1174600	i	2.97256		+0.36766530		+0.15155047				
P	4.24	H	14.0		G	0.15	U	5			
Residuals in seconds of arc											
1996 10 04	809	0.9+	0.3-	1998 02 22	566	0.2+	0.2-	1998 03 03	704	0.4-	0.8+
1996 10 04	809	0.4-	0.2+	1998 02 23	566	0.1+	0.1-	1998 03 04	704	0.6+	0.2+
1996 10 04	809	0.8-	0.0	1998 02 23	566	0.3+	0.3-	1998 03 04	704	0.4-	0.2+
1996 10 05	809	0.9+	0.3-	1998 02 23	566	0.0	0.2-	1998 03 04	704	0.6-	1.0-
1996 10 05	809	0.2+	0.6-	1998 03 03	704	0.3+	0.2+	1998 03 04	704	0.6+	0.9-
1996 10 05	809	0.9-	1.1+	1998 03 03	704	0.6-	0.2-	1998 03 04	704	0.8-	0.6+
1998 02 22	566	0.4-	0.5+	1998 03 03	704	0.5+	0.6-				
1998 02 22	566	0.3-	0.2+	1998 03 03	704	0.9+	0.6+				

1998 DQ₄ = 1992 SK₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	320.55597		(2000.0)		P		Q			
<i>n</i>	0.27104128	ϖ	71.69374		-0.59177843		+0.80508448			
<i>a</i>	2.3647165	Ω	161.84470		-0.77992246		-0.55915021			
<i>e</i>	0.0862871	<i>i</i>	7.46143		-0.20376273		-0.19796471			
<i>P</i>	3.64	<i>H</i>	14.5		<i>G</i>	0.15	<i>U</i>	5		
Residuals in seconds of arc										
1992 09 25	691	0.4-	0.0	1998 02 23	566	0.1-	0.0	1998 03 03	704	0.4+ 0.9+
1992 09 25	691	1.5+	1.1-	1998 02 23	566	0.3+	0.1+	1998 03 03	704	0.0 0.3+
1992 09 25	691	0.3-	0.6+	1998 02 23	566	0.4+	0.2+	1998 03 04	704	0.0 0.2-
1992 09 26	691	0.3-	0.0	1998 02 24	566	0.2-	0.1+	1998 03 04	704	0.4- 0.1-
1992 09 26	691	0.3-	0.2+	1998 02 24	566	0.6-	0.1+	1998 03 04	704	0.3+ 0.3+
1992 09 26	691	0.2-	0.3+	1998 02 24	566	0.2-	0.4-	1998 03 04	704	0.1+ 0.3+
1998 02 22	566	0.2+	0.0	1998 03 03	704	0.2+	0.9-	1998 03 04	704	0.1- 0.0
1998 02 22	566	0.2+	0.2-	1998 03 03	704	0.2+	0.3+			
1998 02 22	566	0.2-	0.1+	1998 03 03	704	0.6-	0.9-			

1998 DY₄ = 1979 OZ = 1982 JY₃ = 1992 MQ

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	281.49179		(2000.0)		P		Q		
<i>n</i>	0.29843468	ω	136.76465		+0.14677994		+0.98606422		
<i>a</i>	2.2177020	Ω	141.47962		-0.93836030		+0.16385108		
<i>e</i>	0.1297783	<i>i</i>	7.22382		-0.31294664		-0.02881288		
<i>P</i>	3.30	<i>H</i>	14.5		<i>G</i>	0.15	<i>U</i>	2	
Residuals in seconds of arc									
1979 07 24	675	1.2-	0.1+	1998 02 23	566	0.6-	0.2+	1998 03 03	704 (0.3+ 2.9+)
1979 07 24	413	0.9+	0.8-	1998 02 23	566	0.7-	0.1+	1998 03 03	704 0.8+ 0.5+
1979 07 25	675	0.0	0.4+	1998 02 23	566	0.9-	0.3-	1998 03 03	704 0.1+ 0.2+
1979 07 26	675	0.3+	0.2+	1998 02 27	566	0.7+	0.2-	1998 03 04	704 0.3+ 0.2-
1982 05 15	095	0.1-	0.5-	1998 02 27	566	0.7+	0.2-	1998 03 04	704 0.6+ 0.4-
1992 06 23	413	1.0-	0.4-	1998 02 27	566	1.4+	0.0	1998 03 04	704 0.3+ 0.4-
1992 06 23	413	1.1+	0.9+	1998 02 27	098	1.5-	0.1-	1998 03 04	704 0.4- 0.0
1998 02 22	566	0.6-	0.4-	1998 02 28	098	0.7+	0.2+	1998 04 21	910 0.3- 0.6+
1998 02 22	566	0.2-	0.1+	1998 03 03	704	0.8+	0.3+	1998 04 21	910 0.3- 0.2+
1998 02 22	566	0.4-	0.2-	1998 03 03	704	0.1+	0.0	1998 04 21	910 1.1- 0.4+

1998 DZ₄ = 1996 TQ₅₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	78.30648	(2000.0)		P		Q					
n	0.23718194	ω	86.68506	+0.04350850	−0.99905289						
a	2.5847287	Ω	0.82198	+0.89967474	+0.03892623						
e	0.1483403	i	2.33492	+0.43438735	+0.01944427						
P	4.16 <th>H</th> <td>15.0<th>G</th><td>0.15<th>U</th><td>5</td></td></td>	H	15.0 <th>G</th> <td>0.15<th>U</th><td>5</td></td>	G	0.15 <th>U</th> <td>5</td>	U	5				
Residuals in seconds of arc											
1996 10 05	809	0.3−	0.3+	1998 02 22	566	0.0	1.1−	1998 03 03	704	0.3−	0.6+
1996 10 05	809	0.7+	1.4+	1998 02 22	566	0.4−	1.0−	1998 03 03	704	(4.7−	0.3+)
1996 10 05	809	0.6+	1.0+	1998 02 22	566	0.5−	0.8−	1998 03 04	704	0.7+	1.4+
1996 10 06	809	1.0+	1.4+	1998 02 23	566	0.3+	0.4−	1998 03 04	704	0.6−	0.0
1996 10 06	809	0.1−	0.0	1998 02 23	566	0.3−	0.9−	1998 03 04	704	0.1+	0.6+
1996 10 06	809	0.3−	0.9+	1998 02 23	566	0.7−	0.0	1998 03 04	704	0.7+	1.9+
1996 10 09	566	0.6−	1.4−	1998 03 03	704	0.0	0.3+	1998 03 04	704	(6.1−	1.4+)
1996 10 09	566	0.4−	1.6−	1998 03 03	704	0.6+	1.2+				
1996 10 09	566	0.9−	1.5−	1998 03 03	704	0.6+	1.1−				

1998 DF₉ = 1995 JM

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.30556338	ω	109.34021	-0.99649489	-0.01744933		
<i>a</i>	2.1830743	Ω	69.72780	-0.01895440	-0.90547018		
<i>e</i>	0.0640305	<i>i</i>	5.00346	+0.08147796	-0.42405104		
<i>P</i>	3.23	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1995 05 01	691	0.1+	0.2+	1998 02 22	566	0.1-	0.1-	1998 03 24	704	0.0	1.1-
1995 05 01	691	0.1+	0.1+	1998 02 22	566	0.7+	0.2+	1998 03 24	704	0.4+	1.2-
1995 05 01	691	0.2+	0.2+	1998 02 23	566	0.2-	0.1+	1998 03 25	704	0.6-	1.0+
1995 05 09	691	0.1-	0.5-	1998 02 23	566	0.6+	0.1+	1998 03 25	704	1.1+	0.7+
1995 05 09	691	0.3-	0.1-	1998 02 23	566	0.0	0.5+	1998 03 25	704	0.2+	0.5+
1995 05 09	691	0.0	0.4+	1998 03 24	704	0.1+	0.8+	1998 03 25	704	0.6-	0.2-
1998 02 22	566	0.8-	0.2-	1998 03 24	704	0.7+	1.0-	1998 03 25	704	1.5-	0.3-

1998 DQ₉ = 1980 XD = 1991 YK = 1996 XY₃₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18845036	ω	26.82890	-0.16607284	-0.96864959		
<i>a</i>	3.0130389	Ω	73.20299	+0.86655627	-0.23277680		
<i>e</i>	0.0797856	<i>i</i>	11.12782	+0.47063791	+0.08679243		
<i>P</i>	5.23	<i>H</i>	12.0	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1980 12 10	381	(19.0+	2.5-)	1996 12 06	098	0.4+	0.4+	1998 03 24	704	0.3-	0.1+
1980 12 10	381	(22.9+	1.9+)	1996 12 08	098	0.8-	0.8+	1998 03 24	704	0.2-	0.1-
1991 12 30	898	1.3-	0.2+	1996 12 08	098	0.2-	0.2-	1998 03 24	566	0.5+	0.8-
1991 12 30	898	1.6+	0.3+	1998 02 22	566	0.3+	0.1-	1998 03 24	566	0.4+	0.7-
1992 01 02	898	0.5+	0.8-	1998 02 22	566	0.3+	0.3+	1998 03 24	566	0.4+	0.9-
1992 01 02	898	0.9-	0.6+	1998 02 22	566	0.2+	0.0	1998 03 25	704	0.2-	0.1-
1992 01 04	898	0.1+	0.5-	1998 02 23	566	0.2+	0.2+	1998 03 25	704	0.4-	0.2+
1992 01 04	898	(4.4+	1.5-)	1998 02 23	566	0.1+	0.0	1998 03 25	704	0.1+	0.5+
1996 12 04	098	0.2+	0.7-	1998 02 23	566	0.1-	0.2+	1998 03 25	704	0.4-	0.3+
1996 12 04	098	1.0+	0.2-	1998 03 24	704	0.2-	0.2-	1998 03 25	704	0.8-	0.9+
1996 12 06	098	0.7-	0.0	1998 03 24	704	0.4+	0.1+				

1998 DZ₉ = 1993 FR₄₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17857738	ω	264.56942	+0.16970652	-0.98540340		
<i>a</i>	3.1230942	Ω	175.59159	+0.95910820	+0.16201955		
<i>e</i>	0.2166515	<i>i</i>	10.04762	+0.22651967	+0.05224756		
<i>P</i>	5.52	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1993 03 19	809	0.2-	0.4+	1998 02 22	566	1.5+	0.1+	1998 03 03	704	1.1-	0.4-
1993 03 20	809	0.2+	1.0-	1998 02 24	566	0.9+	0.1+	1998 03 04	704	1.5-	1.1+
1993 03 24	809	0.0	0.5+	1998 02 24	566	0.3+	0.3+	1998 03 04	704	0.6-	1.0+
1998 01 26	566	0.3-	0.2-	1998 02 24	566	1.3+	0.4-	1998 03 04	704	1.0+	0.4-
1998 01 26	566	0.2-	0.2-	1998 03 03	704	0.4+	0.8+	1998 03 04	704	1.8-	0.9-
1998 01 26	566	0.1-	0.1+	1998 03 03	704	0.2-	0.1+	1998 03 04	704	(0.6-	2.5-)
1998 02 22	566	0.7+	0.2-	1998 03 03	704	0.1-	0.5-				
1998 02 22	566	0.3+	0.3+	1998 03 03	704	0.5-	0.6-				

1998 DE₁₁ = 1992 GJ₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.31234749	ω	329.94442	-0.95201941	+0.30426110		
<i>a</i>	2.1513482	Ω	227.80741	-0.27118627	-0.88857162		
<i>e</i>	0.0776139	<i>i</i>	2.54726	-0.14183460	-0.34331570		
<i>P</i>	3.16	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1992 04 04	809	0.4+	0.3-	1998 01 24	566	0.1+	0.1+	1998 03 03	704	0.0	0.4-
1992 04 04	809	0.4-	0.0	1998 02 25	566	0.8-	0.4-	1998 03 03	704	0.4+	0.1-
1992 04 04	809	0.2-	0.5-	1998 02 25	566	0.9-	0.4-	1998 03 03	704	0.4+	0.5+
1992 04 06	809	0.2+	0.4+	1998 02 25	566	0.6-	0.4-	1998 03 03	704	0.3+	0.2+
1992 04 06	809	0.0	0.3-	1998 02 26	566	0.3-	0.4+	1998 03 04	704	0.3+	0.2-
1992 04 06	809	0.3-	0.2-	1998 02 26	566	0.1-	0.2+	1998 03 04	704	0.3-	0.5+
1992 04 25	809	0.6+	0.5+	1998 02 26	566	0.3-	0.2+	1998 03 04	704	0.2+	0.4+
1992 04 25	809	0.1+	0.1+	1998 02 27	566	0.2-	0.5-	1998 03 04	704	0.7+	0.3-
1992 04 25	809	0.4-	0.1+	1998 02 27	566	0.3-	0.4-	1998 03 04	704	0.9+	1.3+
1998 01 24	566	0.3+	0.1+	1998 02 27	566	0.2-	0.4-				
1998 01 24	566	0.3+	0.1+	1998 03 03	704	0.2+	0.4-				

1998 DE₁₃ = 1992 YK₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.21543752	ω	48.07106	-0.76184252	-0.62875877		
<i>a</i>	2.7558473	Ω	92.36637	+0.53857590	-0.74843826		
<i>e</i>	0.1599302	<i>i</i>	8.96807	+0.35990550	-0.21095636		
<i>P</i>	4.57	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1992 12 29	033	0.8+	1.6+	1998 02 26	566	0.1-	0.4-	1998 03 24	704	0.9+	1.5-
1992 12 30	033	0.2-	0.3-	1998 02 26	566	0.2+	0.1-	1998 03 25	704	0.2-	0.9+
1993 01 01	033	0.6-	1.3-	1998 02 26	566	0.0	0.4-	1998 03 25	704	1.0+	1.2+
1998 02 22	566	0.1-	0.5+	1998 03 24	704	0.8-	1.3+	1998 03 25	704	0.0	0.3+
1998 02 22	566	0.1+	0.4+	1998 03 24	704	1.8-	1.1-	1998 03 25	704	0.4-	0.4+
1998 02 22	566	0.0	0.5+	1998 03 24	704	1.6+	0.7-	1998 03 25	704	0.2-	1.2-

1998 DK₁₄ = 1991 GM₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.26834096	ω	236.02243	-0.60057354	+0.79956229		
<i>a</i>	2.3805542	Ω	357.05987	-0.70998096	-0.53523331		
<i>e</i>	0.1687903	<i>i</i>	3.80206	-0.36774781	-0.27244349		
<i>P</i>	3.67	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1991 04 08	809	0.9-	0.8+	1998 01 26	566	0.2-	0.2-	1998 03 03	704	0.2+	0.0
1991 04 08	809	1.1-	0.7-	1998 01 26	566	0.3-	0.0	1998 03 03	704	0.9+	0.0
1991 04 08	809	1.3-	0.3+	1998 01 26	566	0.1-	0.2-	1998 03 03	704	1.2-	1.1-
1991 04 10	809	0.8-	1.0+	1998 02 23	595	0.6+	0.3-	1998 03 04	704	0.4+	0.9-
1991 04 10	809	0.5-	0.7+	1998 02 24	595	0.8-	0.5+	1998 03 04	704	0.5+	1.0+
1991 04 10	809	0.6-	0.1-	1998 02 25	595	0.3+	0.1-	1998 03 04	704	0.5+	0.4+
1991 04 10	809	2.3+	0.3-	1998 02 25	595	0.0	0.2+	1998 03 04	704	0.6-	0.4-
1991 04 10	809	2.0+	1.3-	1998 03 03	704	0.8+	0.0				
1991 04 10	809	0.7+	0.6-	1998 03 03	704	0.9-	1.2+				

1998 DR₁₄ = 1996 VF₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18294027	ω	208.30543	-0.85200327	-0.49533406		
<i>a</i>	3.0732402	Ω	301.01469	+0.50987127	-0.71157183		
<i>e</i>	0.0922058	<i>i</i>	11.40774	+0.11883482	-0.49830682		
<i>P</i>	5.39	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1996 11 07	327	0.6-	0.4-	1998 02 22	566	0.1+	0.1+	1998 03 03	704	0.4-	0.8-
1996 11 07	327	0.7-	0.4+	1998 02 27	566	0.1-	0.7-	1998 03 04	704	0.0	0.2+
1996 11 07	327	0.6+	0.3+	1998 02 27	566	0.2+	0.6-	1998 03 04	704	0.3+	0.8+
1996 11 09	327	0.3+	0.2-	1998 02 27	566	0.1-	0.8-	1998 03 04	704	0.4+	0.3+
1996 11 09	327	0.7+	0.1-	1998 03 03	704	0.1-	0.1+	1998 03 04	704	0.4-	0.5+
1996 11 09	327	0.3-	0.0	1998 03 03	704	0.0	0.8-	1998 03 04	704	0.5-	0.3+
1998 02 22	566	0.0	0.4+	1998 03 03	704	0.3+	0.5+				
1998 02 22	566	0.0	0.6+	1998 03 03	704	0.3+	0.0				

1998 DT₁₄ = 1990 FZ₁

Id. G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Marsden		
<i>M</i>	67.12510	(2000.0)	P	Q	
<i>n</i>	0.24092450	ω	312.45709	-0.44504204	-0.89394353
<i>a</i>	2.5578912	Ω	163.73093	+0.86705292	-0.44493056
<i>e</i>	0.0408633	<i>i</i>	10.89255	+0.22395716	-0.05386793
<i>P</i>	4.09	<i>H</i>	13.5	<i>G</i>	0.15 <i>U</i> 4

Residuals in seconds of arc

1990 03 16	046	(0.5+ 3.3-)	1998 02 27	566	1.2- 0.3-	1998 03 03	704	0.0	1.4+
1990 03 16	046	(4.6- 1.8-)	1998 02 27	566	1.0- 0.3-	1998 03 04	809	0.9+	0.9-
1990 03 18	046	0.3+ 0.5+	1998 02 27	566	1.2- 0.4-	1998 03 04	809	0.3+	1.4-
1990 03 18	046	0.3- 0.5-	1998 03 03	809	0.9+ 1.3-	1998 03 04	809	0.1+	0.9-
1998 01 26	566	0.1+ 0.1+	1998 03 03	809	0.3+ 0.9-	1998 03 04	704	0.2-	0.6+
1998 01 26	566	0.1+ 0.1+	1998 03 03	809	(0.2+ 2.2-)	1998 03 04	704	0.3-	0.9+
1998 01 26	566	0.0 0.2+	1998 03 03	704	0.2+ 0.4+	1998 03 04	704	0.4+	0.0
1998 02 22	566	0.1- 0.3-	1998 03 03	704	0.5+ 1.0+	1998 03 04	704	0.3-	0.1+
1998 02 22	566	0.0 0.3-	1998 03 03	704	0.1- 1.0+	1998 03 04	704	0.0	0.1+
1998 02 22	566	0.1+ 0.4-	1998 03 03	704	0.4+ 1.5+				

1998 DN₁₅ = 1996 TE₃₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	142.52362	(2000.0)	P	Q	
<i>n</i>	0.25139330	ω	342.07369	+0.73448962	-0.66786642
<i>a</i>	2.4863767	Ω	60.44443	+0.63833119	+0.61974961
<i>e</i>	0.0922623	<i>i</i>	7.95125	+0.23034386	+0.41214666
<i>P</i>	3.92	<i>H</i>	14.5	<i>G</i>	0.15 <i>U</i> 5

Residuals in seconds of arc

1996 10 09	691	0.3+ 0.2+	1996 10 12	691	0.5+ 0.1-	1998 03 24	704	0.4-	0.8-
1996 10 09	691	0.5+ 0.1+	1998 02 22	566	0.2- 0.4+	1998 03 24	704	1.1-	0.8+
1996 10 10	691	1.0- 0.1-	1998 02 22	566	0.2+ 0.1+	1998 03 25	704	1.2+	0.4+
1996 10 10	691	0.1- 0.1-	1998 02 22	566	0.5- 0.0	1998 03 25	704	0.9+	0.6+
1996 10 10	691	0.9- 0.1-	1998 02 27	566	0.2+ 0.0	1998 03 25	704	0.8+	0.6-
1996 10 10	691	0.1- 0.0	1998 02 27	566	0.2+ 0.2-	1998 03 25	704	0.9+	0.9-
1996 10 10	691	0.1- 0.2+	1998 02 27	566	0.4+ 0.2-	1998 03 25	704	3.0-	1.0-
1996 10 12	691	0.6+ 0.1-	1998 03 24	704	0.3- 0.3-				
1996 10 12	691	0.4+ 0.0	1998 03 24	704	0.6+ 1.7+				

1998 DQ₁₅ = 1982 JB₁ = 1995 UO₄₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	53.12364	(2000.0)	P	Q	
<i>n</i>	0.17729383	ω	288.61380	-0.68825072	-0.72216912
<i>a</i>	3.1381496	Ω	205.30105	+0.71156828	-0.65341117
<i>e</i>	0.0880597	<i>i</i>	9.31246	+0.14135601	-0.22699254
<i>P</i>	5.56	<i>H</i>	13.5	<i>G</i>	0.15 <i>U</i> 4

Residuals in seconds of arc

1982 05 15	675	1.2+ 2.5-	1998 02 22	566	0.3- 0.8+	1998 03 04	704	(2.9- 1.6+)
1982 05 16	675	0.4- 0.6-	1998 02 22	566	0.6- 0.6+	1998 03 04	704	(3.7- 0.9+)
1982 05 16	675	0.5- 0.8+	1998 02 27	566	0.1+ 0.4+	1998 03 31	704	0.1- 1.2-
1982 05 17	675	0.8- 0.6+	1998 02 27	566	0.4+ 0.5+	1998 03 31	704	1.0+ 1.7-
1982 05 18	675	0.5+ 1.3+	1998 02 27	566	0.3+ 0.3+	1998 03 31	704	1.2+ 1.0-
1995 10 17	327	0.1+ 0.8-	1998 03 03	704	0.9- 0.4-	1998 03 31	704	0.1- 1.2-
1995 10 17	327	0.6+ 1.1-	1998 03 03	704	1.3- 0.7+	1998 03 31	704	1.7- 1.1-
1995 10 17	327	0.6+ 0.6-	1998 03 03	704	0.6- 0.6+	1998 04 01	704	0.6+ 0.6-
1995 10 18	327	0.4- 1.5-	1998 03 03	704	1.5- 0.1+	1998 04 01	704	0.7+ 0.7-
1995 10 18	327	0.7+ 1.1-	1998 03 04	704	(3.0- 0.6+)	1998 04 01	704	0.8+ 1.6-
1995 10 18	327	0.2+ 1.1-	1998 03 04	704	(2.9- 1.2+)	1998 04 01	704	0.7+ 0.1+
1998 02 22	566	0.4- 0.3+	1998 03 04	704	(3.9- 1.9+)	1998 04 01	704	0.4+ 0.2-

1998 DV₁₅ = 1994 BM₃ = 1996 TL₄₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	144.19757	(2000.0)	P	Q	
<i>n</i>	0.26442592	ω	184.97092	+0.80661616	-0.59063625
<i>a</i>	2.4039939	Ω	211.26665	+0.54380320	+0.75666007
<i>e</i>	0.0882513	<i>i</i>	2.51617	+0.23162135	+0.28038252
<i>P</i>	3.73	<i>H</i>	15.0	<i>G</i>	0.15 <i>U</i> 5

Residuals in seconds of arc

1994 01 16	010	0.9+ 1.0+	1996 10 05	809	0.9+ 0.0	1998 02 27	566	0.2+ 0.4-
1994 01 16	010	0.7+ 1.7+	1996 10 05	809	0.2+ 0.7+	1998 02 27	566	0.5+ 1.0-
1994 01 17	010	0.3- 0.9-	1996 10 05	809	0.2- 1.1+	1998 03 03	704	1.2- 0.5-
1994 01 17	010	1.3- 1.5-	1998 02 23	566	0.6+ 0.6-	1998 03 03	704	1.6- 1.3+
1996 10 04	809	1.2+ 0.9-	1998 02 23	566	1.5+ 0.6-	1998 03 03	704	2.4- 1.6+
1996 10 04	809	0.7- 0.9-	1998 02 23	566	0.5+ 0.6-	1998 03 03	704	2.7+ 0.6-
1996 10 04	809	1.4- 0.2-	1998 02 27	566	0.1- 0.3-	1998 03 03	704	1.0- 1.2+

1998 DX₁₇ = 1996 XM₃₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	179.40915	(2000.0)	P	Q	
<i>n</i>	0.22352090	ω	306.90827	+0.93506252	-0.35108211
<i>a</i>	2.6889989	Ω	73.69121	+0.33930231	+0.84642725
<i>e</i>	0.0562355	<i>i</i>	2.92551	+0.10262560	+0.40037766
<i>P</i>	4.41	<i>H</i>	14.0	<i>G</i>	0.15 <i>U</i> 6

Residuals in seconds of arc

1996 12 04	098	0.8+ 0.8-	1998 02 23	691	0.1- 0.4-	1998 03 20	704	0.3- 0.2-
1996 12 04	098	0.3+ 0.7+	1998 02 23	691	0.2- 0.4-	1998 03 20	704	1.2+ 0.9+
1996 12 08	098	1.7- 0.9-	1998 02 28	691	0.3- 0.4-	1998 03 20	704	0.3- 0.0
1996 12 08	098	0.0 0.3-	1998 02 28	691	0.3- 0.5-	1998 03 22	704	0.4+ 0.7-
1996 12 10	327	0.1- 0.7+	1998 02 28	691	0.3- 0.3-	1998 03 22	704	0.7- 0.9+
1996 12 10	327	0.3+ 0.5+	1998 03 20	704	0.8- 0.6+	1998 03 22	704	1.3+ 0.9+
1996 12 10	327	0.4+ 0.3+	1998 03 20	704	0.1+ 0.8-	1998 03 22	704	0.2+ 0.5+

1998 DM₂₃ = 1994 AP₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Gnädig		
<i>M</i>	321.06608	(2000.0)	P	Q	
<i>n</i>	0.25557619	ω	284.84925	-0.72873868	+0.67970323
<i>a</i>	2.4591732	Ω	298.05018	-0.58637642	-0.68222018
<i>e</i>	0.1017671	<i>i</i>	5.41783	-0.35369849	-0.26940519
<i>P</i>	3.86	<i>H</i>	15.5	<i>G</i>	0.15 <i>U</i> 5

Residuals in seconds of arc

1994 01 05	691	0.7+ 0.1-	1998 02 26	104	0.8- 0.8-	1998 03 05	104	0.8+ 0.1+
1994 01 05	691	0.6+ 0.3-	1998 02 27	104	0.4- 1.5+	1998 03 16	104	0.0 0.2-
1994 01 05	691	0.2- 0.1+	1998 02 27	104	0.3- 0.7+	1998 03 16	104	0.1+ 0.2-
1994 01 17	691	0.0 0.2+	1998 03 02	104	1.5+ 0.1+	1998 03 16	104	0.0 0.2-
1994 01 17	691	0.3- 0.0	1998 03 02	104	0.6+ 0.0	1998 03 16	104	0.1- 0.1-
1994 01 17	691	0.8- 0.1+	1998 03 02	104	0.3- 0.1-	1998 03 16	104	0.0 0.1-
1998 02 26	104	0.2- 0.4-	1998 03 05	104	0.3- 0.0	1998 03 19	104	1.2- 0.0
1998 02 26	104	0.4- 0.6-	1998 03 05	104	0.3+ 0.1+	1998 03 19	104	0.6+ 0.1+

1998 DA₃₃ = 1995 SJ₄₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	12.87149	(2000.0)	P	Q	
<i>n</i>	0.22714676	ω	203.54851	-0.87027223	+0.49249878
<i>a</i>	2.6603065	Ω	5.97711	-0.43807047	-0.76603513
<i>e</i>	0.0668232	<i>i</i>	4.64779	-0.22521213	-0.41308006
<i>P</i>	4.34	<i>H</i>	14.5	<i>G</i>	0.15 <i>U</i> 4

Residuals in seconds of arc

1995 09 22	691	0.5- 0.3+	1998 03 02	561	0.5+ 0.2+	1998 04 03	561	0.6- 0.1-
1995 09 22	691	0.5- 0.1+	1998 03 02	561	0.8+ 0.3-	1998 04 20	704	0.7+ 0.3+
1995 09 22	691	0.4- 0.1+	1998 03 02	561	0.5+ 0.6-	1998 04 20	704	0.7- 1.8+

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1995 09 27	691	0.3+	0.5+	1998 03 02	561	0.5+	0.6-	1998 04 20	704	0.9-	1.9-
1995 09 27	691	0.1-	0.1+	1998 04 02	561	0.2+	0.4+	1998 04 20	704	(3.4-	1.0+)
1995 09 27	691	0.5+	0.3+	1998 04 02	561	0.8-	0.1-	1998 04 21	704	0.4-	0.5-
1998 02 28	561	0.4+	0.4+	1998 04 02	561	0.2-	0.6+	1998 04 21	704	(0.6+	2.1-)
1998 02 28	561	0.1+	0.4+	1998 04 02	561	0.4-	0.6+	1998 04 21	704	1.0+	1.1-
1998 02 28	561	0.4+	0.9+	1998 04 02	561	0.1+	0.6+	1998 04 21	704	0.0	1.1-
1998 02 28	561	0.5+	0.6+	1998 04 03	561	0.3+	0.2+	1998 04 21	704	0.1+	0.3-
1998 02 28	561	0.2-	0.4+	1998 04 03	561	0.8-	0.5+				

1998 DU₃₃ = 1994 AK₂ = 1996 TB₆₅

Id. A. Gnädig, G. V. Williams

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	71.33786		(2000.0)	P	Q		
<i>n</i>	0.26464965	ω	71.17500	-0.46446301	-0.88519047		
<i>a</i>	2.4026389	Ω	46.53052	+0.79804552	-0.43141929		
<i>e</i>	0.1329263	<i>i</i>	2.10698	+0.38392377	-0.17411270		
<i>P</i>	3.72	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1994 01 05	399	0.2+	1.2+	1998 02 26	809	0.3-	2.1-	1998 03 20	704	0.0	0.2+
1994 01 05	399	0.2-	1.1-	1998 02 26	809	(1.1+	2.5-)	1998 03 20	704	0.3-	0.4+
1996 10 10	809	1.2+	0.7-	1998 02 27	809	(4.0+	4.1+)	1998 03 20	704	0.3-	0.7-
1996 10 10	809	0.3+	1.2+	1998 02 27	809	(2.6+	4.6+)	1998 03 20	704	0.5+	0.8-
1996 10 10	809	1.4+	0.2-	1998 02 27	809	(2.1+	3.7+)	1998 03 20	704	0.1+	0.0
1996 10 17	566	0.7-	0.5+	1998 02 28	809	0.7+	1.2+	1998 03 22	704	0.2+	0.0
1996 10 17	566	1.2-	0.7-	1998 02 28	809	0.6+	1.8+	1998 03 22	704	0.0	0.2+
1996 10 17	566	1.0-	0.3-	1998 02 28	809	0.1+	1.4+	1998 03 22	704	0.3+	0.4+
1998 02 25	809	0.4-	1.4-	1998 03 03	704	0.1-	0.3+	1998 03 22	704	0.2-	0.7-
1998 02 25	809	0.7-	1.3-	1998 03 03	704	0.7-	0.5+	1998 03 22	704	0.5-	0.4+
1998 02 25	809	(4.1-	0.8+)	1998 03 03	704	0.6-	0.3+				
1998 02 26	809	(0.0	3.4-)	1998 03 03	704	1.5+	0.5-				

1998 EG = 1994 CS₁₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Gnädig			
<i>M</i>	291.42414		(2000.0)	P	Q		
<i>n</i>	0.23149433	ω	103.42381	-0.47365620	+0.87713935		
<i>a</i>	2.6268936	Ω	138.00602	-0.84691050	-0.42895073		
<i>e</i>	0.0465287	<i>i</i>	6.80044	-0.24164523	-0.21593480		
<i>P</i>	4.26	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1994 02 07	809	0.9+	0.2-	1994 02 12	809	0.4-	0.6+	1998 03 02	910	0.2+	0.1-
1994 02 07	809	0.4-	0.0	1994 02 15	691	1.1-	0.9-	1998 03 24	910	0.1-	0.1+
1994 02 07	809	0.2-	0.2-	1994 02 15	691	0.8-	0.5-	1998 03 24	910	0.1+	0.1+
1994 02 09	809	1.1+	0.1-	1998 03 01	910	0.2-	0.0	1998 03 24	910	0.1-	0.5+
1994 02 09	809	0.7+	0.6-	1998 03 01	910	0.1-	0.0	1998 03 25	910	0.1-	0.1+
1994 02 09	809	1.1+	0.8-	1998 03 01	910	0.3-	0.4-	1998 03 25	910	0.2+	0.1+
1994 02 12	809	0.1-	1.1+	1998 03 02	910	0.4+	0.1-	1998 03 25	910	0.2-	0.3+
1994 02 12	809	0.9-	1.3+	1998 03 02	910	0.3+	0.3-				

1998 EF₂ = 1996 XZ₁₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	265.98489		(2000.0)	P	Q		
<i>n</i>	0.19815585	ω	151.23034	+0.74670461	+0.66508043		
<i>a</i>	2.9138339	Ω	167.06609	-0.61851284	+0.69980210		
<i>e</i>	0.0434253	<i>i</i>	2.56391	-0.24469184	+0.26066271		
<i>P</i>	4.97	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1996 12 04	691	0.0	0.1+	1998 03 02	910	0.1+	0.1-	1998 04 20	704	2.2+	1.3-
1996 12 04	691	0.3-	0.4-	1998 03 02	910	0.0	0.1-	1998 04 20	704	1.2-	0.1+
1996 12 04	691	0.3-	0.2-	1998 03 03	910	0.2+	0.0	1998 04 22	704	0.4-	0.5-
1996 12 11	691	0.1+	0.2+	1998 03 03	910	0.3-	0.0	1998 04 22	704	0.4-	0.9+
1996 12 11	691	0.1+	0.2+	1998 03 03	910	0.3-	0.1+	1998 04 22	704	0.2-	0.6+

1996 12 11	691	0.4+	0.1+	1998 04 20	704	0.0	1.2-	1998 04 22	704	1.0+	1.2+
1998 03 02	910	0.2+	0.1-	1998 04 20	704	0.9-	0.2+	1998 04 22	704	0.0	0.2+

1998 EG₂ = 1989 AY₅ = 1994 JL₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	338.89013		(2000.0)	P	Q		
<i>n</i>	0.23591413	ω	199.16486	-0.35782439	+0.93330205		
<i>a</i>	2.5939808	Ω	49.88047	-0.85150375	-0.31287042		
<i>e</i>	0.0644229	<i>i</i>	2.25955	-0.38327936	-0.17623673		
<i>P</i>	4.18	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1989 01 04	413	0.9-	1.1+	1994 05 10	691	0.3+	0.0	1998 04 21	704	0.6-	0.3+
1989 01 04	413	1.1+	0.5+	1998 03 02	910	0.2+	0.4+	1998 04 21	704	0.3-	0.3+
1989 01 10	413	3.2-	1.4-	1998 03 02	910	0.4+	0.5+	1998 04 21	704	0.6-	0.3+
1989 01 10	413	2.7+	1.0-	1998 03 02	910	0.2+	0.4+	1998 04 21	704	0.1-	0.3-
1994 05 03	691	0.4-	0.1-	1998 03 03	910	0.3+	0.4+	1998 04 21	704	0.1+	0.7-
1994 05 03	691	0.2-	0.1-	1998 03 03	910	0.4+	0.4+	1998 04 22	704	0.4-	0.5+
1994 05 03	691	0.4-	0.1-	1998 03 03	910	0.3+	0.4+	1998 04 22	704	0.4-	0.0
1994 05 03	691	0.2+	0.1-	1998 04 20	704	0.3-	0.1+	1998 04 22	704	0.0	0.5-
1994 05 03	691	0.3+	0.6+	1998 04 20	704	0.8+	0.5+	1998 04 22	704	0.7+	0.2-
1994 05 03	691	0.0	0.3-	1998 04 20	704	0.2-	0.0	1998 04 22	704	0.0	0.5-
1994 05 10	691	0.0	0.1+	1998 04 20	704	0.2+	0.3-				
1994 05 10	691	0.0	0.4-	1998 04 20	704	0.3-	1.0-				

1998 EQ₂ = 1996 XN₃₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	21.97811		(2000.0)	P	Q		
<i>n</i>	0.28399419	ω	196.78989	-0.88866715	+0.45811019		
<i>a</i>	2.2922558	Ω	10.54399	-0.40705304	-0.76787397		
<i>e</i>	0.0936025	<i>i</i>	6.31979	-0.21113624	-0.44777742		
<i>P</i>	3.47	<i>H</i>	16.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1996 12 09	691	0.0	0.3-	1998 03 03	910	0.1-	0.2-	1998 04 21	704	0.1-	1.9-
1996 12 09	691	0.7-	0.3+	1998 03 03	910	0.1+	0.1+	1998 04 21	704	2.3-	0.5+
1996 12 09	691	0.1-	0.1+	1998 04 20	704	2.0+	0.7+	1998 04 22	704	0.6-	0.1-
1996 12 15	691	0.0	0.1+	1998 04 20	704	0.2+	0.9+	1998 04 22	704	0.0	1.2-
1996 12 15	691	0.8+	0.2-	1998 04 20	704	1.5+	0.5-	1998 04 22	704	0.0	0.9+
1998 03 02	910	0.1-	0.2+	1998 04 20	704	1.6-	0.7-	1998 04 22	704	0.5-	0.9-
1998 03 02	910	0.3-	0.0	1998 04 21	704	1.1+	0.9-	1998 04 22	704	0.6-	1.7+
1998 03 02	910	0.1+	0.1-	1998 04 21	704	1.2+	1.7+				
1998 03 03	910	0.0	0.0	1998 04 21	704	0.1-	0.1-				

1998 ER₃ = 3210 T-3 = 1996 TU₄₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	40.32522		(2000.0)	P	Q		
<i>n</i>	0.26198501	ω	147.90660	-0.99240741	-0.12180543		
<i>a</i>	2.4189028	Ω	25.11386	+0.10263705	-0.89657034		
<i>e</i>	0.1453204	<i>i</i>	2.30343	+0.06777296	-0.42582281		
<i>P</i>	3.76	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1977 10 07	675	0.2-	0.7+	1998 03 03	910	0.6+	0.1-	1998 04 04	699	1.5+	0.1+
1977 10 11	675	1.0-	1.1-	1998 03 03	910	0.3+	0.4-	1998 04 04	699	0.2+	0.1-
1977 10 11	675	1.9-	1.1-	1998 03 03	910	0.3-	0.1+	1998 04 20	704	0.9+	0.5-
1977 10 12	675	1.8+	1.1-	1998 03 04	910	0.7+	0.0	1998 04 20	704	0.3+	0.3-
1977 10 12	675	(0.3-	3.4-)	1998 03 20	704	0.9-	0.0	1998 04 20	704	0.1+	0.7-
1977 10 16	675	1.1+	1.3-	1998 03 20	704	(2.2-	0.7-)	1998 04 20	704	0.5-	0.3-
1977 10 16	675	0.4+	0.9-	1998 03 20	704	0.2-	0.1+	1998 04 20	704	0.1-	0.8-
1977 10 17	675	1.3+	0.4+	1998 03 20	704	1.9-	0.3+	1998 04 22	704	0.1+	0.5-
1977 10 17	675	0.1+	0.8+	1998 03 20	704	(2.5-	1.0+)	1998 04 22	704	0.3+	0.4+
1996 10 12	691	0.5+	0.1-	1998 03 22	704	0.2-	0.7-	1998 04 22	704	0.4-	0.9-
1996 10 12	691	0.4+	0.0	1998 03 22	704	(0.4-	2.1+)	1998 04 22	704	1.0-	0.2-
1996 10 12	691	0.6+	0.1-	1998 03 22	704	1.7-	0.5+	1998 04 22	704	0.8+	1.5+

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1996 10 21	691	0.1−	1.3+	1998 03 22	704	0.9−	0.7−	1998 04 30	566	0.7+	0.0
1996 10 21	691	1.2−	0.2−	1998 03 24	699	0.3−	0.3+	1998 04 30	566	0.1+	0.0
1996 10 21	691	0.5−	0.2+	1998 03 24	699	0.4−	0.5+	1998 04 30	566	0.1−	0.2−
1998 03 03	910	0.5+	0.2−	1998 03 24	699	0.2−	0.4+				
1998 03 03	910	0.6+	0.2−	1998 04 04	699	0.5+	0.3+				

1998 EE₉ = 1990 RL

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	51.82379	(2000.0)	
<i>n</i>	0.18291380	<i>ω</i> 100.48765	−0.22084158 −0.97528952
<i>a</i>	3.0735367	<i>Ω</i> 2.29932	+0.82249177 −0.18969116
<i>e</i>	0.0396941	<i>i</i> 8.99477	+0.52415292 −0.11325905
<i>P</i>	5.39	<i>H</i> 12.5	<i>G</i> 0.15 <i>U</i> 4

Residuals in seconds of arc

1990 09 14	675	0.8−	0.5−	1998 01 08	699	0.7+	0.3+	1998 03 12	327	0.3+	0.5+
1990 09 14	675	0.1+	0.5−	1998 03 05	327	0.3−	0.1+	1998 03 14	327	0.2+	0.2−
1990 09 19	675	1.5+	1.2+	1998 03 05	327	0.2+	0.4−	1998 03 14	327	0.1+	0.1+
1990 09 19	675	0.7−	0.3−	1998 03 05	327	0.2−	0.4+	1998 03 14	327	0.1+	0.2−
1998 01 08	699	0.1−	0.4−	1998 03 12	327	0.2−	0.4+				
1998 01 08	699	0.5−	0.1+	1998 03 12	327	0.2−	0.5−				

1998 EE₁₀ = 1981 EB₂ = 1981 EF₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	296.57723	(2000.0)	
<i>n</i>	0.28941647	<i>ω</i> 268.89732	+0.36717531 +0.92965538
<i>a</i>	2.2635350	<i>Ω</i> 22.71794	−0.81905134 +0.33862758
<i>e</i>	0.1511016	<i>i</i> 4.51239	−0.44083692 +0.14516282
<i>P</i>	3.41	<i>H</i> 14.5	<i>G</i> 0.15 <i>U</i> 6

Residuals in seconds of arc

1981 03 04	801	1.6+	0.6−	1998 03 08	699	1.4−	0.6+	1998 03 20	704	0.0	1.0+
1981 03 05	809	1.1−	2.4+	1998 03 08	699	1.4−	0.8+	1998 03 22	704	0.6−	0.4−
1981 03 05	809	0.0	1.2+	1998 03 08	699	0.1−	0.9−	1998 03 22	704	0.6−	0.6−
1981 03 05	809	1.3+	0.3+	1998 03 08	327	0.1−	0.2−	1998 03 22	704	0.0	0.5−
1998 02 27	566	0.5+	0.8−	1998 03 08	327	0.2+	0.0	1998 03 22	704	0.2−	1.2−
1998 02 27	566	0.5+	0.8−	1998 03 08	327	0.1−	0.1+	1998 03 22	704	0.7−	0.9−
1998 02 27	566	0.6+	0.8−	1998 03 20	704	0.0	0.2+	1998 03 26	327	0.4+	0.6−
1998 03 02	327	0.0	0.0	1998 03 20	704	0.4+	0.3+	1998 03 26	327	0.2+	0.2−
1998 03 02	327	0.0	0.0	1998 03 20	704	0.2+	0.8+	1998 03 26	327	0.1+	0.4−
1998 03 02	327	0.1+	0.2+	1998 03 20	704	0.3+	1.0+				

1998 EP₁₀ = 1991 PJ₂₃ = 1992 WV₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	129.75153	(2000.0)	
<i>n</i>	0.23515488	<i>ω</i> 298.95878	+0.47779237 −0.87160194
<i>a</i>	2.5995612	<i>Ω</i> 122.09241	+0.84430611 +0.42114369
<i>e</i>	0.0464787	<i>i</i> 7.43694	+0.24261420 +0.25089451
<i>P</i>	4.19	<i>H</i> 14.5	<i>G</i> 0.15 <i>U</i> 5

Residuals in seconds of arc

1991 08 02	809	0.2+	0.0	1992 11 20	691	0.1−	0.2+	1998 03 24	704	0.9−	0.8−
1991 08 02	809	0.3−	2.1+	1998 03 01	809	0.7+	1.9+	1998 03 24	704	0.1+	2.5−
1991 08 02	809	0.4−	0.8+	1998 03 01	809	1.2+	2.4+	1998 03 24	704	0.3−	1.5−
1992 11 19	691	0.2+	0.4+	1998 03 01	809	0.6+	2.1+	1998 03 25	704	0.0	0.0
1992 11 19	691	0.0	0.2+	1998 03 02	809	0.9+	1.5+	1998 03 25	704	1.1−	0.9+
1992 11 19	691	0.0	0.1−	1998 03 02	809	0.5+	1.0+	1998 03 25	704	1.0−	1.2−
1992 11 20	691	0.2−	0.2+	1998 03 02	809	1.0+	0.2+	1998 03 25	704	0.4−	1.0−
1992 11 20	691	0.2−	0.1+	1998 03 24	704	1.2−	0.8+	1998 03 25	704	0.9+	1.5−

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1998 EQ₁₀ = 1995 JK₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	253.39104	(2000.0)	
<i>n</i>	0.28322477	<i>ω</i> 249.29527	+0.75821769 +0.64791019
<i>a</i>	2.2964054	<i>Ω</i> 70.24521	−0.56565982 +0.70930668
<i>e</i>	0.1804460	<i>i</i> 4.44414	−0.32424513 +0.27766241
<i>P</i>	3.48	<i>H</i> 14.0	<i>G</i> 0.15 <i>U</i> 6

Residuals in seconds of arc

1995 05 05	010	1.3−	0.2+	1998 03 01	809	0.2+	0.4−	1998 03 24	704	0.8+	1.1−
1995 05 05	010	0.4+	0.0	1998 03 01	809	1.0+	0.2−	1998 03 24	704	0.7+	1.2−
1995 05 05	010	1.2+	0.3−	1998 03 02	809	0.3−	0.4+	1998 03 25	704	0.6−	0.5−
1995 05 08	010	0.2−	0.9−	1998 03 02	809	0.4−	0.1+	1998 03 25	704	0.7−	1.6+
1995 05 08	010	0.9−	0.1+	1998 03 02	809	1.6−	0.5+	1998 03 25	704	0.2−	0.6+
1995 05 08	010	0.8+	1.0+	1998 03 24	704	0.1−	0.8+	1998 03 25	704	0.2+	0.1−
1998 03 01	809	1.2+	0.4+	1998 03 24	704	0.8+	1.1−	1998 03 25	704	1.1−	0.2+

1998 EQ₁₁ = 1993 FZ₃₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	26.70183	(2000.0)	
<i>n</i>	0.18921537	<i>ω</i> 124.22127	−0.96609530 −0.25126768
<i>a</i>	3.0049121	<i>Ω</i> 41.31521	+0.19726867 −0.86671794
<i>e</i>	0.0331929	<i>i</i> 5.15914	+0.16656815 −0.43088811
<i>P</i>	5.21	<i>H</i> 13.5	<i>G</i> 0.15 <i>U</i> 5

Residuals in seconds of arc

1993 03 19	809	0.7−	0.9−	1998 03 01	809	0.2+	0.2−	1998 03 24	704	0.1−	0.9−
1993 03 20	809	0.4−	0.6−	1998 03 01	809	0.2−	0.1+	1998 03 24	704	0.5−	0.5−
1993 03 24	809	1.1+	1.5+	1998 03 02	809	0.4+	1.7−	1998 03 25	704	0.4+	0.1+
1998 02 26	566	0.1+	1.1+	1998 03 02	809	0.5+	1.3−	1998 03 25	704	0.5−	1.3+
1998 02 26	566	0.3−	1.4+	1998 03 02	809	0.8−	1.1−	1998 03 25	704	1.3+	0.6−
1998 02 26	566	0.2−	1.5+	1998 03 24	704	1.6−	1.0+	1998 03 25	704	1.8+	0.1−
1998 03 01	809	0.6+	0.1+	1998 03 24	704	(2.4+	1.6−)	1998 03 25	704	1.2−	0.1−

1998 EW₁₁ = 1993 GW

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	211.15894	(2000.0)	
<i>n</i>	0.17531531	<i>ω</i> 208.85520	+0.94399343 +0.31099043
<i>a</i>	3.1617157	<i>Ω</i> 132.58677	−0.26662921 +0.91582319
<i>e</i>	0.0651386	<i>i</i> 8.61437	−0.19438431 +0.25407251
<i>P</i>	5.62	<i>H</i> 12.5	<i>G</i> 0.15 <i>U</i> 5

Residuals in seconds of arc

1993 04 14	372	0.0	0.8+	1998 03 01	809	1.7+	0.4+	1998 03 24	704	0.2+	0.9−
1993 04 14	372	0.2+	1.8+	1998 03 01	809	0.7+	0.5+	1998 03 25	704	0.4−	0.5+
1993 04 17	372	1.6+	0.7−	1998 03 02	809	1.2+	0.4+	1998 03 25	704	0.2+	0.2+
1993 04 17	372	1.8−	1.9−	1998 03 02	809	0.7+	0.3+	1998 03 25	704	0.1+	0.4+
1998 02 26	566	1.6−	0.8−	1998 03 02	809	0.1−	1.4+	1998 03 25	704	0.6−	0.7+
1998 02 26	566	1.6−	1.0−	1998 03 24	704	0.9−	0.3−	1998 03 25	704	1.3+	0.4−
1998 02 26	566	1.7−	0.8−	1998 03 24	704	0.6−	0.2−				
1998 03 01	809	1.7+	0.3+	1998 03 24	704	0.1−	0.6−				

1998 EF₁₂ = 1977 CB₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	41.20967	(2000.0)	
<i>n</i>	0.28378163	<i>ω</i> 122.51265	−0.93439307 −0.35247173
<i>a</i>	2.2934003	<i>Ω</i> 36.92212	+0.29112181 −0.83914932
<i>e</i>	0.1556285	<i>i</i> 4.93745	+0.20532335 −0.41423676
<i>P</i>	3.47	<i>H</i> 15.0	<i>G</i> 0.15 <i>U</i> 5

Residuals in seconds of arc

1977 02 12	675	0.6−	0.6−	1998 03 24	704	0.5−	0.0	1998 03 29	046	0.2+	0.2−
1977 02 13	675	0.2+	0.7−	1998 03 24	704	0.7−	0.6−	1998 03 29	046	0.1+	0.2−
1998 03 01	809	1.4+	1.4+	1998 03 24	704	0.9−	0.0	1998 03 29	046	0.1+	0.3−

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1998 03 01	809	1.8+	1.0+	1998 03 25	704	0.9-	0.7+	1998 03 30	046	0.4+	0.2-
1998 03 01	809	1.5+	1.1+	1998 03 25	704	0.9-	0.2+	1998 03 30	046	0.3+	0.3-
1998 03 02	809	0.4+	0.3+	1998 03 25	704	0.5-	0.1+	1998 03 30	046	0.8+	0.1-
1998 03 02	809	0.1-	0.5-	1998 03 25	704	0.5-	0.2+	1998 03 30	046	0.1-	0.1-
1998 03 02	809	0.1+	0.3-	1998 03 25	704	0.4-	0.3-	1998 03 30	046	0.8+	0.3-
1998 03 24	704	1.8-	0.5-	1998 03 29	046	0.0	0.2-				

1998 EK₁₂ = 1969 UE = 1991 RY₂₆ = 1991 VH₁₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	214.77284			(2000.0)		<i>P</i>		<i>Q</i>			
<i>n</i>	0.22167631	<i>ω</i>		315.06918		+0.94849480		+0.30567339			
<i>a</i>	2.7038952	<i>Ω</i>		27.45428		-0.21540066		+0.81485248			
<i>e</i>	0.0943619	<i>i</i>		10.39599		-0.23229329		+0.49252332			
<i>P</i>	4.45	<i>H</i>		13.0		<i>G</i>	0.15	<i>U</i>		4	

Residuals in seconds of arc

1969 10 16	095	1.0-	2.2+	1998 03 01	809	0.4-	0.4-	1998 03 25	704	1.2-	0.1-
1991 09 13	675	0.1+	0.5+	1998 03 02	809	1.5+	1.1+	1998 04 18	704	0.6+	0.5-
1991 09 13	675	0.6+	0.1-	1998 03 02	809	1.5+	0.5+	1998 04 18	704	0.9+	0.9+
1991 09 15	675	0.2+	0.6-	1998 03 02	809	1.3+	0.6+	1998 04 18	704	0.6+	0.3-
1991 09 15	675	0.3+	0.9-	1998 03 24	704	0.6-	0.8-	1998 04 18	704	0.2-	0.9-
1991 11 08	675	0.5+	0.3-	1998 03 24	704	0.6-	0.9-	1998 04 19	704	1.5+	0.6+
1991 11 08	675	0.5+	1.8-	1998 03 24	704	0.5-	0.0	1998 04 19	704	0.8+	0.1-
1998 02 26	566	0.1+	0.6+	1998 03 24	704	1.4-	0.6-	1998 04 19	704	0.6+	0.0
1998 02 26	566	0.3+	0.6+	1998 03 25	704	0.5-	0.6-	1998 04 19	704	1.1+	0.3+
1998 02 26	566	0.0	0.6+	1998 03 25	704	1.2-	0.4-	1998 04 19	704	0.2-	0.2+
1998 03 01	809	1.2-	0.9-	1998 03 25	704	1.4-	0.3-				
1998 03 01	809	0.9-	0.9-	1998 03 25	704	0.9-	0.0				

1998 EG₁₄ = 1963 WB = 1995 HZ₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	97.98508			(2000.0)		<i>P</i>		<i>Q</i>			
<i>n</i>	0.29364560	<i>ω</i>		317.60535		+0.18557155		-0.98140119			
<i>a</i>	2.2417494	<i>Ω</i>		121.64439		+0.91631995		+0.15477207			
<i>e</i>	0.2690289	<i>i</i>		3.30919		+0.35485341		+0.11356634			
<i>P</i>	3.36	<i>H</i>		15.0		<i>G</i>	0.15	<i>U</i>		4	

Residuals in seconds of arc

1963 11 19	760	0.1+	1.5+	1998 03 02	809	1.0+	0.1+	1998 03 24	704	1.3-	1.3+
1963 11 19	760	0.5-	0.2-	1998 03 02	809	1.2+	0.3+	1998 03 24	704	0.2-	0.1-
1995 04 26	691	0.4+	0.4+	1998 03 20	704	0.4-	1.2-	1998 03 24	704	0.0	0.0
1995 04 26	691	0.0	0.5+	1998 03 20	704	0.9-	0.4-	1998 03 24	704	0.5-	0.3+
1995 04 26	691	0.1-	0.4+	1998 03 20	704	0.6-	0.2+	1998 03 24	566	0.1-	0.5-
1995 05 09	691	0.5+	0.2+	1998 03 20	704	1.3-	0.4+	1998 03 24	566	0.2-	0.6-
1995 05 09	691	0.3+	0.6+	1998 03 20	704	1.7-	0.7+	1998 03 24	566	0.3-	0.5-
1995 05 09	691	0.1-	0.5+	1998 03 22	704	0.1+	0.2-	1998 03 25	704	0.0	0.2-
1998 03 01	809	1.9+	0.7-	1998 03 22	704	0.1+	0.4-	1998 03 25	704	0.1-	0.6+
1998 03 01	809	1.8+	0.4-	1998 03 22	704	0.7+	0.5-	1998 03 25	704	0.5-	0.2+
1998 03 01	809	(2.4+	1.4-)	1998 03 22	704	1.5+	0.0	1998 03 25	704	0.6-	0.0
1998 03 02	809	1.7+	0.7+	1998 03 22	704	0.4-	0.4-	1998 03 25	704	1.3-	0.6+

1998 EX₁₄ = 1991 JY₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	317.54396			(2000.0)		<i>P</i>		<i>Q</i>			
<i>n</i>	0.25786305	<i>ω</i>		46.19574		-0.59954227		+0.80025104			
<i>a</i>	2.4446122	<i>Ω</i>		186.99845		-0.75993059		-0.57396185			
<i>e</i>	0.0708416	<i>i</i>		5.71733		-0.25110668		-0.17368379			
<i>P</i>	3.82	<i>H</i>		13.5		<i>G</i>	0.15	<i>U</i>		5	

Residuals in seconds of arc

1991 05 12	809	0.4+	0.1-	1998 02 23	566	0.2-	0.2+	1998 03 03	372	0.4+	0.1+
1991 05 12	809	0.4-	0.2-	1998 03 02	372	1.0+	0.2+	1998 03 04	704	0.3+	0.2-
1991 05 12	809	1.0+	1.4-	1998 03 02	372	1.6-	1.5+	1998 03 04	704	0.7+	1.6+
1991 05 17	809	0.2-	0.7+	1998 03 03	704	0.4-	0.0	1998 03 04	704	0.4+	0.5+
1991 05 17	809	0.0	0.7+	1998 03 03	704	0.3-	0.7-	1998 03 04	704	0.3-	0.9-

1991 05 17	809	0.9-	0.3+	1998 03 03	704	0.3-	0.6-	1998 03 04	704	0.0	0.3-
1998 02 23	566	0.1-	0.0	1998 03 03	704	0.2+	0.7-	1998 03 05	372	1.4-	0.5-
1998 02 23	566	0.2-	0.2-	1998 03 03	372	2.0+	0.0				

1998 FO₂ = 2112 P-L

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	72.50320			(2000.0)		<i>P</i>		<i>Q</i>			
<i>n</i>	0.37941631	<i>ω</i>		136.91466		-0.77946523		-0.62552237			
<i>a</i>	1.8896965	<i>Ω</i>		4.75483		+0.40264131		-0.54182855			
<i>e</i>	0.1171844	<i>i</i>		24.21237		+0.47991033		-0.56137651			
<i>P</i>	2.60	<i>H</i>		16.0		<i>G</i>	0.15	<i>U</i>		4	

Residuals in seconds of arc

1960 09 24	675	1.9-	1.8+	1998 03 22	704	0.1-	1.6-	1998 04 01	704	0.3+	0.6+
1960 09 24	675	0.2+	0.7+	1998 03 22	704	0.1-	1.0-	1998 04 01	704	0.6-	0.6+
1960 09 26	675	0.5+	0.8-	1998 03 28	704	0.2-	0.8+	1998 04 01	704	0.3+	0.3+
1960 09 28	675	0.4-	0.0	1998 03 28	704	0.3+	1.3-	1998 04 18	704	0.4-	0.1-
1960 09 28	675	0.0	0.7-	1998 03 28	704	0.7-	0.2+	1998 04 18	704	0.2-	0.3-
1960 09 29	675	1.1+	0.6-	1998 03 28	704	1.2-	0.7-	1998 04 18	704	0.1-	0.7-
1998 02 24	566	0.0	0.2+	1998 03 28	704	1.2-	1.0-	1998 04 18	704	0.6-	0.8-
1998 02 24	566	0.3+	0.2+	1998 03 29	704	0.4+	0.8+	1998 04 19	704	1.0+	0.6-
1998 02 24	566	0.3+	0.2-	1998 03 29	704	0.5-	1.0+	1998 04 19	704	0.4-	0.2+
1998 03 20	704	0.1+	0.5-	1998 03 29	704	0.9+	0.7+	1998 04 19	704	0.1-	0.2+
1998 03 20	704	0.1-	0.0	1998 03 29	704	1.0+	0.0	1998 04 19	704	0.9-	0.5-
1998 03 20	704	0.1-	0.2+	1998 03 29	704	0.3+	0.7+	1998 04 19	704	0.0	0.4-
1998 03 20	704	0.6-	0.5+	1998 03 31	699	1.2+	1.2+	1998 04 28	566	0.5+	0.0
1998 03 20	704	0.3+	0.4-	1998 03 31	699	0.8+	1.5+	1998 04 28	566	0.9+	0.2+
1998 03 22	704	0.0	0.2-	1998 03 31	699	(1.4+	2.7+)	1998 04 28	566	0.0	0.4+
1998 03 22	704	0.1+	0.6-	1998 04 01	704	0.3+	0.6+				
1998 03 22	704	0.1-	0.8-	1998 04 01	704	0.3-	0.9+				

1998 FQ₂ = 1961 TM = 1977 EX₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
<i>M</i>	297.89821			(2000.0)		<i>P</i>		<i>Q</i>			
<i>n</i>	0.28661510	<i>ω</i>		279.54474		+0.54769091		+0.83623603			
<i>a</i>	2.2782603	<i>Ω</i>		23.72653		-0.73859431		+0.49854246			
<i>e</i>	0.1918064	<i>i</i>		3.88693		-0.39308156		+0.22839598			
<i>P</i>	3.44	<i>H</i>		15.0		<i>G</i>	0.15	<i>U</i>		3	

Residuals in seconds of arc

1961 10 07	760	0.3+	1.1-	1998 03 23	727	0.7+	0.3-	1998 04 15	727	0.5-	0.5+
1961 10 07	760	0.1-	0.6+	1998 03 23	727	0.3-	0.0	1998 04 15	727	0.0	0.1-
1977 03 12	381	0.1+	0.4+	1998 03 23	727	0.5-	0.4-	1998 04 16	727	0.7-	0.6-
1977 03 12	381	0.2+	0.3+	1998 03 25	727	0.1+	0.4+	1998 04 16	727	0.1-	0.4+
1997 12 04	910	0.2-	0.9-	1998 03 25	727	0.9+	0.4+	1998 04 20	704	0.1+	0.8-
1997 12 04	910	0.4-	0.6-	1998 03 25	699	0.7+	0.1-	1998 04 20	704	1.1+	0.1-
1997 12 04	910	0.5-	0.9-	1998 03 25	699	0.1+	0.1-	1998 04 20	704	1.1+	0.5-
1998 03 20	704	0.9-	0.1-	1998 03 25	699	0.2+	0.6+	1998 04 20	704	1.5-	1.3+
1998 03 20	704	0.3-	0.3+	1998 03 30	727	0.2+	0.1+	1998 04 22	704	0.1+	0.1+
1998 03 20	704	(2.3-	0.5+)	1998 03 30	727	0.3-	0.4+	1998 04 22	704	0.4+	0.2+
1998 03 20	704	1.3-	0.3+	1998 03 30	727	0.2+	0.4+	1998 04 22	704	0.5-	0.5+
1998 03 20	704	1.5-	0.3+	1998 04 01	727	0.7-	0.1-	1998 04 22	704	0.2-	1.2+
1998 03 21	727	1.4+	0.5+	1998 04 01	727	0.2-	0.4-	1998 04 22	704	0.9-	0.0
1998 03 21	727	0.5-	0.1-	1998 04 01	727	0.0	0.2-	1998 04 23	727	0.2+	0.1+
1998 03 21	727	0.7+	1.1-	1998 04 06	727	0.2-	0.2+	1998 04 23	727	0.0	0.6-
1998 03 22	699	0.3+	0.0	1998 04 06	727	0.1+	0.1-	1998 04 23	727	0.4-	0.7-
1998 03 22	699	1.1+	0.0	1998 04 06	727	0.1-	0.2-	1998 05 01	727	0.8+	1.3-
1998 03 22	699	1.2+	0.8+	1998 04 15	727	0.0	0.1-	1998 05 01	727	0.0	0.7-

1998 FC₃ = 1994 AA₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams							
<i>M</i>	41.52478	(2000.0)		P		Q			
<i>n</i>	0.27231710	ω	117.69474	-0.99713777		+0.00809998			
<i>a</i>	2.3573249	Ω	62.85407	-0.03986583		-0.90112733			
<i>e</i>	0.1959987	<i>i</i>	4.84590	+0.06424165		-0.43347886			
<i>P</i>	3.62	<i>H</i>	16.0	<i>G</i>	0.15	<i>U</i>	5		

Residuals in seconds of arc

1994 01 14	033	0.6-	1.0+	1998 03 26	557	0.2+	0.1-	1998 04 21	704	0.3-	0.6+
1994 01 15	033	0.2+	0.4-	1998 03 30	557	0.1-	0.4-	1998 04 21	704	0.3+	0.9+
1994 01 15	033	0.3+	0.5-	1998 04 07	557	0.3+	0.1-	1998 04 22	704	0.5+	0.5+
1998 03 23	557	0.3-	0.1+	1998 04 07	557	0.2+	0.4-	1998 04 22	704	0.1+	0.4+
1998 03 23	557	0.2-	0.3+	1998 04 17	557	0.3-	0.5-	1998 04 22	704	0.1-	0.4-
1998 03 23	557	0.0	0.1-	1998 04 17	557	0.1-	0.1+	1998 04 22	704	0.3+	1.0-
1998 03 24	557	0.0	0.1-	1998 04 21	704	1.0-	0.2+	1998 04 22	704	0.5+	0.7-
1998 03 24	557	0.1+	0.3+	1998 04 21	704	0.1+	0.1-				
1998 03 26	557	0.1+	0.2+	1998 04 21	704	0.3-	0.4+				

1998 FD₃ = 1989 WX₆ = 1992 OM₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams							
<i>M</i>	162.18619	(2000.0)		P		Q			
<i>n</i>	0.28284758	ω	273.08543	+0.46705168		-0.88308613			
<i>a</i>	2.2984465	Ω	148.94438	+0.84194532		+0.42860500			
<i>e</i>	0.1329403	<i>i</i>	5.00016	+0.27016811		+0.19093625			
<i>P</i>	3.48	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4		

Residuals in seconds of arc

1989 11 28	511	0.9-	0.4-	1992 07 30	809	0.3-	0.9-	1998 03 30	557	0.1-	0.2-
1989 11 28	511	0.7-	0.2+	1998 03 23	557	1.4+	1.0+	1998 04 07	557	0.3-	0.6+
1989 11 28	511	0.1+	0.0	1998 03 23	557	1.0+	0.4+	1998 04 07	557	0.2-	0.3+
1989 11 28	511	1.4+	0.2+	1998 03 23	557	0.6+	1.1+	1998 04 16	557	0.7-	0.1-
1992 07 26	809	0.4-	1.2+	1998 03 24	557	0.3+	0.4+	1998 04 16	557	1.7-	0.1+
1992 07 26	809	0.6-	0.2+	1998 03 24	557	0.4+	0.9+	1998 04 29	566	0.1-	1.6-
1992 07 26	809	0.8-	0.5+	1998 03 26	557	0.4-	0.3+	1998 04 29	566	0.2+	1.3-
1992 07 30	809	1.3+	0.0	1998 03 26	557	0.4-	0.5+	1998 04 29	566	0.0	1.9-
1992 07 30	809	0.7+	0.2-	1998 03 30	557	0.5+	0.1-				

1998 FS₅ = 1995 VL₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Marsden							
<i>M</i>	310.46800	(2000.0)		P		Q			
<i>n</i>	0.23980513	ω	249.17152	+0.53898992		+0.84091071			
<i>a</i>	2.5658449	Ω	53.53676	-0.74861626		+0.50466812			
<i>e</i>	0.2756792	<i>i</i>	3.46235	-0.38608750		+0.19539516			
<i>P</i>	4.11	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4		

Residuals in seconds of arc

1995 11 14	691	0.2-	0.0	1998 03 26	046	0.0	0.6+	1998 03 31	046	0.9-	0.0
1995 11 14	691	0.2-	0.0	1998 03 26	046	0.5-	0.4+	1998 03 31	046	0.3+	0.6-
1995 11 14	691	0.3-	0.0	1998 03 26	046	0.5-	0.3-	1998 04 01	046	0.7+	0.0
1995 11 19	691	0.3+	0.3+	1998 03 30	046	0.3-	0.7-	1998 04 21	046	0.0	0.6+
1995 11 19	691	0.4+	0.1-	1998 03 30	046	0.8-	0.6-	1998 04 21	046	0.2+	0.5+
1995 11 19	691	0.1+	0.2-	1998 03 30	046	0.4+	0.4-	1998 04 21	046	0.4+	0.6+
1998 03 24	046	1.1+	0.4+	1998 03 30	046	0.4-	0.7-	1998 04 23	046	0.0	0.3-
1998 03 24	046	0.6+	0.3+	1998 03 30	046	0.2+	0.1+	1998 04 23	046	0.1-	0.4-
1998 03 24	046	0.2+	1.3+	1998 03 30	046	0.1-	0.1-	1998 04 23	046	0.3-	0.2-
1998 03 26	046	0.0	0.1-	1998 03 30	046	0.2-	0.3-				

1998 FD₇ = 1993 FC₄₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams							
<i>M</i>	25.52182	(2000.0)		P		Q			
<i>n</i>	0.18909425	ω	141.28966	-0.92108218		-0.38923973			
<i>a</i>	3.0061951	Ω	15.81205	+0.34748465		-0.83332280			
<i>e</i>	0.1484236	<i>i</i>	2.10383	+0.17567597		-0.39251184			
<i>P</i>	5.21	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4		

Residuals in seconds of arc

1993 03 19	809	0.2-	0.1+	1998 03 04	704	0.4+	1.6+	1998 03 25	691	0.7+	0.2+
1993 03 20	809	0.1-	0.1+	1998 03 04	704	0.2-	1.5-	1998 04 03	691	0.2+	0.1-
1993 03 24	809	0.5+	0.1+	1998 03 04	704	1.1+	1.6-	1998 04 03	691	0.0	0.1-
1998 03 03	704	(4.8+ 3.6+)		1998 03 20	691	0.2-	0.1+	1998 04 03	691	0.3-	0.1+
1998 03 03	704	(0.1- 3.0+)		1998 03 20	691	0.0	0.1+	1998 04 23	691	0.6-	0.3-
1998 03 03	704	(2.1+ 2.7+)		1998 03 20	691	0.5-	0.2+	1998 04 23	691	0.7-	0.5-
1998 03 03	704	1.3-	0.9+	1998 03 25	691	0.8+	0.3+	1998 04 23	691	0.5+	0.4-
1998 03 04	704	0.7-	0.3+	1998 03 25	691	0.6+	0.1+				

1998 FV₈ = 1994 CG₂₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams							
<i>M</i>	333.69662	(2000.0)		P		Q			
<i>n</i>	0.26499839	ω	184.87562	-0.05648856		+0.99755482			
<i>a</i>	2.4005305	Ω	81.89028	-0.91460603		-0.03517457			
<i>e</i>	0.1587555	<i>i</i>	2.38229	-0.40038087		-0.06039140			
<i>P</i>	3.72	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	6		

Residuals in seconds of arc

1994 02 10	809	1.7+	0.2-	1998 03 25	691	0.6-	0.3+	1998 04 21	704	0.2-	0.0
1994 02 10	809	1.1-	1.2+	1998 03 25	691	0.6-	0.2+	1998 04 21	704	0.5-	0.6-
1994 02 10	809	0.4+	0.6-	1998 03 25	691	0.1-	0.1-	1998 04 21	704	1.1-	2.7+
1994 02 13	809	0.4+	0.1+	1998 04 20	704	0.4+	0.3+	1998 04 21	704	0.9-	0.2-
1994 02 13	809	0.8-	0.1+	1998 04 20	704	1.9+	0.5-	1998 04 22	704	0.5-	0.6-
1994 02 13	809	0.6-	1.0-	1998 04 20	704	0.1+	0.1+	1998 04 22	704	1.0+	1.6-
1998 03 22	691	0.6+	0.0	1998 04 20	704	0.9+	0.2-	1998 04 22	704	0.1-	0.7-
1998 03 22	691	0.4+	0.2+	1998 04 20	704	0.6-	0.6+	1998 04 22	704	0.4-	0.2-
1998 03 22	691	0.5+	0.4+	1998 04 21	704	0.1-	0.1+	1998 04 22	704	0.0	0.1+

1998 FZ₈ = 6800 P-L = 1994 NT₁₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams							
<i>M</i>	108.91789	(2000.0)		P		Q			
<i>n</i>	0.19785013	ω	341.70026	-0.27811166		-0.95952272			
<i>a</i>	2.9168347	Ω	124.42490	+0.88787051		-0.27442628			
<i>e</i>	0.0478758	<i>i</i>	3.08452	+0.36652403		-0.06329585			
<i>P</i>	4.98	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4		

Residuals in seconds of arc

1960 09 24	675	0.0	0.7-	1994 07 09	809	0.9+	1.1+	1998 04 20	704	0.2+	0.7-
1960 09 26	675	0.7-	0.1+	1998 03 22	691	0.3-	0.5+	1998 04 20	704	1.8+	1.1-
1960 09 27	675	0.6+	1.1+	1998 03 22	691	0.5-	0.7+	1998 04 22	704	0.3+	0.1-
1960 09 28	675	0.3-	0.4+	1998 03 22	691	0.3-	0.5+	1998 04 22	704	0.6+	0.3+
1994 07 08	809	0.4-	0.4-	1998 03 25	691	0.9-	0.3+	1998 04 22	704	0.3-	0.0
1994 07 08	809	0.9-	1.5-	1998 03 25	691	1.2-	0.4+	1998 04 22	704	0.5-	0.3-
1994 07 08	809	1.3-	1.5-	1998 03 25	691	1.2-	0.6+	1998 04 22	704	0.1+	0.6-
1994 07 09	809	1.4+	1.3+	1998 04 20	704	1.9+	0.7+				
1994 07 09	809	0.4+	0.7+	1998 04 20	704	0.6+	0.3-				

1998 FC₉ = 4323 T-2

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams							
<i>M</i>	147.43039	(2000.0)		P		Q			
<i>n</i>	0.30123857	ω	267.57154	+0.27118069		-0.96227916			
<i>a</i>	2.2039192	Ω	166.63206	+0.91647555		+0.25118358			
<i>e</i>	0.0853493	<i>i</i>	5.43671	+0.29416594		+0.10452576			
<i>P</i>	3.27	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5		

Residuals in seconds of arc

1973 09 29	675	0.2−	0.1+	1998 03 25	691	0.7−	0.2+	1998 04 21	704	0.4+	0.7−
1973 09 29	675	0.0	1.6−	1998 03 25	691	1.0−	0.4−	1998 04 22	704	1.7+	0.7−
1973 09 30	675	0.8−	0.9+	1998 04 17	691	0.9−	0.1−	1998 04 22	704	0.4+	0.3−
1973 09 30	675	0.5+	1.4+	1998 04 17	691	0.9−	0.0	1998 04 22	704	0.9+	0.1−
1973 10 04	675	1.0+	1.2−	1998 04 17	691	1.0−	0.0	1998 04 22	704	1.1+	0.9+
1973 10 04	675	1.7+	0.1+	1998 04 19	691	0.1−	0.0	1998 04 22	704	0.9+	0.9+
1973 10 05	675	1.6−	0.4−	1998 04 19	691	0.1−	0.3+	1998 04 23	691	1.3−	0.3+
1973 10 05	675	0.8−	0.9+	1998 04 19	691	0.0	0.6+	1998 04 23	691	1.0−	0.2+
1998 03 22	691	0.6+	0.3+	1998 04 21	704	0.6+	0.7−	1998 04 23	691	1.1−	0.1+
1998 03 22	691	0.6+	0.0	1998 04 21	704	0.7+	0.2−	1998 04 27	691	0.3−	0.1−
1998 03 22	691	0.6+	0.0	1998 04 21	704	0.5+	0.5+	1998 04 27	691	0.4−	0.2−
1998 03 25	691	0.4−	0.2+	1998 04 21	704	0.7+	1.3−	1998 04 27	691	0.4−	0.3+

1998 FF₉ = 1991 PX₁₃ = 1995 SL₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	293.57877		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.25816669	ω	231.60330	+0.69933728	+0.71170198
<i>a</i>	2.4426950	Ω	82.91039	−0.63318533	+0.65991444
<i>e</i>	0.1877926	<i>i</i>	3.83605	−0.33166807	+0.24081784
<i>P</i>	3.82	<i>H</i>	14.5	<i>G</i>	0.15
				<i>U</i>	3

Residuals in seconds of arc

1991 08 06	675	0.2−	0.1−	1998 03 22	691	1.9−	0.6+	1998 04 21	910	1.2+	0.5−
1991 08 06	675	0.6−	0.0	1998 03 22	691	1.8−	0.7+	1998 04 21	910	1.3+	0.5−
1991 08 10	675	0.5+	0.1+	1998 03 25	691	(2.3−	0.1+)	1998 04 22	704	(2.1+	0.4+)
1991 08 10	675	0.2+	0.3+	1998 03 25	691	(2.5−	0.1+)	1998 04 22	704	0.6−	0.2+
1995 09 20	400	0.8−	1.8−	1998 03 25	691	(2.2−	0.6+)	1998 04 22	704	0.6−	0.3+
1995 09 20	400	0.2+	1.4−	1998 04 21	704	1.7+	0.3−	1998 04 22	704	0.3+	0.4−
1995 09 21	400	1.4+	0.9+	1998 04 21	704	0.9−	0.3−	1998 04 22	704	0.2+	0.5+
1995 09 21	400	0.2−	0.5+	1998 04 21	704	1.1−	0.2−	1998 04 24	910	1.0+	0.7−
1995 09 30	400	(2.8−	1.4−)	1998 04 21	704	0.8−	0.3+	1998 04 24	910	1.2+	0.5−
1995 09 30	400	0.3−	1.1+	1998 04 21	704	1.0−	0.7+	1998 04 24	910	1.2+	0.5−
1998 03 22	691	1.8−	0.8+	1998 04 21	910	1.5+	0.5−				

1998 FU₁₀ = 1990 RC₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	289.47654		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.21231268	ω	297.43727	+0.42022445	+0.90739417
<i>a</i>	2.7828220	Ω	357.38235	−0.77035181	+0.35273566
<i>e</i>	0.1371830	<i>i</i>	8.65462	−0.47955136	+0.22850246
<i>P</i>	4.64	<i>H</i>	14.0	<i>G</i>	0.15
				<i>U</i>	4

Residuals in seconds of arc

1990 09 14	675	0.2−	0.1−	1998 03 22	704	0.2−	0.5+	1998 04 01	704	0.1−	0.3−
1990 09 14	675	0.2+	0.2+	1998 03 22	704	0.5−	0.1−	1998 04 01	704	0.3+	0.3−
1990 09 20	675	0.1+	0.3+	1998 03 22	704	1.1+	0.5+	1998 04 18	704	0.0	0.5+
1990 09 20	675	0.1+	0.8−	1998 03 22	704	1.0−	0.5−	1998 04 18	704	0.6+	0.3+
1998 02 25	566	1.2−	0.5−	1998 03 24	910	0.7+	0.1+	1998 04 18	704	0.5−	0.4−
1998 02 25	566	0.9−	0.2+	1998 03 25	910	0.7+	0.1−	1998 04 18	704	0.4−	1.6−
1998 02 25	566	1.4−	0.5−	1998 03 25	910	0.7+	0.1+	1998 04 18	704	0.4−	0.6−
1998 03 20	704	0.5+	0.7+	1998 03 25	910	0.9+	0.1−	1998 04 19	704	0.0	0.1+
1998 03 20	704	0.5−	0.0	1998 03 25	910	1.0+	0.1−	1998 04 19	704	0.2+	0.5+
1998 03 20	704	1.4+	0.6+	1998 03 26	910	1.0+	0.3−	1998 04 19	704	0.5−	0.1+
1998 03 20	704	0.4−	0.7−	1998 04 01	704	0.1−	0.3+	1998 04 19	704	0.9+	0.3−
1998 03 20	704	(2.3−	0.3−)	1998 04 01	704	0.5−	0.7+	1998 04 19	704	1.1−	0.6+
1998 03 22	704	0.3−	0.3−	1998 04 01	704	0.5−	0.6+				

1998 FG₁₁ = 1987 WQ₅ = 1991 RW₂₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	286.08398		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.23633032	ω	274.02538	+0.60189899	+0.78492976
<i>a</i>	2.5909344	Ω	34.38659	−0.58961690	+0.56094387
<i>e</i>	0.1147409	<i>i</i>	15.08456	−0.53858102	+0.26311073
<i>P</i>	4.17	<i>H</i>	13.5	<i>G</i>	0.15
				<i>U</i>	3

Residuals in seconds of arc

1987 11 16	327	0.0	0.0	1998 03 25	721	0.3+	0.4−	1998 04 20	704	0.4−	0.8+
1991 09 12	675	1.0+	0.5+	1998 03 25	704	0.8+	0.3−	1998 04 20	721	0.1−	0.7+
1991 09 12	675	0.0	0.1+	1998 03 25	704	1.2+	0.7−	1998 04 20	704	0.8−	0.6−
1991 09 14	675	0.1−	0.0	1998 03 25	704	0.3−	1.6−	1998 04 20	704	0.7−	0.8+
1991 09 14	675	1.3−	0.0	1998 03 25	704	0.9+	0.3−	1998 04 20	704	0.2−	1.1+
1998 03 24	704	0.4+	0.7−	1998 03 25	704	0.9+	1.2+	1998 04 20	704	1.2−	0.1−
1998 03 24	704	0.2+	0.2−	1998 03 26	721	1.3−	0.3−	1998 04 22	704	0.5−	0.6+
1998 03 24	704	1.0+	0.5−	1998 03 26	721	0.6−	0.1−	1998 04 22	704	0.9−	0.0
1998 03 24	704	0.8+	0.4+	1998 04 02	721	1.1+	0.5−	1998 04 22	704	0.1−	0.3+
1998 03 24	704	0.3+	0.4+	1998 04 02	721	1.0+	0.3−	1998 04 22	704	0.6−	0.2−
1998 03 25	721	0.3+	0.3−	1998 04 20	721	0.4−	0.6+	1998 04 22	704	0.3−	0.7+

1998 FD₁₅ = 1977 EG₁ = 1991 EP₅

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Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	348.59332		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.28142130	ω	24.17164	−0.50490671	+0.86285792
<i>a</i>	2.3062059	Ω	215.51596	−0.79835049	−0.47710476
<i>e</i>	0.1657514	<i>i</i>	2.30399	−0.32818548	−0.16687496
<i>P</i>	3.50	<i>H</i>	14.5	<i>G</i>	0.15
				<i>U</i>	4

Residuals in seconds of arc

1977 03 13	095	1.0−	1.2+	1998 03 20	704	0.2−	0.8−	1998 03 24	399	1.0+	0.1−
1977 03 22	095	(3.8+	1.4+)	1998 03 20	704	0.1−	0.6−	1998 04 01	704	0.6−	0.1+
1977 03 25	095	0.5+	0.3+	1998 03 20	704	0.5+	1.0−	1998 04 01	704	0.0	0.3+
1977 03 26	095	1.8+	1.7+	1998 03 20	704	0.3+	1.2−	1998 04 01	704	0.1−	0.5+
1991 03 14	809	1.2−	0.4+	1998 03 20	704	0.6+	1.3−	1998 04 01	704	0.5−	0.1−
1991 03 14	809	0.9−	0.5+	1998 03 21	399	0.9−	0.6+	1998 04 01	704	1.8−	0.0
1991 03 14	809	0.7−	0.5+	1998 03 21	399	0.5−	0.2−	1998 04 24	699	0.5−	0.0
1991 03 16	809	0.9+	0.2+	1998 03 22	704	0.5+	0.5−	1998 04 24	699	0.4−	0.1+
1991 03 16	809	1.7+	0.4−	1998 03 22	704	0.2+	0.7−	1998 04 24	699	0.0	0.2+
1991 03 16	809	(2.5+	0.5−)	1998 03 22	704	0.4+	0.6−	1998 04 30	566	0.2+	0.0
1998 03 08	699	0.1−	0.8+	1998 03 22	704	0.7+	0.2−	1998 04 30	566	0.1+	0.2−
1998 03 08	699	0.2−	0.5+	1998 03 22	704	0.3−	0.5−	1998 04 30	566	0.4+	0.1+
1998 03 08	699	0.0	0.5+	1998 03 24	399	(2.1+	0.1+)				

1998 FH₁₅ = 1990 JT

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	237.06388		(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.21682892	ω	346.19109	+0.94222247	+0.33431403
<i>a</i>	2.7440451	Ω	354.14607	−0.28417668	+0.76413307
<i>e</i>	0.1079262	<i>i</i>	12.01725	−0.17737089	+0.55166546
<i>P</i>	4.55	<i>H</i>	13.5	<i>G</i>	0.15
				<i>U</i>	4

Residuals in seconds of arc

1990 05 03	413	0.2−	0.2+	1998 03 26	595	0.3−	0.7+	1998 04 18	704	0.6−	0.1+
1990 05 04	413	0.2+	0.2−	1998 03 27	595	0.1+	0.5+	1998 04 18	704	1.2−	0.4+
1998 03 20	704	0.3−	0.7−	1998 03 28	595	0.3+	0.1+	1998 04 19	704	0.5+	0.6+
1998 03 20	704	0.1−	0.4−	1998 03 28	595	0.1−	0.2+	1998 04 19	704	0.3−	1.1+
1998 03 20	704	0.3+	0.5−	1998 04 01	704	0.5+	0.3−	1998 04 19	704	0.2+	0.3−
1998 03 20	704	0.2+	1.8+	1998 04 01	704	0.1+	0.2−	1998 04 19	704	1.1−	0.5−
1998 03 20	704	0.0	0.6+	1998 04 01	704	0.6−	0.1+	1998 04 19	704	0.2−	0.8−
1998 03 22	704	0.1−	0.3+	1998 04 01	704	0.3−	0.3−	1998 04 20	595	0.2+	0.2+
1998 03 22	704	(2.8+	0.1+)	1998 04 01	704	0.1−	1.6−	1998 04 20	595	0.8+	0.3+
1998 03 22	704	0.6+	1.1−	1998 04 18	704	0.5+	0.1+	1998 04 23	595	0.3+	0.5−
1998 03 22	704	(4.9−	0.3+)	1998 04 18	704	0.1−	0.7+	1998 04 23	595	0.8+	0.4−

1998 FW₁₉ = 1996 XL₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27003462	ω	311.51924	+0.28217815	+0.95862690		
<i>a</i>	2.3705898	Ω	334.79685	-0.85184825	+0.23235966		
<i>e</i>	0.0957065	<i>i</i>	5.05887	-0.44128228	+0.16444892		
<i>P</i>	3.65	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1996 12 01	691	0.3-	0.1-	1998 03 03	704	1.5+	1.1-	1998 03 20	704	0.1+	0.6+
1996 12 01	691	0.3-	0.0	1998 03 03	704	0.7+	0.5+	1998 03 20	704	0.6+	0.5-
1996 12 01	691	0.2-	0.1+	1998 03 03	704	0.6+	0.0	1998 03 20	704	(5.1-	2.1-)
1996 12 09	691	0.5+	0.1-	1998 03 04	704	1.5-	0.3+	1998 03 22	704	0.5-	0.2+
1996 12 09	691	0.3+	0.1+	1998 03 04	704	1.0-	0.2+	1998 03 22	704	0.3+	0.3-
1998 02 27	566	0.8+	0.3-	1998 03 04	704	2.0-	0.4+	1998 03 22	704	0.3+	0.3-
1998 02 27	566	0.8+	0.3-	1998 03 04	704	1.3-	0.4+	1998 03 22	704	0.2+	0.4+
1998 02 27	566	0.6+	0.1-	1998 03 20	704	0.3-	1.8+	1998 03 22	704	0.8-	1.7-
1998 03 03	704	0.3+	0.3+	1998 03 20	704	0.8+	0.6-				

1998 FV₂₀ = 1989 YK₅ = 1994 CX₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.26141060	ω	323.45649	+0.53337819	-0.84485755		
<i>a</i>	2.4224450	Ω	94.27465	+0.78560362	+0.47658088		
<i>e</i>	0.1785382	<i>i</i>	2.38591	+0.31358358	+0.24307692		
<i>P</i>	3.77	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1989 12 28	511	(3.6+	0.8+)	1994 02 08	303	0.2-	0.8+	1998 03 20	704	0.4+	0.1-
1989 12 28	511	0.6+	0.4+	1994 02 08	303	0.2+	0.2+	1998 03 20	704	0.9+	0.2-
1989 12 29	511	0.2-	0.6-	1994 02 09	303	(3.9+	0.9-)	1998 03 20	704	0.3+	0.3+
1989 12 29	511	0.2-	0.1-	1998 02 25	809	(2.8-	5.6-)	1998 03 20	704	0.5-	0.3-
1989 12 29	511	1.3+	0.9-	1998 02 25	809	(2.5-	5.9-)	1998 03 22	704	0.0	0.4-
1990 01 03	511	1.0-	0.1+	1998 02 25	809	(2.9-	5.3-)	1998 03 22	704	0.7-	0.1-
1990 01 03	511	1.6-	0.8-	1998 02 26	809	(0.7-	3.1-)	1998 03 22	704	0.2-	0.7-
1990 01 04	511	(2.7-	0.4+)	1998 02 26	809	(1.8-	2.6-)	1998 03 22	704	0.8-	0.4+
1990 01 04	511	1.1+	0.8+	1998 02 26	809	(1.5-	2.7-)	1998 03 22	704	0.6-	0.3+
1994 02 08	303	0.5+	0.9+	1998 03 20	704	0.7+	0.5-				

1998 FJ₂₂ = 1971 DB₁ = 1978 JH₁ = 1991 AX₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29244484	ω	334.49798	-0.99816989	-0.05680423		
<i>a</i>	2.2478815	Ω	202.27504	+0.06046957	-0.93452320		
<i>e</i>	0.1205412	<i>i</i>	3.13650	+0.00054095	-0.35133982		
<i>P</i>	3.37	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1971 02 18	095	(2.9-	5.7+)	1998 03 03	704	0.7+	0.5-	1998 03 20	704	0.1+	0.2+
1971 02 23	095	0.1-	0.2-	1998 03 03	704	0.5+	0.2+	1998 03 20	704	0.9-	0.8+
1978 05 06	095	0.0	0.1+	1998 03 03	704	0.4+	1.0-	1998 03 20	704	0.2-	0.5+
1991 01 09	372	(60.1+	6.0-)	1998 03 04	704	1.3-	0.1+	1998 03 22	704	0.8-	0.0
1991 01 09	372	(64.6+	5.5-)	1998 03 04	704	1.1-	0.0	1998 03 22	704	0.2-	0.3-
1998 03 01	910	(2.3+	0.3-)	1998 03 04	704	0.5-	0.5+	1998 03 22	704	0.7+	0.5-
1998 03 01	910	(2.4+	0.3-)	1998 03 04	704	0.8-	0.8+	1998 03 22	704	1.8+	0.7-
1998 03 01	910	(2.4+	0.4-)	1998 03 04	704	(5.2-	1.4+)	1998 03 22	704	0.0	0.2-
1998 03 03	704	0.8+	0.6+	1998 03 20	704	0.5-	0.9-				
1998 03 03	704	1.5+	0.3+	1998 03 20	704	0.1-	0.4+				

1998 FH₂₃ = 1996 VT₃₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.25948789	ω	223.62861	+0.92504846	+0.37666752		
<i>a</i>	2.4343965	Ω	114.18486	-0.33207715	+0.86464208		
<i>e</i>	0.0601498	<i>i</i>	3.08291	-0.18441831	+0.33243896		
<i>P</i>	3.80	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1996 11 15	400	0.4+	0.1-	1998 03 20	704	0.2+	0.3-	1998 03 22	704	1.0-	0.0
1996 11 15	400	0.6-	0.0	1998 03 20	704	1.2+	1.0-	1998 03 22	704	1.4-	0.0
1996 11 16	400	0.2+	0.0	1998 03 20	704	0.4+	0.3-	1998 03 22	704	0.4+	1.3+
1996 11 16	400	0.0	0.1+	1998 03 20	704	0.4-	0.6-	1998 04 05	699	0.2+	0.3-
1998 02 26	809	0.3+	0.8+	1998 03 20	704	0.8+	0.1-	1998 04 05	699	0.8+	1.8+
1998 02 26	809	0.4-	0.0	1998 03 22	704	0.5+	0.2+	1998 04 05	699	0.9-	0.1-
1998 02 26	809	0.3-	0.3-	1998 03 22	704	0.2-	1.0-				

1998 FP₂₆ = 1958 TE₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.28542308	ω	4.65011	+0.98521617	-0.17087001		
<i>a</i>	2.2845990	Ω	5.23695	+0.15249316	+0.84183558		
<i>e</i>	0.1857869	<i>i</i>	7.77645	+0.07807001	+0.51197295		
<i>P</i>	3.45	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	6

Residuals in seconds of arc

1958 10 07	690	0.7-	1.7- Y	1998 02 26	809	1.4-	0.4+	1998 03 20	704	0.1+	0.0
1958 10 08	690	0.8+	1.7+ Y	1998 02 26	809	1.1+	0.4-	1998 03 22	704	0.1-	0.1-
1998 02 25	809	(4.2-	1.9+)	1998 03 20	704	1.1-	0.2+	1998 03 22	704	0.5-	1.1-
1998 02 25	809	0.5-	1.4+	1998 03 20	704	1.5+	0.7+	1998 03 22	704	0.2+	0.8-
1998 02 25	809	0.5+	1.0-	1998 03 20	704	1.0+	0.4-	1998 03 22	704	0.7-	1.1+
1998 02 26	809	(3.4-	1.0-)	1998 03 20	704	1.1+	0.6+	1998 03 22	704	1.3-	0.8-

1998 FT₂₆ = 2026 T-1 = 1980 FU₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.21828279	ω	208.71689	-0.87957063	+0.47576646		
<i>a</i>	2.7318470	Ω	359.68306	-0.37730699	-0.69924600		
<i>e</i>	0.0982972	<i>i</i>	13.94843	-0.28981880	-0.53357409		
<i>P</i>	4.52	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1971 03 24	675	0.6+	0.6-	1998 02 26	809	0.8+	0.1-	1998 03 22	704	0.4-	0.0
1971 03 25	675	0.4-	1.7+	1998 02 26	809	1.9+	0.2-	1998 03 22	704	0.8-	0.2+
1971 03 25	675	0.2+	1.0+	1998 03 20	704	0.5-	0.7+	1998 03 22	704	0.8+	1.8+
1971 03 26	675	1.1+	0.8-	1998 03 20	704	0.1-	0.9-	1998 03 22	704	0.4-	0.5+
1971 03 27	675	1.2-	0.4-	1998 03 20	704	1.1-	0.2-	1998 03 22	704	0.5+	0.5-
1980 03 23	809	0.2-	1.1-	1998 03 20	704	0.9-	0.3+				
1998 02 26	809	0.2-	1.0-	1998 03 20	704	0.4+	0.5-				

1998 FM₂₇ = 1980 WR₁ = 1980 XD₂ = 1993 FL₂₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18473621	ω	205.02850	+0.14255725	-0.98873261		
<i>a</i>	3.0532898	Ω	236.80618	+0.91704760	+0.14929959		
<i>e</i>	0.1197504	<i>i</i>	3.12812	+0.37242600	+0.01083751		
<i>P</i>	5.34	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1980 11 30	095	1.3-	1.2-	1998 03 03	704	0.2-	0.8-	1998 03 20	704	0.2-	0.2+
1980 12 10	095	1.2+	2.1+	1998 03 04	704	(2.3-	0.3+)	1998 03 22	704	0.0	0.2-
1993 03 21	809	0.3-	0.5+	1998 03 04	704	(3.1-	0.2-)	1998 03 22	704	0.6+	0.1-
1993 03 22	809	0.4+	0.8+	1998 03 04	704	(2.6-	0.2+)	1998 03 22	704	0.5+	0.4+
1993 03 26	809	0.5+	0.1-	1998 03 04	704	(3.1-	0.1+)	1998 03 22	704	0.8+	0.5+

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1993 03 27	809	0.1+	0.6+	1998 03 04	704	(3.4−	0.2+)	1998 03 22	704	0.9−	0.7+
1998 03 03	704	0.0	0.4−	1998 03 20	704	0.1−	0.3+	1998 03 26	566	0.1+	0.3−
1998 03 03	704	0.1−	0.4−	1998 03 20	704	0.0	0.0	1998 03 26	566	0.0	0.4−
1998 03 03	704	1.0−	1.1−	1998 03 20	704	0.0	0.5+	1998 03 26	566	0.1+	0.4−
1998 03 03	704	0.7−	0.2−	1998 03 20	704	0.5+	0.2+				

1998 FX₂₇ = 6223 P-L

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.30147525	ω	210.43751	−0.92128516	−0.38789001		
<i>a</i>	2.2027655	Ω	306.71330	+0.36343024	−0.83329214		
<i>e</i>	0.0620700	<i>i</i>	1.99013	+0.13839118	−0.39391057		
<i>P</i>	3.27	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1960 09 24	675	0.1−	0.1+	1998 03 03	704	0.3−	0.4+	1998 03 20	704	1.4+	0.4+
1960 09 24	675	1.9+	0.0	1998 03 03	704	0.4−	0.4+	1998 03 20	704	0.4+	1.0−
1960 09 26	675	0.6−	0.4+	1998 03 03	704	0.7+	0.5+	1998 03 22	704	0.3+	0.5+
1960 09 26	675	0.4−	0.3+	1998 03 03	704	0.7+	1.0+	1998 03 22	704	0.7−	0.3+
1960 09 28	675	0.8−	0.2−	1998 03 20	704	0.4−	0.6+	1998 03 22	704	0.8−	0.0
1960 09 28	675	0.1−	0.5−	1998 03 20	704	0.4−	0.5+	1998 03 22	704	0.1+	0.1+
1998 03 03	704	1.2−	2.3−	1998 03 20	704	0.7+	1.2−	1998 03 22	704	0.0	0.3−

1998 FY₂₇ = 1977 ET₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18739097	ω	200.32231	−0.73493588	−0.67689075		
<i>a</i>	3.0243841	Ω	297.00731	+0.62837552	−0.65697465		
<i>e</i>	0.1091661	<i>i</i>	2.64321	+0.25497738	−0.33196870		
<i>P</i>	5.26	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1977 03 12	381	0.5+	1.0+	1998 03 03	704	0.6+	0.8+	1998 03 22	704	1.4−	0.1−
1977 03 12	381	0.3−	0.7+	1998 03 03	704	1.1+	0.7−	1998 03 22	704	0.6−	0.3−
1977 03 14	381	0.8+	1.1+	1998 03 04	704	1.5−	0.3−	1998 03 22	704	1.1−	0.3+
1977 03 14	381	0.5−	0.1+	1998 03 04	704	(3.1−	0.7−)	1998 03 22	704	0.3−	0.2−
1977 03 15	381	1.1+	0.2−	1998 03 04	704	1.4−	0.6+	1998 03 22	704	1.2−	0.3−
1977 03 15	381	0.3−	0.1−	1998 03 04	704	(1.5−	2.3+)	1998 04 01	704	0.9−	0.0
1998 02 26	566	0.2−	0.8+	1998 03 04	704	(6.6−	0.6+)	1998 04 01	704	0.4−	0.1−
1998 02 26	566	0.1−	0.7+	1998 03 20	704	1.3+	0.4−	1998 04 01	704	0.7+	0.1+
1998 02 26	566	0.0	0.7+	1998 03 20	704	1.8+	0.8+	1998 04 01	704	0.2−	0.4−
1998 03 03	704	0.0	0.6−	1998 03 20	704	1.4+	0.7−	1998 04 01	704	1.7−	0.2+
1998 03 03	704	0.4+	0.2−	1998 03 20	704	1.1+	1.3−				
1998 03 03	704	0.4+	1.4−	1998 03 20	704	0.9+	0.8−				

1998 FG₂₈ = 1977 XW₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.20714917	ω	141.53730	+0.55493195	−0.83172798		
<i>a</i>	2.8288761	Ω	274.75067	+0.75904177	+0.51444973		
<i>e</i>	0.0538075	<i>i</i>	0.96054	+0.34044989	+0.20873438		
<i>P</i>	4.76	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	6

Residuals in seconds of arc

1977 12 07	675	0.8+	0.5+	1998 03 03	704	(2.3−	2.1−)	1998 03 20	704	0.6+	1.6+
1977 12 08	675	0.8−	0.3−	1998 03 03	704	1.2+	0.1−	1998 03 20	704	0.2+	0.4+
1998 02 26	566	0.5−	0.3−	1998 03 03	704	0.1+	0.5−	1998 03 20	704	0.7−	0.9−
1998 02 26	566	1.0−	0.3+	1998 03 04	704	(3.7−	0.1−)	1998 03 22	704	0.3+	0.5−
1998 02 26	566	0.3−	0.0	1998 03 04	704	(3.8−	0.1−)	1998 03 22	704	0.3+	0.8+
1998 03 01	910	0.7+	0.6−	1998 03 04	704	(6.1−	1.3+)	1998 03 22	704	1.5+	1.4+
1998 03 01	910	0.4+	0.1−	1998 03 04	704	(5.9−	0.0)	1998 03 22	704	1.2−	0.4−
1998 03 01	910	0.0	0.0	1998 03 04	704	(7.3−	0.4−)	1998 03 22	704	1.2−	0.9−
1998 03 03	704	1.2−	0.0	1998 03 20	704	0.2−	0.2−				
1998 03 03	704	0.3+	1.0−	1998 03 20	704	0.7+	0.9+				

1998 FK₂₈ = 1995 UW₂₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17842203	ω	3.98228	−0.71035550	+0.70369676		
<i>a</i>	3.1249067	Ω	220.75476	−0.64636912	−0.66028366		
<i>e</i>	0.0820505	<i>i</i>	1.25957	−0.27857140	−0.26236685		
<i>P</i>	5.52	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1995 10 19	691	0.2+	0.3+	1998 03 03	704	0.2−	0.7+	1998 03 20	704	0.7−	1.3−
1995 10 19	691	0.2+	0.1+	1998 03 03	704	0.5−	0.2+	1998 03 22	704	0.8−	0.2+
1995 10 19	691	0.1+	0.2+	1998 03 03	704	1.5+	0.5+	1998 03 22	704	0.7−	0.9+
1995 10 22	691	0.1−	0.1−	1998 03 03	704	0.3+	0.5−	1998 03 22	704	1.2−	0.5+
1995 10 22	691	0.0	0.1−	1998 03 04	704	(4.0−	0.2−)	1998 03 22	704	1.6+	0.8+
1995 10 22	691	0.1−	0.2−	1998 03 04	704	(3.8−	1.2+)	1998 03 22	704	1.6−	0.8−
1995 10 28	691	0.3−	0.1−	1998 03 04	704	(3.2−	0.9+)	1998 04 01	704	0.8+	0.3+
1995 10 28	691	0.2−	0.0	1998 03 04	704	(5.5−	1.2+)	1998 04 01	704	0.4+	0.3+
1995 10 28	691	0.2+	0.1−	1998 03 04	704	(7.9−	1.4−)	1998 04 01	704	0.7+	0.3+
1998 03 02	910	0.3+	0.4+	1998 03 20	704	0.2+	0.0	1998 04 01	704	0.2−	0.1−
1998 03 02	910	0.3+	0.4+	1998 03 20	704	0.3+	0.4−	1998 04 01	704	(4.2−	0.4−)
1998 03 02	910	0.3+	0.2+	1998 03 20	704	0.2+	0.7−				
1998 03 03	704	1.2−	0.9−	1998 03 20	704	0.3+	1.1−				

1998 FW₂₉ = 1978 UJ₃ = 1983 CH₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27085523	ω	97.71874	+0.40835431	−0.91084083		
<i>a</i>	2.3657993	Ω	327.96690	+0.78644635	+0.38449680		
<i>e</i>	0.0863500	<i>i</i>	6.50946	+0.46341007	+0.15010393		
<i>P</i>	3.64	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1978 10 26	675	0.2+	0.1−	1998 03 03	704	0.9−	1.5−	1998 03 20	704	0.1+	0.2−
1978 10 27	675	0.1+	0.9−	1998 03 03	704	0.7−	1.1−	1998 03 20	704	0.4−	0.5+
1983 02 02	095	0.3+	1.5+	1998 03 04	704	(2.2−	0.5+)	1998 03 20	704	0.4−	0.0
1998 02 22	566	0.1−	0.2−	1998 03 04	704	(2.6−	0.8+)	1998 03 22	704	0.5+	0.3−
1998 02 22	566	0.2+	0.5−	1998 03 04	704	(2.9−	0.4+)	1998 03 22	704	0.7+	0.1−
1998 02 22	566	0.4+	0.9−	1998 03 04	704	(2.9−	0.7+)	1998 03 22	704	0.8+	0.9+
1998 03 03	704	0.0	0.1−	1998 03 04	704	(3.6−	0.3−)	1998 03 22	704	0.6−	1.4+
1998 03 03	704	0.3−	0.8+	1998 03 20	704	0.6+	0.1+	1998 03 22	704	0.3−	1.0+
1998 03 03	704	0.3−	1.1−	1998 03 20	704	(0.4+	2.3+)				

1998 FP₃₂ = 1949 SJ₁ = 1967 TP = 1978 RT₁₆ = 1978 VT₂ = 1980 FD₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27420258	ω	27.97169	+0.99970991	−0.00734045		
<i>a</i>	2.3465061	Ω	332.42012	−0.00343847	+0.89917237		
<i>e</i>	0.2294788	<i>i</i>	2.83997	+0.02383843	+0.43753304		
<i>P</i>	3.59	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1949 09 25	760	1.7+	0.1−	1998 03 20	704	0.8−	0.8+	1998 04 01	704	0.1+	0.0
1949 09 25	760	1.5−	0.5−	1998 03 22	704	0.9+	0.1+	1998 04 18	704	0.0	0.6+
1967 10 03	095	1.4+	3.3−	1998 03 22	704	0.4+	0.5+	1998 04 18	704	0.2−	0.0
1978 09 08	010	1.1+	0.9+	1998 03 22	704	0.1−	1.4−	1998 04 18	704	0.2+	0.9−
1978 10 30	010	0.6+	0.1+	1998 03 22	704	0.7−	2.1−	1998 04 18	704	0.5+	0.3−
1978 11 01	010	0.1−	0.7+	1998 03 24	566	0.2+	0.9+	1998 04 19	704	0.3−	0.5−
1978 11 01	010	1.1−	0.7−	1998 03 24	566	0.1+	0.3+	1998 04 19	704	0.2+	0.9−
1980 03 23	809	0.5+	0.1−	1998 03 24	566	0.3+	0.5+	1998 04 19	704	0.1+	0.7−
1998 03 20	704	0.9−	0.4−	1998 04 01	704	0.0	0.3−	1998 04 19	704	(2.4+	0.8−)
1998 03 20	704	0.1+	0.3+	1998 04 01	704	0.4−	0.5+	1998 04 19	704	(2.2−	1.8+)
1998 03 20	704	0.4−	0.6−	1998 04 01	704	0.2−	0.7−				
1998 03 20	704	1.2−	0.2−	1998 04 01	704	0.4−	0.7−				

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1998 FM₃₄ = 1991 LP₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	36.89208	(2000.0)	P	Q	
<i>n</i>	0.26394885	ω 329.21309	-0.97773633	-0.20719382	
<i>a</i>	2.4068898	Ω 198.91472	+0.20727035	-0.92893571	
<i>e</i>	0.0711785	<i>i</i> 5.87887	+0.03272121	-0.30683738	
<i>P</i>	3.73	<i>H</i> 14.5	<i>G</i> 0.15	<i>U</i> 4	

Residuals in seconds of arc

1991 06 06	809	1.1+	0.4+	1998 03 22	704	0.0	0.5+	1998 04 18	704	0.6+	0.1-
1991 06 06	809	0.8-	0.6+	1998 03 22	704	0.4+	0.4-	1998 04 18	704	0.2-	0.5-
1991 06 06	809	0.0	1.1+	1998 03 22	704	0.3+	0.3+	1998 04 18	704	0.8-	0.9+
1991 06 08	809	0.3-	0.1-	1998 03 22	704	0.5+	0.3-	1998 04 18	704	0.4+	0.7-
1991 06 08	809	0.3-	0.4-	1998 03 25	566	0.5+	0.1-	1998 04 18	704	(3.2-	1.3+)
1991 06 08	809	0.3+	1.7-	1998 03 25	566	0.4+	0.3+	1998 04 19	704	0.2+	0.3-
1998 03 20	704	0.2-	0.2+	1998 03 25	566	0.3-	0.2+	1998 04 19	704	0.2-	0.2+
1998 03 20	704	0.5-	0.8-	1998 04 01	704	0.3-	0.4+	1998 04 19	704	0.6+	0.5+
1998 03 20	704	0.4-	0.2+	1998 04 01	704	0.1+	0.1-	1998 04 19	704	0.1-	0.2-
1998 03 20	704	0.1-	1.2-	1998 04 01	704	0.0	0.0	1998 04 19	704	1.0-	0.6+
1998 03 20	704	0.9-	0.0	1998 04 01	704	0.8+	0.3+				
1998 03 22	704	0.3-	0.5+	1998 04 01	704	0.5+	0.3-				

1998 FS₃₄ = 1995 QK₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	29.75296	(2000.0)	P	Q	
<i>n</i>	0.17634519	ω 228.43425	-0.96149809	-0.27063103	
<i>a</i>	3.1493938	Ω 295.81388	+0.26527856	-0.86865451	
<i>e</i>	0.1352190	<i>i</i> 3.04070	+0.07175452	-0.41496769	
<i>P</i>	5.59	<i>H</i> 14.5	<i>G</i> 0.15	<i>U</i> 4	

Residuals in seconds of arc

1995 08 20	691	0.3-	0.3-	1998 03 03	704	0.4-	0.5+	1998 03 20	704	0.1+	0.2-
1995 08 20	691	0.3+	0.3-	1998 03 03	704	1.3+	0.9-	1998 03 22	704	0.6-	0.9-
1995 08 20	691	0.4+	0.4-	1998 03 03	704	0.9+	0.1-	1998 03 22	704	0.1+	0.0
1995 08 27	691	0.3-	0.4+	1998 03 03	704	1.9-	0.8+	1998 03 22	704	0.8+	1.1-
1995 08 27	691	0.1+	0.3+	1998 03 20	704	1.5+	0.3+	1998 03 22	704	2.0+	1.4+
1995 08 27	691	0.0	0.2+	1998 03 20	704	0.4-	0.2-	1998 03 22	704	1.8-	0.7+
1998 03 03	704	0.0	0.3-	1998 03 20	704	1.6-	0.0				

1998 FD₃₈ = 1991 EO₃ = 1996 TA₅₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	143.02483	(2000.0)	P	Q	
<i>n</i>	0.27948056	ω 62.00921	+0.65444901	-0.75553591	
<i>a</i>	2.3168699	Ω 346.98419	+0.63983919	+0.57408559	
<i>e</i>	0.1060617	<i>i</i> 7.49036	+0.40286761	+0.31558077	
<i>P</i>	3.53	<i>H</i> 15.0	<i>G</i> 0.15	<i>U</i> 4	

Residuals in seconds of arc

1991 03 11	809	0.6+	0.9-	1996 10 05	809	0.5-	0.9-	1998 03 20	704	0.3+	0.5-
1991 03 11	809	0.9+	0.9-	1998 02 26	566	0.1-	0.5+	1998 03 20	704	0.1+	0.7+
1991 03 11	809	1.3+	0.8-	1998 02 26	566	0.1+	0.4+	1998 03 22	704	0.4+	0.2+
1991 03 13	809	2.3-	0.8-	1998 02 26	566	0.1-	0.6+	1998 03 22	704	0.6+	0.1+
1991 03 13	809	1.8-	0.7-	1998 03 03	704	2.0-	0.7-	1998 03 22	704	0.4+	0.1-
1991 03 13	809	1.5-	0.8-	1998 03 03	704	0.1-	0.5+	1998 03 22	704	0.1-	1.2-
1996 10 04	809	0.6+	0.2+	1998 03 03	704	0.4-	0.5-	1998 03 22	704	1.2+	1.5+
1996 10 04	809	0.6+	0.5+	1998 03 03	704	0.0	0.5+	1998 03 26	566	0.0	0.6+
1996 10 04	809	0.1+	1.1+	1998 03 03	704	0.1+	0.3-	1998 03 26	566	0.6+	0.6+
1996 10 05	809	0.0	0.9-	1998 03 20	704	1.1+	0.5+	1998 03 26	566	0.3+	0.4+
1996 10 05	809	0.4-	0.6-	1998 03 20	704	0.2+	0.3+				

1998 MAY 11

1998 FT₃₉ = 4234 P-L = 1994 PL₂₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	337.66886	(2000.0)	P	Q	
<i>n</i>	0.17109814	ω 238.11243	-0.71032166	+0.70356002	
<i>a</i>	3.2134572	Ω 346.55992	-0.61119719	-0.63140366	
<i>e</i>	0.1124839	<i>i</i> 5.21568	-0.34911478	-0.32608696	
<i>P</i>	5.76	<i>H</i> 14.0	<i>G</i> 0.15	<i>U</i> 4	

Residuals in seconds of arc

1960 09 24	675	0.5-	0.2-	1998 03 20	704	0.5-	0.0	1998 04 01	704	0.5-	0.3+
1960 09 26	675	0.5+	0.1+	1998 03 20	704	0.2+	0.0	1998 04 18	704	0.4+	1.3-
1960 09 26	675	0.5-	0.6+	1998 03 20	704	1.8-	1.1+	1998 04 18	704	1.3+	1.8+
1960 09 28	675	1.1-	1.5+	1998 03 20	704	1.2-	1.3+	1998 04 18	704	0.8+	0.8-
1960 09 28	675	0.6+	0.1+	1998 03 22	704	1.6+	0.0	1998 04 18	704	1.7+	0.6-
1994 08 12	809	0.7-	0.3+	1998 03 22	704	0.8+	0.4+	1998 04 19	704	1.8-	2.0-
1994 08 12	809	0.7-	0.8-	1998 03 22	704	1.1-	1.6+	1998 04 19	704	0.7-	1.1+
1994 08 12	809	1.7-	0.7-	1998 03 22	704	1.1+	0.7+	1998 04 19	704	0.7+	0.5+
1994 08 13	809	1.3+	0.5+	1998 04 01	704	0.2+	0.1-	1998 04 19	704	1.3-	0.3+
1994 08 13	809	0.1+	1.5+	1998 04 01	704	1.3+	0.8-				
1994 08 13	809	1.1+	0.3+	1998 04 01	704	0.6+	0.5-				

1998 FX₃₉ = 1978 JD = 1995 UX₃₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	297.88454	(2000.0)	P	Q	
<i>n</i>	0.24193878	ω 81.01155	+0.41789280	+0.90754378	
<i>a</i>	2.5507373	Ω 213.78713	-0.86015375	+0.38050625	
<i>e</i>	0.2703634	<i>i</i> 4.28921	-0.29240578	+0.17770557	
<i>P</i>	4.07	<i>H</i> 14.0	<i>G</i> 0.15	<i>U</i> 4	

Residuals in seconds of arc

1978 05 02	801	0.1-	0.6-	1998 03 22	704	0.2-	1.0+	1998 04 18	704	1.1+	0.5-
1995 10 22	691	0.1-	0.2-	1998 03 22	704	0.2-	1.2-	1998 04 18	704	1.5+	0.6-
1995 10 22	691	0.1+	0.2-	1998 03 22	704	0.4-	1.3-	1998 04 18	704	0.1+	0.2-
1995 10 22	691	0.2+	0.4-	1998 03 22	704	1.5+	0.5+	1998 04 18	704	(2.9-	2.2+)
1995 10 27	691	0.1+	0.2-	1998 03 22	704	(4.1-	1.2+)	1998 04 19	704	0.1+	0.4+
1995 10 27	691	0.2-	0.0	1998 04 01	704	0.3+	0.4+	1998 04 19	704	0.1-	0.3+
1995 10 27	691	0.3+	0.0	1998 04 01	704	0.9-	0.1-	1998 04 19	704	0.3-	0.1-
1998 03 20	704	0.3+	0.3-	1998 04 01	704	0.6+	0.5-	1998 04 19	704	0.5-	0.0
1998 03 20	704	0.5-	1.0+	1998 04 01	704	0.3-	0.9-	1998 04 19	704	0.9-	0.0
1998 03 20	704	0.6+	0.1-	1998 04 01	704	0.4-	0.1-				
1998 03 20	704	1.5-	1.4+	1998 04 18	704	0.6+	0.6+				

1998 FG₄₀ = 1994 CB₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

		Williams			
<i>M</i>	37.50220	(2000.0)	P	Q	
<i>n</i>	0.26097868	ω 165.36740	-0.96441399	-0.26439666	
<i>a</i>	2.4251170	Ω 359.30135	+0.24053662	-0.87700046	
<i>e</i>	0.1158641	<i>i</i> 1.13979	+0.10976242	-0.40120394	
<i>P</i>	3.78	<i>H</i> 14.5	<i>G</i> 0.15	<i>U</i> 5	

Residuals in seconds of arc

1994 02 08	303	0.7-	0.4-	1998 03 20	704	0.2+	0.3-	1998 03 24	566	0.1-	0.4+
1994 02 08	303	0.1+	0.3-	1998 03 22	704	0.6+	0.4-	1998 04 01	704	0.2-	0.2+
1994 02 08	303	0.9-	0.6+	1998 03 22	704	0.1+	0.3-	1998 04 01	704	1.1-	0.0
1994 02 09	303	3.7+	0.1-	1998 03 22	704	0.1+	0.3-	1998 04 01	704	0.7+	0.1-
1994 02 10	303	2.2-	0.2+	1998 03 22	704	0.1+	2.4+	1998 04 01	704	0.2+	0.2-
1998 03 20	704	0.4+	0.2-	1998 03 22	704	0.9-	0.3+	1998 04 01	704	0.5+	0.3-
1998 03 20	704	1.1-	0.3-	1998 03 24	566	0.0	0.4+				
1998 03 20	704	0.3+	1.6-	1998 03 24	566	0.2+	0.4+				

1998 MAY 11

M.P.C. 31751

1998 FH₄₂ = 1154 T-1 = 1991 NG₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	300.55991		(2000.0)			P		Q			
<i>n</i>	0.25526623	ω	304.55381			+0.29952358		+0.95294182			
<i>a</i>	2.4611635	Ω	342.69230			−0.81575773		+0.23036548			
<i>e</i>	0.1782342	<i>i</i>	9.04508			−0.49479789		+0.19706252			
<i>P</i>	3.86	<i>H</i>	15.0			<i>G</i>	0.15	<i>U</i>	4		
Residuals in seconds of arc											
1971 03 24	675	0.7+	1.8−	1998 03 22	704	0.5−	1.0−	1998 03 25	704	0.4+	0.7+
1971 03 25	675	1.4−	0.9+	1998 03 22	704	1.0+	0.1+	1998 03 25	704	0.1−	0.1+
1971 03 25	675	0.1+	0.1−	1998 03 22	704	1.2−	1.4+	1998 03 25	704	0.2+	0.7−
1971 03 26	675	0.4−	1.2+	1998 03 22	704	0.1−	0.2+	1998 03 25	704	0.8−	0.1−
1971 03 27	675	0.8+	0.7−	1998 03 25	704	0.9+	0.2−	1998 03 25	704	1.5+	0.3−
1991 07 13	675	0.6+	0.6+	1998 03 25	704	0.2+	0.2+	1998 04 18	704	1.7−	1.1+
1991 07 13	675	0.1−	0.5+	1998 03 25	704	0.4+	0.6−	1998 04 18	704	(2.3−	1.1−)
1991 07 16	675	1.7−	0.9−	1998 03 25	704	0.3+	0.9−	1998 04 18	704	(3.1−	1.0+)
1991 07 16	675	1.1+	0.1+	1998 03 25	704	0.9+	0.4−	1998 04 18	704	(2.3−	1.2−)
1998 03 20	704	0.2−	0.2−	1998 03 25	704	0.3−	0.1+	1998 04 19	704	0.4+	0.5−
1998 03 20	704	1.2+	1.7+	1998 03 25	704	0.3−	0.5+	1998 04 19	704	1.9−	0.2−
1998 03 20	704	(2.5+	0.5+)	1998 03 25	704	1.0+	0.3+	1998 04 19	704	(0.8+	2.2+)
1998 03 20	704	0.4−	1.6−	1998 03 25	704	(2.0+	1.3+)	1998 04 19	704	1.3−	0.1+
1998 03 20	704	0.8+	1.1+	1998 03 25	704	0.2−	0.0				

1998 FO₄₂ = 1996 TM₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	24.73482		(2000.0)			P		Q			
<i>n</i>	0.30324978	ω	337.02223			-0.98428210		+0.17407819			
<i>a</i>	2.1941638	Ω	213.04632			-0.15237358		-0.92228161			
<i>e</i>	0.1097685	<i>i</i>	3.12819			-0.08928072		-0.34509915			
<i>P</i>	3.25	<i>H</i>	16.0			<i>G</i>	0.15	<i>U</i>	5		
Residuals in seconds of arc											
1996 10 06	691	0.5+	0.3+	1998 03 20	704	0.3+	1.3+	1998 03 22	704	0.1-	0.9+
1996 10 06	691	0.2+	0.4+	1998 03 20	704	0.9-	0.3+	1998 04 01	704	0.9+	1.7-
1996 10 06	691	0.3+	0.2+	1998 03 20	704	0.7+	1.2+	1998 04 01	704	(3.8-	2.5-)
1996 10 16	691	0.3-	0.4-	1998 03 20	704	0.6-	0.1+	1998 04 01	704	1.8-	2.6-
1996 10 16	691	0.2-	0.9-	1998 03 22	704	0.6+	0.9+	1998 04 01	704	(5.7-	1.9-)
1996 10 16	691	0.2-	0.5-	1998 03 22	704	0.1-	0.3+				
1998 03 20	704	0.0	0.3-	1998 03 22	704	0.8+	1.1-				

1998 FV₄₂ = 1994 LD₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	267.84129		(2000.0)			P		Q			
n	0.20628626	ω	53.97074			+0.44930196		+0.89316401			
a	2.8367595	Ω	242.73942			-0.82660408		+0.40727807			
e	0.0230482	i	1.26610			-0.33890036		+0.19074227			
P	4.78	H	13.5	G	0.15	U	5				
Residuals in seconds of arc											
1994 06 08	809	0.8+	0.5-	1998 03 20	704	0.2-	0.2-	1998 04 18	704	0.0	0.3-
1994 06 08	809	0.1+	0.2+	1998 03 20	704	0.4+	0.5+	1998 04 18	704	0.4+	0.2-
1994 06 08	809	0.7+	0.5+	1998 03 22	704	0.0	1.0-	1998 04 18	704	0.2+	0.5+
1994 06 09	809	0.6+	0.9+	1998 03 22	704	0.7-	0.4+	1998 04 18	704	1.0+	0.1-
1994 06 09	809	1.2-	0.4-	1998 03 22	704	1.0-	0.9+	1998 04 18	704	0.5-	0.0
1994 06 09	809	1.0-	0.3-	1998 03 22	704	0.4-	0.3+	1998 04 19	704	0.0	0.7-
1998 02 26	566	1.1+	0.1+	1998 03 22	704	0.8-	0.3+	1998 04 19	704	0.2-	0.7-
1998 02 26	566	0.8+	0.2+	1998 04 01	704	0.2-	1.7-	1998 04 19	704	0.4+	0.4-
1998 02 26	566	0.5+	0.4+	1998 04 01	704	0.2+	0.4-	1998 04 19	704	0.5-	0.1-
1998 03 20	704	0.2-	0.6+	1998 04 01	704	0.1+	0.7-	1998 04 19	704	1.0-	0.0
1998 03 20	704	0.4+	1.3+	1998 04 01	704	0.3-	0.9+				
1998 03 20	704	1.2+	0.4+	1998 04 01	704	0.4-	0.4-				

1998 FV₄₃ = 1993 FU₇₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	307.40603		(2000.0)		P		Q		
<i>n</i>	0.19226143	ω	260.21750		-0.17857719		+0.98392477		
<i>a</i>	2.9730891	Ω	359.48837		-0.82431349		-0.15043794		
<i>e</i>	0.0512832	<i>i</i>	9.63910		-0.53723129		-0.09623136		
<i>P</i>	5.13	<i>H</i>	14.0		<i>G</i>	0.15	<i>U</i>	5	
Residuals in seconds of arc									
1993 03 21	809	0.3-	0.1-	1998 03 22	704	0.2+	0.9+	1998 04 18	704 (1.1+ 2.0+)
1993 03 22	809	0.2+	0.1+	1998 03 22	704	0.4+	0.3+	1998 04 18	704 0.9- 0.5-
1998 03 20	704	0.4-	0.8-	1998 03 22	704	1.0+	0.3+	1998 04 19	704 0.8- 1.5-
1998 03 20	704	0.4-	0.3-	1998 04 01	704	0.1+	0.9+	1998 04 19	704 (0.0 2.2-)
1998 03 20	704	0.6+	0.4-	1998 04 01	704	0.0	1.0-	1998 04 19	704 1.7+ 1.3+
1998 03 20	704	0.3-	0.5+	1998 04 01	704	0.2+	0.7+	1998 04 19	704 0.9- 0.4+
1998 03 20	704	0.6+	0.8-	1998 04 01	704	1.1-	0.6+	1998 04 19	704 0.9+ 0.2+
1998 03 22	704	0.1-	0.1+	1998 04 18	704	0.2+	1.1-		
1998 03 22	704	0.9-	0.7-	1998 04 18	704	0.0	0.8+		

1998 FL₄₄ = 1995 XV₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	309.27671		(2000.0)		P		Q				
<i>n</i>	0.23274687	ω	269.88905		+0.05459515		+0.99841636				
<i>a</i>	2.6174606	Ω	3.33274		-0.79787781		+0.05179234				
<i>e</i>	0.1564445	<i>i</i>	13.49885		-0.60034188		+0.02196205				
<i>P</i>	4.23	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4				
Residuals in seconds of arc											
1995 12 03	327	0.3+	0.3+	1998 02 26	566	0.1-	0.1+	1998 03 20	704	0.5-	0.8+
1995 12 03	327	0.1+	0.1+	1998 03 08	699	0.4+	0.3-	1998 03 22	704	0.0	0.4-
1995 12 03	327	0.6+	0.1-	1998 03 08	699	0.6-	0.2+	1998 03 22	704	0.9+	0.3-
1995 12 07	327	0.7-	0.3-	1998 03 08	699	1.1+	0.3-	1998 03 22	704	0.3+	0.8-
1995 12 07	327	0.1+	0.0	1998 03 20	704	0.0	0.2+	1998 03 22	704	0.1-	0.4-
1995 12 07	327	0.4-	0.1-	1998 03 20	704	0.4-	1.2+	1998 03 22	704	0.5-	0.6-
1998 02 26	566	0.1-	0.5-	1998 03 20	704	0.2-	0.6+				
1998 02 26	566	0.0	0.1-	1998 03 20	704	0.2-	0.6+				

1998 FR₄₇ = 1943 SB = 1991 BX₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	238.62685		(2000.0)			P		Q		
<i>n</i>	0.29944857	ω	6.15934			+0.95825669		+0.28224075		
<i>a</i>	2.2126933	Ω	337.28579			-0.26710437		+0.82678910		
<i>e</i>	0.2286146	<i>i</i>	6.79013			-0.10197731		+0.48657985		
<i>P</i>	3.29	<i>H</i>	14.0			<i>G</i>	0.15	<i>U</i>	4	
Residuals in seconds of arc										
1943 09 23	020	(1.0-	3.8-)	1998 03 20	704	0.0	0.2+	1998 04 01	704	1.3- 0.2+
1943 10 03	020	0.8+	1.4-	1998 03 20	704	0.0	0.3+	1998 04 18	704	0.2+ 0.9-
1991 01 17	033	0.9-	0.1-	1998 03 22	704	0.2+	0.5+	1998 04 18	704	1.0+ 0.6-
1991 01 17	033	0.9-	0.1+	1998 03 22	704	0.3+	0.4+	1998 04 18	704	0.6+ 0.8-
1991 01 18	033	1.7+	0.8-	1998 03 22	704	0.5+	0.2+	1998 04 18	704	(0.8+ 2.4-)
1998 02 27	566	0.4-	0.2+	1998 03 22	704	0.7+	0.3+	1998 04 19	704	0.3- 0.8-
1998 02 27	566	0.4-	0.1-	1998 03 22	704	0.8+	0.2-	1998 04 19	704	0.0 0.1-
1998 02 27	566	0.4-	0.2+	1998 04 01	704	0.5-	0.5-	1998 04 19	704	0.0 0.2+
1998 03 20	704	0.5+	0.7+	1998 04 01	704	0.7+	0.1+	1998 04 19	704	1.4- 0.5-
1998 03 20	704	0.5-	0.2+	1998 04 01	704	1.8-	0.5-	1998 04 19	704	0.3+ 0.5-
1998 03 20	704	0.2+	0.6+	1998 04 01	704	0.3-	0.6-			

1998 FB₄₉ = 1986 WZ₉ = 1992 OW₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	291.43057		(2000.0)			P		Q			
<i>n</i>	0.29973954	ω	332.93133			+0.51625078		+0.85620928			
<i>a</i>	2.2112611	Ω	328.13849			−0.77883157		+0.45974453			
<i>e</i>	0.1763845	<i>i</i>	2.14622			−0.35623942		+0.23567061			
<i>P</i>	3.29	<i>H</i>	15.0	<i>G</i>	0.15		<i>U</i>	4			
Residuals in seconds of arc											
1986 11 30	381	0.4−	0.4+	1998 03 20	704	0.4+	0.1+	1998 04 01	704	0.2−	0.6+
1986 11 30	381	(3.9+	2.3+)	1998 03 20	704	0.8+	1.1+	1998 04 01	704	1.0−	0.2−
1986 12 01	381	0.3+	1.4+	1998 03 20	704	0.2+	0.0	1998 04 01	704	0.7−	0.7+
1986 12 01	381	0.2−	0.3−	1998 03 22	704	0.2−	0.1−	1998 04 18	704	0.7+	0.1−
1992 07 30	809	1.3−	0.2−	1998 03 22	704	0.2−	0.1+	1998 04 18	704	0.4+	0.3−
1992 07 30	809	0.7−	0.0	1998 03 22	704	0.4+	0.4−	1998 04 18	704	1.0−	1.3−
1992 07 30	809	0.1−	0.0	1998 03 22	704	0.2+	0.4−	1998 04 18	704	0.6+	0.6−
1992 07 31	809	0.1+	0.6+	1998 03 22	704	0.1−	0.2−	1998 04 18	704	(3.5−	0.2−
1992 07 31	809	0.5+	0.5+	1998 03 27	428	0.5+	0.7+	1998 04 19	704	0.0	0.5−
1992 07 31	809	1.2+	0.4+	1998 03 27	428	0.6−	1.4+	1998 04 19	704	0.3−	0.7+
1998 02 23	566	0.4+	0.2+	1998 03 28	428	0.0	0.7+	1998 04 19	704	0.3−	0.2+
1998 02 23	566	0.8+	0.2−	1998 03 28	428	1.0−	0.2−	1998 04 19	704	0.0	0.3−
1998 02 23	566	0.6+	0.2−	1998 03 29	428	0.8+	0.1+	1998 04 19	704	0.0	0.3−
1998 03 20	704	0.0	0.9−	1998 03 29	428	0.6−	0.2+				
1998 03 20	704	0.5+	0.0	1998 04 01	704	0.1−	0.8+				

1998 FL₄₉ = 1976 QE₂ = 1976 SY₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	293.39301		(2000.0)			P		Q			
<i>n</i>	0.30297692	ω	312.59626			+0.46502729		+0.88525019			
<i>a</i>	2.1954810	Ω	345.10816			−0.80159669		+0.41670597			
<i>e</i>	0.1464401	<i>i</i>	2.01568			−0.37575571		+0.20661130			
<i>P</i>	3.25	<i>H</i>	15.0		<i>G</i>	0.15		<i>U</i>	4		
Residuals in seconds of arc											
1976 08 28	675	1.1−	0.0	1998 03 22	704	0.4+	0.3+	1998 04 18	704	0.1+	0.1+
1976 09 25	095	0.7+	1.0+	1998 03 22	704	0.5−	0.4+	1998 04 18	704	0.5−	0.3+
1998 01 24	910	0.2−	0.4+	1998 03 24	566	0.3+	0.6−	1998 04 18	704	0.2+	0.1+
1998 01 24	910	0.2+	0.2+	1998 03 24	566	0.1+	0.5−	1998 04 18	704	1.1+	0.2−
1998 01 24	910	0.0	0.2+	1998 03 24	566	0.7+	0.7−	1998 04 19	704	0.6−	0.2+
1998 03 08	699	0.2−	0.4+	1998 04 01	704	0.6−	0.9+	1998 04 19	704	0.1−	0.1−
1998 03 08	699	0.5−	1.1+	1998 04 01	704	0.1−	0.5+	1998 04 19	704	0.6−	0.7−
1998 03 08	699	1.1+	0.1+	1998 04 01	704	0.2−	0.7+	1998 04 19	704	0.2+	0.5−
1998 03 20	704	0.4+	0.2−	1998 04 01	704	0.4+	0.2+	1998 04 19	704	0.6−	0.6+
1998 03 20	704	0.1+	0.3−	1998 04 01	704	0.4−	0.6+	1998 04 24	699	0.6+	0.5+
1998 03 20	704	0.4+	0.0	1998 04 16	684	0.0	0.4−	1998 04 24	699	0.2+	0.3+
1998 03 20	704	0.3+	0.2+	1998 04 16	684	0.2+	0.5−	1998 04 24	699	0.1−	0.1−
1998 03 20	704	0.0	0.9−	1998 04 16	684	0.1+	0.4−	1998 04 29	566	0.1+	0.0
1998 03 22	704	0.4−	0.3−	1998 04 17	684	0.3+	0.3−	1998 04 29	566	0.2−	0.3−
1998 03 22	704	0.7−	0.1−	1998 04 17	684	0.4+	0.2−	1998 04 29	566	0.2−	0.2+
1998 03 22	704	0.8−	0.3+	1998 04 18	704	0.2+	0.1−				

1998 FK₅₁ = 1995 SN₁₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	13.57685		(2000.0)		P		Q				
n	0.18354698	ω	177.54893		−0.98810755		+0.14441507				
a	3.0664641	Ω	11.17865		−0.14530372		−0.76463274				
e	0.1320322	i	15.80388		−0.05030215		−0.62807727				
P	5.37	H	14.0		G	0.15	U	4			
Residuals in seconds of arc											
1995 09 17	691	0.0	0.3+	1998 03 20	704	0.2−	0.0	1998 03 22	704	0.7+	0.5−
1995 09 17	691	0.1+	0.2−	1998 03 20	704	1.3−	0.2+	1998 03 22	704	0.4+	0.8−
1995 09 17	691	0.3+	0.1−	1998 03 20	704	1.0−	2.3+	1998 04 24	699	0.1−	0.5+
1995 09 22	691	0.1−	0.2+	1998 03 20	704	0.4−	0.5+	1998 04 24	699	0.0	0.2+
1995 09 22	691	0.1−	0.2−	1998 03 22	704	0.5+	0.2−	1998 04 24	699	0.1+	0.6−

1995 09 22	691	0.3−	0.1−	1998 03 22	704	0.7+	0.7−
1998 03 20	704	0.0	0.1−	1998 03 22	704	0.6+	0.8−

1998 FS₅₁ = 1994 LG₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	267.67470		(2000.0)			P		Q			
n	0.22068275	ω	150.02143			+0.54333166		+0.83789929			
a	2.7120049	Ω	152.78777			−0.79111884		+0.53179181			
e	0.0373660	i	6.54337			−0.28093004		+0.12297258			
P	4.47	H	15.0			G	0.15	U	4		
Residuals in seconds of arc											
1994 06 08	691	0.2−	0.1−	1998 03 20	704	0.2+	0.1−	1998 04 20	046	0.5+	0.1+
1994 06 08	691	0.3+	0.1−	1998 03 22	704	1.2−	0.7+	1998 04 22	046	0.1+	0.3−
1994 06 08	691	0.1−	0.2+	1998 03 22	704	0.5−	1.5−	1998 04 22	046	0.4+	0.3−
1994 06 09	691	0.2+	0.1+	1998 03 22	704	1.4+	0.8+	1998 04 22	046	0.9−	0.0
1994 06 09	691	0.1−	0.2−	1998 03 22	704	(1.9+	0.4+)	1998 04 22	046	0.1+	0.2−
1994 06 09	691	0.1−	0.1+	1998 04 20	046	0.3+	0.1+	1998 04 23	046	0.7−	0.1−
1998 03 20	704	0.9−	0.3+	1998 04 20	046	0.0	0.3+	1998 04 23	046	0.3−	0.3−
1998 03 20	704	(2.9−	0.6+)	1998 04 20	046	0.3−	0.2+	1998 04 23	046	0.4+	0.3+
1998 03 20	704	0.9+	0.3−	1998 04 20	046	0.5+	0.2−	1998 04 23	046	0.1+	0.4+

1998 FT₅₃ = 1961 VT = 1978 RP₁ = 1991 SB₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	230.10920		(2000.0)		P		Q				
n	0.22953296	ω	356.99958		+0.97040164		+0.23812763				
a	2.6418370	Ω	348.97257		−0.21696331		+0.78655775				
e	0.1751690	i	12.13141		−0.10605461		+0.56975621				
P	4.29	H	13.0	G	0.15	U	2				
Residuals in seconds of arc											
1961 11 10	760	0.4−	0.4+	1998 03 20	704	0.6−	0.2+	1998 04 01	704	0.3+	0.2+
1961 11 10	760	0.3−	0.5+	1998 03 20	704	0.5−	0.3−	1998 04 01	704	0.1−	0.8+
1978 09 05	095	0.1−	0.2+	1998 03 22	704	0.1+	0.4+	1998 04 01	704	0.2+	0.1+
1978 09 07	095	(4.5−	2.3+)	1998 03 22	704	0.3+	0.4−	1998 04 01	704	0.6+	0.0
1978 09 12	095	0.5+	0.5−	1998 03 22	704	0.4−	0.6+	1998 04 01	704	0.4+	0.1+
1991 09 13	675	0.4+	1.0−	1998 03 22	704	0.9+	1.0+	1998 04 18	704	0.2−	0.2−
1991 09 13	675	0.8+	1.3−	1998 03 22	704	0.2−	0.7+	1998 04 18	704	0.6+	0.4−
1991 09 17	675	0.2+	0.3−	1998 03 28	910	1.4+	0.1+	1998 04 18	704	0.3−	0.0
1991 09 17	675	0.3+	0.4−	1998 03 28	910	(2.3+	0.0)	1998 04 18	704	1.3+	0.5−
1998 02 24	566	0.7−	0.5−	1998 03 29	910	(2.1+	0.0)	1998 04 19	704	0.1+	0.1−
1998 02 24	566	1.1−	0.8−	1998 03 31	704	0.2−	0.3+	1998 04 19	704	0.5+	0.3−
1998 02 24	566	1.0−	0.4−	1998 03 31	704	0.1+	0.2+	1998 04 19	704	0.7−	0.8−
1998 03 20	704	0.6−	0.2+	1998 03 31	704	0.3−	0.7−	1998 04 19	704	0.1+	0.1−
1998 03 20	704	0.4−	0.6−	1998 03 31	704	0.0	0.8−	1998 04 19	704	0.8−	0.5−
1998 03 20	704	0.1−	0.1−	1998 03 31	704	0.5−	0.3−				

1998 FM₅₄ = 1969 TE₃ = 1984 SU₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	269.38880		(2000.0)			P		Q		
n	0.26278938	ω	329.63089			+0.77594166		+0.63064761		
a	2.4139643	Ω	351.22970			−0.55860020		+0.67658650		
e	0.1993325	i	5.29696			−0.29305352		+0.38015036		
P	3.75	H	14.5			G 0.15		U 4		
Residuals in seconds of arc										
1969 10 09	095 0.2−	0.4+	1998 03 22	704 0.3+	1.2+	1998 04 18	704 0.7+	1.0+		
1984 09 25	688 0.6−	0.3+	1998 03 24	704 0.7−	0.9−	1998 04 18	704 0.7−	1.4+		
1984 09 25	688 1.9+	1.0−	1998 03 24	704 0.3+	0.7−	1998 04 18	704 1.4−	0.4+		
1984 09 28	688 2.0−	0.0	1998 03 24	704 1.0−	0.9−	1998 04 18	704 0.9−	0.9−		
1984 09 28	688 1.5+	0.9−	1998 03 24	704 0.1−	1.1−	1998 04 19	704 0.1+	0.5+		
1998 03 20	704 0.1−	0.8−	1998 03 24	704 0.8−	0.0	1998 04 19	704 0.5+	0.5+		
1998 03 20	704 0.2+	1.2−	1998 04 01	704 0.2+	0.2−	1998 04 19	704 0.3+	0.6+		
1998 03 20	704 0.3−	0.2+	1998 04 01	704 0.5−	0.3+	1998 04 19	704 0.4+	0.2+		
1998 03 20	704 1.1+	0.5+	1998 04 01	704 0.6+	0.5−	1998 04 19	704 0.8+	0.8+		

1998 MAY 11

1998 03 22	704	0.7+	0.5-	1998 04 01	704	0.3+	0.4-	1998 04 30	566	0.7-	0.5-
1998 03 22	704	0.7+	0.4-	1998 04 01	704	1.1-	0.7+	1998 04 30	566	0.3-	0.6-
1998 03 22	704	1.1+	0.8-	1998 04 18	704	0.1+	1.1+	1998 04 30	566	0.6-	0.5-

1998 FJ₅₆ = 1981 SN₆ = 1991 XJ₄ = 1992 BA₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	274.35342		(2000.0)	P	Q		
<i>n</i>	0.20988843	ω	251.24946	+0.40014973	+0.91504822		
<i>a</i>	2.8042090	Ω	42.45086	-0.81001932	+0.37899658		
<i>e</i>	0.0093610	<i>i</i>	4.30490	-0.42865941	+0.13801575		
<i>P</i>	4.70	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1981 09 28	095	0.4+	0.7-	1998 02 24	566	0.3-	0.4-	1998 03 22	704	1.1+	0.1+
1991 12 01	675	0.2+	0.5-	1998 02 24	566	0.2-	0.2-	1998 03 22	704	0.5+	0.6-
1991 12 01	675	0.7+	0.8-	1998 02 24	566	0.4-	0.3-	1998 03 22	704	0.1+	0.9-
1992 01 28	691	0.2-	0.2+	1998 03 20	704	0.0	0.5-	1998 03 22	704	0.2-	0.5-
1992 01 28	691	0.0	0.3+	1998 03 20	704	1.3-	0.3-	1998 04 04	699	0.4+	0.9+
1992 01 28	691	0.3-	0.3+	1998 03 20	704	0.1-	0.1+	1998 04 04	699	0.8+	0.1+
1992 01 29	691	0.1-	0.2+	1998 03 20	704	0.5-	0.3+	1998 04 04	699	0.1+	0.9+
1992 01 29	691	0.1+	0.1+	1998 03 20	704	0.6-	0.6+				
1992 01 29	691	0.8-	0.3+	1998 03 22	704	0.1+	0.3-				

1998 FR₅₇ = 1989 UZ₈ = 1995 WE₂₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	199.02282		(2000.0)	P	Q		
<i>n</i>	0.16912866	ω	43.82421	+0.99206786	-0.11886521		
<i>a</i>	3.2383559	Ω	322.94457	+0.08827506	+0.89039271		
<i>e</i>	0.1156541	<i>i</i>	3.89144	+0.08949233	+0.43939947		
<i>P</i>	5.83	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1989 10 23	095	0.5-	2.7-	1998 03 22	704	0.4+	0.2+	1998 04 01	704	0.3+	0.4-
1989 10 23	095	1.2+	0.6+	1998 03 22	704	0.4-	1.6-	1998 04 01	704	1.2-	2.4+
1995 11 18	691	0.2+	0.3+	1998 03 22	704	0.2-	1.7+	1998 04 18	704	0.8+	0.1+
1995 11 18	691	0.1+	0.2+	1998 03 22	704	3.3-	1.1+	1998 04 18	704	1.3+	1.1+
1995 11 18	691	0.3+	0.4+	1998 03 28	426	0.1+	0.2+	1998 04 18	704	0.5+	0.5+
1995 11 24	691	0.1-	0.2+	1998 03 28	426	0.2+	0.1+	1998 04 18	704	2.1-	1.3+
1995 11 24	691	0.6-	0.3+	1998 03 28	426	0.3+	0.2-	1998 04 19	704	0.5+	0.3-
1995 11 24	691	0.5-	0.2+	1998 03 30	426	0.2-	0.3-	1998 04 19	704	0.6+	0.2-
1998 03 20	704	0.2-	0.1-	1998 03 30	426	0.8-	0.8-	1998 04 19	704	0.2+	1.0+
1998 03 20	704	0.2+	1.4-	1998 03 30	426	0.3-	0.5-	1998 04 19	704	0.7-	1.0+
1998 03 20	704	0.3-	0.8-	1998 04 01	704	0.2+	1.0-	1998 04 19	704	0.5+	1.1-
1998 03 20	704	0.6+	0.1-	1998 04 01	704	2.7+	1.2-				
1998 03 20	704	0.7+	1.0-	1998 04 01	704	0.9-	0.3-				

1998 FC₅₉ = 1989 WT₅ = 1992 PC₅ = 1995 KK₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	265.87093		(2000.0)	P	Q		
<i>n</i>	0.29041203	ω	156.32462	+0.82832766	+0.55979124		
<i>a</i>	2.2583590	Ω	169.54516	-0.53179781	+0.79827891		
<i>e</i>	0.1789681	<i>i</i>	7.12836	-0.17625092	+0.22222632		
<i>P</i>	3.39	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1989 11 24	095	0.1-	0.8+	1995 06 03	691	0.7+	0.6+	1998 03 22	704	0.0	0.4-
1992 08 03	675	0.2+	0.9-	1998 03 08	699	1.0-	0.2+	1998 03 22	704	0.5+	0.2-
1992 08 03	675	0.7-	1.3-	1998 03 08	699	0.6+	0.1+	1998 03 22	704	1.2-	1.7-
1992 08 06	675	0.5+	0.4-	1998 03 08	699	0.2+	1.0+	1998 03 22	704	0.1-	0.1+
1992 08 06	675	0.4+	0.4+	1998 03 20	704	0.6+	0.0	1998 05 01	566	0.0	0.1-
1995 05 31	691	0.4+	0.0	1998 03 20	704	0.0	0.1+	1998 05 01	566	0.1-	0.1-
1995 05 31	691	0.9+	0.2-	1998 03 20	704	0.2+	0.3+	1998 05 01	566	0.3-	0.6-
1995 05 31	691	0.9+	0.1+	1998 03 20	704	0.5+	0.2-	1998 05 02	566	0.2+	0.1-
1995 06 03	691	1.1-	0.9+	1998 03 20	704	0.9-	0.3-	1998 05 02	566	0.1-	0.0
1995 06 03	691	1.4-	1.7+	1998 03 22	704	0.3+	0.7-	1998 05 02	566	0.0	0.7-

M.P.C. 31753

1998 FC₆₁ = 1990 SD₁₃ = 1993 FA₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	115.41796		(2000.0)	P	Q		
<i>n</i>	0.19457343	ω	99.41714	+0.10127348	-0.99483957		
<i>a</i>	2.9494906	Ω	344.76625	+0.90332165	+0.09454705		
<i>e</i>	0.0872261	<i>i</i>	1.34292	+0.41683772	+0.03681161		
<i>P</i>	5.07	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1990 09 22	809	1.2-	1.4+	1993 03 26	809	0.3-	1.1+	1998 04 01	704	0.9-	0.9+
1990 09 22	809	0.7-	1.2+	1993 03 27	809	0.1+	0.3+	1998 04 01	704	0.2+	0.7+
1990 09 22	809	0.3-	1.2+	1998 03 20	704	0.2-	0.2-	1998 04 01	704	0.7+	0.7+
1990 09 23	809	0.4+	0.1+	1998 03 20	704	0.5+	0.0	1998 04 20	704	0.9+	0.6-
1990 09 23	809	0.8+	0.2-	1998 03 20	704	0.2-	0.4-	1998 04 20	704	0.6+	0.7-
1990 09 23	809	0.7+	0.3-	1998 03 20	704	0.1-	0.8-	1998 04 20	704	0.7+	0.3-
1990 09 24	809	0.4-	0.7-	1998 03 20	704	1.0-	0.8-	1998 04 20	704	0.6+	0.5-
1990 09 24	809	0.4-	0.7-	1998 03 22	704	0.0	1.1-	1998 04 20	704	1.4-	0.8-
1990 09 24	809	0.1-	0.6-	1998 03 22	704	0.3-	0.3-	1998 04 22	704	0.6+	0.2-
1990 09 24	809	0.3+	0.6-	1998 03 22	704	0.5-	0.3+	1998 04 22	704	0.8-	0.0
1990 09 24	809	0.5+	0.8-	1998 03 22	704	0.9-	0.5-	1998 04 22	704	0.0	0.1+
1990 09 24	809	0.8+	0.8-	1998 03 22	704	(4.3-	0.5+)	1998 04 22	704	0.4-	0.1+
1993 03 21	809	0.2+	0.3+	1998 04 01	704	0.2-	0.3+	1998 04 22	704	0.2+	0.6+
1993 03 22	809	1.0+	0.7+	1998 04 01	704	0.4+	0.3+				

1998 FE₆₁ = 1978 TY₃ = 1990 WY₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	59.56975		(2000.0)	P	Q		
<i>n</i>	0.17236410	ω	303.18913	-0.67741996	-0.73522932		
<i>a</i>	3.1977033	Ω	189.55982	+0.71287035	-0.64837139		
<i>e</i>	0.1661161	<i>i</i>	8.04371	+0.18143336	-0.19761678		
<i>P</i>	5.72	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1978 10 04	095	0.4-	1.7+	1998 03 20	704	0.7+	1.3+	1998 03 22	704	(2.6+	3.4-)
1990 11 23	809	1.3+	0.8-	1998 03 20	704	0.4+	1.7-	1998 04 01	704	1.1-	0.9+
1990 11 23	809	0.4-	1.2+	1998 03 20	704	(6.6-	0.3+)	1998 04 01	704	0.6+	1.2+
1990 11 23	809	0.8-	0.5-	1998 03 22	704	1.0+	0.4-	1998 04 01	704	0.6-	0.7+
1998 03 20	704	0.4-	0.4+	1998 03 22	704	0.1-	1.1-	1998 04 01	704	1.2+	0.9-
1998 03 20	704	0.8-	1.1+	1998 03 22	704	(1.5+	1.3-)	1998 04 01	704	0.8-	0.2+

1998 FO₆₁ = 3532 T-3

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	340.40417		(2000.0)	P	Q		
<i>n</i>	0.26684901	ω	28.28223	-0.38255840	+0.92343950		
<i>a</i>	2.3894190	Ω	219.24663	-0.85641693	-0.36665688		
<i>e</i>	0.1248319	<i>i</i>	2.73083	-0.34669744	-0.11323528		
<i>P</i>	3.69	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1977 10 07	675	1.6-	1.0+	1998 03 20	704	0.2-	0.9+	1998 04 01	704	0.8-	0.0
1977 10 07	675	0.6+	1.3-	1998 03 20	704	0.3+	0.4-	1998 04 01	704	0.6-	0.8+
1977 10 11	675	1.2+	1.1-	1998 03 20	704	1.4-	0.9+	1998 04 04	699	0.3-	0.8-
1977 10 11	675	1.0+	0.4+	1998 03 22	704	1.6+	0.6-	1998 04 04	699	0.8-	0.5-
1977 10 11	675	0.7-	1.4-	1998 03 22	704	0.2+	0.6-	1998 04 04	699	0.0	0.6+
1977 10 11	675	0.9+	1.1+	1998 03 22	704	1.0+	0.8-	1998 04 28	566	0.1+	0.3-
1977 10 12	675	0.4+	0.4+	1998 03 22	704	1.6+	1.3-	1998 04 28	566	0.4+	0.6-
1977 10 12	675	1.1-	0.7-	1998 04 01	704	0.2-	0.6+	1998 04 28	566	0.8-	0.5-
1998 03 20	704	0.3+	0.4-	1998 04 01	704	0.6-	0.6+				
1998 03 20	704	0.1-	0.5+	1998 04 01	704	0.2-	0.4+				

1998 FY₆₁ = 3158 T-1

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.21927692	ω	201.87011	+0.10379434	−0.99299214		
<i>a</i>	2.7235839	Ω	242.21095	+0.92173019	+0.11738133		
<i>e</i>	0.0691226	<i>i</i>	3.66235	+0.37368463	−0.01371998		
<i>P</i>	4.49	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5
Residuals in seconds of arc							
1971 03 26	675	0.4−	0.1−	1998 03 22	704	(2.9−	1.1+)
1971 03 26	675	0.0	0.7−	1998 03 22	704	0.3+	0.3−
1971 03 27	675	(1.0−	3.1+)	1998 03 22	704	(3.0−	0.4+)
1971 04 02	675	0.7+	1.7+	1998 04 01	704	0.2+	1.0−
1998 03 20	704	1.5+	0.2−	1998 04 01	704	0.4+	0.6−
1998 03 20	704	0.4+	0.8−	1998 04 01	704	0.7−	0.5+
1998 03 20	704	1.6−	1.2+	1998 04 01	704	1.2+	0.4−
1998 03 20	704	0.6−	0.0	1998 04 01	704	0.6−	0.3−
1998 03 20	704	0.3−	0.7+	1998 04 20	704	0.2+	0.1−
1998 03 22	704	0.6+	0.7+	1998 04 20	704	(0.4−	2.2−)
1998 03 22	704	0.2+	1.3−	1998 04 20	704	0.4+	0.1−

1998 FF₆₂ = 1980 FY₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.22120683	ω	266.18077	−0.10861723	+0.99405074		
<i>a</i>	2.7077196	Ω	357.53941	−0.82082988	−0.09427338		
<i>e</i>	0.0686186	<i>i</i>	10.85879	−0.56075003	−0.05454948		
<i>P</i>	4.46	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1980 03 16	809	0.0	0.1−	1998 03 20	704	0.8−	0.9+
1980 03 16	809	0.0	0.0	1998 03 22	704	0.4+	0.4−
1980 03 16	809	0.1−	0.0	1998 03 22	704	0.2−	0.2+
1980 03 16	809	0.3−	0.1−	1998 03 22	704	0.1−	0.2−
1980 03 17	809	0.1+	0.1−	1998 03 22	704	0.3+	0.1−
1980 03 17	809	0.1−	0.6+	1998 03 22	704	(1.7−	2.7−)
1980 03 17	809	0.2+	0.4−	1998 04 01	704	0.1−	0.4−
1980 03 17	809	0.3+	0.2+	1998 04 01	704	0.6+	0.2−
1998 03 20	704	0.2−	0.3−	1998 04 01	704	0.3−	0.2−
1998 03 20	704	0.4−	0.1−	1998 04 01	704	0.3+	0.1−
1998 03 20	704	0.8−	0.3+	1998 04 01	704	0.1+	0.1+
1998 03 20	704	0.4−	0.4+	1998 04 18	704	0.2−	0.0

1998 FK₆₂ = 1976 YS₃ = 1979 SQ₂ = 1991 CJ₆ = 1996 TC₄₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.28953410	ω	224.42053	+0.20465118	−0.97763381		
<i>a</i>	2.2629219	Ω	213.85695	+0.92054913	+0.20906352		
<i>e</i>	0.1315358	<i>i</i>	4.99182	+0.33272690	+0.02290369		
<i>P</i>	3.40	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	1
Residuals in seconds of arc							
1976 12 16	095	0.7−	0.3−	1998 03 20	704	1.7+	0.8−
1976 12 20	095	0.5+	0.2+	1998 03 20	704	1.0+	0.7−
1979 09 22	095	0.8+	0.4−	1998 03 22	704	0.2+	0.1−
1979 09 28	095	0.0	1.6−	1998 03 22	704	0.5−	0.2+
1991 02 09	675	0.2−	0.5−	1998 03 22	704	0.0	0.5−
1991 02 09	675	0.5+	0.6−	1998 03 22	704	0.1+	0.5−
1996 10 04	809	(0.8−	3.1−)	1998 03 22	704	(1.0−	2.4+)
1996 10 04	809	(1.3−	3.1−)	1998 03 24	566	0.4−	0.1+
1996 10 04	809	(1.6−	3.3−)	1998 03 24	566	0.3−	0.2+
1996 10 05	809	0.8+	0.6−	1998 03 24	566	0.2−	0.3+
1996 10 05	809	0.1−	0.2−	1998 04 01	704	0.2+	0.5−
1996 10 05	809	0.2−	0.4−	1998 04 01	704	0.1+	0.4−
1998 03 20	704	0.6−	0.6+	1998 04 01	704	0.4−	0.3+

1998 03 20	704	0.2+	0.5+	1998 04 01	704	0.7−	0.4−
1998 03 20	704	0.8+	0.2+	1998 04 01	704	0.6+	0.1−

1998 FN₆₂ = 1995 QO₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18768032	ω	123.80282	−0.45726068	−0.88913715		
<i>a</i>	3.0212747	Ω	353.32705	+0.75367249	−0.37629200		
<i>e</i>	0.0502397	<i>i</i>	9.23541	+0.47211274	−0.26046009		
<i>P</i>	5.25	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3
Residuals in seconds of arc							
1995 08 20	691	0.1−	0.0	1998 03 22	704	0.4+	0.7−
1995 08 20	691	0.0	0.1−	1998 03 22	704	0.1+	0.6+
1995 08 20	691	0.1+	0.1−	1998 03 22	704	(3.7−	1.7+)
1995 08 27	691	0.1−	0.1+	1998 04 01	704	0.0	0.2−
1995 08 27	691	0.0	0.2+	1998 04 01	704	0.3−	0.5+
1995 08 27	691	0.1+	0.0	1998 04 01	704	0.5−	1.0+
1998 03 20	704	0.2−	0.4+	1998 04 01	704	0.1−	0.5+
1998 03 20	704	0.0	0.4−	1998 04 01	704	0.4−	0.7+
1998 03 20	704	1.5+	0.1−	1998 04 18	704	0.7+	0.0
1998 03 20	704	0.7+	0.2−	1998 04 18	704	0.5+	0.0
1998 03 20	704	0.4−	0.9−	1998 04 18	704	0.0	0.0
1998 03 22	704	0.3−	0.3−	1998 04 18	704	0.5−	0.4−
1998 03 22	704	0.7−	0.2+	1998 04 19	704	0.7+	0.2+

1998 FO₆₂ = 1979 FM = 1991 TR₁₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.21003860	ω	169.74184	+0.93328190	−0.35623757		
<i>a</i>	2.8028723	Ω	211.24870	+0.32296826	+0.88801898		
<i>e</i>	0.1200475	<i>i</i>	5.04339	+0.15708727	+0.29071821		
<i>P</i>	4.69	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	5
Residuals in seconds of arc							
1979 03 28	801	0.3−	0.7−	1998 03 20	704	0.8−	0.6+
1991 10 06	033	0.4+	0.0	1998 03 22	704	1.1+	0.5−
1991 10 06	033	0.6+	0.1−	1998 03 22	704	0.5−	0.9−
1991 10 08	033	0.5+	0.1+	1998 03 22	704	1.0+	1.3+
1991 10 09	033	0.9−	0.0	1998 03 22	704	0.4−	0.2+
1991 10 10	033	0.6−	0.3+	1998 03 22	704	1.6−	0.2−
1998 03 20	704	1.1+	0.2−	1998 04 20	704	0.4−	0.6+
1998 03 20	704	1.4−	0.0	1998 04 20	704	0.9−	1.4−
1998 03 20	704	0.5−	0.2−	1998 04 20	704	0.6−	0.2−
1998 03 20	704	0.0	1.1+	1998 04 20	704	0.1−	0.7−

1998 FU₆₂ = 1977 UC₄ = 1995 SH₅₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.21422959	ω	79.89987	+0.87023230	−0.49224008		
<i>a</i>	2.7661968	Ω	309.58509	+0.44128366	+0.79682019		
<i>e</i>	0.0704746	<i>i</i>	1.47858	+0.21900793	+0.35039589		
<i>P</i>	4.60	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1977 10 18	675	0.1−	0.3−	1998 03 20	704	0.7−	0.6+
1977 10 19	675	0.2+	0.2+	1998 03 20	704	(2.4−	1.1−)
1995 09 26	010	0.0	1.0−	1998 03 22	704	0.7−	0.3−
1995 09 26	010	1.2−	1.3−	1998 03 22	704	0.3+	0.1+
1995 09 26	010	0.2−	1.1−	1998 03 22	704	(3.4+	0.8+)
1995 09 27	010	0.5+	2.0+	1998 03 22	704	1.2+	1.7+
1995 09 27	010	0.9+	1.4+	1998 03 22	704	(3.1−	0.1−)
1995 09 27	010	(3.6+	1.7+)	1998 04 01	704	0.2+	1.1−
1998 03 20	704	1.2+	0.2+	1998 04 01	704	1.0+	0.1+

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1998 03 20 704 1.7− 0.0 1998 04 01 704 0.3+ 0.2− 1998 04 22 704 (3.7− 1.7−)
 1998 03 20 704 0.2− 0.2− 1998 04 01 704 0.5+ 0.6−

1998 FC₆₃ = 1978 WQ₁₅ = 1992 GS₅ = 1994 PO₁₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	0.88178		(2000.0)	P	Q
<i>n</i>	0.17065077	ω	37.52752	−0.86707116	+0.49817524
<i>a</i>	3.2190709	Ω	172.35005	−0.46237010	−0.80247779
<i>e</i>	0.1000197	<i>i</i>	1.29334	−0.18547638	−0.32840650
<i>P</i>	5.78	<i>H</i>	13.5	<i>G</i> 0.15	<i>U</i> 3

Residuals in seconds of arc

1978 11 30	675	1.5+	0.0	1994 09 05	809	0.6−	0.7−	1998 03 25	699	0.2+	0.1+
1978 12 01	675	1.4−	0.1−	1994 09 05	809	1.0−	1.3−	1998 03 25	699	0.3−	0.2−
1992 04 03	033	0.3+	0.5+	1994 09 06	809	1.0+	1.5+	1998 03 25	699	0.3−	0.3−
1992 04 03	033	0.3+	1.1+	1994 09 06	809	1.4+	1.9+	1998 03 25	372	0.1+	0.0
1994 08 10	809	1.3+	1.1−	1994 09 06	809	0.8+	1.1+	1998 03 25	372	0.7−	1.4+
1994 08 10	809	0.6+	1.1−	1998 03 20	704	0.5+	0.8−	1998 04 20	704	0.5+	0.5−
1994 08 10	809	1.0−	1.0−	1998 03 20	704	0.3−	0.1−	1998 04 20	704	0.8+	0.4−
1994 08 11	809	1.3+	0.5+	1998 03 20	704	0.4−	0.1+	1998 04 20	704	0.3+	0.5−
1994 08 11	809	0.5+	0.1+	1998 03 20	704	1.1−	1.0+	1998 04 20	704	0.0	0.9−
1994 08 11	809	0.8+	0.6+	1998 03 20	704	1.2−	0.9+	1998 04 20	704	0.5+	1.3−
1994 09 03	809	0.1−	0.2+	1998 03 22	704	0.0	0.1−	1998 04 22	704	0.5+	0.1−
1994 09 03	809	1.3−	0.5−	1998 03 22	704	0.0	0.4−	1998 04 22	704	0.2+	0.4+
1994 09 03	809	0.8−	0.1+	1998 03 22	704	0.4−	0.6−	1998 04 22	704	0.5+	0.6+
1994 09 04	809	0.0	0.7+	1998 03 22	704	0.6+	0.4−	1998 04 22	704	0.2−	0.5+
1994 09 04	809	1.0−	0.4+	1998 03 22	704	0.6−	0.6+	1998 04 22	704	0.3+	0.2+
1994 09 04	809	1.9−	0.5+	1998 03 22	372	1.2−	0.3+				
1994 09 05	809	0.4−	0.7−	1998 03 22	372	1.3+	0.1−				

1998 FG₆₃ = 1995 UA₄₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	5.11199		(2000.0)	P	Q
<i>n</i>	0.18086000	ω	62.31684	−0.90819293	+0.41791880
<i>a</i>	3.0967610	Ω	142.37372	−0.39606710	−0.84032848
<i>e</i>	0.0480242	<i>i</i>	2.16001	−0.13533827	−0.34524183
<i>P</i>	5.45	<i>H</i>	14.0	<i>G</i> 0.15	<i>U</i> 4

Residuals in seconds of arc

1995 10 25	327	0.2+	0.1+	1998 03 20	704	0.4−	0.7−	1998 04 20	704	0.4+	0.0
1995 10 25	327	0.2+	0.0	1998 03 22	704	0.5+	0.8−	1998 04 20	704	0.7+	0.5+
1995 10 25	327	0.0	0.1+	1998 03 22	704	0.4−	0.5−	1998 04 20	704	0.6+	0.6−
1995 10 26	327	0.2−	0.1−	1998 03 22	704	0.9+	1.1−	1998 04 20	704	(5.0− 1.0−)	
1995 10 26	327	0.3+	0.4−	1998 03 22	704	0.6−	2.1+	1998 04 22	704	0.4−	0.1+
1995 10 26	327	0.4−	0.3+	1998 03 22	704	0.5−	0.2−	1998 04 22	704	0.3+	1.0+
1998 03 20	704	0.9+	0.9−	1998 03 25	699	0.2−	0.2−	1998 04 22	704	1.0−	0.1−
1998 03 20	704	0.2+	0.2−	1998 03 25	699	0.5−	1.9+	1998 04 22	704	0.3+	1.0−
1998 03 20	704	0.5−	0.8−	1998 03 25	699	0.2−	2.0+	1998 04 22	704	0.9−	0.8−
1998 03 20	704	0.6+	0.1−	1998 04 20	704	0.2+	0.4+				

1998 FK₆₃ = 1991 NM₈ = 1994 CP₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	335.38206		(2000.0)	P	Q
<i>n</i>	0.25966035	ω	210.97291	−0.22210719	+0.97435949
<i>a</i>	2.4333185	Ω	46.22134	−0.88406552	−0.18570288
<i>e</i>	0.1645601	<i>i</i>	2.85353	−0.41121351	−0.12703555
<i>P</i>	3.80	<i>H</i>	14.5	<i>G</i> 0.15	<i>U</i> 3

Residuals in seconds of arc

1991 07 14	675	0.0	0.3−	1998 03 20	704	0.4+	0.8+	1998 03 31	704	0.1+	1.1+
1991 07 14	675	0.4+	0.9−	1998 03 20	704	1.6+	0.9−	1998 04 20	704	0.3+	0.3−
1994 02 08	809	0.9+	0.6−	1998 03 22	704	0.4−	0.6+	1998 04 20	704	0.0	0.4−
1994 02 08	809	0.6−	0.2−	1998 03 22	704	0.4−	0.2+	1998 04 20	704	0.5+	0.5−
1994 02 08	809	0.2−	1.2−	1998 03 22	704	0.2−	0.0	1998 04 20	704	0.3+	1.1−
1994 02 10	809	0.8+	0.1−	1998 03 22	704	0.0	0.2+	1998 04 20	704	1.1−	1.4−

1994 02 10	809	0.7−	0.8−	1998 03 22	704	0.3−	0.1+	1998 04 22	704	0.2+	0.2−
1994 02 10	809	1.8−	0.5−	1998 03 31	704	0.4−	0.5+	1998 04 22	704	0.7+	0.3−
1998 03 20	704	0.4+	0.5+	1998 03 31	704	0.1−	0.1+	1998 04 22	704	0.1−	0.2+
1998 03 20	704	0.5−	0.9+	1998 03 31	704	0.5−	1.1+	1998 04 22	704	0.2+	0.8−
1998 03 20	704	0.2+	0.3+	1998 03 31	704	0.1+	1.7+	1998 04 22	704	0.2+	0.5−

1998 FP₆₃ = 1994 PG₂₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	327.53493		(2000.0)	P	Q
<i>n</i>	0.18122234	ω	130.42240	−0.26730869	+0.96267842
<i>a</i>	3.0926319	Ω	124.02432	−0.89885959	−0.23325412
<i>e</i>	0.1368987	<i>i</i>	2.93126	−0.34727151	−0.13726897
<i>P</i>	5.44	<i>H</i>	14.0	<i>G</i> 0.15	<i>U</i> 5

Residuals in seconds of arc

1994 08 12	809	1.0+	1.6+	1998 03 20	704	0.3+	0.1+	1998 04 20	704	(2.7− 0.1−)	
1994 08 12	809	(0.0 2.6+)		1998 03 22	704	0.2+	0.1−	1998 04 22	704	1.5+	1.1−
1994 08 12	809	(0.6− 2.9+)		1998 03 22	704	0.9+	0.8+	1998 04 22	704	0.2+	1.2+
1994 08 13	809	0.1+	0.1+	1998 03 22	704	0.5+	0.1−	1998 04 22	704	0.0	0.5−
1994 08 13	809	0.7−	0.2−	1998 03 22	704	1.5−	1.0+	1998 04 22	704	0.6+	0.1+
1994 08 13	809	0.6−	0.9−	1998 03 22	704	(3.8− 0.5+)		1998 04 22	704	0.1−	0.7+
1998 03 20	704	(1.2+ 2.4+)		1998 04 20	704	1.5−	0.3−	1998 04 28	691	0.8−	0.4−
1998 03 20	704	0.5−	0.2+	1998 04 20	704	0.4−	0.3−	1998 04 28	691	0.5−	0.5−
1998 03 20	704	0.9+	0.2+	1998 04 20	704	0.1−	0.2−	1998 04 28	691	0.6−	0.4−
1998 03 20	704	0.2+	0.2+	1998 04 20	704	0.8+	0.4−				

1998 FR₆₃ = 1994 CE₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	85.97250		(2000.0)	P	Q
<i>n</i>	0.26237920	ω	327.26225	−0.34552021	−0.93770322
<i>a</i>	2.4164795	Ω	142.91490	+0.87345558	−0.33556008
<i>e</i>	0.1773028	<i>i</i>	3.46532	+0.34306140	−0.09006723
<i>P</i>	3.76	<i>H</i>	15.5	<i>G</i> 0.15	<i>U</i> 6

Residuals in seconds of arc

1994 02 14	033	0.1+	0.9+	1998 03 22	704	1.1+	0.0	1998 04 20	704	0.3−	1.0−
1994 02 15	033	0.9+	0.3−	1998 03 22	704	1.3−	1.1−	1998 04 20	704	1.6−	1.4−
1994 02 16	033	1.0−	0.6−	1998 03 22	704	1.1+	0.6−	1998 04 22	704	0.9+	0.8−
1998 03 20	704	0.9+	0.5+	1998 03 22	704	0.8+	1.8+	1998 04 22	704	0.9−	2.2+
1998 03 20	704	0.2−	0.7+	1998 03 22	704	2.5−	0.7+	1998 04 22	704	0.7+	0.1+
1998 03 20	704	1.1+	0.7−	1998 04 20	704	0.7+	0.3−	1998 04 22	704	2.1+	0.4+
1998 03 20	704	1.0−	1.3−	1998 04 20	704	0.5−	0.0	1998 04 22	704	0.9−	0.9+

1998 FL₆₄ = 1993 FW₃₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	242.47749		(2000.0)	P	Q
<i>n</i>	0.19760274	ω	280.94866	+0.89835231	+0.43668140
<i>a</i>	2.9192687	Ω	53.17619	−0.37618424	+0.82081737
<i>e</i>	0.0669780	<i>i</i>	3.41411	−0.22682270	+0.36819588
<i>P</i>	4.99	<i>H</i>	14.0	<i>G</i> 0.15	<i>U</i> 7

Residuals in seconds of arc

1993 03 19	809	0.5+	0.5−	1998 03 22	704	0.9−	0.3−	1998 04 20	704	0.4+	1.2−
1993 03 20	809	0.1−	0.9−	1998 03 22	704	0.6+	1.3+	1998 04 20	704	0.8+	0.3+
1993 03 24	809	1.4−	0.6−	1998 03 22	704	0.6−	1.1−	1998 04 20	704	1.3−	1.0−
1998 03 20	704	0.4−	1.1+	1998 03 22	704	0.8−	1.0−	1998 04 20	704	1.8−	0.2−
1998 03 20	704	0.6−	1.5+	1998 03 25	704	0.6+	0.3−	1998 04 22	704	0.8−	1.2−
1998 03 20	704	1.5+	1.2+	1998 03 25	704	1.8+	0.6−	1998 04 22	704	1.6+	1.5+
1998 03 20	704	0.6−	0.6−	1998 03 25	704	1.4+	0.1−	1998 04 22	704	0.8+	1.2+
1998 03 20	704	1.5−	0.4+	1998 03 25	704	0.4+	0.4+	1998 04 22	704	(4.5− 0.2+)	
1998 03 22	704	0.9−	0.3+	1998 03 25	704	0.9+	0.3+				

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1998 FM₆₄ = 1982 JU₁ = 1995 YV₁₆
Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18022896	ω	100.02998	-0.22965343	+0.97323697		
<i>a</i>	3.1039854	Ω	156.68828	-0.90098693	-0.20935882		
<i>e</i>	0.1398238	<i>i</i>	1.20373	-0.36807861	-0.09475597		
<i>P</i>	5.47	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1982 05 15	675	0.7+	0.1-	1995 12 28	691	0.1+	0.2+	1998 03 22	704	0.7-	0.0
1982 05 16	675	2.1-	0.0	1995 12 28	691	0.0	0.1+	1998 04 20	704	2.1+	0.4+
1982 05 16	675	1.4+	0.3+	1998 03 20	704	0.2-	1.0+	1998 04 20	704	0.4-	0.0
1982 05 17	675	0.2-	0.4-	1998 03 20	704	1.3-	1.5-	1998 04 20	704	0.3+	0.5-
1982 05 18	675	0.5+	1.0+	1998 03 20	704	0.1+	0.4-	1998 04 20	704	0.8-	0.5-
1995 12 22	691	0.0	0.0	1998 03 20	704	0.7-	0.4+	1998 04 22	704	0.6+	0.3-
1995 12 22	691	0.4-	0.3+	1998 03 22	704	0.1-	0.5-	1998 04 22	704	1.3+	0.3+
1995 12 22	691	0.4-	0.8+	1998 03 22	704	0.1-	0.1+	1998 04 22	704	0.9-	0.6+
1995 12 28	691	0.4+	0.2-	1998 03 22	704	0.3-	0.4+	1998 04 22	704	0.9+	0.5+

1998 FR₆₄ = 1979 OK₁ = 1996 VV₃₀
Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.24393415	ω	254.98028	+0.26829158	-0.96333770		
<i>a</i>	2.5368083	Ω	179.45680	+0.89588120	+0.24938700		
<i>e</i>	0.1545206	<i>i</i>	1.86556	+0.35414192	+0.09892720		
<i>P</i>	4.04	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1979 07 24	675	0.4-	0.1-	1998 03 20	704	0.2-	0.4+	1998 04 20	704	0.8-	1.5-
1979 07 24	413	2.0+	0.2+	1998 03 20	704	1.1-	1.8+	1998 04 20	704	1.0+	0.6-
1979 07 25	675	1.7-	0.2+	1998 03 20	704	0.2+	0.1+	1998 04 20	704	(2.8+ 0.3+)	
1996 11 12	399	0.8-	1.5+	1998 03 20	704	1.7-	0.9+	1998 04 20	704	(2.8+ 1.2-)	
1996 11 12	399	0.7+	0.0	1998 03 20	704	(2.2- 0.4+)		1998 04 22	704	0.6-	1.3-
1996 11 15	399	0.7+	0.2+	1998 03 22	704	0.1-	0.9+	1998 04 22	704	1.2+	0.6+
1996 11 15	399	0.6-	1.6-	1998 03 22	704	(0.3- 2.2+)		1998 04 22	704	0.0	0.1+
1998 03 02	910	0.2-	0.1+	1998 03 22	704	0.0	0.8-	1998 04 22	704	0.4-	0.3-
1998 03 03	910	0.0	0.3-	1998 03 22	704	1.1+	0.4-	1998 04 22	704	0.7+	0.6+
1998 03 03	910	0.2-	0.1-	1998 03 22	704	1.4+	0.1-				

1998 FH₆₅ = 1991 EM₃
Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.28626218	ω	46.33334	-0.04495966	+0.99878807		
<i>a</i>	2.2801324	Ω	221.10245	-0.92509614	-0.04919179		
<i>e</i>	0.1290632	<i>i</i>	1.74555	-0.37706201	+0.00159646		
<i>P</i>	3.44	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1991 03 11	809	0.1+	0.4+	1998 03 22	704	0.1-	0.9+	1998 04 18	704	0.1+	0.5-
1991 03 11	809	0.1+	0.6+	1998 03 22	704	0.1-	0.1+	1998 04 18	704	0.3+	0.6-
1991 03 11	809	0.0	0.7+	1998 03 22	704	0.1-	0.5-	1998 04 18	704	0.2-	0.4-
1991 03 12	675	0.2+	1.9-	1998 03 22	699	0.3-	0.1-	1998 04 18	704	0.6-	0.4-
1991 03 12	675	1.7+	0.1+	1998 03 22	699	0.1-	1.2+	1998 04 19	704	0.0	0.0
1991 03 13	809	0.9-	0.4-	1998 03 22	699	0.5-	0.9+	1998 04 19	704	0.1-	0.4+
1991 03 13	809	0.5-	0.5-	1998 03 25	566	0.2+	0.2+	1998 04 19	704	1.3-	0.9-
1991 03 13	809	0.1-	0.6-	1998 03 25	566	0.5+	0.1-	1998 04 19	704	0.1-	0.1+
1991 03 15	809	0.6-	0.3-	1998 03 25	566	0.2+	0.2-	1998 04 20	704	0.4+	0.2-
1991 03 15	809	0.5-	0.0	1998 04 01	704	0.1-	0.0	1998 04 20	704	0.1-	0.1-
1991 03 15	809	0.2-	0.3+	1998 04 01	704	0.6+	0.4+	1998 04 20	704	0.4+	0.6-
1998 03 20	704	0.5-	0.4+	1998 04 01	704	0.3+	0.7+	1998 04 20	704	0.1+	0.4-
1998 03 20	704	0.3-	0.3+	1998 04 01	704	0.8+	0.5+	1998 04 20	704	0.7-	0.4-
1998 03 20	704	0.8+	0.3+	1998 04 01	704	0.3+	0.1+	1998 04 22	704	0.6+	0.2+
1998 03 20	704	(2.8- 0.0)		1998 04 04	699	1.5+	0.6-	1998 04 22	704	0.5-	0.3+
1998 03 20	704	(3.4- 2.5-)		1998 04 04	699	0.2+	0.4-	1998 04 22	704	0.1-	0.1-

1998 MAY 11

1998 03 22 704 0.6- 0.1- 1998 04 04 699 0.6+ 1.2+ 1998 04 22 704 0.3- 0.4+
1998 03 22 704 0.6- 0.2+ 1998 04 18 704 0.3+ 0.4- 1998 04 22 704 0.3- 0.1-

1998 FP₆₅ = 1990 TD₅
Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.21783706	ω	64.16441	+0.11095711	+0.99125157		
<i>a</i>	2.7355724	Ω	212.45425	-0.95284504	+0.08566666		
<i>e</i>	0.1609379	<i>i</i>	7.65428	-0.28244442	+0.10040688		
<i>P</i>	4.52	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1990 10 09	413	0.3-	1.2-	1998 03 22	704	0.9-	0.3-	1998 04 20	704	0.3+	1.2-
1990 10 09	413	0.5-	0.9+	1998 03 22	704	1.4-	0.5+	1998 04 20	704	0.3+	0.5-
1990 10 11	413	0.9+	0.2+	1998 03 22	704	0.1-	0.4+	1998 04 22	704	0.3-	0.3+
1998 03 20	704	0.3-	0.4+	1998 03 22	704	1.3+	0.3+	1998 04 22	704	0.4-	0.6+
1998 03 20	704	0.1+	0.3+	1998 03 22	704	1.6-	0.2-	1998 04 22	704	0.2-	0.4+
1998 03 20	704	0.7+	0.2-	1998 04 20	704	0.3-	0.2-	1998 04 22	704	0.3-	0.6+
1998 03 20	704	0.5-	0.5-	1998 04 20	704	1.0+	0.1-	1998 04 22	704	0.3+	0.3+
1998 03 20	704	2.5+	0.7-	1998 04 20	704	0.1-	0.3-				

1998 FT₆₅ = 1992 PX₃
Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.30007627	ω	287.98876	+0.23404524	+0.97218814		
<i>a</i>	2.2096065	Ω	355.52030	-0.84547223	+0.19918343		
<i>e</i>	0.1513165	<i>i</i>	6.28250	-0.47999952	+0.12319167		
<i>P</i>	3.28	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1992 08 05	675	0.6+	1.3-	1998 03 25	704	0.1-	0.0	1998 04 18	704	0.6-	0.5-
1992 08 05	675	0.1-	0.5+	1998 03 25	704	0.7+	0.3+	1998 04 19	704	0.2-	0.1-
1992 08 06	675	0.5-	0.3-	1998 03 25	704	0.8+	0.5+	1998 04 19	704	0.1-	0.3+
1992 08 06	675	0.0	1.0+	1998 03 25	704	1.0+	1.1+	1998 04 19	704	0.1+	0.7+
1998 03 20	704	0.0	0.5-	1998 03 25	704	0.2+	0.5+	1998 04 19	704	0.8-	0.1+
1998 03 20	704	0.4-	0.7-	1998 03 25	566	0.2+	0.6-	1998 04 20	704	0.4-	0.0
1998 03 20	704	1.4-	0.2-	1998 03 25	566	0.1-	0.5-	1998 04 20	704	0.2-	0.3+
1998 03 20	704	1.0-	1.2+	1998 03 25	566	0.3+	0.7-	1998 04 20	704	0.7-	0.4-
1998 03 22	704	0.6-	0.1-	1998 04 01	704	0.3+	0.2-	1998 04 20	704	1.7+	0.0
1998 03 22	704	0.5-	0.8-	1998 04 01	704	0.1-	0.7+	1998 04 20	704	0.5-	0.4+
1998 03 22	704	0.3-	0.8-	1998 04 01	704	0.4+	0.1-	1998 04 22	704	0.0	0.4-
1998 03 22	704	0.4+	1.3-	1998 04 01	704	0.0	0.1-	1998 04 22	704	0.8+	0.2+
1998 03 22	704	1.1+	1.1-	1998 04 01	704	0.4+	0.2-	1998 04 22	704	0.4+	0.0
1998 03 22	699	0.1-	0.7+	1998 04 18	704	0.0	0.0	1998 04 22	704	0.5+	0.0
1998 03 22	699	0.1+	1.1+	1998 04 18	704	0.5+	0.2-	1998 04 22	704	0.9-	0.5-
1998 03 22	699	1.0-	1.8+	1998 04 18	704	0.1+	0.2+				

1998 FC₆₆ = 1973 QE = 1988 TV₃ = 1988 TC₃
Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27222456	ω	121.59873	+0.74289049	+0.66742346		
<i>a</i>	2.3578591	Ω	196.72034	-0.65871847	+0.71513362		
<i>e</i>	0.2219988	<i>i</i>	10.32636	-0.11917926	+0.20767723		
<i>P</i>	3.62	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1973 08 28	805	0.6+	0.3-	1998 03 22	704	0.3+	1.3-	1998 04 01	704	0.4+	0.2+
1973 09 01	805	0.7-	0.4+	1998 03 22	704	1.4-	0.1+	1998 04 04	699	1.0+	0.1+
1988 10 04	046	0.4+	0.7+	1998 03 22	704	0.2-	0.2+	1998 04 04	699	0.1+	0.1-
1988 10 04	046	0.4-	0.6-	1998 03 22	704	0.4-	0.8+	1998 04 04	699	0.8+	0.4-
1988 10 15	071 (5.7+ 0.8-)			1998 03 22	699	0.2-	0.4+	1998 04 20	704	0.1+	0.1+
1988 10 16	071	0.2+	1.2-	1998 03 22	699	0.4-	0.3+	1998 04 20	704	0.1+	0.7-
1998 03 03	704	0.5+	0.4+	1998 03 22	699	0.1-	1.2+	1998 04 20	704	1.0+	0.4-
1998 03 03	704	0.9-	0.5-	1998 03 24	699	0.4+	0.2-	1998 04 20	704	0.4-	0.8-
1998 03 03	704	0.9-	0.0	1998 03 24	699	0.3-	0.5-	1998 04 20	704	0.3+	0.6-

1998 03 03	704	0.7−	0.5+	1998 03 24	699	0.7+	0.4−	1998 04 22	704	0.7+	0.5+
1998 03 03	704	1.4−	1.0+	1998 03 25	566	0.3−	0.2−	1998 04 22	704	0.5+	0.4+
1998 03 20	704	0.1+	0.3−	1998 03 25	566	0.4−	0.3−	1998 04 22	704	0.1−	0.5+
1998 03 20	704	0.5−	0.6−	1998 03 25	566	0.3−	0.1+	1998 04 22	704	0.5−	0.2+
1998 03 20	704	0.3−	0.5−	1998 04 01	704	0.0	0.0	1998 04 22	704	0.3+	0.0
1998 03 20	704	0.1+	0.3+	1998 04 01	704	0.5+	0.1−	1998 04 30	566	0.2+	0.4−
1998 03 20	704	0.8−	0.3+	1998 04 01	704	0.5+	0.1+	1998 04 30	566	0.1+	0.5−
1998 03 22	704	0.4+	0.0	1998 04 01	704	0.4+	0.1+	1998 04 30	566	0.1−	0.2−

1998 FL₆₆ = 1977 LK₁ = 1980 EA

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	314.42940	(2000.0)		P	Q		
<i>n</i>	0.27706794	ω	268.05194	+0.31078355	+0.95046936		
<i>a</i>	2.3303002	Ω	20.05641	−0.86657688	+0.28535298		
<i>e</i>	0.1968014	<i>i</i>	0.77594	−0.39045883	+0.12321390		
<i>P</i>	3.56	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1977 06 13	675	1.5+	0.2+	1998 03 22	704	0.3−	0.2+	1998 04 04	699	1.1+	0.2−
1977 06 14	675	1.5−	0.3+	1998 03 22	704	0.9−	0.0	1998 04 04	699	0.3+	0.4+
1980 03 10	801	0.7+	2.0+	1998 03 22	704	0.4−	0.4+	1998 04 20	704	0.2−	0.5−
1980 03 12	801	0.0	0.9+	1998 03 24	699	0.1+	0.1−	1998 04 20	704	0.1−	0.1−
1980 03 13	801	0.0	1.3−	1998 03 24	699	0.1+	0.4+	1998 04 20	704	0.7+	0.1−
1998 03 20	704	0.4+	0.0	1998 03 24	699	0.7−	0.0	1998 04 20	704	0.2−	0.5−
1998 03 20	704	0.3−	0.1+	1998 03 25	704	0.1−	0.2−	1998 04 20	704	0.7+	0.3−
1998 03 20	704	0.4+	0.4+	1998 03 25	704	0.2+	0.1−	1998 04 22	704	0.5−	0.2+
1998 03 20	704	0.0	0.3−	1998 03 25	704	0.0	0.3−	1998 04 22	704	0.4−	0.3+
1998 03 20	704	0.0	0.1−	1998 03 25	704	0.0	0.7−	1998 04 22	704	0.3−	0.2+
1998 03 22	704	0.1+	0.1+	1998 03 25	704	1.3−	1.6−	1998 04 22	704	0.2−	0.5+
1998 03 22	704	0.5+	0.0	1998 04 04	699	0.5+	0.5−	1998 04 22	704	0.2−	0.8+

1998 FO₆₆ = 1986 WM₆ = 1989 SF₁₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	147.49515	(2000.0)		P	Q		
<i>n</i>	0.28749604	ω	254.73334	+0.47103379	−0.88209118		
<i>a</i>	2.2736039	Ω	167.15927	+0.82014265	+0.43521428		
<i>e</i>	0.1177714	<i>i</i>	1.67737	+0.32479718	+0.18028777		
<i>P</i>	3.43	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1986 11 28	010	(4.7−	0.1+)	1998 03 20	704	0.0	0.3+	1998 03 25	704	0.9+	0.2−
1986 11 28	010	0.5−	0.9−	1998 03 20	704	0.3−	0.3−	1998 04 20	704	0.0	0.8−
1986 11 28	010	0.6+	0.0	1998 03 20	704	0.4−	1.1+	1998 04 20	704	(2.2+ 0.9−)	
1989 09 29	809	0.3+	0.8−	1998 03 20	704	1.6−	0.2−	1998 04 20	704	0.3+	0.2+
1989 09 29	809	1.0+	0.7−	1998 03 22	704	0.4−	0.0	1998 04 20	704	0.1−	1.9−
1989 09 29	809	1.7+	0.6−	1998 03 22	704	1.3−	0.5−	1998 04 22	704	1.2+	0.2−
1989 09 29	809	0.7+	0.6+	1998 03 22	704	0.9−	0.1+	1998 04 22	704	1.2+	0.9−
1989 09 29	809	0.2−	0.3−	1998 03 22	704	0.0	0.2−	1998 04 22	704	0.4−	1.4−
1989 09 29	809	1.1−	0.5−	1998 03 22	704	0.9−	1.1+	1998 04 22	704	0.5+	0.7−
1989 10 01	809	0.8−	0.3+	1998 03 25	704	0.1−	0.8+	1998 04 22	704	0.1−	0.6+
1989 10 01	809	0.6−	0.2+	1998 03 25	704	0.8+	0.8+				
1989 10 01	809	0.3−	0.0	1998 03 25	704	0.7+	0.3−				

1998 FF₆₇ = 1994 EG₉ = 1995 OQ₁₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	342.40882	(2000.0)		P	Q		
<i>n</i>	0.26505619	ω	119.41187	−0.35338647	+0.93442645		
<i>a</i>	2.4001815	Ω	129.82520	−0.87704423	−0.31445472		
<i>e</i>	0.1512030	<i>i</i>	3.30908	−0.32544035	−0.16722872		
<i>P</i>	3.72	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1994 03 04	691	0.9+	0.7+	1998 03 22	704	0.1+	0.9+	1998 04 07	557	0.4+	0.1−
1994 03 04	691	0.4−	0.3+	1998 03 24	566	0.3−	0.1−	1998 04 20	704	0.5+	0.5+
1994 03 04	691	0.1−	0.5+	1998 03 24	566	0.7−	0.1−	1998 04 20	704	0.1+	0.1−

1995 07 24	691	0.1−	0.2+	1998 03 24	566	0.9−	0.0	1998 04 20	704	0.2+	0.4−
1995 07 24	691	0.1−	0.3+	1998 03 31	557	0.3+	0.7−	1998 04 20	704	1.0+	0.2−
1995 07 24	691	0.1−	0.4+	1998 03 31	557	0.0	0.4−	1998 04 20	704	1.3−	0.0
1998 03 20	704	0.6−	0.2−	1998 03 31	557	0.8+	0.5−	1998 04 21	691	0.5−	0.3+
1998 03 20	704	0.2+	0.4+	1998 03 31	557	0.1−	0.4−	1998 04 21	691	0.4−	0.1+
1998 03 20	704	0.5−	0.3+	1998 03 31	557	0.8+	0.4−	1998 04 21	691	0.5−	0.1+
1998 03 20	704	0.1−	0.3+	1998 04 01	557	0.7+	0.4−	1998 04 22	704	0.4+	0.6+
1998 03 20	704	0.1+	0.0	1998 04 01	557	0.1+	0.2−	1998 04 22	704	0.2−	0.8+
1998 03 22	704	0.3−	0.1+	1998 04 05	557	0.0	0.3−	1998 04 22	704	0.2−	0.6+
1998 03 22	704	0.6−	0.7+	1998 04 05	557	0.6+	0.4−	1998 04 22	704	0.3+	0.1+
1998 03 22	704	0.2−	0.1+	1998 04 05	557	0.6+	0.7−	1998 04 22	704	0.6−	0.3+
1998 03 22	704	0.1−	0.5−	1998 04 07	557	0.2+	0.1−				

1998 FV₆₇ = 1977 JQ = 1989 TO₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	338.39299	(2000.0)		P	Q		
<i>n</i>	0.18560982	ω	106.82295	−0.29114468	+0.95590285		
<i>a</i>	3.0437016	Ω	146.17401	−0.90198207	−0.26085333		
<i>e</i>	0.2102173	<i>i</i>	3.96884	−0.31884655	−0.13492697		
<i>P</i>	5.31	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1977 05 15	095	0.5+	1.6+	1998 03 20	704	3.1+	0.0	1998 04 20	704	0.3+	1.0−
1989 10 07	809	0.2+	0.2+	1998 03 22	704	1.8−	0.6+	1998 04 20	704	0.1+	0.2−
1989 10 07	809	0.5+	1.0+	1998 03 22	704	0.8−	0.7+	1998 04 22	704	0.3+	0.4−
1989 10 07	809	0.4−	0.6+	1998 03 22	704	0.5−	0.1+	1998 04 22	704	0.2+	0.6−
1989 10 08	809	0.8−	0.5−	1998 03 22	704	0.2+	0.3−	1998 04 22	704	0.7−	0.2−
1989 10 08	809	0.0	0.0	1998 03 24	699	0.6−	0.4+	1998 04 22	704	0.2−	0.1−
1989 10 08	809	0.3−	0.8+	1998 03 24	699	0.5−	1.2+	1998 04 22	704	0.6+	0.4−
1998 03 20	704	0.3+	0.8+	1998 03 24	699	0.4−	0.3+	1998 05 01	691	1.1−	0.1−
1998 03 20	704	0.6+	0.4+	1998 04 20	704	0.5−	0.4−	1998 05 01	691	1.0−	0.5−
1998 03 20	704	1.6+	0.6+	1998 04 20	704	0.2+	0.2+	1998 05 01	691	1.1−	0.4−
1998 03 20	704	1.2+	0.0	1998 04 20	704	0.6+	0.3−				

1998 FY₆₇ = 1989 EY₇ = 1994 XF₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams			
<i>M</i>	311.58225	(2000.0)		P	Q		
<i>n</i>	0.12474371	ω	85.40317	−0.06307465	+0.99800532		
<i>a</i>	3.9669520	Ω	180.99209	−0.96540506	−0.06168404		
<i>e</i>	0.1017504	<i>i</i>	8.76447	−0.25301120	−0.01343322		
<i>P</i>	7.90	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1989 03 02	809	0.4+	0.1+	1998 03 20	704	0.5+	0.6+	1998 04 20	704	0.8+	0.2−
1989 03 02	809	0.8−	0.6+	1998 03 20	704	1.8+	0.1+	1998 04 20	704	1.1−	1.2+
1989 03 02	809	0.6+	0.4+	1998 03 20	704	0.6−	1.0−	1998 04 20	704	0.2−	0.0
1994 12 04	691	0.0	0.3−	1998 03 20	704	1.4−	0.5−	1998 04 22	704	0.4+	1.4−
1994 12 04	691	0.1−	0.3−	1998 03 22	704	2.5−	0.9+	1998 04 22	704	0.6+	0.4−
1994 12 04	691	0.0	0.1−	1998 03 22	704	0.9+	0.1+	1998 04 22	704	0.8+	1.8+
1994 12 10	691	0.4−	0.5−	1998 03 22	704	0.9−	1.1−	1998 04 22	704	0.6+	1.0+
1994 12 10	691	0.2−	0.1+	1998 03 22	704	1.6+	1.5−	1998 04 22	704	0.8−	0.4+
1994 12 10	691	0.8+	0.1+	1998 04 20	704	0.3−	0.3+				
1998 03 20	704	1.6−	0.6−	1998 04 20	704	1.1+	0.9−				

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1993 05 14	809	0.3+	0.1-	1998 03 22	704	0.1+	1.0+	1998 04 20	704	1.5+	0.0
1993 05 15	809	0.0	0.9-	1998 03 22	704	0.4-	0.3+	1998 04 20	704	0.1-	0.5+
1993 05 15	809	0.3-	1.0-	1998 03 22	704	0.2-	0.4+	1998 04 22	704	0.4+	0.4-
1993 05 15	809	0.1+	1.2-	1998 03 22	704	0.2-	1.0+	1998 04 22	704	1.5+	0.3-
1994 09 03	809	0.7+	0.3+	1998 03 24	699	0.1-	0.3+	1998 04 22	704	0.6-	0.2-
1994 09 03	809	0.1-	0.7+	1998 03 24	699	0.3+	0.9+	1998 04 22	704	0.1-	0.1-
1994 09 03	809	0.5-	0.1+	1998 03 24	699	0.3-	0.8+	1998 04 22	704	0.8+	0.1+
1994 09 04	809	0.2-	1.2+	1998 04 01	704	1.0-	0.1+	1998 05 01	566	0.1+	0.6-
1994 09 04	809	0.5-	1.0+	1998 04 01	704	0.7-	0.1+	1998 05 01	566	0.2+	0.2-
1994 09 04	809	0.9-	0.6+	1998 04 01	704	0.7-	0.4+	1998 05 01	566	0.3+	0.3-
1998 03 20	704	0.4+	0.0	1998 04 01	704	0.3-	0.5+	1998 05 02	566	0.5-	0.5-
1998 03 20	704	0.5+	0.3+	1998 04 01	704	0.5-	0.7+	1998 05 02	566	0.0	0.5-
1998 03 20	704	0.3+	0.5+	1998 04 20	704	0.6+	0.1+	1998 05 02	566	0.2+	0.4-

1998 FO₆₈ = 1991 NZ₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	309.98487	(2000.0)	
<i>n</i>	0.26424028	ω	328.40467
<i>a</i>	2.4051197	Ω	326.71669
<i>e</i>	0.2100432	<i>i</i>	1.85225
<i>P</i>	3.73	<i>H</i>	15.0

Residuals in seconds of arc

1991 07 04	809	0.4-	0.1-	1998 03 22	699	0.2+	0.6-	1998 04 20	704	1.1-	0.8-
1991 07 04	809	0.0	0.1+	1998 03 24	699	0.4+	0.3-	1998 04 20	704	1.1+	1.6+
1991 07 04	809	0.4+	0.3+	1998 03 24	699	0.2+	0.4-	1998 04 20	704	0.4+	0.1+
1991 07 05	809	0.5-	0.3-	1998 03 24	699	0.4-	1.1-	1998 04 22	704	1.0+	0.0
1991 07 05	809	0.0	0.2-	1998 03 25	704	0.2-	0.3-	1998 04 22	704	0.1+	0.1-
1991 07 05	809	0.5+	0.1+	1998 03 25	704	0.2+	0.6+	1998 04 22	704	0.5+	0.2-
1998 03 20	704	0.2+	0.6+	1998 03 25	704	0.5-	0.8+	1998 04 22	704	0.2-	0.4-
1998 03 20	704	1.2-	0.4-	1998 03 25	704	(1.4+	2.2+)	1998 04 22	704	0.3-	0.6-
1998 03 20	704	0.2+	0.6+	1998 04 01	704	0.1+	0.1-	1998 04 24	699	0.1+	0.2+
1998 03 20	704	0.3+	0.2+	1998 04 01	704	0.4+	0.2-	1998 04 24	699	0.6+	0.1+
1998 03 20	704	1.5-	0.3-	1998 04 01	704	0.9+	0.2+	1998 04 24	699	0.1-	0.2+
1998 03 22	704	0.2-	0.5+	1998 04 01	704	0.1+	0.4-	1998 05 01	566	0.0	0.0
1998 03 22	704	0.2+	0.1+	1998 04 01	704	0.5+	0.4-	1998 05 01	566	0.7-	0.4+
1998 03 22	704	1.1-	0.0	1998 04 04	699	1.3+	0.0	1998 05 01	566	0.7-	0.3+
1998 03 22	704	0.1-	0.6-	1998 04 04	699	0.4-	0.8+	1998 05 02	566	0.5-	0.2-
1998 03 22	704	0.5+	0.2-	1998 04 04	699	0.4+	0.4+	1998 05 02	566	0.3-	0.6-
1998 03 22	699	1.2-	0.3-	1998 04 20	704	0.4-	0.1-	1998 05 02	566	0.1+	0.0
1998 03 22	699	0.0	0.0	1998 04 20	704	0.8+	0.7+				

1998 FZ₆₈ = 1991 SV₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	312.06809	(2000.0)	
<i>n</i>	0.23687336	ω	81.72528
<i>a</i>	2.5869730	Ω	199.32035
<i>e</i>	0.1286715	<i>i</i>	9.45808
<i>P</i>	4.16	<i>H</i>	14.5

Residuals in seconds of arc

1991 09 29	691	0.0	0.2+	1998 03 22	704	(2.3-	1.0+)	1998 04 20	704	1.1+	0.7+
1991 09 29	691	0.3+	0.7+	1998 03 22	704	0.1-	0.5-	1998 04 20	704	0.3-	0.4+
1991 09 29	691	0.5-	0.6+	1998 03 24	699	0.7-	1.3-	1998 04 22	704	1.3+	0.3-
1991 10 13	691	0.4+	0.1-	1998 03 24	699	0.3-	0.7-	1998 04 22	704	0.8+	0.6+
1991 10 13	691	0.5+	0.0	1998 03 24	699	1.2+	0.7-	1998 04 22	704	0.2-	0.1-
1991 10 13	691	0.8-	0.4-	1998 04 01	704	0.3-	0.7-	1998 04 22	704	0.8-	0.9+
1998 03 20	704	0.9-	1.1-	1998 04 01	704	0.4+	0.2+	1998 04 22	704	0.4+	0.2-
1998 03 20	704	0.4-	0.4+	1998 04 01	704	0.0	0.3-	1998 04 24	699	0.9+	0.4-
1998 03 20	704	0.3-	0.5+	1998 04 01	704	0.7+	0.8+	1998 04 24	699	0.8+	0.5+
1998 03 20	704	0.7-	1.2+	1998 04 01	704	0.2-	1.3+	1998 04 24	699	0.0	1.0+
1998 03 20	704	(4.8-	1.4+)	1998 04 20	704	0.2+	0.2+	1998 05 02	566	1.7-	1.6-
1998 03 22	704	0.2-	0.5+	1998 04 20	704	0.1-	0.5-	1998 05 02	566	0.6-	0.8-
1998 03 22	704	(1.1-	3.1-)	1998 04 20	704	0.6+	0.2+	1998 05 02	566	0.5-	0.2+

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1998 FC₆₉ = 1997 AT₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	109.99551	(2000.0)	
<i>n</i>	0.23119665	ω	95.78508
<i>a</i>	2.6291479	Ω	357.41922
<i>e</i>	0.1378014	<i>i</i>	3.16983
<i>P</i>	4.26	<i>H</i>	14.0

Residuals in seconds of arc

1997 01 08	327	0.3+	0.4+	1998 03 20	704	1.0+	1.0-	1998 04 20	704	0.3+	1.0-
1997 01 08	327	0.0	0.2-	1998 03 20	704	0.7-	0.1+	1998 04 20	704	0.5-	0.4-
1997 01 08	327	0.2-	0.1+	1998 03 20	704	0.4-	1.2+	1998 04 20	704	1.1-	0.5+
1997 01 09	327	0.6+	0.6+	1998 03 20	704	0.1+	1.9-	1998 04 20	704	0.5+	0.4+
1997 01 09	327	0.1+	0.2-	1998 03 22	704	0.9+	0.3-	1998 04 22	704	0.6-	0.3-
1997 01 09	327	0.3+	0.4-	1998 03 22	704	1.9+	0.5+	1998 04 22	704	1.4+	0.3+
1997 01 10	327	0.6-	0.3-	1998 03 22	704	0.7+	1.3+	1998 04 22	704	0.2-	0.4+
1997 01 10	327	0.7-	0.1+	1998 03 22	704	0.3+	2.4-	1998 04 22	704	0.1+	0.2-
1997 01 10	327	0.1+	0.1-	1998 03 22	704	3.8-	2.2+	1998 04 22	704	0.2+	0.5+

1998 FD₆₉ = 1994 BR₄ = 1996 RD₂₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	108.25145	(2000.0)	
<i>n</i>	0.26882709	ω	108.32224
<i>a</i>	2.3776834	Ω	344.96665
<i>e</i>	0.1795489	<i>i</i>	2.07856
<i>P</i>	3.67	<i>H</i>	14.5

Residuals in seconds of arc

1994 01 21	303	0.9-	0.3+	1998 03 20	704	0.7-	0.4+	1998 04 20	704	0.0	0.3+
1994 01 21	303	0.0	0.2-	1998 03 20	704	0.8-	0.9-	1998 04 20	704	0.0	1.2+
1994 01 21	303	1.0+	0.3+	1998 03 20	704	0.2+	0.8-	1998 04 20	704	2.5+	0.1-
1994 01 22	303(13.0-	3.7+)		1998 03 20	704	0.7+	0.5-	1998 04 20	704	2.9-	0.5+
1996 09 15	566	0.9+	0.3+	1998 03 22	704	0.5+	0.1-	1998 04 22	704	0.2-	0.7+
1996 09 15	566	0.2+	0.3+	1998 03 22	704	0.7-	0.3+	1998 04 22	704	0.2-	0.0
1996 09 15	566	0.5+	0.2+	1998 03 22	704	0.7-	0.0	1998 04 22	704	0.4+	0.6-
1996 09 17	691	0.6-	0.0	1998 03 22	704	0.2+	1.7+	1998 04 22	704	2.6+	1.3-
1996 09 17	691	0.7-	0.2+	1998 03 22	704	0.4+	0.4+	1998 04 22	704	1.1-	0.0
1996 09 17	691	0.7-	0.1+	1998 04 20	704	0.1+	0.5-				

1998 FE₆₉ = 1953 GZ₁ = 1989 YZ₂ = 1990 BS₅

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Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams			
<i>M</i>	352.72406	(2000.0)	
<i>n</i>	0.26316173	ω	235.67856
<i>a</i>	2.4116867	Ω	359.72078
<i>e</i>	0.1017979	<i>i</i>	1.87428
<i>P</i>	3.75	<i>H</i>	14.5

Residuals in seconds of arc

1953 04 07	210	0.8-	0.3+	1998 03 22	704	0.1-	0.3-	1998 04 01	704	0.0	0.2+
1953 04 08	210	2.3+	2.7+	1998 03 22	704	0.0	0.8-	1998 04 01	704	0.0	0.2-
1989 12 30	413	0.3+	0.6-	1998 03 22	704	0.1+	0.4-	1998 04 01	704	1.1+	0.0
1989 12 30	413	0.7+	1.0+	1998 03 22	704	0.1+	1.6-	1998 04 20	704	0.3+	0.1+
1989 12 31	413	1.1+	0.3-	1998 03 22	704	0.8-	0.8-	1998 04 20	704	0.5-	0.1-
1989 12 31	413	1.6+	0.6-	1998 03 22	699	0.2+	0.0	1998 04 20	704	0.1+	0.2+
1990 01 21	372	3.1-	1.5-	1998 03 22	699	1.0+	0.1-	1998 04 20	704	0.8+	0.2+
1990 01 21	372	0.5-	1.6+	1998 03 22	699	0.1-	0.4-	1998 04 20	704	0.5-	0.3-
1998 03 20	704	0.8+	1.0-	1998 03 24	699	0.1+	0.3-	1998 04 22	704	0.8-	0.0
1998 03 20	704	0.6-	0.1+	1998 03 24	699	0.4+	0.1+	1998 04 22	704	0.4-	0.0
1998 03 20	704	0.3-	0.4+	1998 03 24	699	0.0	0.4-	1998 04 22	704	0.2+	0.1+
1998 03 20	704	1.0-	0.9+	1998 04 01	704	0.3+	0.0	1998 04 22	704	0.5-	0.0
1998 03 20	704	1.0-	0.9+	1998 04 01	704	0.1+	0.5+	1998 04 22	704	0.5-	0.2+

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1998 FX₆₉ = 1991 PE₁₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	317.85971		(2000.0)	P		Q	
<i>n</i>	0.25537697	ω	145.73003	+0.16605753	+0.98485689		
<i>a</i>	2.4604520	Ω	133.77236	−0.91949436	+0.17289479		
<i>e</i>	0.1617428	<i>i</i>	3.95601	−0.35630748	+0.01281792		
<i>P</i>	3.86	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1991 08 06	675	0.5+	0.2−	1998 03 20	704	0.8+	0.3+
1991 08 06	675	0.1+	0.9−	1998 03 22	704	0.2−	0.2−
1991 08 07	809	0.8+	2.2+	1998 03 22	704	0.5−	0.3−
1991 08 07	809	0.1−	0.6+	1998 03 22	704	0.5+	0.0
1991 08 07	809	1.0−	0.6−	1998 03 22	704	0.3−	0.3+
1991 08 10	675	0.3−	0.5−	1998 03 22	704	0.1+	0.1+
1991 08 10	675	0.0	0.8−	1998 03 22	699	0.1−	0.5+
1998 03 20	704	0.5+	0.2−	1998 03 22	699	0.4−	0.5−
1998 03 20	704	0.2+	0.1−	1998 03 22	699	0.9−	0.4+
1998 03 20	704	0.4+	0.4+	1998 03 24	699	0.1−	0.5−
1998 03 20	704	0.3+	0.4−	1998 03 24	699	0.4−	0.3+

1998 FF₇₀ = 1990 WR₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	48.39526		(2000.0)	P		Q	
<i>n</i>	0.18059419	ω	27.54776	−0.95917061	−0.27658067		
<i>a</i>	3.0997990	Ω	136.26210	+0.24120969	−0.90910086		
<i>e</i>	0.0136871	<i>i</i>	4.90528	+0.14768081	−0.31151045		
<i>P</i>	5.46	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1990 11 21	809	0.3−	0.4+	1998 03 22	704	0.1−	0.0
1990 11 21	809	0.7−	0.4−	1998 03 22	704	0.2+	0.4−
1990 11 21	809	1.1−	0.3−	1998 03 22	704	0.5+	0.0
1990 11 22	809	1.1+	0.0	1998 03 22	704	0.6+	1.0−
1990 11 22	809	0.3+	0.3+	1998 03 22	704	0.8−	0.4+
1990 11 22	809	0.8+	0.0	1998 03 22	699	0.5+	0.2−
1998 03 20	704	0.3+	0.2−	1998 03 22	699	0.0	0.6+
1998 03 20	704	0.4+	0.3+	1998 03 22	699	1.4−	1.2+
1998 03 20	704	0.8+	1.0−	1998 03 24	699	1.1−	0.2+
1998 03 20	704	0.2+	0.3−	1998 03 24	699	0.6+	0.1−
1998 03 20	704	0.8+	0.3−	1998 03 24	699	1.7−	0.8+

1998 FJ₇₀ = 1987 UC₈ = 1991 RE₁₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	162.24666		(2000.0)	P		Q	
<i>n</i>	0.22993479	ω	292.33028	+0.65389218	−0.75545667		
<i>a</i>	2.6387582	Ω	116.76685	+0.71008440	+0.59391588		
<i>e</i>	0.0981300	<i>i</i>	2.65478	+0.26116116	+0.27667518		
<i>P</i>	4.29	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1987 10 23	095	0.0	0.1+	1998 03 22	704	0.0	0.1−
1991 09 13	675	0.3−	0.1−	1998 03 22	704	0.0	0.6+
1991 09 13	675	(4.0−	1.4+)	1998 03 22	704	0.5+	0.3−
1991 09 15	675	0.2−	0.7−	1998 03 22	704	0.6+	0.2−
1991 09 15	675	0.6+	0.4−	1998 03 22	699	1.4+	0.4+
1991 09 16	675	0.5−	1.3+	1998 03 22	699	0.6+	1.7+
1991 09 16	675	0.1+	1.6+	1998 03 22	699	1.0−	0.0
1991 09 17	675	0.3−	1.3−	1998 04 03	292	0.8−	0.3−
1991 09 17	675	0.5+	0.5−	1998 04 03	292	0.5−	0.1−
1998 03 20	704	0.0	0.4−	1998 04 03	292	1.1−	0.6−
1998 03 20	704	0.8+	0.2−	1998 04 06	292	0.6−	1.1−
1998 03 20	704	0.8+	0.2−	1998 04 06	292	1.7−	0.8−
1998 03 20	704	0.5+	0.5−	1998 04 06	292	0.9−	0.6−

1998 03 20	704	0.8−	1.0−	1998 04 07	292	1.6+	1.5+	1998 05 01	566	0.3−	0.1+
1998 03 22	704	0.5−	0.1+	1998 04 07	292	0.5+	0.2+				

1998 FM₇₀ = 1969 TO₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	280.41327		(2000.0)	P		Q	
<i>n</i>	0.26318411	ω	271.49898	+0.78308941	+0.62088826		
<i>a</i>	2.4115500	Ω	50.12158	−0.55054356	+0.71872951		
<i>e</i>	0.2106135	<i>i</i>	2.66036	−0.28926244	+0.31293076		
<i>P</i>	3.74	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5
Residuals in seconds of arc							
1969 10 15	095	1.1−	1.6−	1998 03 22	704	0.1+	0.2+
1969 10 17	095	1.0+	1.7+	1998 03 22	704	0.4+	0.0
1998 03 20	704	(3.3−	0.0)	1998 03 22	704	1.5+	0.4−
1998 03 20	704	1.4+	1.0−	1998 04 20	704	0.7+	0.2+
1998 03 20	704	0.9−	1.4−	1998 04 20	704	0.1−	0.3+
1998 03 20	704	1.4−	0.9+	1998 04 20	704	0.8−	1.0+
1998 03 20	704	1.6−	1.0+	1998 04 20	704	1.1+	0.3+
1998 03 22	704	0.5+	0.4+	1998 04 20	704	0.4−	1.2+

1998 FO₇₀ = 1978 RK₁₄ = 1982 XC₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	127.30087		(2000.0)	P		Q	
<i>n</i>	0.27831737	ω	279.28498	+0.11589642	−0.99310038		
<i>a</i>	2.3233208	Ω	164.02658	+0.93490341	+0.10299032		
<i>e</i>	0.1025851	<i>i</i>	3.72509	+0.33544542	+0.05607704		
<i>P</i>	3.54	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5
Residuals in seconds of arc							
1978 09 06	809	0.0	0.1−	1998 03 22	704	1.1+	1.2−
1982 12 13	381	0.6−	0.5+	1998 03 22	704	0.9+	0.1−
1982 12 14	381	1.2+	0.9+	1998 03 22	704	0.1−	0.1+
1982 12 14	381	0.6−	1.3−	1998 03 22	704	1.6+	1.7−
1998 03 20	704	1.0−	0.4+	1998 03 24	699	1.5−	0.5−
1998 03 20	704	0.2−	0.3−	1998 03 24	699	1.7−	1.8−
1998 03 20	704	1.0−	0.7+	1998 03 24	699	0.4+	0.2+
1998 03 20	704	1.1+	0.8+	1998 04 20	704	0.5+	0.5−
1998 03 20	704	0.8+	1.6+	1998 04 20	704	0.8+	1.4+

1998 FP₇₀ = 1993 OP₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	21.70213		(2000.0)	P		Q	
<i>n</i>	0.16431965	ω	106.32622	−0.99400649	+0.10528868		
<i>a</i>	3.3012345	Ω	79.72471	−0.10819697	−0.90900682		
<i>e</i>	0.2456141	<i>i</i>	1.71323	−0.01563706	−0.40326281		
<i>P</i>	6.00	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1993 07 20	809	0.5+	0.4+	1998 03 22	704	0.1+	0.4−
1993 07 20	809	0.7−	0.1−	1998 03 22	704	0.6−	0.2−
1993 07 24	809	0.3+	0.9−	1998 03 22	704	0.2−	0.3+
1998 03 03	910	0.2+	1.1−	1998 03 22	704	1.2−	0.9+
1998 03 04	910	0.3−	1.1−	1998 03 22	699	1.0−	1.1+
1998 03 04	910	0.1+	0.8−	1998 03 22	699	0.1+	0.5+
1998 03 20	704	0.1−	0.0	1998 03 22	699	0.7−	0.5+
1998 03 20	704	0.1−	0.4−	1998 03 24	699	0.3−	1.0+
1998 03 20	704	0.4−	0.4+	1998 03 24	699	1.0+	0.1−
1998 03 20	704	0.4−	0.1+	1998 03 24	699	0.3+	0.3+
1998 03 20	704	(3.6−	0.4+)	1998 03 26	566	0.1−	0.6−
1998 03 22	704	0.2−	0.1−	1998 03 26	566	0.5+	0.9−

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1998 FQ₇₀ = 1991 UN₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	146.22510		(2000.0) <th></th> <th>P</th> <th></th> <th>Q</th> <th></th> <th></th>		P		Q				
n	0.21642346	ω	29.79583		+0.45662467		-0.88784750				
a	2.7474712	Ω	33.12916		+0.79434756		+0.37814875				
e	0.0907140	i	5.96034		+0.40063183		+0.26216473				
P	4.55	H	13.5		G	0.15	U	5			
Residuals in seconds of arc											
1991 10 29	399	1.5+	0.7-	1998 03 22	704	1.2-	0.4+	1998 04 22	704	0.9-	0.4-
1991 10 29	399	(0.9+	3.5-)	1998 03 22	704	1.1-	1.6-	1998 04 22	704	0.9+	0.2+
1991 10 31	399	1.0-	1.3+	1998 03 22	704	0.8-	1.0+	1998 04 22	704	0.9-	0.0
1991 10 31	399	0.4-	0.7-	1998 04 20	704	0.2-	1.1-	1998 04 22	704	0.9-	0.1-
1998 03 20	704	1.1+	0.1+	1998 04 20	704	1.3+	0.2+	1998 04 24	699	0.1+	0.3+
1998 03 20	704	1.0+	0.1-	1998 04 20	704	0.3-	1.4+	1998 04 24	699	0.2-	0.3+
1998 03 20	704	0.9+	0.6-	1998 04 20	704	0.0	0.8-	1998 04 24	699	0.1+	0.1-
1998 03 20	704	0.5+	0.1+	1998 04 20	704	0.8+	0.7-				
1998 03 22	704	0.4-	1.0+	1998 04 22	704	0.3+	0.3+				

1998 FR₇₀ = 1996 TT₁₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	68.98888		(2000.0)		P		Q				
<i>n</i>	0.26520914	ω	115.78777		-0.74592706		-0.66441663				
<i>a</i>	2.3992586	Ω	22.66766		+0.55992972		-0.66322471				
<i>e</i>	0.1468520	<i>i</i>	6.89962		+0.36065431		-0.34450476				
<i>P</i>	3.72	<i>H</i>	15.5		<i>G</i>	0.15	<i>U</i>	4			
Residuals in seconds of arc											
1996 10 11	566	0.5-	0.4-	1998 03 22	704	0.1-	1.3-	1998 04 20	704	0.6+	0.1+
1996 10 11	566	0.3-	0.3-	1998 03 22	704	0.1+	0.5-	1998 04 20	704	1.0-	0.0
1996 10 11	566	0.4-	0.2-	1998 03 22	704	(4.2+	3.8-)	1998 04 22	704	0.8-	0.5-
1996 10 18	566	0.3+	0.1+	1998 03 22	699	0.2-	1.2-	1998 04 22	704	0.1+	0.2+
1996 10 18	566	0.4+	0.1+	1998 03 22	699	0.5+	0.0	1998 04 22	704	0.0	0.1-
1996 10 18	566	0.7+	0.3+	1998 03 22	699	0.3+	0.8+	1998 04 22	704	0.7+	0.3-
1998 03 20	704	0.2+	0.1-	1998 03 24	699	0.7-	0.9+	1998 04 22	704	(6.0-	1.6-
1998 03 20	704	0.7-	0.6-	1998 03 24	699	1.1+	1.5+	1998 04 24	699	0.2+	0.6+
1998 03 20	704	1.0+	0.1+	1998 03 24	699	0.0	0.3-	1998 04 24	699	0.1+	0.1+
1998 03 20	704	0.5-	1.0+	1998 04 20	704	0.5+	0.7-	1998 04 24	699	0.5-	0.1+
1998 03 20	704	0.3-	0.2+	1998 04 20	704	0.2+	1.0-				
1998 03 22	704	0.4-	0.1-	1998 04 20	704	0.8-	1.0+				

1998 FT₇₀ = 1981 JT₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	352.61584		(2000.0)		P		Q				
<i>n</i>	0.23031488		ω 210.42945		−0.45216594		+0.89131178				
<i>a</i>	2.6358542		Ω 32.72122		−0.80541921		−0.39197970				
<i>e</i>	0.2367115		<i>i</i> 3.53246		−0.38320472		−0.22784912				
<i>P</i>	4.28		<i>H</i> 15.0		<i>G</i> 0.15		<i>U</i> 5				
Residuals in seconds of arc											
1981 05 05	675	0.8+	0.5−	1998 03 22	704	0.3+	0.1+	1998 04 20	704	0.1+	1.3−
1981 05 06	675	0.4−	0.5+	1998 03 22	704	0.3+	0.5+	1998 04 20	704	0.7−	0.7−
1981 05 08	675	0.7+	0.1+	1998 03 22	704	0.1−	0.6−	1998 04 20	704	1.4−	0.7+
1981 05 11	675	0.8−	0.7+	1998 03 22	704	0.0	0.7+	1998 04 20	704	0.2+	1.0+
1998 03 20	704	0.2+	0.1−	1998 03 22	699	0.1−	1.0+	1998 04 20	704	0.1−	0.0
1998 03 20	704	0.3+	0.0	1998 03 22	699	0.0	0.1+	1998 04 22	704	0.2−	0.2−
1998 03 20	704	0.2+	0.1+	1998 03 22	699	0.8−	0.7−	1998 04 22	704	0.5−	0.1−
1998 03 20	704	0.2+	0.6−	1998 03 25	699	0.5+	0.7+	1998 04 22	704	0.7+	1.1−
1998 03 20	704	0.0	0.5+	1998 03 25	699	0.5+	0.0	1998 04 22	704	0.4−	0.1−
1998 03 22	704	0.2+	0.3+	1998 03 25	699	0.3+	0.1−	1998 04 22	704	0.1+	0.7−

1998 MAY 11

1998 FZ₇₀ = 1981 FJ = 1995 SK₄₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	351.01369		(2000.0)			P		Q		
n	0.23254260	ω	223.48221			-0.52627270		+0.84776059		
a	2.6189932	Ω	15.15412			-0.69478523		-0.38406006		
e	0.1430631	i	14.59460			-0.49021478		-0.36578662		
P	4.24	H	14.0		G	0.15	U	3		
Residuals in seconds of arc										
1981 03 30	688	1.1+	1.2-	1998 03 22	704	0.5+	0.5-	1998 03 25	704	0.3- 0.4+
1981 03 30	688	0.7-	0.1-	1998 03 22	704	0.2+	0.2+	1998 03 25	704	0.3+ 0.1-
1981 04 05	688	(5.4+ 1.9+)		1998 03 22	704	0.4+	0.3+	1998 03 25	704	0.2- 1.2-
1981 04 05	688	0.7- 0.9+		1998 03 22	704	0.9+	0.5+	1998 03 25	704	1.8+ 0.2+
1995 09 25	691	0.2- 0.2+		1998 03 22	704	0.2+	0.2-	1998 03 25	704	(5.3- 1.4+)
1995 09 25	691	0.1+ 0.1-		1998 03 24	704	0.3-	0.1-	1998 04 20	704	0.5- 0.5+
1995 09 25	691	0.0 0.1+		1998 03 24	704	0.6+	0.7+	1998 04 20	704	1.0- 0.7-
1995 09 30	691	0.1- 0.1+		1998 03 24	704	0.9+	0.6+	1998 04 20	704	0.8- 0.8+
1995 09 30	691	0.3- 0.2+		1998 03 24	704	0.4-	0.6-	1998 04 20	704	0.0 0.6+
1995 09 30	691	0.3+ 0.2-		1998 03 24	704	0.2+	0.2-	1998 04 20	704	0.5- 0.9+
1998 03 20	704	0.4+ 0.6-		1998 03 24	704	0.3+ 0.6+		1998 04 22	704	0.1+ 0.3-
1998 03 20	704	0.4+ 0.9-		1998 03 24	704	1.0- 1.0+		1998 04 22	704	0.5+ 0.3+
1998 03 20	704	0.0 0.6+		1998 03 24	704	0.2- 0.0		1998 04 22	704	0.2- 1.2-
1998 03 20	704	0.4+ 0.6-		1998 03 24	704	1.3- 0.5+		1998 04 22	704	0.5+ 0.1-
1998 03 20	704	0.4- 0.5-		1998 03 24	704	1.0- 0.2+		1998 04 22	704	0.4+ 0.4-

1998 FH₇₁ = 1990 WV₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	294.40090		(2000.0)		P		Q				
n	0.18948313	ω	83.17188		+0.36315138		+0.92811773				
a	3.0020807	Ω	208.55492		-0.90817795		+0.33294435				
e	0.0790441	i	9.87378		-0.20816794		+0.16656993				
P	5.20	H	13.0		G	0.15	U	4			
Residuals in seconds of arc											
1990 11 21	809	0.4+	0.3-	1998 03 20	704	0.2-	0.4-	1998 04 20	704	0.4-	0.2+
1990 11 21	809	0.9+	0.2-	1998 03 20	704	0.5-	0.9+	1998 04 20	704	1.4+	0.3+
1990 11 21	809	1.0+	0.1+	1998 03 22	704	0.3-	0.5-	1998 04 20	704	1.0-	1.6+
1990 11 22	809	0.9+	0.8+	1998 03 22	704	0.4+	0.3-	1998 04 22	704	0.4+	0.8-
1990 11 22	809	1.1-	0.2+	1998 03 22	704	0.1+	0.4+	1998 04 22	704	0.6+	0.1+
1990 11 22	809	2.2-	0.5-	1998 03 22	704	0.5-	0.6-	1998 04 22	704	0.2-	0.4-
1998 03 20	704	0.5+	0.1-	1998 03 22	704	0.6+	0.9-	1998 04 22	704	0.5+	0.3-
1998 03 20	704	0.1-	1.3+	1998 04 20	704	0.5-	0.1+	1998 04 22	704	0.1+	0.7-
1998 03 20	704	0.1+	0.1-	1998 04 20	704	0.9-	0.2+				

1998 FL₇₁ = 1992 SA₁₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	78.33729	(2000.0)		P		Q					
n	0.26922757	ω	136.85552	-0.73603990	-0.67693749						
a	2.3753249	Ω	0.54241	+0.59055472	-0.64280044						
e	0.0839446	i	5.76405	+0.33089333	-0.35855716						
P	3.66	H	14.0	G	0.15	U	6				
Residuals in seconds of arc											
1992 09 21	033	0.3+	1.2-	1998 03 22	704	0.3-	1.0+	1998 04 20	704	0.7-	1.4+
1992 09 21	033	0.2-	0.4+	1998 03 22	704	0.3-	1.0+	1998 04 20	704	0.6-	0.1+
1992 09 22	033	0.3-	1.2+	1998 03 22	704	0.2+	0.2+	1998 04 22	704	0.1-	0.1-
1998 03 20	704	0.3-	0.2-	1998 03 22	704	0.3-	0.6+	1998 04 22	704	0.6+	1.4-
1998 03 20	704	0.2+	0.0	1998 03 22	704	0.2+	0.6+	1998 04 22	704	0.6+	0.5-
1998 03 20	704	0.8+	1.1-	1998 04 20	704	0.0	0.1-	1998 04 22	704	0.2+	0.5+
1998 03 20	704	0.1+	0.1+	1998 04 20	704	0.5-	0.1-	1998 04 22	704	0.4-	0.3-
1998 03 20	704	1.0+	1.5-	1998 04 20	704	0.2-	0.5+				

1998 MAY 11

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1998 FO₇₂ = 1995 UC₃₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	352.12769		(2000.0)	P		Q	
<i>n</i>	0.19947398	ω	211.66863	−0.70422987		+0.70958323	
<i>a</i>	2.9009832	Ω	13.61378	−0.62876606		−0.60797187	
<i>e</i>	0.0679386	<i>i</i>	5.72825	−0.32971735		−0.35617670	
<i>P</i>	4.94	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1995 10 22	691	0.2−	0.2+	1998 03 25	704	0.2+	0.2+	1998 04 19	704	0.8−	0.6+
1995 10 22	691	0.5−	0.2+	1998 03 25	704	0.1+	1.2−	1998 04 19	704	0.5+	0.3+
1995 10 22	691	0.0	0.3+	1998 03 25	566	0.4−	0.3+	1998 04 19	704	0.8+	0.2−
1995 10 28	691	0.2+	0.1−	1998 03 25	566	0.1+	0.1+	1998 04 20	704	0.4+	1.9−
1995 10 28	691	0.1+	0.4−	1998 03 25	566	0.9−	0.5−	1998 04 20	704	0.2+	0.4−
1995 10 28	691	0.4+	0.2−	1998 04 01	704	0.6−	0.0	1998 04 20	704	1.3+	0.4+
1998 03 20	704	0.9+	1.0−	1998 04 01	704	0.8−	0.1+	1998 04 20	704	0.4−	0.7−
1998 03 20	704	0.4+	0.6−	1998 04 01	704	0.6−	0.0	1998 04 20	704	1.8−	0.2−
1998 03 20	704	0.5+	1.4+	1998 04 01	704	0.3+	0.5+	1998 04 22	704	0.6+	0.7+
1998 03 20	704	0.8−	0.5+	1998 04 01	704	1.0+	0.3+	1998 04 22	704	0.8−	1.4−
1998 03 22	704	0.4+	0.3−	1998 04 04	699	0.9+	0.7+	1998 04 22	704	0.6−	0.0
1998 03 22	704	0.2+	0.9+	1998 04 04	699	0.0	1.1+	1998 04 22	704	0.7+	1.9+
1998 03 22	704	0.0	0.2−	1998 04 04	699	1.5+	0.4+	1998 04 22	704	0.0	0.4−
1998 03 22	704	0.6−	1.4−	1998 04 18	704	0.1+	0.0	1998 04 24	699	0.3−	0.0
1998 03 22	704	0.2−	1.2−	1998 04 18	704	0.6−	0.9−	1998 04 24	699	0.3−	1.4+
1998 03 25	704	0.2+	0.0	1998 04 18	704	0.3+	0.2−	1998 04 24	699	0.5+	0.6−
1998 03 25	704	0.5−	1.6+	1998 04 18	704	0.9−	0.5+				
1998 03 25	704	0.4−	0.2−	1998 04 19	704	0.3+	0.2−				

1998 FP₇₂ = 1991 FG₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	42.71655		(2000.0)	P		Q	
<i>n</i>	0.28719291	ω	195.67752	−0.99666119		−0.08034780	
<i>a</i>	2.2752035	Ω	339.69711	+0.07868629		−0.89774703	
<i>e</i>	0.1147836	<i>i</i>	2.39764	+0.02179330		−0.43312181	
<i>P</i>	3.43	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1991 03 20	809	0.1+	0.5−	1998 03 22	704	0.1−	0.3−	1998 04 04	699	0.9+	0.1−
1991 03 20	809	0.4+	0.6−	1998 03 24	699	0.4+	0.8−	1998 04 04	699	(2.8−	0.7+)
1991 03 20	809	0.8+	0.7−	1998 03 24	699	0.9−	0.0	1998 04 20	704	0.4+	0.1−
1991 03 21	809	0.7−	1.1+	1998 03 24	699	0.5+	0.3+	1998 04 20	704	0.8+	0.4−
1991 03 21	809	0.1−	1.3+	1998 03 25	704	0.3−	0.5−	1998 04 20	704	1.0+	0.8−
1991 03 21	809	0.3+	1.2+	1998 03 25	704	0.7−	1.0−	1998 04 20	704	0.8+	1.0−
1998 03 20	704	(2.4−	1.0+)	1998 03 25	704	0.3−	0.1−	1998 04 20	704	(2.6−	2.6−)
1998 03 20	704	0.5−	0.3+	1998 03 25	704	0.3−	1.5−	1998 04 22	704	0.6+	0.6+
1998 03 20	704	0.6−	0.5+	1998 04 01	704	0.5−	0.5−	1998 04 22	704	0.1−	0.8+
1998 03 20	704	(5.2−	0.9+)	1998 04 01	704	0.9+	1.2+	1998 04 22	704	0.5−	0.8+
1998 03 22	704	0.6−	0.3+	1998 04 01	704	1.2−	0.6+	1998 04 22	704	0.5+	0.9+
1998 03 22	704	0.1−	0.6−	1998 04 01	704	0.9−	0.9+	1998 04 22	704	0.4−	1.1+
1998 03 22	704	0.1+	1.1−	1998 04 01	704	0.8−	0.4+				
1998 03 22	704	0.9+	1.6−	1998 04 04	699	0.2+	0.0				

1998 FS₇₂ = 1997 CH₁₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	42.16988		(2000.0)	P		Q	
<i>n</i>	0.25408259	ω	106.06876	−0.98922960		−0.08870791	
<i>a</i>	2.4688012	Ω	68.95803	+0.02938076		−0.89958097	
<i>e</i>	0.0770451	<i>i</i>	7.16617	+0.14339307		−0.42765053	
<i>P</i>	3.88	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1997 02 04	691	1.0+	0.2+	1998 03 25	704	(2.4+	0.4+)	1998 04 20	704	(3.1−	0.7−)
1997 02 04	691	0.2+	0.1+	1998 03 28	426	0.3−	0.7−	1998 04 21	704	1.2+	1.1+
1997 02 04	691	0.2−	0.5−	1998 03 28	426	0.7+	0.1−	1998 04 21	704	1.2+	0.3−
1997 02 10	691	0.5−	0.2+	1998 03 28	426	0.7+	0.1+	1998 04 21	704	1.0+	0.4−

1997 02 10	691	0.3−	0.0	1998 03 30	426	0.5+	0.1−	1998 04 21	704	0.9+	0.8−
1997 02 10	691	0.3−	0.1+	1998 03 30	426	0.0	0.3−	1998 04 21	704	0.2−	0.2+
1998 03 24	704	0.3−	0.2−	1998 04 02	426	0.6−	0.8−	1998 04 25	426	1.0−	0.3−
1998 03 24	704	0.5+	0.1+	1998 04 02	426	0.8−	0.4−	1998 04 25	426	0.2−	0.2+
1998 03 24	704	(2.0−	1.4−)	1998 04 02	426	1.0−	1.2−	1998 04 25	426	1.1−	0.2−
1998 03 24	704	0.3+	0.8−	1998 04 20	704	1.2+	1.2+	1998 04 27	426	0.5−	0.1−
1998 03 25	704	0.3−	1.4+	1998 04 20	704	0.2−	0.3−	1998 04 27	426	0.1−	0.2+
1998 03 25	704	0.1+	0.9+	1998 04 20	704	0.1−	0.3−	1998 04 27	426	0.7−	0.2+
1998 03 25	704	0.6−	0.7+	1998 04 20	704	0.2−	0.9+				

1998 FF₇₃ = 3164 T-1

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	219.90639		(2000.0)	P		Q	
<i>n</i>	0.36499739	ω	359.17047	+0.99687752		−0.07264424	
<i>a</i>	1.9391417	Ω	5.30208	+0.07423959		+0.72869983	
<i>e</i>	0.0877330	<i>i</i>	19.56963	+0.02690139		+0.68096944	
<i>P</i>	2.70	<i>H</i>	16.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1971 03 25	675	2.1−	1.4−	1998 03 22	704	0.9−	0.7−	1998 04 01	704	1.4+	1.5−
1971 03 26	675	0.1+	1.4−	1998 03 22	704	0.6−	1.3−	1998 04 01	704	0.2+	1.1−
1971 03 26	675	0.3−	0.2+	1998 03 22	704	1.1+	0.1+	1998 04 18	704	0.5+	0.5+
1971 03 27	675	1.0+	1.2+	1998 03 22	704	0.8−	1.4−	1998 04 18	704	1.3+	0.4+
1998 03 20	704	0.9+	1.2+	1998 03 22	704	0.5+	0.1+	1998 04 18	704	1.4−	0.2−
1998 03 20	704	0.6+	1.3+	1998 03 28	704	0.4+	0.5+	1998 04 18	704	0.6−	0.1−
1998 03 20	704	0.3−	1.1+	1998 03 28	704	0.2+	0.1+	1998 04 19	704	0.6+	0.7−
1998 03 20	704	0.3−	0.7+	1998 03 28	704	0.5+	0.4+	1998 04 19	704	(2.9+	1.6−)
1998 03 20	704	(3.4−	0.3+)	1998 03 28	704	0.6+	0.9−	1998 04 19	704	0.1−	1.3+
1998 03 22	704	1.5−	1.1+	1998 03 28	704	0.7−	0.0	1998 04 19	704	0.8−	0.7−
1998 03 22	704	0.5+	1.0+	1998 04 01	704	0.3+	0.0	1998 04 19	704	0.3+	0.6+
1998 03 22	704	(2.4−	1.5−)	1998 04 01	704	0.5−	0.5+				
1998 03 22	704	0.1+	0.4−	1998 04 01	704	0.1−	0.5−				

1998 FZ₇₃ = 1991 NR₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	343.52585		(2000.0)	P		Q	
<i>n</i>	0.26243884	ω	5.94603	−0.28388891		+0.95858200	
<i>a</i>	2.4161134	Ω	247.56329	−0.88075514		−0.27016052	
<i>e</i>	0.1704876	<i>i</i>	1.42404	−0.37904812		−0.09018784	
<i>P</i>	3.76	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1991 07 08	809	0.9+	0.2−	1998 03 24	699	0.0	0.0	1998 04 20	704	0.3−	1.0+
1991 07 08	809	1.3+	0.3−	1998 03 24	699	0.2−	0.5+	1998 04 20	704	0.3+	0.7+
1991 07 10	809	1.5−	0.3+	1998 04 01	704	0.1−	0.3−	1998 04 20	704	0.9−	0.9+
1991 07 10	809	0.6−	0.2+	1998 04 01	704	0.3+	0.1+	1998 04 22	704	0.3−	0.1−
1991 07 10	809	0.0	0.2+	1998 04 01	704	0.8+	1.0−	1998 04 22	704	0.9+	0.2+
1998 03 22	699	0.3+	1.0+	1998 04 01	704	1.9−	1.6−	1998 04 22	704	0.2−	0.9−
1998 03 22	699	0.4+	0.4+	1998 04 01	704	0.1−	1.1−	1998 04 22	704	0.5+	0.1+
1998 03 22	699	0.1+	0.8+	1998 04 20	704	0.4+	0.1+	1998 04 22	704	0.1−	0.9−
1998 03 24	699	0.6+	0.4+	1998 04 20	704	0.5−	0.3−				

1998 FA₇₄ = 1976 UL₁₉ = 1996 TH₆₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	77.03702		(2000.0)	P		Q	
<i>n</i>	0.29512122	ω	115.90368	−0.77582092		−0.62909455	
<i>a</i>	2.2342705	Ω	25.20175	+0.53057284		−0.69197942	
<i>e</i>	0.0682587	<i>i</i>	6.52585	+0.34145916		−0.35412502	
<i>P</i>	3.34	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1976 10 24	381	1.3+
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1998 MAY 11

1996 10 14	327	0.6−	0.0	1998 03 25	699	0.9+	0.7−	1998 04 22	704	0.0	0.4−
1996 10 18	566	0.7+	0.3−	1998 03 25	699	1.0+	0.2−	1998 04 22	704	0.4+	0.1−
1996 10 18	566	0.0	0.4−	1998 04 20	704	0.7−	0.0	1998 04 22	704	0.4−	0.3+
1996 10 18	566	0.1+	0.2+	1998 04 20	704	0.4+	0.8−	1998 04 22	704	0.1+	0.2+

1998 FD₇₄ = 1985 GG₁ = 1988 BS₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
P				Q							
<i>M</i>	31.62799	(2000.0)									
<i>n</i>	0.30091114	<i>ω</i>	120.92414	−0.99024684	+0.12759777						
<i>a</i>	2.2055177	<i>Ω</i>	66.45739	−0.13928435	−0.89705266						
<i>e</i>	0.1445948	<i>i</i>	3.49871	−0.00332756	−0.42310205						
<i>P</i>	3.28	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1985 04 15	688	0.2−	0.0	1998 03 24	704	1.0−	0.3+	1998 04 04	691	0.9−	0.2+
1985 04 15	688	0.0	0.5−	1998 03 24	704	0.1−	0.9+	1998 04 04	691	1.0−	0.3+
1985 05 21	688	0.0	0.7−	1998 03 24	704	1.6−	0.2−	1998 04 04	691	1.2−	0.0
1985 05 21	688	0.5−	0.3−	1998 03 24	704	1.0−	0.3−	1998 04 20	704	0.5+ 0.2+	
1988 01 23	511(20.8−	9.8+)		1998 03 24	566	0.4+	0.0	1998 04 20	704	0.7+ 0.1+	
1988 01 23	511(15.0−	9.5+)		1998 03 24	566	0.4+	0.1+	1998 04 20	704	1.5+ 0.0	
1998 03 22	704 (2.6+ 0.4−)			1998 03 24	566	0.2+	0.1+	1998 04 20	704	0.8+ 0.1+	
1998 03 22	704 0.2+ 0.3+			1998 03 25	704 (3.3+ 0.1−)			1998 04 20	704	0.6+ 0.9+	
1998 03 22	704 1.3+ 0.7+			1998 03 25	704 0.7− 1.9−			1998 04 22	704	0.2+ 0.1+	
1998 03 22	704 0.1+ 0.4−			1998 03 25	704 (2.3+ 2.6+)			1998 04 22	704	0.3+ 1.1+	
1998 03 22	704 (3.3− 1.3+)			1998 03 25	704 0.0 1.2−			1998 04 22	704	0.5− 1.0+	
1998 03 22	699 0.2− 0.4+			1998 03 25	704 1.2− 0.3+			1998 04 22	704	0.0 0.1−	
1998 03 22	699 0.1− 0.3−			1998 03 25	699 1.2+ 0.2−			1998 04 22	704	0.1− 0.3+	
1998 03 22	699 0.3− 0.1−			1998 03 25	699 0.7+ 0.1−						
1998 03 24	704 1.1+ 0.6−			1998 03 25	699 0.6+ 0.4−						

1998 FT₇₄ = 1994 JP

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
P				Q							
<i>M</i>	6.94446	(2000.0)									
<i>n</i>	0.21918405	<i>ω</i>	352.74445	−0.99661099	−0.08084111						
<i>a</i>	2.7243533	<i>Ω</i>	182.75920	+0.08186998	−0.99275858						
<i>e</i>	0.1282407	<i>i</i>	18.41539	−0.00799047	−0.08885444						
<i>P</i>	4.50	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1994 05 05	675	1.5+ 0.4−		1998 03 19	699	0.1− 0.3−		1998 05 01	566	0.5− 0.1+	
1994 05 05	675	0.1− 0.6−		1998 03 25	699	0.4+ 0.1+		1998 05 02	566	0.1− 0.3+	
1994 05 09	675	0.5− 0.1+		1998 03 25	699	0.6+ 0.4+		1998 05 02	566	0.2− 0.0	
1994 05 09	675	0.9− 0.9+		1998 03 25	699	0.1+ 0.2+		1998 05 02	566	0.1+ 0.1+	
1998 03 19	699	0.7− 0.1+		1998 05 01	566	0.2+ 0.4−					
1998 03 19	699	0.1− 0.6−		1998 05 01	566	0.2+ 0.1+					

1998 FZ₇₄ = 1980 VN₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
P				Q							
<i>M</i>	129.11523	(2000.0)									
<i>n</i>	0.19212728	<i>ω</i>	63.21948	+0.17785104	−0.98274774						
<i>a</i>	2.9744730	<i>Ω</i>	16.76967	+0.82881866	+0.12179109						
<i>e</i>	0.0867783	<i>i</i>	10.13136	+0.53049849	+0.13918981						
<i>P</i>	5.13	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	5				

Residuals in seconds of arc

1980 11 01	675	0.1− 0.3+		1998 03 24	704 (1.4− 2.3+)			1998 04 21	704	0.8+ 0.4+	
1980 11 02	675	0.1+ 0.3−		1998 03 24	704 0.5− 0.3+			1998 04 21	704	0.4− 0.1+	
1998 03 20	704 0.2+ 1.1+			1998 03 24	704 (4.6− 1.6+)			1998 04 21	704	0.4− 0.1−	
1998 03 20	704 0.3− 0.1−			1998 03 25	704 0.1− 0.1−			1998 04 21	704	0.0 0.9−	
1998 03 20	704 0.4− 0.2−			1998 03 25	704 0.3+ 1.0+			1998 04 22	704	0.8− 0.7−	
1998 03 20	704 0.3+ 0.2−			1998 03 25	704 0.2+ 0.6−			1998 04 22	704	0.3+ 0.1+	
1998 03 20	704 (0.3+ 2.4−)			1998 03 25	704 0.4+ 0.4+			1998 04 22	704	0.3− 0.2−	
1998 03 22	704 1.2+ 0.1−			1998 03 25	704 0.8− 0.8−			1998 04 22	704	0.2+ 0.2+	
1998 03 22	704 0.5− 0.3−			1998 04 20	704 0.8− 0.8+			1998 04 22	704	0.7− 0.2−	
1998 03 22	704 0.7− 1.2−			1998 04 20	704 0.5+ 0.2−			1998 04 24	699	0.4+ 0.1+	

1998 03 22	704	0.6− 0.8+		1998 04 20	704	0.6+ 0.3+		1998 04 24	699	0.8+ 0.6−	
1998 03 22	704	0.4+ 0.4−		1998 04 20	704	0.7− 0.3+		1998 04 24	699	0.0 1.1+	
1998 03 24	704	1.1+ 0.2+		1998 04 21	704	0.6+ 0.4−					

1998 FC₇₅ = 1995 VO₁₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
P				Q							
<i>M</i>	323.35271	(2000.0)									
<i>n</i>	0.21524832	<i>ω</i>	71.95316	−0.00330462	+0.99888279						
<i>a</i>	2.7574620	<i>Ω</i>	198.05396	−0.96535999	−0.01548579						
<i>e</i>	0.1240537	<i>i</i>	8.74921	−0.26090070	+0.04464702						
<i>P</i>	4.58	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1995 11 15	691	0.1− 0.2+		1998 03 25	704	0.2+ 0.2+		1998 04 21	704	0.6− 0.5+	
1995 11 15	691	0.1− 0.1−		1998 03 25	704	0.0 0.0		1998 04 21	704	0.4− 0.5+	
1995 11 15	691	0.0 0.0		1998 03 25	704	0.1+ 0.3+		1998 04 21	704	0.1− 0.3+	
1995 11 20	691	0.1− 0.2−		1998 03 25	704	0.2+ 1.4+		1998 04 21	704	0.0 0.3−	
1995 11 20	691	0.5+ 0.0		1998 03 25	704	0.5− 1.1+		1998 04 22	704	0.5+ 0.5−	
1995 11 20	691	0.2− 0.0		1998 04 20	704	0.3− 0.7+		1998 04 22	704	0.6− 0.5−	
1998 03 24	704	0.6− 0.4+		1998 04 20	704	0.0 0.7+		1998 04 22	704	1.0− 0.5−	
1998 03 24	704	0.2− 0.0		1998 04 20	704	1.3− 0.7+		1998 04 22	704	0.5− 0.6−	
1998 03 24	704	0.4+ 1.2−		1998 04 20	704	0.3+ 0.7−		1998 04 22	704	3.8+ 0.6−	
1998 03 24	704	0.5+ 2.4−		1998 04 20	704	0.8− 0.2−					
1998 03 24	704	0.2+ 0.0		1998 04 21	704	0.8+ 0.5+					

1998 FF₇₅ = 1992 SY₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams											
P				Q							
<i>M</i>	178.40588	(2000.0)									
<i>n</i>	0.27244842	<i>ω</i>	15.61802	+0.75117760	−0.65777407						
<i>a</i>	2.3565673	<i>Ω</i>	25.77213	+0.59117571	+0.63305685						
<i>e</i>	0.1055262	<i>i</i>	7.31594	+0.29367241	+0.40813269						
<i>P</i>	3.62	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	5				

Residuals in seconds of arc

1992 09 22	809	0.1+ 0.5+		1998 03 24	704	0.4− 0.5−		1998 04 20	704	0.0 0.1−	
1992 09 22	809	0.2+ 0.0		1998 03 24	704	0.4− 0.3−		1998 04 20	704	0.2+ 0.7+	
1992 09 22	809	0.3− 0.8−		1998 03 24	704	0.6− 1.1+		1998 04 20	704	0.0 0.7+	
1992 09 23	809	0.2+ 0.9+		1998 03 24	704	0.9− 0.1+		1998 04 20	704	0.3+ 0.2+	
1992 09 23	809	0.2+ 0.4−		1998 03 25	699	0.4− 0.2+		1998 04 20	704	0.1+ 1.1+	
1992 09 23	809	0.4− 0.2−		1998 03 25	699	0.3+ 0.2+		1998 04 22	704	0.4+ 0.3−	
1998 03 24	704	0.1− 0.1−		1998 03 25	699	0.3+ 0.1−		1998 04 22	704	0.6+ 0.0	
1998 03 24	704	0.6+ 0.3−		1998 03 25	704	0.6− 0.0		1998 04 22	704	0.9− 1.0−	
1998 03 24	704	0.2− 0.9−		1998 03 25	704	0.4− 0.0		1998 04 22	704	0.4− 0.3−	
1998 03 24	704	3.2+ 0.1+		1998 03 25	704	0.9− 0.3+		1998 04 22	704	0.3− 0.8−	
1998 03 24	704 (4.6− 3.2+)			1998 03 25	704	0.7− 0.8−					
1998 03 24	704	1.4+ 1.4+		1998 03 25	704	0.2− 0.6−					

1998 FO₇₅ = 1995 UJ₃

1998 MAY 11

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1998 03 24 704 0.6+ 0.8+ 1998 04 20 704 1.3+ 0.2- 1998 04 22 704 0.4+ 0.6-
 1998 03 24 704 0.5+ 0.0 1998 04 20 704 2.9- 1.0+ 1998 04 22 704 0.1+ 0.7-

1998 FS₇₅ = 1981 XV₁ = 1988 SX₃ = 1991 JN₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	251.05224		(2000.0)		P		Q				
<i>n</i>	0.26713547	ω	277.05502		+0.91379348		+0.39616191				
<i>a</i>	2.3877106	Ω	59.64230		-0.31944025		+0.83725699				
<i>e</i>	0.1515452	<i>i</i>	5.96356		-0.25087725		+0.37690379				
<i>P</i>	3.69	<i>H</i>	14.0		<i>G</i> 0.15		<i>U</i> 2				
Residuals in seconds of arc											
1981 12 04	511	0.3-	0.1-	1998 03 22	704	0.4+	0.5+	1998 04 20	704	0.3+	0.5-
1981 12 04	511	0.0	0.9+	1998 03 24	704	1.0+	1.2-	1998 04 20	704	0.6-	0.5+
1988 09 16	095	(1.2-	3.3-)	1998 03 24	704	0.5+	0.5+	1998 04 20	704	0.3-	0.1+
1988 09 16	095	1.1+	2.1-	1998 03 24	704	0.3-	0.7+	1998 04 20	704	0.9-	1.2-
1991 05 13	033	0.3+	1.0+	1998 03 24	704	0.4+	0.3-	1998 04 20	704	(2.4-	0.4+)
1991 05 13	033	0.5+	1.3+	1998 03 24	704	0.7+	0.7-	1998 04 22	704	0.1+	1.1+
1991 05 14	033	0.0	0.8-	1998 03 25	704	0.3-	0.3-	1998 04 22	704	0.2+	0.7+
1998 03 22	704	0.4+	1.6-	1998 03 25	704	0.1+	0.0	1998 04 22	704	0.6+	0.5+
1998 03 22	704	0.5-	0.6-	1998 03 25	704	0.4-	1.4-	1998 04 22	704	0.3-	0.2+
1998 03 22	704	1.4-	0.1-	1998 03 25	704	0.4-	0.5+	1998 04 22	704	1.4-	1.5+
1998 03 22	704	0.5+	1.2-	1998 03 25	704	0.3-	0.8-				

1998 FR₇₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Marsden

M	54.21838		(2000.0)		P		Q				
n	0.25316414	ω	29.01613		-0.93026104		-0.36087431				
a	2.4747685	Ω	129.67659		+0.31783971		-0.88279357				
e	0.0811950	i	4.93517		+0.18328208		-0.30074115				
P	3.89	H	15.0		G 0.15		U 6				
Residuals in seconds of arc											
1982 01 30	675	0.1+	0.0	1998 03 24	704	0.4-	0.1+	1998 03 25	704	0.7+	0.2-
1982 01 31	675	0.2-	0.0	1998 03 24	704	0.1+	0.3-	1998 03 25	704	0.7+	0.1+
1998 03 22	699	0.7+	0.4+	1998 03 24	704	0.2+	0.1+	1998 03 25	704	0.6-	0.6-
1998 03 22	699	0.9-	0.2-	1998 03 24	704	1.3-	0.4-	1998 04 15	118	0.3+	0.1-
1998 03 22	699	0.1-	0.8+	1998 03 25	704	0.6+	0.5+	1998 04 15	118	0.4-	0.1-
1998 03 24	704	0.0	0.2-	1998 03 25	704	0.4+	0.2+				

1998 FN₇₇ = 1976 QG = 1978 BH = 1989 RK₄ = 1991 EC₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	266.15769		(2000.0)		P		Q				
<i>n</i>	0.30493603	ω	199.20925		+0.91172395		+0.40597604				
<i>a</i>	2.1860674	Ω	136.66788		−0.36391551		+0.86908719				
<i>e</i>	0.2125164	<i>i</i>	5.25014		−0.19059103		+0.28261442				
<i>P</i>	3.23	<i>H</i>	14.0		<i>G</i> 0.15		<i>U</i> 2				
Residuals in seconds of arc											
1976 08 26	095	1.3−	3.2+	1998 03 24	704	1.8−	0.3−	1998 04 20	704	1.0+	0.7−
1978 01 31	801	2.3+	0.7+	1998 03 24	704	0.4−	0.4−	1998 04 20	704	0.5−	0.6+
1978 02 01	801	0.9+	0.9+	1998 03 24	704	0.5−	0.6−	1998 04 20	704	1.1+	0.0
1989 09 08	095	0.1+	1.9+	1998 03 24	704	0.7−	0.1−	1998 04 20	704	0.1−	0.1+
1991 03 09	809	1.2−	0.7+	1998 03 24	704	0.5−	0.7+	1998 04 20	704	0.8+	0.7+
1991 03 09	809	0.5−	0.4+	1998 03 25	704	0.1+	0.2−	1998 04 22	704	0.6+	0.2+
1991 03 09	809	0.4+	0.0	1998 03 25	704	0.0	1.4−	1998 04 22	704	0.2−	0.8+
1991 03 11	809	0.3−	1.6+	1998 03 25	704	0.4+	0.0	1998 04 22	704	0.6+	0.4+
1991 03 11	809	0.4−	1.6+	1998 03 25	704	0.4+	0.3+	1998 04 22	704	0.0	0.1+
1991 03 11	809	0.3−	1.8+	1998 03 25	704	0.2+	0.3−				

1998 FD₇₈ = 1992 SR₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	326.93578		(2000.0)		P		Q				
<i>n</i>	0.30272786	ω	123.36134		+0.23130005		+0.97155106				
<i>a</i>	2.1966850	Ω	159.82671		−0.93443018		+0.23641211				
<i>e</i>	0.2164988	<i>i</i>	8.48434		−0.27081457		+0.01406570				
<i>P</i>	3.26	<i>H</i>	16.0		<i>G</i> 0.15		<i>U</i> 4				
Residuals in seconds of arc											
1992 09 27	691	0.2+	0.5+	1998 03 24	704	0.4+	0.4−	1998 04 20	704	0.3+	1.0−
1992 09 27	691	0.1−	0.5+	1998 03 24	704	1.6−	1.7+	1998 04 20	704	0.5−	1.0+
1992 09 27	691	0.0	0.2+	1998 03 25	704	0.5+	1.1+	1998 04 20	704	1.7−	0.8−
1992 09 28	691	0.4−	0.2−	1998 03 25	704	0.8−	2.0+	1998 04 21	704	1.6+	1.1−
1992 09 28	691	0.4−	0.6−	1998 03 25	704	0.6−	1.7−	1998 04 21	704	0.3+	1.4+
1992 09 28	691	0.7+	0.4−	1998 03 25	704	1.0+	1.1−	1998 04 21	704	0.4−	0.4−
1998 03 24	704	1.5+	1.4−	1998 03 25	704	0.3−	0.0	1998 04 21	704	1.4−	0.8+
1998 03 24	704	0.7+	0.4+	1998 04 20	704	1.9+	1.2−	1998 04 21	704	0.9−	0.4+
1998 03 24	704	0.9−	0.6−	1998 04 20	704	0.8+	0.9+				

1998 FJ₇₈ = 1986 QT₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	181.89536		(2000.0)		P		Q				
<i>n</i>	0.30063691	ω	303.61207		+0.80185101		-0.59306945				
<i>a</i>	2.2068586	Ω	92.86786		+0.56953439		+0.72172694				
<i>e</i>	0.1602851	<i>i</i>	4.18155		+0.18073610		+0.35690174				
<i>P</i>	3.28	<i>H</i>	14.5		<i>G</i> 0.15		<i>U</i> 6				
Residuals in seconds of arc											
1986 08 29	809	1.2-	1.8-	1986 09 04	809	1.0+	1.1+	1998 04 20	704	0.1-	0.5+
1986 08 29	809	1.3-	1.8-	1998 03 24	704	0.2-	0.9-	1998 04 20	704	0.4+	1.1+
1986 08 29	809	1.0-	1.9-	1998 03 24	704	2.1+	0.6-	1998 04 20	704	0.6-	0.5+
1986 09 01	809	0.7-	0.3+	1998 03 24	704	0.9+	0.8+	1998 04 20	704	0.4+	0.1-
1986 09 01	809	0.6-	0.2+	1998 03 24	704	0.7-	0.2+	1998 04 20	704	2.8-	0.6-
1986 09 01	809	0.7-	0.2+	1998 03 24	704	0.2-	0.7+	1998 04 22	704	0.2-	0.2-
1986 09 03	809	0.6+	0.7+	1998 03 25	704	0.6+	0.0	1998 04 22	704	1.4-	0.4-
1986 09 03	809	0.6+	0.4+	1998 03 25	704	0.9-	0.2-	1998 04 22	704	0.4+	0.9-
1986 09 03	809	0.8+	0.6+	1998 03 25	704	0.1+	1.1+	1998 04 22	704	1.6+	0.4-
1986 09 04	809	1.1+	1.2+	1998 03 25	704	0.8+	0.4+	1998 04 22	704	(4.6-	2.6-)
1986 09 04	809	1.2+	1.1+	1998 03 25	704	0.2+	0.5-				

1998 FO₇₈ = 1994 LY₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	2.97022		(2000.0)		P		Q				
n	0.22474944	ω	152.76425		-0.77181975		+0.62994822				
a	2.6791907	Ω	66.54984		-0.59917060		-0.67510328				
e	0.0608473	i	5.40206		-0.21281183		-0.38392811				
P	4.39	H	14.0		G 0.15		U 6				
Residuals in seconds of arc											
1994 06 03	809	0.3-	0.5-	1998 03 24	704	(5.0-	0.9+)	1998 04 20	704	1.3-	0.4+
1994 06 03	809	1.1-	0.1+	1998 03 25	704	0.2+	0.6+	1998 04 21	704	0.9+	0.2-
1994 06 03	809	0.0	0.6-	1998 03 25	704	0.1+	0.1+	1998 04 21	704	1.3-	0.3+
1994 06 04	809	0.8+	0.0	1998 03 25	704	0.2+	0.1+	1998 04 21	704	0.4-	0.0
1994 06 04	809	0.9+	0.3-	1998 03 25	704	0.1+	0.7+	1998 04 21	704	1.3-	0.3-
1994 06 04	809	0.1-	1.6+	1998 03 25	704	0.2+	0.9-	1998 04 22	704	0.1-	0.0
1998 03 24	704	0.8+	0.3+	1998 04 20	704	0.0	0.1-	1998 04 22	704	0.1-	0.2-
1998 03 24	704	1.0+	0.1+	1998 04 20	704	1.2-	1.4-	1998 04 22	704	0.3+	0.2-
1998 03 24	704	1.7+	0.4-	1998 04 20	704	0.4+	0.1+	1998 04 22	704	0.3+	0.6+
1998 03 24	704	1.1+	1.2-	1998 04 20	704	1.1-	0.6+	1998 04 22	704	0.5-	0.9+

1998 FR₇₉ = 1991 UB₅ = 1994 LT₇ = 1997 AZ₂₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.22062426	ω	80.32351	−0.97129354	−0.22166178		
<i>a</i>	2.7124841	Ω	86.83290	+0.16985236	−0.90034070		
<i>e</i>	0.0292888	<i>i</i>	4.96079	+0.16655040	−0.37450323		
<i>P</i>	4.47	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1991 10 31	399	0.9+	0.3+	1997 01 15	599	0.1+	0.9−	1998 03 25	704	0.4+	0.5−
1991 10 31	399	0.4−	1.6−	1997 01 15	599	0.2+	1.1−	1998 03 25	704	0.8+	0.8−
1994 06 08	809	0.4−	1.8−	1998 03 24	704	1.2+	0.6+	1998 04 22	691	0.1−	0.8+
1994 06 08	809	0.0	1.2−	1998 03 24	704	1.0+	0.7−	1998 04 22	691	0.5−	0.8+
1994 06 08	809	0.3−	1.3−	1998 03 24	704	0.1−	0.4−	1998 04 22	691	0.3−	0.7+
1994 06 09	809	0.7+	0.8+	1998 03 24	704	1.6+	0.9−	1998 04 25	691	1.9−	0.0
1994 06 09	809	0.6−	0.5+	1998 03 24	704	0.6−	0.3−	1998 04 25	691	1.4−	0.2+
1994 06 09	809	0.0	0.6−	1998 03 25	704	0.8+	0.2+	1998 04 25	691	1.3−	0.2+
1997 01 14	599	0.3+	0.4−	1998 03 25	704	0.9+	0.4+				
1997 01 14	599	0.3−	0.2−	1998 03 25	704	0.5−	0.0				

1998 FU₇₉ = 1993 VN₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.30587801	ω	4.39086	+0.36426019	−0.92870770		
<i>a</i>	2.1815770	Ω	64.25970	+0.85208500	+0.30227585		
<i>e</i>	0.0962805	<i>i</i>	4.41881	+0.37585325	+0.21478203		
<i>P</i>	3.22	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	6

Residuals in seconds of arc

1993 11 11	399	0.3−	0.1+	1998 03 25	704	0.2−	0.5+	1998 04 22	704	0.2+	0.1+
1993 11 11	399	0.5+	0.3−	1998 03 25	704	1.2+	0.8−	1998 04 22	704	1.3−	0.8−
1993 11 16	399	0.7−	0.7−	1998 03 25	704	0.5−	0.6+	1998 04 22	704	0.4+	0.0
1993 11 16	399	0.6+	0.5+	1998 03 25	704	(2.2−	1.0−)	1998 04 22	704	0.3−	0.9−
1998 03 24	704	0.6−	0.3+	1998 04 20	704	1.3−	1.4−	1998 04 22	704	0.7+	0.5−
1998 03 24	704	1.5+	0.1−	1998 04 20	704	1.6−	0.5−	1998 05 01	691	0.4−	0.4+
1998 03 24	704	(2.5−	0.5+)	1998 04 20	704	0.4+	0.0	1998 05 01	691	0.4−	0.2+
1998 03 24	704	1.0−	1.1+	1998 04 20	704	1.5+	1.6+	1998 05 01	691	0.2−	0.1+
1998 03 25	704	0.2+	0.0	1998 04 20	704	1.5+	0.2−				

1998 FF₈₃ = 1977 DP₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.28273907	ω	245.55525	+0.99034683	−0.11882106		
<i>a</i>	2.2990345	Ω	121.19758	+0.13659163	+0.92416676		
<i>e</i>	0.0576318	<i>i</i>	4.78658	−0.02357704	+0.36303906		
<i>P</i>	3.49	<i>H</i>	14.1	<i>G</i>	0.15	<i>U</i>	6

Residuals in seconds of arc

1977 02 18	381	0.8−	0.2+	1998 03 03	372	1.0+	0.3+	1998 03 24	704	1.3+	0.6−
1977 02 18	381	0.1+	0.0	1998 03 03	372	0.8+	0.5−	1998 03 25	704	0.3−	0.1+
1977 02 19	381	0.1+	0.4−	1998 03 05	372	2.0−	0.9+	1998 03 25	704	0.1−	0.1+
1977 02 19	381	0.6+	0.1+	1998 03 24	704	1.4−	1.8+	1998 03 25	704	0.2+	0.1+
1998 03 02	372	0.3−	0.1−	1998 03 24	704	0.9−	1.0−	1998 03 25	704	0.3+	0.2−
1998 03 02	372	0.8+	0.7−	1998 03 24	704	0.4−	0.3+	1998 03 25	704	1.1+	0.4−

1998 FX₉₈ = 3098 P-L

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27489470	ω	213.24653	−0.57977893	−0.80744014		
<i>a</i>	2.3425658	Ω	272.41901	+0.76932834	−0.49842953		
<i>e</i>	0.0595771	<i>i</i>	6.26746	+0.26831009	−0.31560802		
<i>P</i>	3.59	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1960 09 24	675	0.0	0.0	1998 03 26	566	0.4+	0.4+	1998 04 01	704	1.1−	0.7+
1960 09 25	675	0.3−	0.1−	1998 03 26	566	0.7+	0.0	1998 04 18	704	0.5+	0.2+
1960 09 26	675	0.9+	0.3+	1998 03 31	704	0.6+	0.4−	1998 04 18	704	0.1+	0.7−
1960 09 27	675	1.0+	0.3+	1998 03 31	704	0.4+	0.6−	1998 04 18	704	1.3+	0.2+
1960 09 28	675	0.7+	0.2+	1998 03 31	704	0.0	0.9+	1998 04 18	704	0.1+	1.4+
1960 09 29	675	1.1−	0.4−	1998 03 31	704	0.8+	0.3+	1998 04 19	704	0.2+	1.0−
1960 09 29	675	1.2−	0.3−	1998 03 31	704	0.2+	0.1+	1998 04 19	704	0.5−	0.8−
1998 02 26	566	0.1−	0.2−	1998 04 01	704	0.1−	1.0−	1998 04 19	704	0.4−	0.2−
1998 02 26	566	0.3−	0.2−	1998 04 01	704	0.5−	0.2+	1998 04 19	704	0.8−	0.2−
1998 02 26	566	0.2+	0.1−	1998 04 01	704	0.8−	0.1−	1998 04 19	704	0.4−	0.4+
1998 03 26	566	0.2+	0.3+	1998 04 01	704	0.8−	0.1+				

1998 FY₉₉ = 1980 DK

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27854451	ω	249.80785	−0.81496527	+0.57450655		
<i>a</i>	2.3220576	Ω	325.13475	−0.46959902	−0.73152778		
<i>e</i>	0.0757169	<i>i</i>	7.63858	−0.33957085	−0.36716391		
<i>P</i>	3.54	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1980 02 14	046	1.2−	1.2+	1998 02 27	566	0.9+	0.1+	1998 04 01	704	0.3+	0.3+
1980 02 14	046	0.9+	0.4+	1998 02 27	566	0.6+	0.3+	1998 04 18	704	0.8+	0.3−
1980 02 15	046	1.8−	0.8+	1998 03 31	704	0.3+	0.4−	1998 04 18	704	0.4−	0.7−
1980 02 15	046	1.1−	0.4+	1998 03 31	704	0.4−	0.2−	1998 04 18	704	0.0	0.6−
1980 02 19	046	1.1−	0.7−	1998 03 31	704	0.1−	0.6−	1998 04 18	704	0.3−	0.7−
1980 02 19	046	(3.7−	1.4−)	1998 03 31	704	0.3−	0.1+	1998 04 18	704	0.9−	0.9+
1980 02 20	046	0.4+	0.7−	1998 03 31	704	0.7−	0.1+	1998 04 19	704	0.1−	0.4−
1980 02 20	046	0.8+	1.0−	1998 04 01	704	0.6+	0.3+	1998 04 19	704	0.1−	0.0
1980 02 21	046	1.6+	0.5−	1998 04 01	704	0.2−	0.9+	1998 04 19	704	0.4−	0.7−
1980 02 22	046	1.3+	0.7−	1998 04 01	704	0.3+	0.5+	1998 04 19	704	0.1+	0.0
1998 02 27	566	0.9+	0.2+	1998 04 01	704	0.5+	0.8+	1998 04 19	704	1.0−	0.7+

1998 FM₁₀₀ = 1994 JX₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.22685047	ω	280.60000	−0.78868124	−0.59740029		
<i>a</i>	2.6626225	Ω	222.92171	+0.61365389	−0.75049325		
<i>e</i>	0.1404407	<i>i</i>	12.31439	+0.03756061	−0.28261772		
<i>P</i>	4.34	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1994 05 04	691	0.2−	0.1+	1998 03 31	704	0.4+	0.7+	1998 04 18	704	0.5+	1.2−
1994 05 04	691	0.2−	0.5−	1998 03 31	704	0.7+	1.1+	1998 04 18	704	0.5+	0.8−
1994 05 04	691	0.1−	0.3−	1998 03 31	704	0.2+	0.8+	1998 04 18	704	(4.1−	0.9−)
1994 05 11	691	0.1+	0.5+	1998 04 01	704	0.7+	0.5+	1998 04 19	704	0.9+	0.1−
1994 05 11	691	0.2+	0.2+	1998 04 01	704	0.1−	0.3+	1998 04 19	704	0.3+	0.5−
1994 05 11	691	0.1+	0.1+	1998 04 01	704	0.2−	0.4+	1998 04 19	704	0.2+	0.2−
1998 02 22	566	1.2−	0.9−	1998 04 01	704	0.2−	0.6+	1998 04 19	704	(0.3+	3.3−)
1998 02 22	566	1.1−	0.5−	1998 04 01	704	0.9−	0.7+	1998 04 29	566	0.3−	0.8−
1998 02 22	566	0.7−	0.2−	1998 04 18	704	0.3+	0.5−	1998 04 29	566	0.9−	0.5−
1998 03 31	704	0.6+	1.0+	1998 04 18	704	0.7+	0.2−	1998 04 29	566	0.8−	0.5−

1998 FZ₁₀₂ = 1994 AM₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27608447	ω	193.43680	−0.95735543	−0.28305298		
<i>a</i>	2.3358309	Ω	329.92565	+0.27460388	−0.82920546		
<i>e</i>	0.1246781	<i>i</i>	6.63398	+0.08979579	−0.48197439		
<i>P</i>	3.57	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1994 01 08	675	0.5−	0.7−	1998 03 31	704	0.3−	0.2−	1998 04 18	704	0.1−	0.8−
1994 01 08	675	0.2−	0.7−	1998 03 31	704	0.7−	0.6−	1998 04 18	704	0.2−	0.4+

1998 MAY 11

M.P.C. 31765

1994 01 09	675	0.4+	1.1+	1998 04 01	704	0.0	0.7+	1998 04 19	704	0.2+	0.4+
1994 01 09	675	0.3+	0.3+	1998 04 01	704	0.3+	0.1+	1998 04 19	704	0.4+	0.1-
1998 03 25	566	0.5-	0.2+	1998 04 01	704	0.8+	0.1-	1998 04 19	704	1.0-	0.6-
1998 03 25	566	0.7-	0.2+	1998 04 01	704	1.2+	0.1-	1998 04 19	704	0.8+	0.5+
1998 03 25	566	0.5-	0.2+	1998 04 01	704	1.2+	0.8-	1998 04 19	704	0.1-	0.6+
1998 03 31	704	0.1-	0.5+	1998 04 18	704	0.4+	0.5+				
1998 03 31	704	0.4-	0.4-	1998 04 18	704	0.9-	0.8-				

1998 FL₁₀₃ = 1985 VO₅ = 1987 EE₁ = 1990 SG₂₈ = 1990 UC₁₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
(2000.0)				(2000.0)			
<i>M</i>	127.58652			<i>P</i>	<i>Q</i>		
<i>n</i>	0.18518675	ω	90.30690	+0.44209158	-0.89468646		
<i>a</i>	3.0483356	Ω	333.16441	+0.75626281	+0.41013565		
<i>e</i>	0.1341874	<i>i</i>	8.14550	+0.48230861	+0.17698837		
<i>P</i>	5.32	<i>H</i>	12.5	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1985 11 11	095	0.1-	0.5+	1998 03 04	704	(2.2-	0.6-)	1998 04 03	704	1.0-	0.0
1987 03 05	809	0.0	0.2+	1998 03 25	566	0.1+	0.0	1998 04 03	704	0.1-	0.3-
1987 03 05	809	0.3+	0.2+	1998 03 25	566	0.0	0.1-	1998 04 03	704	0.3-	1.1+
1987 03 05	809	0.5+	0.4+	1998 03 25	566	0.1-	0.3-	1998 04 03	704	1.3+	0.3-
1987 03 06	809	0.3+	0.7-	1998 03 31	704	0.0	0.0	1998 04 03	704	0.6+	0.0
1987 03 06	809	0.4+	0.8-	1998 03 31	704	0.4-	0.6-	1998 04 03	704	1.6+	0.9+
1987 03 06	809	0.2+	0.9-	1998 03 31	704	0.5+	0.1-	1998 04 03	704	2.0-	0.5-
1987 03 07	809	0.9-	0.8+	1998 03 31	704	0.9-	1.6-	1998 04 03	704	0.1+	0.3-
1987 03 07	809	0.4-	0.7+	1998 04 01	704	0.2+	0.6+	1998 04 03	704	0.8+	1.2-
1987 03 07	809	0.3-	0.7+	1998 04 01	704	0.0	0.9+	1998 04 03	704	0.5+	0.1-
1990 09 23	095	0.8-	1.0-	1998 04 01	704	1.4+	0.3-	1998 04 03	704	0.7-	1.3+
1990 10 23	095	1.5+	0.3-	1998 04 01	704	0.9+	0.3+	1998 04 03	704	0.4+	0.1-
1998 02 24	566	0.3+	0.1-	1998 04 01	704	0.3+	0.3-	1998 04 03	704	(2.6-	0.8-)
1998 02 24	566	0.6+	0.0	1998 04 02	704	0.3-	0.2+	1998 04 18	704	0.2+	0.5+
1998 02 24	566	0.0	0.3-	1998 04 02	704	0.8-	0.6+	1998 04 18	704	0.7-	0.4+
1998 03 03	704	0.8+	0.3+	1998 04 02	704	0.9-	0.9+	1998 04 18	704	0.4-	0.8-
1998 03 03	704	1.5+	1.2-	1998 04 03	704	0.3+	0.2-	1998 04 18	704	0.4-	0.8-
1998 03 03	704	(1.8+	2.4-)	1998 04 03	704	0.1-	0.1+	1998 04 19	704	0.7+	0.0
1998 03 03	704	1.0+	1.9-	1998 04 03	704	0.7-	0.4+	1998 04 19	704	0.1-	0.0
1998 03 03	704	(0.5+	2.1-)	1998 04 03	704	1.4-	0.4-	1998 04 19	704	0.3+	0.8+
1998 03 04	704	(2.1-	0.3-)	1998 04 03	704	0.6-	0.5+	1998 04 19	704	0.2-	0.4+
1998 03 04	704	1.6-	0.5-	1998 04 03	704	0.0	0.1+	1998 04 19	704	0.2+	0.5+
1998 03 04	704	1.5-	0.7-	1998 04 03	704	0.2-	0.4+				

1998 FR₁₀₃ = 1992 OY₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
(2000.0)				(2000.0)			
<i>M</i>	348.71552			<i>P</i>	<i>Q</i>		
<i>n</i>	0.29271149	ω	294.68258	-0.59994089	+0.79795251		
<i>a</i>	2.2465161	Ω	298.32797	-0.70824145	-0.56332249		
<i>e</i>	0.0682044	<i>i</i>	3.76601	-0.37210883	-0.21433515		
<i>P</i>	3.37	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	6

Residuals in seconds of arc

1992 07 26	809	1.2+	0.0	1998 04 02	704	1.6-	0.0	1998 04 03	704	0.3-	1.1-
1992 07 26	809	0.1+	0.1+	1998 04 03	704	0.2+	1.1+	1998 04 03	704	0.1-	0.3+
1992 07 26	809	1.2-	0.1-	1998 04 03	704	0.6+	0.2+	1998 04 03	704	0.0	0.4-
1992 07 30	809	0.6+	0.4-	1998 04 03	704	(0.5+	3.3-)	1998 04 03	704	0.2+	0.2-
1992 07 30	809	0.4-	0.3+	1998 04 03	704	0.2-	0.2+	1998 04 03	704	1.4-	0.4-
1992 07 30	809	0.3-	0.0	1998 04 03	704	1.0-	0.9-	1998 04 03	704	0.2+	0.2-
1998 03 31	704	0.5+	0.4-	1998 04 03	704	0.6-	0.2+	1998 04 03	704	(5.6-	0.6+)
1998 03 31	704	0.4+	0.3+	1998 04 03	704	0.1-	0.8+	1998 04 03	704	(4.0-	0.8-)
1998 03 31	704	0.4+	0.2+	1998 04 03	704	0.2-	1.2-	1998 04 18	704	0.4+	0.2+
1998 03 31	704	1.1+	1.4-	1998 04 03	704	0.3+	1.2-	1998 04 18	704	0.1-	0.9+
1998 04 01	704	0.2+	0.2+	1998 04 03	704	0.8-	1.0+	1998 04 18	704	0.1-	0.3-
1998 04 01	704	0.2+	0.5+	1998 04 03	704	0.3+	0.4+	1998 04 18	704	0.4-	1.1-
1998 04 01	704	0.4+	0.7+	1998 04 03	704	0.0	0.8-	1998 04 19	704	0.0	0.1+
1998 04 01	704	0.2+	0.3-	1998 04 03	704	0.2+	0.5+	1998 04 19	704	0.1-	0.6+
1998 04 01	704	0.2-	0.3+	1998 04 03	704	0.5+	0.2-	1998 04 19	704	0.6+	0.4+

1998 04 02	704	0.2+	1.2+	1998 04 03	704	0.2+	0.2+	1998 04 19	704	1.3-	0.6+
1998 04 02	704	0.1+	0.8-	1998 04 03	704	0.2-	0.5+	1998 04 19	704	1.4+	0.5-

1998 FD₁₀₄ = 4503 T-1

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
(2000.0)				(2000.0)			
<i>M</i>	328.33820			<i>P</i>	<i>Q</i>		
<i>n</i>	0.21877433	ω	58.13772	-0.09899952	+0.98703432		
<i>a</i>	2.7277536	Ω	207.05539	-0.98078723	-0.11823466		
<i>e</i>	0.2326719	<i>i</i>	16.12690	-0.16809376	+0.10855326		
<i>P</i>	4.51	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1971 05 13	675	0.4+	0.2-	1998 03 31	704	0.1-	0.7-	1998 04 19	704	0.4+	0.6+
1971 05 14	675	0.2-	0.6+	1998 04 01	704	0.1-	0.2+	1998 04 19	704	0.4+	0.5-
1971 05 14	675	0.5-	0.2-	1998 04 01	704	1.4+	0.1+	1998 04 19	704	0.1-	0.8+
1971 05 14	675	0.1+	1.0-	1998 04 01	704	0.4+	0.1+	1998 05 01	566	0.1-	0.5+
1971 05 16	675	0.0	0.1+	1998 04 01	704	0.5+	1.5+	1998 05 01	566	0.1-	0.1-
1998 02 25	566	0.4-	0.2-	1998 04 01	704	0.4-	1.4-	1998 05 01	566	0.3-	0.3+
1998 02 25	566	0.6-	0.1-	1998 04 18	704	0.9+	0.2-	1998 05 02	566	0.8-	0.0
1998 02 25	566	0.6-	0.0	1998 04 18	704	0.4+	0.0	1998 05 02	566	0.1-	0.1+
1998 03 31	704	0.4+	0.2-	1998 04 18	704	0.5-	0.6-	1998 05 02	566	0.5-	0.1-
1998 03 31	704	0.1-	0.1+	1998 04 18	704	0.2-	0.8-				
1998 03 31	704	0.3-	0.9+	1998 04 19	704	0.3+	0.4+				

1998 FH₁₀₅ = 1970 EG₂ = 1991 RP₃₆ = 1994 LY₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
(2000.0)				(2000.0)			
<i>M</i>	62.47420			<i>P</i>	<i>Q</i>		
<i>n</i>	0.21292745	ω	244.67096	-0.69571776	-0.71142950		
<i>a</i>	2.7774630	Ω	249.79393	+0.69119618	-0.62543811		
<i>e</i>	0.1505331	<i>i</i>	6.06912	+0.19551119	-0.32046096		
<i>P</i>	4.63	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1970 03 04	805	0.2-	0.7+	1994 06 09	809	0.8+	0.2+	1998 04 01	704	0.7-	0.4+
1970 03 04	805	0.8+	0.0	1998 03 31	704	0.1+	0.0	1998 04 18	704	0.8-	0.2-
1970 03 04	805	0.0	0.7+	1998 03 31	704	0.4+	0.1+	1998 04 18	704	0.1-	0.3+
1991 09 14	675	0.2+	1.1-	1998 03 31	704	0.1+	0.3-	1998 04 18	704	0.5-	0.9-
1991 09 14	675	0.0	0.1+	1998 03 31	704	0.5-	0.5-	1998 04 18	704	1.2-	0.3-
1994 06 08	809	0.9-	0.7-	1998 03 31	704	0.2+	0.1-	1998 04 19	704	0.0	0.4-
1994 06 08	809	1.3-	0.8-	1998 04 01	704	0.8+	0.3+	1998 04 19	704	0.4+	0.4-
1994 06 08	809	1.5-	0.6-	1998 04 01	704	0.6+	0.5+	1998 04 19	704	0.0	0.2-
1994 06 09	809	2.1+	1.9+	1998 04 01	704	0.5+	0.1+	1998 04 19	704	0.2-	0.0
1994 06 09	809	0.9+	1.2+	1998 04 01	704	0.7+	0.8-	1998 04 19	704	1.1-	0.1-

1998 FJ₁₀₅ = 1990 TT₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams				Williams			
(2000.0)				(2000.0)			
<i>M</i>	321.10813			<i>P</i>	<i>Q</i>		
<i>n</i>	0.21773254	ω	43.27346	-0.03426826	+0.99350160		
<i>a</i>	2.7364478	Ω	225.09146	-0.95365017	-0.06499205		
<i>e</i>	0.1742345	<i>i</i>	8.81531	-0.29895992	+0.09343765		
<i>P</i>	4.53	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4</

1998 FL₁₀₅ = 1981 UA₁₈ = 1983 CM₃ = 1987 JL = 1994 CM₂₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	355.44334		(2000.0)		P		Q
<i>n</i>	0.26432643	ω	283.14431	−0.71286674	+0.69719175		
<i>a</i>	2.4045971	Ω	301.11895	−0.60425498	−0.66547787		
<i>e</i>	0.0828408	<i>i</i>	5.07927	−0.35594513	−0.26657618		
<i>P</i>	3.73	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	2

Residuals in seconds of arc

1981 10 24	095	0.6−	2.8+	1998 03 26	566	0.6+	0.1−	1998 04 18	704	1.0−	0.6−
1983 02 10	809	1.1−	1.3−	1998 03 26	566	0.3+	0.0	1998 04 18	704	0.4−	0.8+
1983 02 10	809	0.7−	1.0−	1998 03 31	704	0.3−	0.4−	1998 04 18	704	0.1+	0.5+
1983 02 10	809	0.2−	0.8−	1998 03 31	704	0.7−	1.7+	1998 04 18	704	0.1+	0.1+
1987 05 04	413	0.7−	0.5−	1998 03 31	704	0.9−	0.5+	1998 04 18	704	0.9+	0.8+
1987 05 04	413	0.7+	0.5−	1998 03 31	704	1.6−	0.1−	1998 04 19	704	0.8+	0.1+
1987 05 04	413	0.6+	0.2−	1998 04 01	704	0.5+	0.6−	1998 04 19	704	0.8+	0.2+
1987 05 04	413	0.3−	0.6+	1998 04 01	704	0.8+	0.2−	1998 04 19	704	0.6+	1.7+
1994 02 11	400	0.4−	0.3−	1998 04 01	704	0.4+	0.2−	1998 04 19	704	0.6+	0.6+
1994 02 11	400	0.5+	0.2+	1998 04 01	704	0.6+	0.2+	1998 04 19	704	0.1+	0.3+
1998 03 26	566	0.3+	0.3−	1998 04 01	704	0.4−	0.1+				

1998 FK₁₀₆ = 1991 JQ₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	319.56955		(2000.0)		P		Q
<i>n</i>	0.27667288	ω	45.25249	+0.02384440	+0.99591460		
<i>a</i>	2.3325179	Ω	226.32805	−0.94787659	−0.00516770		
<i>e</i>	0.1264052	<i>i</i>	6.91592	−0.31774425	+0.09015215		
<i>P</i>	3.56	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1991 05 08	675	0.8+	0.3−	1998 03 31	704	0.0	0.6+	1998 04 18	704	0.2+	1.2−
1991 05 08	675	0.1−	0.1+	1998 04 01	704	0.1+	0.6−	1998 04 18	704	0.5−	0.8−
1991 05 09	675	0.0	0.9−	1998 04 01	704	0.2+	0.7−	1998 04 18	704	1.8−	0.6−
1991 05 09	675	0.8−	1.0+	1998 04 01	704	0.4−	1.1+	1998 04 19	704	0.4−	0.7+
1998 03 31	704	0.1−	0.6−	1998 04 01	704	0.3+	0.3−	1998 04 19	704	0.6+	0.7+
1998 03 31	704	0.8+	0.4−	1998 04 01	704	0.6−	1.2+	1998 04 19	704	1.2+	0.9+
1998 03 31	704	0.4−	0.6−	1998 04 18	704	0.1+	0.8+	1998 04 19	704	0.3−	0.4−
1998 03 31	704	0.2+	0.4+	1998 04 18	704	0.1+	0.4−	1998 04 19	704	0.6+	0.0

1998 FP₁₀₆ = 1996 XP₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	20.43057		(2000.0)		P		Q
<i>n</i>	0.24152609	ω	308.69295	−0.96357593	+0.25782394		
<i>a</i>	2.5536420	Ω	246.35036	−0.21491561	−0.90463477		
<i>e</i>	0.1682474	<i>i</i>	4.44863	−0.15916252	−0.33935638		
<i>P</i>	4.08	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1996 12 04	691	1.4−	0.6+	1998 03 31	704	0.1+	0.3−	1998 04 18	704	1.0+	1.1+
1996 12 04	691	0.8−	0.1+	1998 03 31	704	0.1+	1.3−	1998 04 18	704	0.6−	0.4−
1996 12 04	691	0.6−	0.0	1998 03 31	704	0.1+	0.9−	1998 04 18	704	0.4−	0.4−
1996 12 05	691	0.0	0.2+	1998 03 31	704	0.2+	1.0−	1998 04 19	704	0.2+	0.5+
1996 12 05	691	0.6+	0.0	1998 04 01	704	0.1+	0.1+	1998 04 19	704	0.2+	0.3+
1996 12 05	691	0.0	0.0	1998 04 01	704	0.6−	0.6+	1998 04 19	704	0.4−	0.9+
1996 12 14	691	0.6+	0.1+	1998 04 01	704	0.1+	0.0	1998 04 19	704	0.3+	0.1−
1996 12 14	691	0.9+	0.1−	1998 04 01	704	0.5−	0.8+	1998 04 19	704	0.3+	0.4+
1996 12 14	691	0.7+	0.4−	1998 04 01	704	0.3−	0.4−				
1998 03 31	704	0.2+	0.2−	1998 04 18	704	0.1+	0.5+				

1998 FC₁₀₇ = 1989 YC₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	76.18734		(2000.0)		P		Q
<i>n</i>	0.26545189	ω	248.29695	−0.53254142	−0.84269018		
<i>a</i>	2.3977956	Ω	234.12474	+0.80820176	−0.47847896		
<i>e</i>	0.1738933	<i>i</i>	5.60928	+0.25141508	−0.24684234		
<i>P</i>	3.71	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1989 12 25	033	0.9−	0.4−	1998 04 01	704	0.1+	0.3+	1998 04 19	704	0.0	0.2−
1989 12 25	033	0.3−	0.3+	1998 04 01	704	0.6−	0.7+	1998 04 19	704	0.2+	0.6+
1989 12 26	033	1.2+	0.2+	1998 04 01	704	0.4−	0.1−	1998 04 19	704	0.8+	1.3+
1998 03 31	704	0.6−	0.6−	1998 04 01	704	0.3−	0.4−	1998 04 19	704	0.2−	0.6+
1998 03 31	704	0.4+	1.3−	1998 04 18	704	0.1+	0.0	1998 04 19	704	0.3+	1.6+
1998 03 31	704	0.1−	0.1+	1998 04 18	704	0.5+	0.4+	1998 04 30	691	0.5−	0.6−
1998 03 31	704	0.1+	0.2−	1998 04 18	704	1.4+	1.5−	1998 04 30	691	0.8−	0.7−
1998 04 01	704	0.1+	0.3−	1998 04 18	704	0.1−	0.8+	1998 04 30	691	0.5−	0.6−

1998 FN₁₀₇ = 1993 BA₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	56.25304		(2000.0)		P		Q
<i>n</i>	0.21299052	ω	220.07867	−0.78489472	−0.60903871		
<i>a</i>	2.7769147	Ω	282.03143	+0.59417858	−0.68757232		
<i>e</i>	0.1610731	<i>i</i>	6.69781	+0.17576146	−0.39536839		
<i>P</i>	4.63	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1993 01 23	809	0.6+	0.3+	1998 03 31	704	0.5−	0.3−	1998 04 18	704	0.5+	1.5−
1993 01 23	809	0.5−	0.5−	1998 03 31	704	0.7−	1.4−	1998 04 18	704	1.8+	0.5−
1993 01 23	809	0.5−	0.4−	1998 04 01	704	0.8+	0.4+	1998 04 18	704	0.6−	1.0+
1993 01 28	809	0.0	0.4+	1998 04 01	704	0.6+	0.1+	1998 04 19	704	0.1−	0.3+
1993 01 28	809	0.0	0.6+	1998 04 01	704	0.5+	0.7+	1998 04 19	704	0.7−	0.5−
1993 01 28	809	0.5+	0.3−	1998 04 01	704	1.0+	0.0	1998 04 19	704	0.9+	0.9+
1998 03 31	704	0.1+	1.0+	1998 04 01	704	0.3−	0.3+	1998 04 19	704	0.9−	0.6+
1998 03 31	704	0.9−	0.5−	1998 04 18	704	0.7−	0.2−	1998 04 19	704	0.8+	1.0+
1998 03 31	704	0.5−	1.5−	1998 04 18	704	1.1−	0.1−				

1998 FW₁₀₈ = 1978 VF₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	152.08115		(2000.0)		P		Q
<i>n</i>	0.17126389	ω	133.05450	+0.69192544	−0.71627037		
<i>a</i>	3.2113835	Ω	272.92387	+0.63325191	+0.66233406		
<i>e</i>	0.1367949	<i>i</i>	5.20097	+0.34674371	+0.21970516		
<i>P</i>	5.75	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1978 11 01	010	1.1+	1.1+	1998 04 01	704	0.9+	0.5+	1998 04 20	704	1.9+	1.6+
1978 11 01	010	0.3−	0.1+	1998 04 01	704	0.0	1.9−	1998 04 20	704	0.3−	0.2+
1978 11 02	010	1.0−	0.5−	1998 04 18	704	0.6+	1.4−	1998 04 20	704	0.7+	0.7−
1978 11 02	010	0.2+	0.6−	1998 04 18	704	1.4−	1.1+	1998 04 20	704	1.5−	0.4+
1998 03 31	704	0.4+	1.1−	1998 04 18	704	1.0−	1.9−	1998 04 20	704	0.3−	1.2+
1998 03 31	704	0.6−	0.8+	1998 04 18	704	(5.0−	2.6+)	1998 04 22	704	0.3−	1.4−
1998 03 31	704	0.4−	0.4+	1998 04 19	704	0.2−	0.7+	1998 04 22	704	0.4+	2.0+
1998 03 31	704	0.5−	0.9−	1998 04 19	704	0.3+	0.1−	1998 04 22	704	0.8+	0.0
1998 04 01	704	0.5+	0.2−	1998 04 19	704	0.6+	0.3+	1998 04 22	704	(4.8−	2.6+)
1998 04 01	704	0.2−	0.5+	1998 04 19	704	1.1−	1.4−				
1998 04 01	704	0.2+	1.9+	1998 04 19	704	0.5+	0.3−				

1998 FB₁₀₉ = 1979 QM₄ = 1979 QB₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.24213023	ω	133.68249	-0.25920929	-0.96473016		
<i>a</i>	2.5493925	Ω	331.24654	+0.85641500	-0.20761923		
<i>e</i>	0.0821101	<i>i</i>	5.47465	+0.44650183	-0.16183315		
<i>P</i>	4.07	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1979 08 23	809	0.6-	0.3-	1998 03 31	704	0.1-	0.1-	1998 04 04	699	0.5+	0.2-
1979 08 23	809	0.6-	0.1+	1998 03 31	704	0.5-	0.2+	1998 04 04	699	0.0	0.1+
1979 08 26	809	1.2+	0.0	1998 03 31	704	0.1-	0.2-	1998 04 18	704	0.6+	0.1+
1998 02 27	566	0.1-	0.1+	1998 03 31	704	0.2-	0.4+	1998 04 18	704	0.6+	0.7+
1998 02 27	566	0.1+	0.1-	1998 03 31	704	0.3-	0.0	1998 04 18	704	0.4-	0.3+
1998 02 27	566	0.3-	0.3+	1998 04 01	704	0.4+	0.1+	1998 04 18	704	0.2-	0.4-
1998 03 20	704	0.2-	0.4-	1998 04 01	704	0.7-	0.0	1998 04 19	704	0.1-	0.1-
1998 03 20	704	0.3-	0.5-	1998 04 01	704	0.0	0.0	1998 04 19	704	0.1-	0.2-
1998 03 20	704	1.0+	0.7-	1998 04 01	704	0.4-	0.7+	1998 04 19	704	0.1-	0.1+
1998 03 20	704	(2.3-	0.3+)	1998 04 01	704	0.3+	0.4+	1998 04 19	704	0.2+	0.2-
1998 03 20	704	0.9-	0.2-	1998 04 04	699	0.8+	0.5-	1998 04 19	704	0.1+	0.1-

1998 FL₁₀₉ = 1990 TA₈ = 1995 WJ₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.19021284	ω	4.51794	-0.71393021	+0.69109648		
<i>a</i>	2.9943978	Ω	219.99056	-0.64780367	-0.71295682		
<i>e</i>	0.0429768	<i>i</i>	10.09505	-0.26580830	-0.11865173		
<i>P</i>	5.18	<i>H</i>	13.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1990 10 13	033	0.0	0.3-	1998 03 24	566	0.3-	0.5-	1998 04 01	704	0.6-	0.1+
1990 10 13	033	0.0	0.6+	1998 03 24	566	0.6-	0.5-	1998 04 20	704	1.2+	0.1-
1990 10 14	033	0.2+	0.3+	1998 03 31	704	0.5-	0.5+	1998 04 20	704	0.7+	0.4-
1990 10 18	033	0.2-	0.7-	1998 03 31	704	1.0+	0.7+	1998 04 20	704	0.9+	0.1+
1995 11 18	691	0.2+	0.2+	1998 03 31	704	0.5-	0.3-	1998 04 20	704	0.1+	0.7-
1995 11 18	691	0.1+	0.1+	1998 03 31	704	0.2-	0.3+	1998 04 20	704	0.3-	0.6-
1995 11 18	691	0.1+	0.1+	1998 03 31	704	0.8-	0.1+	1998 04 22	704	1.1+	0.7-
1995 11 23	691	0.0	0.1+	1998 04 01	704	0.1+	0.1+	1998 04 22	704	0.0	0.1-
1995 11 23	691	0.3-	0.2-	1998 04 01	704	0.6-	0.5+	1998 04 22	704	1.4+	0.4+
1995 11 23	691	0.1-	0.3-	1998 04 01	704	0.3-	1.1+	1998 04 22	704	0.5-	0.6-
1998 03 24	566	0.0	0.1+	1998 04 01	704	1.4-	0.2+	1998 04 22	704	0.4+	0.1+

1998 FP₁₁₁ = 1978 WB₂₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27100675	ω	285.91733	-0.71885559	-0.66455501		
<i>a</i>	2.3649174	Ω	213.25680	+0.68916348	-0.71973930		
<i>e</i>	0.2751581	<i>i</i>	21.83804	-0.09110618	-0.20085314		
<i>P</i>	3.64	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1978 11 28	675	0.1-	0.5+	1998 04 01	704	0.5-	0.1+	1998 04 21	704	0.4-	0.4-
1978 11 29	675	0.1+	0.5-	1998 04 01	704	0.3-	0.0	1998 04 22	704	0.6+	0.4-
1998 03 31	704	0.4+	0.4-	1998 04 01	704	0.7-	0.5+	1998 04 22	704	0.3+	0.3+
1998 03 31	704	0.6+	0.3-	1998 04 01	704	0.5-	0.5+	1998 04 22	704	0.9+	0.3-
1998 03 31	704	0.2-	0.1-	1998 04 21	704	0.3-	0.4-	1998 04 22	704	0.1+	0.3+
1998 03 31	704	0.5+	0.4+	1998 04 21	704	0.2-	0.8+	1998 04 22	704	0.0	0.3-
1998 03 31	704	0.3+	0.8-	1998 04 21	704	0.3-	0.1+				
1998 04 01	704	0.5+	0.2+	1998 04 21	704	0.8-	0.3+				

1998 FW₁₁₃ = 1978 WF₂₀ = 1984 HR₂ = 1995 OT₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.28158905	ω	289.37232	-0.35288057	+0.93412617		
<i>a</i>	2.3052899	Ω	319.83466	-0.82418720	-0.33749224		
<i>e</i>	0.1672741	<i>i</i>	4.77569	-0.44293427	-0.11622085		
<i>P</i>	3.50	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	1

Residuals in seconds of arc

1978 11 28	675	0.2-	0.1-	1995 07 21	327	0.3-	0.1-	1998 04 01	704	0.1+	0.4+
1978 11 29	675	0.1-	0.4+	1998 03 31	704	0.6+	0.6+	1998 04 18	704	0.3-	0.8+
1984 04 27	095	0.2-	0.4-	1998 03 31	704	0.2-	0.0	1998 04 18	704	0.0	0.0
1995 07 19	327	0.0	0.2-	1998 03 31	704	3.5+	0.1-	1998 04 18	704	0.4+	0.3-
1995 07 19	327	0.2-	0.4+	1998 03 31	704	2.8-	2.0-	1998 04 18	704	2.1-	3.4+
1995 07 19	327	0.2-	0.4-	1998 03 31	704	1.0-	1.7-	1998 04 19	704	0.2+	0.4+
1995 07 19	327	0.2-	0.2-	1998 04 01	704	0.0	0.1-	1998 04 19	704	0.2+	0.1-
1995 07 21	327	0.1+	0.3+	1998 04 01	704	0.6+	0.2+	1998 04 19	704	0.4+	0.8+
1995 07 21	327	0.5+	0.1-	1998 04 01	704	0.1+	0.2+	1998 04 19	704	0.1+	0.8-
1995 07 21	327	0.4+	0.2+	1998 04 01	704	0.4+	0.2-	1998 04 19	704	0.1+	0.8-

1998 FT₁₁₅ = 1983 CV₁ = 1988 EX₂ = 1990 TG₁₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.20399729	ω	290.09797	-0.59548356	+0.80099632		
<i>a</i>	2.8579401	Ω	303.20231	-0.70679817	-0.55885199		
<i>e</i>	0.1888326	<i>i</i>	4.22725	-0.38188438	-0.21468430		
<i>P</i>	4.83	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1983 02 04	046	0.3+	0.9+	1998 03 26	566	0.2-	0.0	1998 04 19	704	0.7+	0.3+
1983 02 04	046	2.3-	1.0-	1998 03 26	566	0.1-	0.1+	1998 04 19	704	(1.2+	2.5-)
1988 03 13	808	2.3+	0.5-	1998 03 26	566	0.2-	0.2+	1998 04 19	704	(2.0-	1.5-)
1988 03 13	808	(0.5+	3.3+)	1998 03 31	704	0.2+	0.5+	1998 04 20	704	1.0+	0.2-
1990 10 10	033	0.3+	0.0	1998 03 31	704	1.1-	0.5-	1998 04 20	704	0.0	1.1-
1990 10 11	033	0.2+	0.0	1998 03 31	704	0.5-	0.4+	1998 04 20	704	0.8+	0.4+
1990 10 11	033	0.3+	0.3+	1998 03 31	704	(0.5-	3.7+)	1998 04 20	704	0.5+	0.5-
1990 10 12	033	0.3+	0.1+	1998 03 31	704	0.3-	0.2-	1998 04 20	704	0.1+	0.3+
1990 10 13	033	0.1-	0.8-	1998 04 01	704	0.5-	0.1-	1998 04 22	704	(0.6+	3.5+)
1990 10 14	033	0.5-	0.3-	1998 04 01	704	1.1-	0.3+	1998 04 22	704	0.4-	0.2+
1998 03 24	699	0.2+	0.4+	1998 04 01	704	0.5-	0.4+	1998 04 22	704	0.3-	0.3-
1998 03 24	699	0.2-	0.5+	1998 04 01	704	0.1-	0.6+	1998 04 22	704	1.1+	0.6+
1998 03 24	699	0.5+	0.2-	1998 04 01	704	0.6-	0.3+	1998 04 22	704	1.9-	0.7+
1998 03 25	704	0.6+	0.2-	1998 04 18	704	0.5+	0.2-	1998 05 02	566	0.3+	1.2-
1998 03 25	704	0.1-	0.3-	1998 04 18	704	0.3+	0.0	1998 05 02	566	0.1+	1.2-
1998 03 25	704	0.2+	0.2+	1998 04 18	704	0.9+	0.0	1998 05 02	566	1.0+	1.6-
1998 03 25	704	0.9-	0.5+	1998 04 18	704	0.3-	0.2-				
1998 03 25	704	0.8-	0.9+	1998 04 19	704	0.4+	0.1-				

1998 FD₁₁₇ = 1992 PA₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27711378	ω	160.25323	+0.95197572	-0.28236690		
<i>a</i>	2.3300432	Ω	216.81320	+0.24760470	+0.93741462		
<i>e</i>	0.2476329	<i>i</i>	11.39326	+0.18009481	+0.20377135		
<i>P</i>	3.56	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1992 08 04	675	0.7-	0.2+	1998 03 31	704	1.3+	0.3+	1998 04 19	704	0.1-	0.2-
1992 08 05	675	0.4+	0.2+	1998 04 01	704	0.8-	0.2+	1998 04 19	704	1.2+	0.1-
1992 08 05	675	0.3+	0.3-	1998 04 01	704	0.3+	0.4-	1998 04 19	704	0.8-	0.9-
1998 03 25	704	1.5+	0.1-	1998 04 01	704	1.1-	0.3-	1998 04 20	704	0.1+	0.3+
1998 03 25	704	1.0+	0.2+	1998 04 01	704	1.0-	0.6+	1998 04 20	704	0.1-	1.1+
1998 03 25	704	0.1-	0.3+	1998 04 01	704	0.6-	0.6-	1998 04 20	704	0.9+	0.4-
1998 03 25	704	0.2-	0.7+	1998 04 18	704	0.5+	0.1-	1998 04 20	704	0.1+	0.3-
1998 03 25	704	0.5+	1.0-	1998 04 18	704	0.5-	0.6+	1998 04 22	704	0.7+	1.3+

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1998 03 31	704	0.6−	1.2+	1998 04 18	704	0.0	0.6−	1998 04 22	704	0.0	0.6+
1998 03 31	704	1.1−	1.0−	1998 04 18	704	(2.7−	0.1−)	1998 04 22	704	1.9−	0.2−
1998 03 31	704	(0.2−	3.8+)	1998 04 19	704	0.9+	0.2−	1998 04 22	704	0.2−	0.9−

1998 FE₁₁₇ = 1987 DZ₂ = 1992 OC₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams							
<i>M</i>	160.60372		(2000.0)	<i>P</i>	<i>Q</i>						
<i>n</i>	0.28028546	<i>ω</i>	90.83039	+0.59914328	−0.79946493						
<i>a</i>	2.3124322	<i>Ω</i>	322.25077	+0.70349776	+0.55155101						
<i>e</i>	0.1186334	<i>i</i>	4.06473	+0.38225415	+0.23800695						
<i>P</i>	3.52	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4				

Residuals in seconds of arc

1987 02 23	010	0.5+	0.2−	1998 03 28	428	1.2−	0.1−	1998 04 18	704	0.1+	0.9−
1987 02 23	010	0.7−	0.4−	1998 03 28	428	0.8−	0.5−	1998 04 18	704	0.6+	0.2+
1992 07 26	809	0.7+	0.4−	1998 03 29	428	0.4−	0.2+	1998 04 19	704	0.5+	0.3+
1992 07 26	809	0.4+	0.1−	1998 03 31	704	0.6−	0.5−	1998 04 19	704	1.1+	0.6+
1992 07 26	809	0.4−	0.4−	1998 03 31	704	0.0	0.7+	1998 04 19	704	0.4−	0.8+
1992 07 30	809	1.1−	0.4−	1998 03 31	704	1.4−	0.1−	1998 04 19	704	0.7+	1.6+
1992 07 30	809	0.0	0.0	1998 03 31	704	0.4−	0.8+	1998 04 20	704	1.2+	0.8+
1992 07 30	809	0.8+	0.6+	1998 03 31	704	(5.8−	1.4−)	1998 04 20	704	0.3+	0.6−
1998 03 20	704	(1.4+	2.4+)	1998 04 01	704	0.2−	0.2−	1998 04 20	704	0.1+	1.1−
1998 03 20	704	0.1−	0.7+	1998 04 01	704	0.2−	0.2+	1998 04 20	704	0.2+	0.2−
1998 03 20	704	1.9+	1.2+	1998 04 01	704	(2.3−	0.4+)	1998 04 20	704	0.6−	1.1−
1998 03 20	704	(0.4−	3.3+)	1998 04 01	704	1.9−	0.8−	1998 04 22	704	1.6+	0.1−
1998 03 25	704	0.6−	0.7−	1998 04 01	704	0.2+	0.3+	1998 04 22	704	1.0+	1.0−
1998 03 25	704	0.3−	0.7−	1998 04 03	428	0.5−	0.2−	1998 04 22	704	0.7+	0.6−
1998 03 25	704	0.1+	0.0	1998 04 03	428	(2.1−	0.1−)	1998 04 22	704	0.6−	0.7+
1998 03 25	704	0.6−	0.5−	1998 04 18	704	0.1+	0.4−	1998 04 22	704	0.3+	0.5−
1998 03 25	704	0.1+	0.1+	1998 04 18	704	0.3+	1.3+				

1998 FH₁₁₇ = 1991 TJ₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams							
<i>M</i>	337.87437		(2000.0)	<i>P</i>	<i>Q</i>						
<i>n</i>	0.23786755	<i>ω</i>	308.41667	−0.33280615	+0.94114898						
<i>a</i>	2.5797597	<i>Ω</i>	302.04631	−0.84204750	−0.32475261						
<i>e</i>	0.0834175	<i>i</i>	3.99005	−0.42449508	−0.09367140						
<i>P</i>	4.14	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5				

Residuals in seconds of arc

1991 10 04	033	0.2+	0.1+	1998 04 01	704	0.8+	0.8+	1998 04 20	704	1.4+	2.0+
1991 10 05	033	0.1−	0.5−	1998 04 01	704	1.2−	1.2+	1998 04 20	704	1.4−	0.6+
1991 10 05	033	0.1−	0.4+	1998 04 01	704	1.2+	0.0	1998 04 22	704	0.0	0.4+
1998 03 31	704	1.1+	0.7+	1998 04 01	704	0.3+	1.4−	1998 04 22	704	0.1+	0.7−
1998 03 31	704	0.2+	0.2+	1998 04 01	704	0.7+	0.2+	1998 04 22	704	0.7+	2.2−
1998 03 31	704	0.0	0.2+	1998 04 20	704	0.0	0.6+	1998 04 22	704	0.1−	0.3+
1998 03 31	704	0.1−	2.3−	1998 04 20	704	0.7+	1.1+	1998 04 22	704	1.0−	1.3−
1998 03 31	704	2.8−	0.1−	1998 04 20	704	0.6−	0.6−				

1998 FY₁₁₇ = 1991 GJ₇ = 1995 OO₁₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams							
<i>M</i>	298.77234		(2000.0)	<i>P</i>	<i>Q</i>						
<i>n</i>	0.28102274	<i>ω</i>	37.54549	+0.61507527	+0.78566542						
<i>a</i>	2.3083859	<i>Ω</i>	270.50977	−0.73855372	+0.54459086						
<i>e</i>	0.1713662	<i>i</i>	3.80882	−0.27608117	+0.29351429						
<i>P</i>	3.51	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5				

Residuals in seconds of arc

1991 04 08	809	0.1−	2.8+	1998 03 31	704	0.1−	0.1+	1998 04 20	704	0.4+	1.3−
1991 04 08	809	0.8−	1.2+	1998 03 31	704	1.0−	1.4−	1998 04 20	704	0.2+	0.4−
1991 04 08	809	0.9−	1.8+	1998 03 31	704	2.7−	2.0−	1998 04 20	704	0.5−	0.5−
1991 04 10	809	2.2+	0.7+	1998 03 31	704	0.7−	0.2+	1998 04 20	704	0.7−	0.9−
1991 04 10	809	1.6+	0.5+	1998 04 01	704	0.2−	0.3−	1998 04 22	704	3.1−	0.8+
1991 04 10	809	0.8+	1.0+	1998 04 01	704	1.6+	1.0−	1998 04 22	704	0.1+	0.5−
1995 07 21	033	0.8−	0.8+	1998 04 01	704	0.2−	0.0	1998 04 22	704	0.3−	0.7−

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1995 07 23	033	0.5+	1.1−	1998 04 01	704	2.7+	1.4+	1998 04 22	704	0.8+	0.9−
1995 07 23	033	0.3+	0.3+	1998 04 01	704	1.0−	1.2+	1998 04 22	704	1.2+	0.3−
1998 03 31	704	0.5+	0.8−	1998 04 20	704	0.2−	0.7−				

1998 FG₁₁₈ = 1971 DC₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams							
<i>M</i>	38.16120		(2000.0)	<i>P</i>	<i>Q</i>						
<i>n</i>	0.18586023	<i>ω</i>	241.48806	−0.99773259	−0.02677017						
<i>a</i>	3.0409672	<i>Ω</i>	296.91936	+0.05058162	−0.90350199						
<i>e</i>	0.0543365	<i>i</i>	3.97113	−0.04439803	−0.42774702						
<i>P</i>	5.30	<i>H</i>	12.5	<i>G</i>	0.15	<i>U</i>	6				

Residuals in seconds of arc

1971 02 18	095	1.4−	2.3+	1998 03 31	704	1.0−	1.0+	1998 04 20	704	0.8−	0.3+
1971 02 23	095	1.3+	2.5−	1998 04 01	704	0.3−	0.1−	1998 04 20	704	0.5−	0.0
1998 03 25	699	0.5+	0.1+	1998 04 01	704	0.8−	0.2−	1998 04 22	704	0.9+	0.2−
1998 03 25	699	0.3+	0.1−	1998 04 01	704	0.2+	0.2−	1998 04 22	704	0.6+	0.6−
1998 03 25	699	0.7+	0.0	1998 04 01	704	0.0	0.8+	1998 04 22	704	0.0	0.3−
1998 03 31	704	0.7+	0.0	1998 04 01	704	0.3−	1.0+	1998 04 22	704	0.1−	0.1−
1998 03 31	704	0.3+	0.4+	1998 04 20	704	0.0	0.2−	1998 04 22	704	0.0	0.2−
1998 03 31	704	0.6−	0.3−	1998 04 20	704	0.1+	0.2−				
1998 03 31	704	0.1−	0.2−	1998 04 20	704	0.1+	0.3−				

1998 FH₁₁₈ = 1988 SJ

Epoch 1998 July 6.0 TT = JDT 2451000.5

				Williams							
<i>M</i>	184.18828		(2000.0)	<i>P</i>	<i>Q</i>						
<i>n</i>	0.26038151	<i>ω</i>	51.18903	+0.79738322	−0.60298012						
<i>a</i>	2.4288235	<i>Ω</i>	345.83975	+0.51816324	+0.70482000						
<i>e</i>	0.1302178	<i>i</i>	5.72233	+0.30933292	+0.37368936						
<i>P</i>	3.79	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	6				

Residuals in seconds of arc

1988 09 15	511	(4.0−	1.5−)	1998 03 31	704	0.5−	0.2−	1998 04 20	704	0.8−	0.7+
1988 09 15	511	2.2−	0.5+	1998 03 31	704	0.9+	0.9+	1998 04 21	704	0.2+	0.5−
1988 09 15	511	1.3−	1.2−	1998 03 31	704	0.3+	0.3−	1998 04 21	704	0.3−	0.6+
1988 09 15	675	0.9+	0.9+	1998 03 31	704	0.3−	1.0−	1998 04 21	704	0.0	0.6−
1988 09 15	675	1.2+	0.8+	1998 04 01	704	1.4+	0.5+	1998 04 21	704	0.8−	1.7+
1988 09 17	511	0.2+	2.9−	1998 04 01	704	0.4−	0.1−	1998 04 21	704	0.1−	0.4−
1988 09 17	511	1.8+	1.4+	1998 04 01	704	0.3+	0.9+	1998 04 22	704	0.8−	0.8−
1988 09 17	511	(8.0+	2.0+)	1998 04 01	704	0.8−	2.4−	1998 04 22	704	1.1+	1.1−
1988 09 18	511	0.4−	0.2+	1998 04 20	704	0.7+	0.1+	1998 04 22	704	1.1+	0.4+
1988 09 18	511	(6.0+	2.3+)	1998 04 20	704	1.0+	1.1+	1998 04 22	704	0.8−	0.0
1988 09 18	511	(12.8+	6.0+)	1998 04 20	704	0.1+	0.5+	1998 04 22	704	0.1+	0.3+
1998 03 31	704	0.0	0.4−	1998 04 20	704	0.5+	0.2−				

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1998 FQ₁₁₈ = 1996 VS₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>			(2000.0)			P			Q		
<i>n</i>	0.27014868	ω	253.71479			-0.56308549			-0.82247603		
<i>a</i>	2.3699225	Ω	230.83346			+0.79228852			-0.50961026		
<i>e</i>	0.0522004	<i>i</i>	5.95401			+0.23497579			-0.25264711		
<i>P</i>	3.65	<i>H</i>	15.5		<i>G</i>	0.15		<i>U</i>	4		

Residuals in seconds of arc

1996 11 10	817	0.2+	0.1+	1998 03 31	704	0.6+	0.1+	1998 04 19	704	1.3+	0.1+
1996 11 10	817	0.3+	0.5-	1998 03 31	704	0.6+	1.3-	1998 04 19	704	0.1+	0.6-
1996 11 10	817	0.1-	0.8-	1998 03 31	704	0.2+	0.4+	1998 04 19	704	1.2-	0.8+
1996 11 11	817	0.2+	0.1+	1998 03 31	704	0.1-	1.2-	1998 04 19	704	(3.8-	0.8-)
1996 11 11	817	0.2+	0.2+	1998 04 01	704	0.5+	1.1+	1998 04 20	704	0.1-	1.4+
1996 11 12	817	0.4+	0.1+	1998 04 01	704	0.8+	1.6+	1998 04 20	704	0.7-	0.8+
1996 11 12	817	0.0	0.2+	1998 04 01	704	(1.1+	2.4-)	1998 04 20	704	0.7+	0.3-
1996 11 17	691	0.5-	0.1-	1998 04 01	704	1.7+	0.9+	1998 04 20	704	(1.6-	2.6+)
1996 11 17	691	0.3-	0.0	1998 04 01	704	0.8-	0.4-	1998 04 22	704	0.3+	1.5-
1996 11 17	691	0.4-	0.4+	1998 04 18	704	0.5+	1.1-	1998 04 22	704	0.2-	1.1-
1998 03 25	704	0.7-	0.5-	1998 04 18	704	(1.5-	2.1+)	1998 04 22	704	0.3-	1.7-
1998 03 25	704	0.5-	1.4+	1998 04 18	704	0.7+	0.9+	1998 04 22	704	0.3-	0.3+
1998 03 25	704	1.4-	1.2-	1998 04 18	704	1.6-	0.4-	1998 04 22	704	0.1+	0.3+
1998 03 25	704	(3.7-	0.2-)	1998 04 19	704	0.7-	1.1+				

1998 FN₁₁₉ = 1974 VR = 1985 SF₃ = 1989 YD₈ = 1996 TF₅₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>			(2000.0)			P			Q		
<i>n</i>	0.26496623	ω	234.27043			-0.26140493			-0.96148493		
<i>a</i>	2.4007247	Ω	231.10712			+0.91708107			-0.21995658		
<i>e</i>	0.2414753	<i>i</i>	6.26504			+0.30104779			-0.16482061		
<i>P</i>	3.72	<i>H</i>	14.5		<i>G</i>	0.15		<i>U</i>	1		

Residuals in seconds of arc

1974 11 12	095	0.2+	2.1+	1998 03 25	699	1.3+	1.8+	1998 04 01	704	0.2+	0.5+
1985 09 19	095	1.4-	0.3-	1998 03 25	699	1.0+	0.9+	1998 04 20	704	0.2+	0.0
1989 12 25	033	0.3-	0.1-	1998 03 25	699	0.3-	0.1-	1998 04 20	704	0.2-	0.1-
1989 12 25	033	0.6-	0.4-	1998 03 31	704	0.3+	1.2+	1998 04 20	704	0.8+	0.1-
1989 12 26	033	0.7+	0.2-	1998 03 31	704	0.7+	0.2-	1998 04 20	704	0.3-	0.6-
1996 10 02	809	0.1-	1.4+	1998 03 31	704	0.4+	0.1-	1998 04 20	704	0.6-	0.5-
1996 10 02	809	0.6+	1.6+	1998 03 31	704	1.8-	0.1+	1998 04 22	704	0.1-	0.6-
1996 10 02	809	0.3+	0.4+	1998 04 01	704	0.3-	0.5+	1998 04 22	704	0.4-	0.6-
1996 10 03	809	0.2-	0.0	1998 04 01	704	0.2+	1.6+	1998 04 22	704	0.5+	0.9-
1996 10 03	809	0.2-	0.4-	1998 04 01	704	0.1-	0.9+	1998 04 22	704	0.4-	0.1-
1996 10 03	809	0.5-	0.3+	1998 04 01	704	0.5-	1.8+	1998 04 22	704	0.5+	0.8-

1998 FS₁₂₁ = 1962 SS = 1990 TN₁₂ = 1997 CE₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>			(2000.0)			P			Q		
<i>n</i>	0.31739905	ω	230.64420			-0.91019899			+0.41368615		
<i>a</i>	2.1284607	Ω	333.77426			-0.36468308			-0.82343833		
<i>e</i>	0.0021799	<i>i</i>	2.59908			-0.19632639			-0.38834660		
<i>P</i>	3.11	<i>H</i>	15.0		<i>G</i>	0.15		<i>U</i>	3		

Residuals in seconds of arc

1962 09 26	033	0.4-	0.1-	1998 03 22	704	0.2+	0.6+	1998 04 18	704	0.0	0.0
1962 09 26	033	0.3+	0.4+	1998 03 22	704	0.1-	0.5-	1998 04 18	704	0.7-	0.1+
1990 10 14	033	1.2-	0.6-	1998 03 22	704	0.5+	1.8-	1998 04 18	704	0.5-	0.0
1990 10 15	033	0.3-	0.1+	1998 03 22	704	0.8-	0.3-	1998 04 19	704	1.2+	0.0
1990 10 15	033	0.1-	0.3+	1998 03 22	704	0.1+	0.1-	1998 04 19	704	0.2+	1.1+
1990 10 18	033	0.7+	1.0+	1998 03 24	566	0.2-	0.1-	1998 04 19	704	0.2-	0.2+
1990 10 18	033	0.4+	0.6+	1998 03 24	566	0.1-	0.2+	1998 04 19	704	0.0	0.8+
1997 02 03	566	0.6+	0.1-	1998 03 24	566	0.7-	0.2-	1998 04 20	704	0.7+	0.1+
1997 02 03	566	0.1-	0.0	1998 04 01	704	0.1-	0.8-	1998 04 20	704	0.5-	0.7+
1997 02 03	566	0.0	0.3-	1998 04 01	704	0.8+	0.5-	1998 04 20	704	0.4+	0.1-
1997 02 04	566	0.0	0.2-	1998 04 01	704	0.5-	0.3-	1998 04 20	704	0.4-	0.6+

1997 02 04	566	0.0	0.2+	1998 04 01	704	0.3+	0.4-	1998 04 20	704	1.1-	0.1+
1997 02 04	566	0.1-	0.0	1998 04 01	704	0.4+	0.1+	1998 04 22	704	1.2+	0.5-
1998 03 20	704	0.4-	0.1-	1998 04 04	699	0.2+	0.4+	1998 04 22	704	0.0	0.1-
1998 03 20	704	0.8-	0.2+	1998 04 04	699	0.6+	0.3+	1998 04 22	704	0.6+	0.2+
1998 03 20	704	0.8-	0.0	1998 04 04	699	0.7+	0.0	1998 04 22	704	0.7+	0.6-
1998 03 20	704	0.5-	0.2+	1998 04 18	704	0.1-	0.0	1998 04 22	704	0.3+	0.6+
1998 03 20	704	0.9-	0.8+	1998 04 18	704	0.8+	0.3+				

1998 FC₁₂₂ = 1989 AF₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>			(2000.0)			P			Q		
<i>n</i>	0.23284205	ω	296.13924			+0.27654781			-0.95931259		
<i>a</i>	2.6167472	Ω	137.67741			+0.90913784			+0.24196697		
<i>e</i>	0.2048721	<i>i</i>	4.85006			+0.31143168			+0.14550374		
<i>P</i>	4.23	<i>H</i>	14.0		<i>G</i>	0.15		<i>U</i>	5		

Residuals in seconds of arc

1989 01 04	413	0.0	1.7+	1998 03 22	704	0.2-	1.6-	1998 04 20	704	0.6-	0.1-
1989 01 04	413	1.2+	0.8-	1998 03 22	704	0.4+	0.9-	1998 04 20	704	0.3+	0.7-
1989 01 10	413	1.0-	1.3+	1998 03 22	704	0.5-	0.4+	1998 04 20	704	0.4-	1.0-
1989 01 10	413	0.1-	1.9-	1998 03 25	704	1.1+	0.7-	1998 04 20	704	1.5-	1.6+
1998 03 20	704	0.1-	0.3-	1998 03 25	704	1.0+	0.0	1998 04 22	704	0.5+	0.6+
1998 03 20	704	0.0	0.9-	1998 03 25	704	1.0+	0.2+	1998 04 22	704	0.7+	0.9+
1998 03 20	704	0.0	1.1-	1998 03 25	704	0.2-	0.7-	1998 04 22	704	0.1-	1.0+
1998 03 20	704	0.4+	1.3+	1998 03 25	704	1.3-	0.7-	1998 04 22	704	0.7-	0.2+
1998 03 20	704	0.0	1.4+	1998 04 20	704	0.0	0.4-	1998 04 22	704	0.3+	1.7+

1998 FR₁₂₄ = 1993 FH₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>			(2000.0)			P			Q		
<i>n</i>	0.20669897	ω	192.86713			+0.95431931			+0.29794769		
<i>a</i>	2.8329821	Ω	149.76932			-0.27004120			+0.89216131		
<i>e</i>	0.0822355	<i>i</i>	2.55011			-0.12787652			+0.33952227		
<i>P</i>	4.77	<i>H</i>	13.5		<i>G</i>	0.15		<i>U</i>	6		

Residuals in seconds of arc

1993 03 17	809	1.4+	0.8-	1998 03 25	704	0.7-	0.3-	1998 04 21	704	1.1+	0.1+
1993 03 18	809	2.0+	1.2+	1998 03 25	704	0.7+	0.4-	1998 04 21	704	0.6-	0.7+
1993 03 23	809	0.6+	1.0+	1998 03 25	704	0.2+	1.6-	1998 04 21	704	0.1-	0.4-
1993 03 23	691	1.3-	0.5-	1998 03 25	704	0.5-	2.2+	1998 04 21	704	0.1-	0.3-
1993 03 23	691	1.3-	0.4-	1998 03 25	704	0.1-	0.6-	1998 04 22	704	0.4-	1.3+
1993 03 23	691	1.5-	0.5-	1998 04 20	704	1.1+	0.1+	1998 04 22	704	0.8-	0.6+
1998 03 24	704	1.3-	1.1-	1998 04 20	704	1.0-	1.2-	1998 04 22	704	0.7+	0.2-
1998 03 24	704	0.4+	0.4-	1998 04 20	704	0.7+	0.2+	1998 04 22	704	0.2+	1.0-
1998 03 24	704	0.3+	0.2+	1998 04 20	704	0.2+	0.6+	1998 04 22	704	2.2-	1.6-
1998 03 24	704	0.5+	0.9+	1998 04 20	704	0.3+	0.4-				
1998 03 24	704	0.2+	1.6+	1998 04 21	704	0.9+	1.2+				

1998 FL₁₂₅ = 1991 SW₄ = 1994 GQ₁₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	350.56652		(2000.0)		P		Q
n	0.23788503	ω	26.46500		-0.66433007		+0.74222672
a	2.5796333	Ω	202.25811		-0.72037320		-0.66724723
e	0.0963221	i	13.45258		-0.19931887		-0.06229470
P	4.14	H	13.5	G	0.15	U	4

1998 FM₁₂₅ = 1969 UH = 1976 YF₂ = 1984 BE₅ = 1986 TX₁₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	105.81693		(2000.0)		$\mathbf{P}$		$\mathbf{Q}$				
n	0.28871577	ω	153.57695		-0.07926617		-0.99579191				
a	2.2671959	Ω	300.93788		+0.90484154		-0.05251237				
e	0.1564627	i	3.07379		+0.41830450		-0.07510614				
P	3.41	H	14.0		G	0.15	U	2			
Residuals in seconds of arc											
1969 10 16	095	0.9-	3.1+	1998 03 22	704	1.3+	0.5+	1998 04 18	704	0.3+	0.8+
1976 12 16	095	0.9+	0.2-	1998 03 22	704	(3.7+	1.2+)	1998 04 18	704	0.2-	0.6-
1976 12 18	095	0.8-	0.8-	1998 03 22	704	0.7+	0.3+	1998 04 18	704	0.0	0.8+
1976 12 20	095	0.6+	0.7+	1998 03 22	372	2.0+	1.1+	1998 04 19	704	0.5-	0.2+
1984 01 25	675	0.3-	0.0	1998 03 22	372	1.3+	0.2+	1998 04 19	704	0.4-	0.2-
1984 01 26	675	0.7-	0.2-	1998 03 25	372	(3.8-	0.1+)	1998 04 19	704	0.7-	0.7+
1986 10 07	095	0.4+	1.5-	1998 04 01	704	0.6+	0.5-	1998 04 19	704	0.9-	0.1+
1998 02 27	566	0.2-	1.1-	1998 04 01	704	0.1+	0.3+	1998 04 19	704	0.2-	0.6+
1998 02 27	566	0.2-	1.1-	1998 04 01	704	0.1-	0.1-	1998 04 28	691	1.0-	0.1+
1998 02 27	566	0.0	1.3-	1998 04 01	704	1.6+	0.1-	1998 04 28	691	1.5-	0.2+
1998 03 22	704	0.7+	0.6-	1998 04 01	704	1.7-	1.4+	1998 04 28	691	1.1-	0.1+
1998 03 22	704	0.7+	0.4-	1998 04 18	704	0.1+	0.3-				

1998 FJ₁₂₆ = 1050 T-1 = 1977 QR₃ = 1977 RB₂₀ = 1991 YF₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	254.69030		(2000.0)		P		Q				
<i>n</i>	0.22143268	ω	353.43626		+0.92166255		+0.38778392				
<i>a</i>	2.7058782	Ω	343.72922		−0.35388015		+0.82673749				
<i>e</i>	0.0751203	<i>i</i>	2.60188		−0.15908166		+0.40758895				
<i>P</i>	4.45	<i>H</i>	13.5		<i>G</i>	0.15	<i>U</i>	2			
Residuals in seconds of arc											
1971 03 24	675	0.3+	2.3−	1977 09 09	675	1.2+	0.2−	1998 03 25	704	0.4−	1.2+
1971 03 24	675	0.1+	0.4−	1977 09 09	095	0.4+	0.2+	1998 03 25	428	0.4+	0.6+
1971 03 25	675	1.1−	1.3+	1977 09 10	675	0.9+	0.7−	1998 03 25	428	0.3+	0.3+
1971 03 25	675	0.1+	0.5−	1991 12 28	033	0.3+	0.2+	1998 03 25	428	0.4+	0.6+
1971 03 25	675	0.9−	0.4−	1991 12 28	033	0.4−	0.1+	1998 03 30	428	0.7+	0.0
1971 03 25	675	0.0	1.0−	1998 03 23	428	0.4−	0.2−	1998 03 30	428	0.3+	0.3+
1971 03 26	675	0.1+	1.1−	1998 03 23	428	0.1−	0.6+	1998 04 01	704	0.6+	0.2−
1971 03 26	675	0.1+	0.5−	1998 03 24	428	0.2−	0.6+	1998 04 01	704	0.8+	0.3+
1971 03 27	675	2.3−	0.3+	1998 03 25	704	0.8−	0.7+	1998 04 01	704	0.6+	1.1−
1971 03 27	675	1.4+	0.0	1998 03 25	704	1.0−	0.3−	1998 04 01	704	0.3−	0.6−
1977 08 23	095	1.4−	1.6−	1998 03 25	704	0.3−	0.4+	1998 04 01	704	0.3+	0.7−

1998 FM₁₂₆ = 1996 VW₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	10.69710		(2000.0)		P		Q				
n	0.29539080	ω	1.06101		-0.98144228		+0.19129762				
a	2.2329110	Ω	189.99718		-0.17649284		-0.92821721				
e	0.1585868	i	4.38614		-0.07497549		-0.31908939				
P	3.34	H	15.0		G	0.15	U	5			
Residuals in seconds of arc											
1996 11 07	327	0.2+	0.0	1996 11 09	327	0.6+	0.1+	1998 04 03	428	0.3-	0.0
1996 11 07	327	1.1-	0.0	1996 11 09	327	0.3+	0.2-	1998 04 03	428	0.1+	0.0
1996 11 07	327	0.1+	0.2-	1998 03 28	428	0.5+	0.4-	1998 04 04	428	0.6-	0.4-
1996 11 07	327	0.0	0.5+	1998 03 28	428	0.5-	0.4+	1998 04 04	428	1.1+	0.4+
1996 11 09	327	0.1-	0.1-	1998 04 03	428	0.3-	0.0				

1998 GA = 1992 SO₂₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	65.78689		(2000.0)		P		Q				
n	0.26077202	ω	101.96467		-0.65614809		-0.75383968				
a	2.4263981	Ω	29.13346		+0.66178529		-0.59683159				
e	0.1345639	i	4.07247		+0.36264297		-0.27480499				
P	3.78	H	13.5		G	0.15	U	5			
Residuals in seconds of arc											
1992 09 22	809	0.2-	0.2+	1998 03 26	566	0.9+	0.2+	1998 04 03	732	0.8-	0.5-
1992 09 22	809	0.1-	0.1+	1998 04 01	732	0.9-	0.2+	1998 04 03	732	0.9+	0.5+
1992 09 22	809	1.0-	0.3-	1998 04 01	732	(2.4-	0.4+)	1998 04 04	732	0.2-	0.4-
1992 09 23	809	(3.3+	1.2+)	1998 04 01	732	0.4-	0.5-	1998 04 04	732	0.6-	1.0-
1992 09 23	809	0.5+	0.5+	1998 04 02	732	1.2-	0.3+	1998 04 04	732	0.0	0.4+
1992 09 23	809	0.9+	0.6-	1998 04 02	732	1.0-	0.3+	1998 04 28	566	0.0	0.2-
1998 03 26	566	1.0+	0.1+	1998 04 02	732	(0.2+	2.2-)	1998 04 28	566	0.4+	0.3+
1998 03 26	566	0.7+	0.0	1998 04 03	732	1.1+	0.2+	1998 04 28	566	0.0	0.3+

1998 GZ = 1996 TC₃₁

Id. T. Urata

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	11.10201		(2000.0)		P		Q				
n	0.28735841	ω	173.43659		-0.90208283		+0.42729209				
a	2.2743298	Ω	32.07757		-0.40095577		-0.77790321				
e	0.0555990	i	6.54841		-0.15962781		-0.46074729				
P	3.43	H	15.5		G	0.15	U	4			
Residuals in seconds of arc											
1996 10 08	691	0.2+	0.0	1998 04 03	385	0.2-	0.2-	1998 04 20	385	0.0	1.4+
1996 10 08	691	0.1+	0.0	1998 04 03	385	0.9+	0.2+	1998 04 20	385	0.7-	1.2+
1996 10 08	691	0.2+	0.1-	1998 04 04	888	0.4-	0.3-	1998 04 24	699	0.4+	0.5-
1996 10 15	691	0.3-	0.7+	1998 04 04	888	0.3-	0.2-	1998 04 24	699	0.2-	0.7-
1996 10 15	691	0.1-	0.6-	1998 04 04	888	0.3-	0.1+	1998 04 24	699	0.1+	0.4-
1996 10 15	691	0.1-	0.1+	1998 04 19	888	0.7+	0.4-				

1998 GF₁ = 1993 VY₆ = 1996 TK₅₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

M	124.19604		(2000.0)		P		Q				
n	0.30277853	ω	159.43069		+0.14313177		-0.98784500				
a	2.1964399	Ω	282.30191		+0.89914304		+0.15538939				
e	0.0965492	i	3.55756		+0.41358807		+0.00404922				
P	3.26	H	15.5		G	0.15	U	2			
Residuals in seconds of arc											
1993 11 09	691	0.2+	0.1-	1998 03 31	704	0.4-	0.2-	1998 04 05	426	0.7+	0.0
1993 11 09	691	0.1-	0.0	1998 03 31	704	(2.8+	0.7+)	1998 04 17	426	1.3+	0.1-
1993 11 09	691	0.7-	0.1-	1998 04 01	704	0.7-	0.2+	1998 04 17	426	1.3+	0.2+
1993 11 10	691	0.0	0.1+	1998 04 01	704	0.3-	0.8+	1998 04 17	426	0.6+	0.6+
1993 11 10	691	0.2+	0.0	1998 04 01	704	0.9+	1.0-	1998 04 18	704	1.3+	0.5-
1993 11 10	691	0.2+	0.4+	1998 04 01	704	0.0	0.4+	1998 04 18	704	0.8+	0.0
1996 10 02	809	1.5+	1.1+	1998 04 03	561	0.6-	0.4+	1998 04 18	704	0.2+	0.6-
1996 10 02	809	0.9+	0.3+	1998 04 03	561	0.4-	0.5+	1998 04 18	704	1.7-	0.7+
1996 10 02	809	0.4+	0.7+	1998 04 03	561	0.0	0.0	1998 04 19	704	1.3-	0.8-
1996 10 03	809	1.5-	0.9-	1998 04 04	426	0.3+	0.0	1998 04 19	704	0.2-	0.3-
1996 10 03	809	1.5-	0.9-	1998 04 04	426	0.1+	0.0	1998 04 19	704	0.3+	0.7+
1996 10 03	809	(2.5-	1.0-)	1998 04 04	426	0.1-	0.4+	1998 04 19	704	0.7-	0.7-
1998 03 31	704	1.0-	1.2-	1998 04 05	426	0.0	0.0	1998 04 19	704	1.1+	0.6+
1998 03 31	704	1.3-	0.1+	1998 04 05	426	0.3+	0.1+				

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1998 GK₁ = 1970 QK

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	293.77111		(2000.0)		P		Q		
<i>n</i>	0.23896608	ω	331.69316		+0.55734762		+0.82752246		
<i>a</i>	2.5718475	Ω	332.01935		−0.73200370		+0.45132016		
<i>e</i>	0.1799101	<i>i</i>	8.28461		−0.39183443		+0.33394115		
<i>P</i>	4.12	<i>H</i>	13.5		<i>G</i>	0.15	<i>U</i>	4	
Residuals in seconds of arc									
1970 08 28	095	(6.1− 6.4+)	1998 04 01	704	0.4+	0.1+	1998 04 18	704	0.5− 0.0
1970 08 29	095	0.6− 0.6+	1998 04 01	704	0.1− 0.2−		1998 04 18	704	0.3+ 0.3−
1970 08 31	095	0.7+ 0.7−	1998 04 01	704	0.6+ 0.2−		1998 04 18	704	0.4− 0.6+
1998 03 22	699	0.3+ 0.1−	1998 04 01	704	0.1− 0.1+		1998 04 18	704	0.4− 0.2−
1998 03 22	699	0.5− 0.4+	1998 04 05	426	0.2− 0.3−		1998 04 19	704	0.5− 0.8+
1998 03 22	699	0.8− 0.5+	1998 04 05	426	0.2− 0.3−		1998 04 19	704	0.1− 0.3+
1998 03 25	566	0.1+ 0.0	1998 04 05	426	0.2− 0.3−		1998 04 19	704	0.4− 1.2+
1998 03 25	566	0.2− 0.1−	1998 04 06	426	0.3+ 0.0		1998 04 19	704	0.1− 1.2+
1998 03 25	566	0.0 0.0	1998 04 06	426	0.0 0.3−		1998 04 25	426	0.1+ 0.1+
1998 03 31	704	0.1+ 0.3−	1998 04 06	426	0.0 0.6−		1998 04 25	426	0.5+ 0.1+
1998 03 31	704	0.2+ 0.6−	1998 04 14	426	0.2+ 0.0		1998 04 25	426	0.1+ 0.3+
1998 03 31	704	0.2+ 0.5−	1998 04 14	426	0.3− 0.2−		1998 04 30	566	0.3+ 0.3−
1998 03 31	704	1.1+ 0.1+	1998 04 14	426	0.0 0.1+		1998 04 30	566	0.0 0.5−
1998 04 01	704	0.4+ 0.3−	1998 04 18	704	0.7− 0.1−		1998 04 30	566	0.5+ 0.3−

1998 GM₁ = 1995 KX₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	198.26267		(2000.0)		P		Q		
<i>n</i>	0.25084241	ω	137.49996		+0.90934226		+0.41520970		
<i>a</i>	2.4900156	Ω	198.01995		−0.40097499		+0.85769535		
<i>e</i>	0.0144668	<i>i</i>	4.89772		−0.11097616		+0.30324840		
<i>P</i>	3.93	<i>H</i>	13.5		<i>G</i>	0.15	<i>U</i>	6	

Residuals in seconds of arc

1995 05 22	010	2.0+	0.3−	1998 04 08	557	0.3+	0.0	1998 04 13	557	0.2−	0.4+
1995 05 22	010	0.9+	0.3−	1998 04 08	557	0.4−	0.2+	1998 04 13	557	0.9+	0.2+
1995 05 22	010	1.3+	0.0	1998 04 09	557	0.2−	0.3+	1998 04 26	557	0.5−	0.5+
1995 05 23	010	1.8−	0.5+	1998 04 09	557	0.4+	0.2+	1998 04 26	557	0.2+	0.7−
1995 05 23	010	0.1+	0.3−	1998 04 09	557	0.3+	0.8−	1998 04 29	557	0.0	0.6−
1995 05 23	010	2.5−	0.4+	1998 04 09	557	0.2−	0.3+				
1998 04 08	557	0.3−	0.3+	1998 04 13	557	0.4−	0.3−				

1998 GN₇ = 1950 YC = 1990 KZ = 1993 DD

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	232.19808		(2000.0)		P		Q		
<i>n</i>	0.22959912	ω	222.55447		+0.97936068		+0.09185785		
<i>a</i>	2.6413294	Ω	131.24715		−0.04654626		+0.96931966		
<i>e</i>	0.1902127	<i>i</i>	13.85449		−0.19668782		+0.22799460		
<i>P</i>	4.29	<i>H</i>	11.5	<i>G</i>	0.15		<i>U</i>	2	
Residuals in seconds of arc									
1950 12 16	672	0.3+	1.3+	1993 02 17	372	0.7+	0.3+	1998 04 22	566 1.0+ 0.9+
1950 12 16	672	0.2+	1.0+	1993 02 19	372	0.3−	0.2+	1998 04 22	566 0.8+ 1.0+
1990 05 20	095	2.6−	2.7+	1993 02 19	372	0.5+	2.3−	1998 04 22	566 0.7+ 0.9+
1990 05 20	095	1.0−	2.0+	1998 04 02	704	0.0	0.1−	1998 04 27	566 0.1+ 0.2+
1990 05 21	675	(0.0 4.8−)		1998 04 02	704	0.2−	0.7+	1998 04 27	566 0.1− 0.3−
1990 05 21	675	1.7+ 1.9−		1998 04 02	704	0.0	0.7+	1998 04 27	566 0.2+ 0.3−
1990 05 23	675	0.8+ 1.8−		1998 04 03	704	0.3+	0.2+	1998 04 30	566 1.1− 0.2−
1990 05 23	675	0.6− 2.0−		1998 04 03	704	0.5+ 1.0+		1998 04 30	566 0.9− 0.4−
1990 05 24	095	0.7− 0.9−		1998 04 03	704	0.1− 0.7+		1998 04 30	566 1.1− 0.2−
1990 05 24	095	1.4+ 3.0−		1998 04 03	704	0.4+ 0.1+			
1993 02 17	372	1.2− 3.6−		1998 04 03	704	0.5+ 0.6+			

1998 HE₁ = 1992 FM₃

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	315.34458		(2000.0)		P		Q				
<i>n</i>	0.17263206	ω	267.27322		+0.16678301		+0.98557264				
<i>a</i>	3.1943935	Ω	12.43995		−0.84315218		+0.15770761				
<i>e</i>	0.1226864	<i>i</i>	7.68570		−0.51115343		+0.06143998				
<i>P</i>	5.71	<i>H</i>	13.5		<i>G</i>	0.15	<i>U</i>	5			
Residuals in seconds of arc											
1992 03 30	691	0.3−	0.7−	1998 03 25	704	0.2+	0.6−	1998 04 17	327	0.7−	0.3−
1992 03 30	691	0.0	0.5−	1998 04 01	704	0.2−	1.0+	1998 04 18	327	0.4+	0.0
1992 03 30	691	0.1+	0.3−	1998 04 01	704	0.5+	0.9+	1998 04 18	327	0.7+	0.3−
1992 03 30	033	0.2+	0.6+	1998 04 01	704	0.6−	0.1−	1998 04 18	327	0.5+	0.2−
1992 03 31	033	0.0	0.8+	1998 04 01	704	0.6−	1.1+	1998 04 25	691	0.4−	0.0
1998 03 25	704	0.3+	0.0	1998 04 01	704	(3.4−	0.1−)	1998 04 25	691	0.3−	0.1−
1998 03 25	704	0.8−	0.2+	1998 04 17	327	0.4+	0.2−	1998 04 25	691	0.5−	0.2+
1998 03 25	704	0.3+	0.9−	1998 04 17	327	0.5+	0.0				
1998 03 25	704	0.3−	0.6−	1998 04 17	327	0.6+	0.0				

1998 HW₆ = 1996 CW

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	181.55377		(2000.0)			P		Q	
n	0.20859378	ω	337.01730			+0.64644601		−0.72622227	
a	2.8158001	Ω	71.84569			+0.73265632		+0.50533712	
e	0.0234219	i	14.24994			+0.21289028		+0.46608541	
P	4.73	H	13.0		G	0.15		U	5

Residuals in seconds of arc

1996 02 05	327	0.2+	0.2+	1996 02 07	327	0.3+	0.1+	1998 04 22	888	0.2−	0.6−
1996 02 05	327	0.0	0.4−	1996 02 07	327	0.1+	0.1−	1998 04 22	888	0.4−	0.5+
1996 02 05	327	0.1+	0.4+	1998 04 19	905	0.1−	0.1+	1998 04 29	888	0.0	0.0
1996 02 05	327	0.8−	0.7−	1998 04 19	905	0.5+	0.6+	1998 04 29	888	0.2+	0.3−
1996 02 07	327	0.1+	0.4+	1998 04 19	905	0.3+	0.3−	1998 04 29	888	0.2−	0.0

1998 HW₇ = 1985 SE₃ = 1985 SQ₅ = 1995 MF₂

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Epoch 1998 July 6.0 TT = JDT 2451000.5

M	308.90054		(2000.0)			P		Q			
n	0.28832108	ω	84.11736			+0.62416339		+0.77882050			
a	2.2692645	Ω	224.70419			−0.74721923		+0.57182773			
e	0.1912844	i	5.06615			−0.22821806		+0.25778222			
P	3.42	H	15.5		G	0.15		U	4		
Residuals in seconds of arc											
1985 09 19	095	1.1−	0.8−	1995 06 29	691	0.4+	0.2+	1998 05 01	566	0.2−	0.6−
1985 09 21	095	1.4+	0.2−	1998 04 21	120	0.1−	0.6+	1998 05 01	566	0.0	0.6−
1995 06 24	691	0.4−	0.1−	1998 04 21	120	0.8−	0.6+	1998 05 02	566	0.4+	0.8−
1995 06 24	691	0.6−	0.0	1998 04 21	120	0.1+	0.4+	1998 05 02	566	0.3−	0.8−
1995 06 24	691	0.5−	0.1−	1998 04 23	120	0.1+	0.7+	1998 05 02	566	0.4+	0.7−
1995 06 29	691	0.4+	0.3+	1998 04 23	120	0.3+	0.7+				
1995 06 29	691	0.4+	0.2+	1998 05 01	566	0.2−	0.6−				

1998 HK₈ = 1997 EN₄₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	228.14784	(2000.0)		P		Q	
n	0.19243222	ω	1.29416		+0.99565726		−0.09309157
a	2.9713298	Ω	4.04756		+0.08531552		+0.90915564
e	0.0864304	i	0.61792		+0.03725429		+0.40591868
P	5.12	H	15.0	G	0.15	U	7

Residuals in seconds of arc

1997 03 05	704	0.8−	0.6−	1998 04 22	426	0.0	0.3+	1998 05 01	684	0.1−	0.1+
1997 03 05	704	0.7−	1.9+	1998 04 22	426	0.2−	0.1+	1998 05 01	684	0.1+	0.4−
1997 03 06	704	2.2+	0.8−	1998 04 25	426	0.1+	0.2+	1998 05 02	684	0.4−	0.5−

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1997 03 06	704	0.7−	0.5−	1998 04 25	426	0.1−	0.1−	1998 05 02	684	0.2+	0.4+
1998 04 22	426	0.5+	0.1−	1998 04 25	426	0.1−	0.1+				

1998 HQ₁₈ = 1995 OP₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	326.40610		(2000.0)		P		Q
<i>n</i>	0.25980888	ω	34.27513	−0.20807860			+0.97641073
<i>a</i>	2.4323910	Ω	223.79447	−0.91503276			−0.21515035
<i>e</i>	0.0585902	<i>i</i>	4.77964	−0.34556958			−0.01823239
<i>P</i>	3.79	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1995 07 26	691	0.3−	0.2−	1998 04 18	704	0.4+	0.6−	1998 04 20	704	1.3+	0.7−
1995 07 26	691	0.4−	0.3−	1998 04 18	704	0.7−	0.1−	1998 04 20	704	0.3+	0.1+
1995 07 26	691	0.2−	0.2+	1998 04 18	704	0.5+	0.1−	1998 04 22	704	0.2−	0.3+
1995 07 30	691	0.7+	0.1−	1998 04 18	704	0.2−	1.6−	1998 04 22	704	0.6−	0.4+
1995 07 30	691	0.1+	0.1+	1998 04 18	704	0.1+	1.8−	1998 04 22	704	0.0	0.9+
1995 07 30	691	0.0	0.1+	1998 04 19	704	1.1+	1.0+	1998 04 22	704	(1.2+	2.1+)
1998 04 01	704	0.5−	0.3+	1998 04 19	704	0.2−	0.4+	1998 04 22	704	0.4+	0.5−
1998 04 01	704	0.1−	0.9+	1998 04 19	704	0.0	0.1−	1998 04 28	691	0.9−	1.2+
1998 04 01	704	0.9−	0.4−	1998 04 19	704	1.2+	0.2−	1998 04 28	691	1.0−	1.3+
1998 04 01	704	0.5+	0.1+	1998 04 20	704	0.2−	1.0−	1998 04 28	691	0.8−	1.1+
1998 04 01	704	1.0−	0.0	1998 04 20	704	1.3+	0.8−				

1998 HR₁₈ = 1994 CW₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	334.49028		(2000.0)		P		Q
<i>n</i>	0.26644412	ω	276.76747	−0.05272914			+0.99852314
<i>a</i>	2.3918391	Ω	350.18134	−0.88322993			−0.05274623
<i>e</i>	0.2112542	<i>i</i>	4.40014	−0.46596623			−0.01301428
<i>P</i>	3.70	<i>H</i>	16.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1994 02 15	691	0.0	0.4−	1998 03 25	566	0.4−	0.3−	1998 04 19	704	0.2−	1.5+
1994 02 15	691	0.3−	0.4−	1998 04 01	704	0.7−	0.8−	1998 04 19	704	0.3−	0.1+
1994 02 16	691	0.3+	1.6+	1998 04 01	704	0.3+	0.8−	1998 04 19	704	0.1−	0.1+
1994 02 16	691	0.2+	0.3−	1998 04 01	704	0.3+	0.6+	1998 04 20	704	0.8−	0.8−
1994 02 16	691	0.2−	0.4−	1998 04 01	704	2.1+	1.0+	1998 04 20	704	0.4+	1.1−
1998 03 20	704	0.6+	0.0	1998 04 01	704	(5.1−	1.1−)	1998 04 20	704	0.1−	0.6−
1998 03 20	704	0.8−	1.5+	1998 04 18	704	0.6+	0.1+	1998 04 20	704	0.9+	0.3−
1998 03 20	704	1.0−	0.2−	1998 04 18	704	1.2−	0.9+	1998 04 22	704	0.4−	0.8−
1998 03 20	704	0.6+	0.5−	1998 04 18	704	1.7−	0.8+	1998 04 22	704	0.3+	0.3−
1998 03 20	704	(5.2−	2.2+)	1998 04 18	704	0.6−	1.8−	1998 04 22	704	1.7+	0.6+
1998 03 25	566	0.1+	0.3−	1998 04 18	704	0.6+	2.0−	1998 04 22	704	0.8−	1.6+
1998 03 25	566	0.7−	0.5−	1998 04 19	704	0.7+	0.2−	1998 04 22	704	0.3+	2.4+

1998 HS₂₃ = 1992 SJ₂₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	179.48133		(2000.0)		P		Q
<i>n</i>	0.28657766	ω	320.52102	+0.35313528			−0.93550178
<i>a</i>	2.2784587	Ω	108.79706	+0.86140968			+0.32032806
<i>e</i>	0.0727909	<i>i</i>	0.69509	+0.36506004			+0.14908506
<i>P</i>	3.44	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	6

Residuals in seconds of arc

1992 09 22	809	0.6+	0.1−	1992 09 23	809	0.7−	0.6−	1998 05 01	684	0.4−	0.1+
1992 09 22	809	0.3+	0.4−	1998 04 28	684	0.2+	0.3+	1998 05 01	684	0.3−	0.3−
1992 09 22	809	0.9−	0.1+	1998 04 28	684	0.0	0.1+	1998 05 02	684	0.0	0.3+
1992 09 23	809	0.2+	0.8+	1998 04 29	684	0.1−	0.1−	1998 05 02	684	0.5+	0.2−
1992 09 23	809	0.6+	0.2+	1998 04 29	684	0.2+	0.1−				

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1998 HY₃₁ = 1997 AL₁₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	322.46414		(2000.0)		P		Q
<i>n</i>	0.29556299	ω	32.61944	+0.08642920			+0.99544156
<i>a</i>	2.2320437	Ω	242.36724	−0.92353145			+0.06487315
<i>e</i>	0.1256303	<i>i</i>	2.60881	−0.37365713			+0.06991121
<i>P</i>	3.33	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1997 01 09	327	0.0	0.0	1998 04 20	704	0.0	0.0	1998 04 22	704	0.0	0.6−
1997 01 09	327	0.4−	0.1+	1998 04 20	704	0.1−	0.7+	1998 05 01	566	0.2+	0.1+
1997 01 09	327	0.7−	0.6−	1998 04 20	704	0.9+	0.1−	1998 05 01	566	0.3−	0.2+
1997 01 11	327	0.1−	0.1−	1998 04 20	704	0.1+	1.1+	1998 05 01	566	0.5−	0.1−
1997 01 11	327	0.6+	0.2+	1998 04 20	704	0.4−	1.4+	1998 05 02	566	0.3−	0.1+
1997 01 11	327	0.5+	0.6+	1998 04 22	704	0.6+	0.7−	1998 05 02	566	0.2−	0.1+
1998 03 24	699	0.3−	1.2−	1998 04 22	704	0.6+	0.6−	1998 05 02	566	0.2+	0.3−
1998 03 24	699	0.6−	0.2−	1998 04 22	704	0.4+	0.2+				
1998 03 24	699	0.3+	0.6+	1998 04 22	704	0.6−	0.8−				

1998 HO₃₂ = 1990 UA₁₀ = 1993 LR

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	77.18161		(2000.0)		P		Q
<i>n</i>	0.17745726	ω	283.97434	−0.48526288			−0.87086990
<i>a</i>	3.1362225	Ω	195.78686	+0.87123547			−0.47403143
<i>e</i>	0.1474046	<i>i</i>	16.69096	+0.07395062			−0.12992237
<i>P</i>	5.55	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1990 10 24	809	0.1+	0.2+	1998 03 24	699	1.0−	0.5−	1998 04 22	704	0.6−	0.0
1990 10 24	809	0.4+	0.2−	1998 03 24	699	0.1+	0.4−	1998 04 22	704	0.2+	0.3−
1990 10 24	809	0.5−	0.5−	1998 03 24	699	0.4+	1.0−	1998 04 22	704	0.6−	0.6+
1993 06 13	691	0.2−	0.2+	1998 04 20	704	0.4+	0.9−	1998 04 22	704	1.1−	0.4+
1993 06 13	691	0.1+	0.2−	1998 04 20	704	0.8+	0.7+	1998 04 24	699	0.5+	0.5−
1993 06 13	691	0.1−	0.2+	1998 04 20	704	0.3−	0.8−	1998 04 24	699	0.1+	0.1−
1993 06 16	691	0.2−	0.4−	1998 04 20	704	0.0	1.0+	1998 04 24	699	0.3−	0.3+
1993 06 16	691	0.3+	0.3−	1998 04 20	704	0.5+	0.3+				
1993 06 16	691	0.0	0.0	1998 04 22	704	0.9+	0.8+				

2049 P-L = 1998 FG₁₂₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>	103.06153		(2000.0)		P		Q
<i>n</i>	0.27478158	ω	141.91316	−0.30502029			−0.95167275
<i>a</i>	2.3432087	Ω	325.80387	+0.85738688			−0.25804949
<i>e</i>	0.0838125	<i>i</i>	3.65204	+0.41454837			−0.16652158
<i>P</i>	3.59	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1960 09 24	675	0.4+	0.3−	1998 03 20	704	0.0	0.7−	1998 04 18	704	0.1+	0.1+
1960 09 26	675	0.2−	1.0−	1998 03 20	704	0.7−	0.3−	1998 04 18	704	0.2+	0.0
1960 09 28	675	0.1+	1.0+	1998 03 20	704	0.5−	0.5+	1998 04 18	704	0.6+	0.3+
1960 09 29	675	0.9+	0.6−	1998 03 22	704	0.0	0.3−	1998 04 18	704	0.0	1.5+
1960 10 17	675	0.9−	0.7+	1998 03 22	704	1.2−	1.1+	1998 04 19	704	0.1+	0.9−
1960 10 22	675	0.1−	0.6−	1998 03 22	704	1.3+	0.2+	1998 04 19	704	0.4+	0.7+
1960 10 25	675	0.7+	0.9+	1998 03 22	704	0.2+	0.0	1998 04 19	704	0.6+	0.1+
1960 10 26	675	1.0−	0.1+	1998 03 25	566	0.1−	0.6−	1998 04 19	704	0.4+	1.5−
1998 03 20	704	1.1−	1.0+	1998 03 25	566	0.4+	0.1+				
1998 03 20	704	0.2−	0.9−	1998 03 25	566	0.4−	0.3−				

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2053 P-L = 1998 FQ₄₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.22454568	ω	359.36636	-0.72916263	+0.68328702		
<i>a</i>	2.6808113	Ω	223.81644	-0.62762868	-0.68981467		
<i>e</i>	0.1548653	<i>i</i>	3.14271	-0.27277115	-0.23932107		
<i>P</i>	4.39	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5
Residuals in seconds of arc							
1960 09 24	675	0.5+	1.4+	1998 03 20	704	0.1-	0.5+
1960 09 26	675	0.6-	0.2+	1998 03 20	704	0.4+	0.3+
1960 09 28	675	0.2+	0.4+	1998 03 20	704	0.8+	0.2-
1960 09 29	675	0.3-	0.5-	1998 03 20	704	0.5+	0.1+
1960 10 22	675	0.5+	0.2-	1998 03 20	704	0.4+	0.4+
1960 10 25	675	0.1+	1.0-	1998 03 22	704	0.3-	0.9+
1960 10 26	675	0.2-	0.6-	1998 03 22	704	0.9+	0.0
1998 03 04	704	1.5-	0.3+	1998 03 22	704	0.3-	0.8+
1998 03 04	704	1.3-	0.7-	1998 03 22	704	0.7+	0.8+
1998 03 04	704	0.8-	0.8-	1998 03 22	704	0.1+	1.2+
1998 03 04	704	1.8-	1.1-	1998 03 31	699	1.0+	0.1+
1998 03 04	704	1.5-	1.1-	1998 03 31	699	0.7+	0.7+
1998 03 08	699	(2.6+	0.9-)	1998 03 31	699	0.3-	0.1-
1998 03 08	699	1.9+	0.0	1998 04 01	704	0.2-	0.2+
1998 03 08	699	1.4+	0.1+	1998 04 01	704	0.3-	0.6+

4695 P-L = 1998 HS₁₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.27666586	ω	182.51222	-0.99385998	+0.11040072		
<i>a</i>	2.3325574	Ω	3.84944	-0.09951068	-0.86283281		
<i>e</i>	0.0404749	<i>i</i>	6.28484	-0.04837311	-0.49328615		
<i>P</i>	3.56	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1960 09 24	675	0.0	0.0	1998 03 25	704	0.3-	0.9-
1960 09 24	675	0.3-	1.0-	1998 03 25	566	0.3-	0.4+
1960 09 25	675	0.0	0.4+	1998 03 25	566	0.4-	0.4-
1960 09 26	675	0.1+	0.2-	1998 03 25	566	0.1-	0.3+
1960 09 28	675	0.0	0.2+	1998 04 01	704	0.3-	0.5+
1960 10 24	675	0.8+	0.2+	1998 04 01	704	0.1-	0.9+
1960 10 26	675	0.6-	0.5+	1998 04 01	704	0.3-	0.4+
1998 03 20	704	0.6+	0.5-	1998 04 01	704	0.2+	0.1-
1998 03 20	704	0.4-	0.7-	1998 04 01	704	0.3-	0.1+
1998 03 20	704	0.9+	0.5+	1998 04 18	704	0.4+	0.2-
1998 03 20	704	1.5-	1.4+	1998 04 18	704	0.0	0.4-
1998 03 20	704	0.3-	1.0+	1998 04 18	704	(1.1-	3.8-)
1998 03 25	704	0.0	0.3+	1998 04 18	704	1.8-	1.7-
1998 03 25	704	0.6+	0.8-	1998 04 18	704	(0.2-	2.2-)
1998 03 25	704	0.2+	0.8-	1998 04 19	704	0.1+	0.1+

4716 P-L = 1995 DT₁₀Id. G. V. Williams (*MPC* 25076)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.21549852	ω	248.73456	-0.02831161	+0.99878404		
<i>a</i>	2.7553273	Ω	19.77215	-0.86719693	-0.00446034		
<i>e</i>	0.0742559	<i>i</i>	6.85215	-0.49715987	-0.04909727		
<i>P</i>	4.57	<i>H</i>	15.0	<i>G</i>	0.15	<i>U</i>	3
Residuals in seconds of arc							
1960 09 24	675	0.0	0.8+	1960 10 25	675	1.3-	0.1-
1960 09 26	675	1.0+	0.0	1960 10 26	675	0.8-	1.1-
1960 09 27	675	0.5+	0.6-	1995 02 25	691	0.0	0.3-
1960 09 28	675	1.1+	1.4+	1995 02 25	691	0.1-	0.3-
1960 09 28	675	0.7+	0.1+	1995 02 25	691	0.2-	0.3-
				1997 09 27	910	0.0	0.3+
				1997 09 27	910	0.3-	0.2+
				1997 09 27	910	0.4-	0.1-
				1997 09 30	910	0.1-	0.3+
				1997 09 30	910	0.2+	0.1+

1960 10 17	675	0.3-	1.5-	1995 03 04	691	0.2-	0.1+	1997 10 01	910	0.1+	0.2+
1960 10 22	675	0.0	1.3-	1995 03 04	691	0.3-	0.6-				

6286 P-L = 1994 PV₃₆ = 1998 FJ₄₇

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17114227	ω	233.63022	-0.95895396	+0.28199831		
<i>a</i>	3.2129048	Ω	322.72342	-0.24189659	-0.86825955		
<i>e</i>	0.1029723	<i>i</i>	2.81419	-0.14796398	-0.40816945		
<i>P</i>	5.76	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4
Residuals in seconds of arc							
1960 09 24	675	0.0	0.6-	1998 03 20	704	0.2-	1.0-
1960 09 25	675	0.8+	0.1-	1998 03 20	704	0.5+	0.2-
1960 09 26	675	0.4-	0.4-	1998 03 20	704	0.1+	1.1+
1960 09 28	675	0.2+	0.7+	1998 03 20	704	0.5+	1.0-
1960 10 17	675	0.2-	0.4-	1998 03 20	704	(1.3-	2.9-)
1994 08 10	809	1.5+	1.0-	1998 03 22	704	0.7+	0.3+
1994 08 10	809	0.8-	0.6-	1998 03 22	704	0.2-	0.2-
1994 08 10	809	0.1+	0.2-	1998 03 22	704	0.2-	0.2-
1994 08 11	809(15.5+	4.2+)		1998 03 22	704	0.7-	0.0
1994 08 11	809(15.1+	5.2+)		1998 03 22	704	(3.2-	1.9+)
1994 08 11	809(15.5+	3.3+)		1998 03 27	428	0.3-	0.2-
1994 09 03	809	0.2+	1.0+	1998 03 27	428	0.5-	0.2+
1994 09 03	809	0.3+	1.5+	1998 03 28	428	0.2+	0.1+
1994 09 03	809	1.0-	0.4+	1998 03 29	428	0.2+	0.2+
1994 09 04	809	0.5-	0.9-	1998 03 29	428	0.2-	0.2-
1994 09 04	809	0.8-	0.6+	1998 03 30	428	0.6-	0.3+
1994 09 04	809	0.9+	0.9-	1998 04 01	704	0.9+	0.4-

7069 P-L = 1998 FS₉₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.24714439	ω	215.51048	+0.45836439	-0.88394326		
<i>a</i>	2.5147928	Ω	207.55676	+0.85461212	+0.46691785		
<i>e</i>	0.1299099	<i>i</i>	11.52702	+0.24400865	+0.02514031		
<i>P</i>	3.99	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	6
Residuals in seconds of arc							
1960 09 26	675	2.4-	0.9-	1998 03 31	704	0.5-	0.2-
1960 09 28	675	2.1+	0.7+	1998 03 31	704	1.7+	0.9-
1960 10 22	675	1.1+	0.0	1998 03 31	704	0.5-	0.3-
1960 10 24	675	1.2-	1.5+	1998 03 31	704	4.0-	0.2+
1960 10 26	675	0.5+	1.3-	1998 04 01	704	0.5-	0.1-

1089 T-1 = 1979 WKId. D. W. E. Green (*MPC* 19319)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18229974	ω	127.63488	-0.41344370	-0.90977400		
<i>a</i>	3.0804347	Ω	346.63729	+0.77666588	-0.33110723		
<i>e</i>	0.0578385	<i>i</i>	9.23465	+0.47524143	-0.25035830		
<i>P</i>	5.41	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3
Residuals in seconds of arc							
1971 03 24	675	0.5-	0.5-	1998 03 22	704	0.2-	0.3-
1971 03 25	675	0.5+	0.9+	1998 03 22	704	1.1+	0.2+
1971 03 25	675	0.4-	0.9+	1998 03 22	704	0.9-	0.0
1971 03 26	675	0.9+	0.3-	1998 03 22	704	0.5+	0.7-
1971 03 27	675	0.2-	0.2+	1998 03 22	704	1.2-	0.5+
1971 04 02	675	0.1-	0.7-	1998 04 18	704	0.8+	1.4-
1979 11 22	675	0.4+	0.3+	1998 04 18	704	1.8-	1.4+
1979 11 24	675	0.4-	0.2-	1998 04 18	704	1.0+	0.6-

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1105 T-1 = 2043 T-2Id. T. Kobayashi (*MPC* 21121)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.22074172	ω	286.30571	−0.39438824	−0.91883598		
<i>a</i>	2.7115218	Ω	186.97119	+0.88120205	−0.37379861		
<i>e</i>	0.0864555	<i>i</i>	6.66382	+0.26065469	−0.12655056		
<i>P</i>	4.46	<i>H</i>	13.5	<i>G</i>	0.15	<i>U</i>	3

Residuals in seconds of arc

1971 03 24	675	0.2−	1.1−	1973 09 24	675	1.2−	0.3−	1998 04 20	704	0.1−	0.9−
1971 03 25	675	(3.2−	0.9−)	1973 09 25	675	(0.5−	2.7−)	1998 04 20	704	0.2+	1.1−
1971 03 25	675	0.6−	0.2−	1973 09 25	675	1.0+	1.8−	1998 04 20	704	0.0	0.6−
1971 03 26	675	0.2−	0.1−	1973 09 29	675	0.5−	0.1−	1998 04 20	704	(2.2−	0.5−)
1971 03 27	675	1.6−	0.5−	1973 09 29	675	0.1+	0.3+	1998 04 21	704	0.2+	0.2+
1971 03 27	675	0.3−	1.4−	1973 09 30	675	1.1+	0.2+	1998 04 21	704	0.4+	0.5+
1971 04 02	675	0.3−	0.8+	1973 09 30	675	0.8+	1.2−	1998 04 21	704	0.8−	0.1−
1971 04 16	675	0.1+	1.8−	1973 10 04	675	0.2+	1.3−	1998 04 21	704	1.0−	0.3+
1971 04 16	675	0.5+	1.7−	1973 10 04	675	0.4+	1.1−	1998 04 21	704	0.1−	0.6+
1971 05 13	675	0.7+	1.1−	1973 10 05	675	1.0+	0.3+	1998 04 22	704	0.3−	0.5−
1973 09 19	675	0.2+	0.7−	1973 10 05	675	(2.7−	2.1+)	1998 04 22	704	0.4+	0.1+
1973 09 19	675	0.5+	0.1−	1973 10 05	675	0.4+	1.3−	1998 04 22	704	0.1+	0.2−
1973 09 20	675	0.3−	1.2−	1973 10 05	675	(2.8−	1.3+)	1998 04 22	704	1.0+	0.3+
1973 09 24	675	1.5−	0.9+	1998 04 20	704	0.4−	0.8+	1998 04 22	704	0.5+	0.2+

1166 T-1 = 1998 FS₆₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.18312723	ω	155.24064	−0.91410700	−0.40546354		
<i>a</i>	3.0711482	Ω	0.85402	+0.33404553	−0.75694168		
<i>e</i>	0.0891838	<i>i</i>	10.73214	+0.22983031	−0.51248278		
<i>P</i>	5.38	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1971 03 24	675	0.4−	0.1−	1998 03 20	704	0.8−	0.5+	1998 04 18	704	0.3+	0.8+
1971 03 25	675	1.0−	0.6+	1998 03 20	704	0.3−	0.7−	1998 04 18	704	1.1+	1.1+
1971 03 25	675	2.1−	0.7+	1998 03 22	704	0.3+	0.1−	1998 04 18	704	0.9−	0.7+
1971 03 26	675	0.5−	0.8−	1998 03 22	704	2.2+	1.9+	1998 04 18	704	2.3−	0.3−
1971 03 27	675	2.1+	0.5−	1998 03 22	704	0.0	1.6+	1998 04 19	704	0.9+	0.0
1971 04 02	675	0.3+	1.8+	1998 03 22	704	1.2+	0.0	1998 04 19	704	0.8+	0.7−
1971 04 16	675	1.4+	1.5−	1998 03 22	704	0.0	1.0−	1998 04 19	704	0.9+	1.9+
1971 04 16	675	0.0	1.3−	1998 04 01	704	0.2−	0.8−	1998 04 19	704	0.5−	0.1+
1971 05 13	675	0.3−	1.0+	1998 04 01	704	0.5+	0.7−	1998 04 19	704	0.2−	1.7−
1971 05 14	675	0.2+	0.3−	1998 04 01	704	0.2+	0.2−	1998 04 28	691	0.8−	0.1+
1998 03 20	704	1.7+	1.5+	1998 04 01	704	0.4−	1.1−	1998 04 28	691	1.0−	0.5+
1998 03 20	704	0.6−	1.2−	1998 04 01	704	0.5−	1.4−	1998 04 28	691	1.1−	0.5+
1998 03 20	704	0.4−	0.4−	1998 04 18	704	0.0	0.2−				

2114 T-1 = 1998 HD₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.22195284	ω	347.22215	−0.96912391	−0.24648710		
<i>a</i>	2.7016489	Ω	178.46130	+0.24221179	−0.95661926		
<i>e</i>	0.1171922	<i>i</i>	14.12653	+0.04617671	−0.15531806		
<i>P</i>	4.44	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1971 03 24	675	1.3+	1.5−	1971 04 02	675	0.5+	0.5−	1998 04 18	691	0.9−	0.1−
1971 03 25	675	0.0	0.6+	1971 04 16	675	1.6+	0.4−	1998 04 19	691	0.9+	0.0
1971 03 25	675	1.5−	0.3−	1971 04 16	675	1.0−	0.2−	1998 04 19	691	0.8+	0.4+
1971 03 26	675	0.5−	1.6+	1998 04 18	691	0.8−	0.2−	1998 04 19	691	0.9+	0.3+
1971 03 27	675	0.4−	0.6+	1998 04 18	691	0.9−	0.2−				

2208 T-1 = 1998 FX₇₀

Id. A. Gnädig

1998 MAY 11

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.25642611	ω	232.40548	−0.39070787	+0.91975193		
<i>a</i>	2.4537363	Ω	14.73276	−0.79130353	−0.31479140		
<i>e</i>	0.1888184	<i>i</i>	8.47198	−0.47030425	−0.23444137		
<i>P</i>	3.84	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1971 03 24	675	1.6−	0.1+	1971 05 13	675	0.1−	0.3+	1998 03 22	704	0.4+	0.4−
1971 03 25	675	0.1−	0.2+	1971 05 14	675	0.8−	0.2+	1998 03 22	704	0.1+	0.3+
1971 03 25	675	0.1−	0.1+	1998 03 20	704	0.5+	0.1+	1998 03 22	704	0.3+	0.8−
1971 03 26	675	0.2+	0.9+	1998 03 20	704	0.7+	0.1+	1998 03 22	704	0.3+	0.9−
1971 03 27	675	1.0−	0.3+	1998 03 20	704	0.6−	0.9+	1998 03 24	699	0.1+	0.3+
1971 04 02	675	1.7+	0.8−	1998 03 20	704	0.9−	0.4+	1998 03 24	699	0.4+	0.1−
1971 04 16	675	1.0+	0.2−	1998 03 20	704	1.8−	1.3+	1998 03 24	699	0.5+	0.4−
1971 04 16	675	0.6+	1.3−	1998 03 22	704	0.1+	0.4−				

3074 T-1 = 1997 WV₂₃

Id. A. Gnädig

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.17214422	ω	159.05364	−0.93184445	−0.36285758		
<i>a</i>	3.2004257	Ω	359.66912	+0.31825396	−0.81658475		
<i>e</i>	0.1320353	<i>i</i>	5.34839	+0.17429954	−0.44891394		
<i>P</i>	5.73	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1971 03 25	675	0.7+	0.9+	1971 04 16	675	1.1+	0.6−	1997 11 21	691	0.1−	0.3+
1971 03 26	675	0.9+	0.6−	1971 04 16	675	0.3−	0.8−	1997 11 21	691	0.0	0.1+
1971 03 26	675	0.2−	1.3−	1971 05 13	675	0.1+	0.4+	1997 12 04	691	0.0	0.8−
1971 03 27	675	0.7−	1.6+	1971 05 14	675	0.2−	0.2+	1997 12 04	691	0.2−	0.2−
1971 04 02	675	1.4−	0.2+	1997 11 21	691	0.3+	0.4+	1997 12 04	691	0.1−	0.2+

3224 T-1 = 1998 DW₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29158236	ω	114.34939	−0.43440539	−0.90071192		
<i>a</i>	2.2523120	Ω	1.40989	+0.77283342	−0.37452847		
<i>e</i>	0.0520828	<i>i</i>	7.38061	+0.46262346	−0.22010556		
<i>P</i>	3.38	<i>H</i>	15.5	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1971 03 24	675	0.3−	0.6+	1998 02 23	566	0.2−	0.5−	1998 04 01	704	0.1+	0.6−
1971 03 25	675	0.2−	1.0−	1998 02 27	566	0.0	0.2−	1998 04 01	704	0.1−	0.4+
1971 03 26	675	0.1−	0.5+	1998 02 27	566	0.1+	0.6−	1998 04 18	704	0.5+	0.2+
1971 03 26	675	1.5−	0.4−	1998 02 27	566	0.1+	0.0	1998 04 18	704	0.8+	0.7+
1971 03 27	675	0.6+	0.7−	1998 03 22	704	0.7+	1.5+	1998 04 18	704	1.0−	0.2−
1971 04 02	675	0.7+	0.2−	1998 03 22	704	0.1+	0.1−	1998 04 18	704	(2.1−	0.5−)
1971 04 16	675	0.5−	0.1+	1998 03 22	704	0.3+	0.6+	1998 04 18	704	0.8+	0.9−
1971 04 16	675	0.5−	1.7−	1998 03 22	704	0.4−	0.5+	1998 04 19	704	0.8+	0.2+
1971 05 13	675	0.9+	0.3+	1998 03 22	704	1.2−	0.8+	1998 04 19	704	0.9+	0.1+
1971 05 14	675	0.8−	0.2−	1998 04 01	704	0.0	0.4+	1998 04 19	704	0.3−	0.1−
1998 02 23	566	0.5−	0.2−	1998 04 01	704	0.2−	0.2+	1998 04 19	704	0.1+	0.0
1998 02 23	566	0.2−	0.2−	1998 04 01	704	0.1+	0.7+	1998 04 19	704	0.6+	0.1+

3770 T-1 = 1998 JC₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	0.29321605	ω	28.57263	−0.76905664	+0.63883196		
<i>a</i>	2.2439382	Ω	191.20738	−0.60515949	−0.73835646		
<i>e</i>	0.1291749	<i>i</i>	6.23516	−0.20575198	−0.21615609		
<i>P</i>	3.36	<i>H</i>	16.0	<i>G</i>	0.15	<i>U</i>	5

1998 MAY 11

M.P.C. 31775

Residuals in seconds of arc

1971 04 16	675	0.1−	0.9−	1971 05 16	675	0.2−	0.2−	1998 05 02	566	0.1−	0.5−
1971 04 16	675	0.1+	0.8+	1998 05 01	566	0.2+	0.3+	1998 05 02	566	0.4−	0.4−
1971 05 13	675	0.3−	0.3+	1998 05 01	566	0.1+	0.6+	1998 05 02	566	0.1+	0.5−
1971 05 14	675	0.5+	0.0	1998 05 01	566	0.1+	0.6+				

4221 T-1 = 1998 HM₁₄

Id. S. Nakano

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	25.73812	<i>ω</i>	22.96372	−0.98167006	+0.18983639		
<i>a</i>	3.0672752	<i>Ω</i>	167.94267	−0.18500802	−0.92785171		
<i>e</i>	0.0931396	<i>i</i>	4.64404	−0.04578135	−0.32101924		
<i>P</i>	5.37	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1971 03 24	675	0.9−	1.6+	1998 04 19	360	0.6−	0.3−	1998 04 22	704	0.0	0.2−
1971 03 26	675	0.9−	0.6−	1998 04 20	704	0.4+	0.7+	1998 04 22	704	0.3+	1.2−
1971 03 26	675	2.3−	0.9−	1998 04 20	704	0.3+	1.0+	1998 04 22	704	0.8+	1.2+
1971 03 27	675	0.9+	0.0	1998 04 20	704	0.4−	0.9−	1998 04 22	704	1.2+	0.4+
1971 04 02	675	1.7+	0.7+	1998 04 20	704	0.3+	0.9+	1998 04 26	360	0.4+	0.0
1971 04 16	675	0.6+	0.5−	1998 04 20	704	1.3−	0.2−	1998 04 26	360	0.4+	0.4+
1971 04 16	675	1.6+	0.3−	1998 04 21	704	0.9−	0.2+	1998 04 26	360	0.3+	0.2+
1971 05 13	675	0.9−	0.3−	1998 04 21	704	0.9−	1.3−	1998 04 28	360	0.6+	0.2+
1971 05 14	675	0.1+	1.1+	1998 04 21	704	0.1+	0.3−	1998 04 28	360	0.4+	0.2+
1971 05 16	675	0.3+	0.3−	1998 04 21	704	0.2−	0.3−	1998 04 28	360	0.6+	0.3+
1998 04 19	360	0.7−	0.0	1998 04 21	704	1.1−	0.2−				
1998 04 19	360	0.7−	0.8−	1998 04 22	704	0.5+	0.3−				

4300 T-1 = 1998 HP₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	26.51336	<i>ω</i>	84.28183	−0.82255647	+0.56736672		
<i>a</i>	2.4465767	<i>Ω</i>	130.27817	−0.53976540	−0.75750957		
<i>e</i>	0.1502786	<i>i</i>	2.90589	−0.17903678	−0.32291524		
<i>P</i>	3.83	<i>H</i>	17.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1971 03 26	675	0.2+	0.8+	1971 04 16	675	0.3+	0.1−	1998 04 22	910	0.2+	0.1−
1971 03 26	675	0.7−	0.4−	1971 04 16	675	0.2−	0.8+	1998 04 24	910	0.0	0.1−
1971 03 27	675	0.2+	0.7−	1998 04 22	910	0.1−	0.1−	1998 04 24	910	0.2−	0.2+
1971 04 02	675	0.3+	0.2−	1998 04 22	910	0.2+	0.3−	1998 04 24	910	0.1−	0.2+

1108 T-2 = 1998 HE₁₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	288.29243	<i>ω</i>	313.32499	+0.59636024	+0.80261121		
<i>a</i>	2.3964008	<i>Ω</i>	353.24710	−0.70069868	+0.51258185		
<i>e</i>	0.1305745	<i>i</i>	6.36061	−0.39163226	+0.30508210		
<i>P</i>	3.71	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1973 09 19	675	0.9−	0.4−	1998 03 20	704	(1.0+	2.3−)	1998 04 04	699	0.9−	0.3−
1973 09 19	675	0.2+	0.0	1998 03 22	704	0.9+	0.2−	1998 04 04	699	0.3+	1.5−
1973 09 20	675	0.9−	1.1+	1998 03 22	704	0.3+	0.3+	1998 04 18	704	0.2+	0.3+
1973 09 24	675	0.5+	0.6−	1998 03 22	704	1.5−	0.4+	1998 04 18	704	0.5+	0.3+
1973 09 24	675	1.5−	1.3−	1998 03 22	704	0.1+	0.6−	1998 04 18	704	0.6+	0.5+
1973 09 25	675	0.0	0.2−	1998 03 22	704	(5.9−	1.1−)	1998 04 18	704	0.4−	2.0−
1973 09 25	675	0.1+	0.9+	1998 03 22	699	(2.2−	0.6+)	1998 04 19	704	0.1+	1.0+
1973 09 29	675	2.1+	0.1+	1998 03 22	699	0.2+	0.3+	1998 04 19	704	0.5+	0.6+
1973 09 29	675	1.7+	0.3+	1998 03 22	699	0.4−	0.5−	1998 04 19	704	1.4−	1.2−
1973 09 30	675	1.0−	0.4−	1998 03 25	704	0.6−	0.2+	1998 04 19	704	0.6+	0.6−
1973 09 30	675	1.3−	0.6−	1998 03 25	704	0.8−	1.0−	1998 04 20	704	0.8−	0.3−
1973 10 04	675	(2.9+	1.2−)	1998 03 25	704	0.1+	0.3−	1998 04 20	704	0.7+	0.3−
1973 10 04	675	(3.1+	1.8−)	1998 03 25	704	0.1+	1.4+	1998 04 20	704	0.7−	0.2+

1973 10 05	675	0.7+	0.0	1998 04 01	704	0.5−	0.9−	1998 04 20	704	1.2+	0.2+
1973 10 05	675	0.4+	0.1+	1998 04 01	704	0.7−	0.5+	1998 04 22	704	1.1+	1.2+
1998 03 20	704	0.3−	0.6+	1998 04 01	704	0.0	0.5−	1998 04 22	704	0.3−	0.6−
1998 03 20	704	0.2−	0.0	1998 04 01	704	1.6+	0.9+	1998 04 22	704	0.2−	0.4−
1998 03 20	704	1.2+	0.0	1998 04 01	704	0.6+	1.4+	1998 04 22	704	1.6−	1.4+
1998 03 20	704	0.8+	0.9−	1998 04 04	699	0.1−	0.2+	1998 04 22	704	0.5−	0.0

1142 T-2 = 1991 NC₄ = 1998 GP₁₀

Id. T. Urata, S. Nakano

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	38.73880	<i>ω</i>	271.78340	−0.99321652	+0.11391649		
<i>a</i>	2.4107475	<i>Ω</i>	274.75823	−0.09519832	−0.91179903		
<i>e</i>	0.1513820	<i>i</i>	1.34106	−0.06676987	−0.39451940		
<i>P</i>	3.74	<i>H</i>	14.5	<i>G</i>	0.15	<i>U</i>	5

Residuals in seconds of arc

1973 09 19	675	0.2+	0.8−	1973 10 05	675	0.5+	1.8−	1998 04 19	888	0.3+	0.3+
1973 09 20	675	0.5−	0.6−	1973 10 05	675	(1.3+	2.8−)	1998 04 21	704	0.2+	0.5−
1973 09 24	675	0.3+	0.6+	1991 07 08	809	1.5−	0.6−	1998 04 21	704	0.3+	1.0+
1973 09 24	675	0.6+	0.8+	1991 07 08	809	0.0	0.2+	1998 04 21	704	0.5+	0.1+
1973 09 25	675	1.7+	1.8+	1991 07 08	809	1.4+	0.5+	1998 04 21	704	0.2−	0.7−
1973 09 25	675	1.3−	0.5−	1998 04 04	888	0.4−	0.1−	1998 04 21	704	1.7−	1.1−
1973 09 29	675	0.6+	0.3+	1998 04 04	888	0.2−	0.0	1998 04 22	704	0.3+	0.0
1973 09 29	675	0.4−	0.7+	1998 04 04	888	0.5−	0.2−	1998 04 22	704	0.3−	0.5−
1973 09 30	675	1.7−	0.7+	1998 04 16	888	0.5+	0.3+	1998 04 22	704	0.1−	0.1−
1973 09 30	675	2.1−	0.8+	1998 04 16	888	0.1−	0.0	1998 04 22	704	0.7+	0.7+
1973 10 04	675	1.1+	1.6−	1998 04 19	888	0.2+	0.3+	1998 04 22	704	0.3+	0.1−
1973 10 04	675	1.3+	1.0−	1998 04 19	888	0.1+	0.0				

2287 T-2 = 1991 RD₁₅Id. E. Bowell (*MPC* 19690)

Epoch 1998 July 6.0 TT = JDT 2451000.5

<i>M</i>		(2000.0)		P		Q	
<i>n</i>	167.99744	<i>ω</i>	194.01661	+0.98834740	−0.15189389		
<i>a</i>	2.7385124	<i>Ω</i>	174.69033	+0.14791210	+0.94305422		
<i>e</i>	0.0218640	<i>i</i>	6.13035	+0.03593637	+0.29593410		
<i>P</i>	4.53	<i>H</i>	14.0	<i>G</i>	0.15	<i>U</i>	4

Residuals in seconds of arc

1973 09 20	675	2.1+	2.5−	1973 10 04	675	0.7−	0.2+	1998 02 24	566	0.6+	0.2−
1973 09 24	675	0.4+	0.6+	1973 10 04	675	1.1−	1.8+	1998 02 24	566	1.0−	1.1−
1973 09 24	675	0.2−	0.6+	1973 10 05	675	0.4+	0.2−	1998 02 24	566	1.1−	0.6−
1973 09 25	675	(2.6+	3.4−)	1973 10 05	675	2.0−	1.3+	1998 03 03	704	0.4+	0.2−
1973 09 25	675	(2.9+	2.5−)	1973 10 05	675	1.3+	0.9−	1998 03 03	704	0.5+	0.2−
1973 09 29	675	0.8+	0.2−	1973 10 05	675	1.9−	0.2+	1998 03 03	704	0.3−	0.6−
1973 09 29	675	1.2+	2.3−	1991 09 11	675	1.3+	0.3+	1998 03 03	704	0.3−	0.8−
1973 09 29	675	0.2−	0.9−	1991 09 11	675	0.9−	0.8−	1998 03 03	704	0.5−	0.6+
1973 09 29	675	1.4+	1.6−	1991 09 14	033	1.5−	0.7+	1998 03 04	704	0.8−	0.6−
1973 09 30	675	(1.4−	3.3−)	1991 09 14	033	(3.3−	0.3+)	1998 03 04	704	0.8+	0.6−
1973 09 30	675	0.1+	0.7+	1991 09 15	675	0.0	0.2−	1998 03 04	704	0.7+	0.4+
1973 09 30	675	0.8−	1.1−	1991 09 15	675	1.4+	1.0−	1998 03 04	704	0.0	0.1−
1973 09 30	675	0.3+	1.4+	1998 01 28	566	0.1+	1.1+	1998 03 04	704	0.6+	0.2−
1973 10 04	675	0.5+	1.3+	1998 01 28	566	0.2+	0.9+				
1973 10 04	675	1.4−	1.5+	1998 01 28	566	0.0	1.2+				

4062 T-2 = 1998 FB₇₄

Epoch 1998 July 6.0 TT = JDT 2451000.5

M	55.80344		(2000.0)	P	Q
n	0.22024998	ω	329.80029	-0.87304424	-0.48762368
a	2.7155562	Ω	181.04189	+0.48029887	-0.85841158
e	0.1131948	i	13.06464	+0.08430152	-0.15922534
P	4.47	H	14.5	G 0.15	U 6

M.P.C. 31776

Residuals in seconds of arc

1973 09 19	675	1.1+	0.5+	1973 09 29	675	1.5+	2.2-	1998 03 24	699	0.1+	0.3+
1973 09 19	675	0.4+	0.0	1973 09 30	675	0.9+	1.8-	1998 04 20	704	0.4-	0.1+
1973 09 20	675	2.0-	1.1+	1973 09 30	675	0.9+	0.2-	1998 04 20	704	0.0	0.5-
1973 09 24	675	0.9-	0.2-	1973 10 04	675	1.1-	2.1+	1998 04 20	704	0.1-	0.8-
1973 09 24	675	0.5-	2.2+	1973 10 04	675	0.3-	1.3+	1998 04 20	704	0.0	0.5-
1973 09 24	675	0.7-	0.7-	1973 10 05	675	0.7-	1.2+	1998 04 20	704	0.9+	0.6-
1973 09 24	675	1.0-	1.1+	1973 10 05	675	1.3-	0.4+	1998 04 22	704	0.9-	0.3+
1973 09 25	675	0.7+	0.2-	1998 03 22	699	1.3-	0.7+	1998 04 22	704	0.4+	0.3+
1973 09 25	675	1.1+	0.5-	1998 03 22	699	0.6-	0.5-	1998 04 22	704	0.1-	0.5+
1973 09 25	675	0.5+	1.5-	1998 03 22	699	0.5+	0.7+	1998 04 22	704	0.6+	0.3+
1973 09 25	675	0.0	0.1+	1998 03 24	699	0.0	0.6+	1998 04 22	704	0.2+	0.0
1973 09 29	675	1.3+	1.5-	1998 03 24	699	1.0+	0.1+				

4068 T-2 = 1978 WR₆Id. D. W. E. Green (*MPC* 15085)

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	134.63149	(2000.0)	P	Q	
<i>n</i>	0.22046250	ω	19.25383	+0.32198048	-0.94542581
<i>a</i>	2.7138108	Ω	51.99510	+0.86008968	+0.27003433
<i>e</i>	0.0648157	<i>i</i>	3.63715	+0.39569472	+0.18234996
<i>P</i>	4.47	<i>H</i>	15.5	<i>G</i>	0.15 <i>U</i> 5

Residuals in seconds of arc

1973 09 19	675	1.1-	1.0-	1973 09 30	675	2.2+	0.5-	1998 04 24	691	0.8-	0.7-
1973 09 19	675	0.2-	0.2-	1973 09 30	675	0.2+	0.2-	1998 04 24	691	0.8-	0.0
1973 09 20	675	1.6-	0.2-	1973 10 04	675	0.7-	0.6-	1998 05 01	691	0.9-	1.0-
1973 09 24	675	1.6+	0.1-	1973 10 04	675	0.5-	0.1+	1998 05 01	691	0.7-	0.4-
1973 09 24	675	0.8+	1.7+	1973 10 05	675	0.7+	0.8-	1998 05 01	691	0.9-	0.4-
1973 09 25	675	(4.6+ 1.6-)		1973 10 05	675	0.6-	1.3-	1998 05 03	691	0.8+	0.3-
1973 09 25	675	(3.3+ 0.3+)		1978 11 29	675	0.0	0.2-	1998 05 03	691	1.1+	0.2-
1973 09 29	675	0.7+	1.2+	1978 11 30	675	0.1+	0.5-	1998 05 03	691	1.1+	0.0
1973 09 29	675	0.0	1.0-	1998 04 24	691	0.6-	0.4-				

4159 T-2 = 1998 FN₆₉

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	62.87913	(2000.0)	P	Q	
<i>n</i>	0.17853153	ω	67.01550	-0.69176710	-0.72149641
<i>a</i>	3.1236289	Ω	66.79048	+0.64999678	-0.64024693
<i>e</i>	0.1713465	<i>i</i>	1.87182	+0.31458300	-0.26367936
<i>P</i>	5.52	<i>H</i>	14.0	<i>G</i>	0.15 <i>U</i> 5

Residuals in seconds of arc

1973 09 19	675	0.6+	1.2-	1973 09 29	675	0.7+	1.3-	1998 03 22	704	2.1+	0.1+
1973 09 19	675	0.3+	0.7+	1973 09 30	675	0.1+	0.7-	1998 03 22	704	3.2-	2.0-
1973 09 19	675	0.2+	0.6-	1973 09 30	675	0.6+	0.9+	1998 04 20	704	0.0	0.6-
1973 09 19	675	2.1-	0.5-	1973 10 04	675	1.2-	2.3+	1998 04 20	704	1.5+	0.2-
1973 09 20	675	0.1-	0.9+	1973 10 04	675	0.1-	1.5+	1998 04 20	704	0.9-	0.1+
1973 09 20	675	0.6-	2.1+	1973 10 05	675	0.2+	0.8-	1998 04 20	704	0.0	0.5+
1973 09 24	675	0.3-	0.7+	1973 10 05	675	0.1+	0.3-	1998 04 20	704	2.0-	0.4-
1973 09 24	675	0.1+	0.8+	1998 03 20	704	0.1+	0.7+	1998 04 22	704	0.2+	0.2+
1973 09 24	675	0.8-	0.6-	1998 03 20	704	1.1+	0.5+	1998 04 22	704	0.1-	1.0+
1973 09 24	675	0.4-	0.5-	1998 03 20	704	(4.5+ 0.3+)		1998 04 22	704	0.6+	0.2-
1973 09 25	675	0.9+	3.1-	1998 03 20	704	2.4+	0.0	1998 04 22	704	0.2-	0.4+
1973 09 25	675	0.4+	0.1-	1998 03 20	704	2.2-	0.0	1998 04 22	704	0.4+	0.0
1973 09 25	675	2.1+	0.4-	1998 03 22	704	0.1+	0.3+	1998 04 24	699	0.4+	0.4-
1973 09 25	675	1.6-	1.6+	1998 03 22	704	0.7-	0.7-	1998 04 24	699	0.1+	0.2-
1973 09 29	675	0.8+	1.8-	1998 03 22	704	0.3+	0.8+	1998 04 24	699	0.1+	0.0

1998 MAY 11

5087 T-2 = 1998 JJ

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	137.58081	(2000.0)	P	Q	
<i>n</i>	0.17952914	ω	175.91125	+0.52898557	-0.83380012
<i>a</i>	3.1120466	Ω	242.08327	+0.77344560	+0.55029143
<i>e</i>	0.0872193	<i>i</i>	10.29776	+0.34922225	+0.04423472
<i>P</i>	5.49	<i>H</i>	13.5	<i>G</i>	0.15 <i>U</i> 7

Residuals in seconds of arc

1973 09 19	675	(5.8+ 1.5+)	1973 09 29	675	1.6+ 0.5-	1973 10 05	675	1.6+ 0.0
1973 09 20	675	0.3- 0.9-	1973 09 29	675	0.4+ 0.5-	1998 05 01	566	0.3+ 0.6+
1973 09 20	675	1.4+ 1.7-	1973 09 30	675	0.3- 0.5+	1998 05 01	566	0.1+ 0.6+
1973 09 24	675	0.6- 1.7+	1973 09 30	675	0.8- 1.0+	1998 05 01	566	0.3+ 0.4+
1973 09 24	675	0.2- 1.7+	1973 10 04	675	0.1+ 0.2+	1998 05 02	566	0.5+ 0.2-
1973 09 25	675	1.6- 0.4-	1973 10 04	675	0.1- 0.7-	1998 05 02	566	0.9- 0.8-
1973 09 25	675	2.3- 0.1+	1973 10 05	675	1.1+ 0.4-	1998 05 02	566	0.3- 0.7-

1021 T-3 = 1998 FO₁₀₁

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	344.12130	(2000.0)	P	Q	
<i>n</i>	0.21756988	ω	264.90993	-0.61260941	+0.78716686
<i>a</i>	2.7378114	Ω	326.97306	-0.66345132	-0.56113369
<i>e</i>	0.1271164	<i>i</i>	7.51265	-0.42958358	-0.25592444
<i>P</i>	4.53	<i>H</i>	13.5	<i>G</i>	0.15 <i>U</i> 4

Residuals in seconds of arc

1977 10 07	675	0.2-	1.0-	1998 03 31	704	0.6+	0.5-	1998 04 01	704	0.1-	0.2-
1977 10 11	675	0.2+	1.7+	1998 03 31	704	0.3+	0.3-	1998 04 01	704	0.1+	0.4+
1977 10 11	675	0.3-	1.7+	1998 03 31	704	0.1+	0.4-	1998 04 01	704	1.0-	0.5+
1977 10 12	675	1.4+	0.2+	1998 03 31	699	0.0	0.3+	1998 04 01	704	0.7-	0.9+
1977 10 12	675	0.1-	0.6-	1998 03 31	699	1.2-	0.0	1998 04 29	566	0.1+	0.0
1977 10 16	675	0.4-	0.2-	1998 03 31	704	0.7+	0.1+	1998 04 29	566	0.2+	0.0
1977 10 16	675	0.5-	0.1+	1998 03 31	699	0.2+	0.6-	1998 04 29	566	0.1-	0.1-
1977 10 17	675	0.2-	1.1-	1998 03 31	704	0.4+	0.0				
1977 10 17	675	0.0	0.7-	1998 04 01	704	0.4+	0.0				

1111 T-3 = 1994 PY₁₀ = 1998 FY₁₁₅

Epoch 1998 July 6.0 TT = JDT 2451000.5

			Williams		
<i>M</i>	187.27361	(2000.0)	P	Q	
<i>n</i>	0.16818800	ω	50.46657	+0.89590981	-0.43695532
<i>a</i>	3.2504192	Ω	335.13148	+0.32621799	+0.76950396
<i>e</i>	0.0026822	<i>i</i>	10.97995	+0.30154177	+0.46576143
<i>P</i>	5.86	<i>H</i>	13.5	<i>G</i>	0.15 <i>U</i> 3

Residuals in seconds of arc

1977 10 07	675	1.9+	0.7-	1994 08 10	809	(2.6- 1.3-)	1994 09 04	809	0.8+	0.7+
1977 10 11	675	0.2+	1.3+	1994 08 10	809	(3.2- 1.1-)	1998 03 31	704	(1.5+ 4.0-)	
1977 10 11	675	0.8+	0.0	1994 08 10	809	(3.9- 1.8-)	1998 03 31	704	1.6-	0.1-
1977 10 12	675	0.0	0.4+	1994 08 11	809	0.4- 1.4-	1998 03 31	704	0.1+	0.0
1977 10 12	675	0.8-	0.1-	1994 08 11	809	0.4- 0.6-	1998 03 31	704	0.8-	0.1-
1977 10 16	675	1.1-	0.4-	1994 08 11	809	0.3- 0.2-	1998 04 01	704	(2.4+ 4.4-)	
1977 10 16	675	1.5-	1.3-	1994 09 03	809	0.0 0.5+	1998 04 01	704	0.4+	1.6-
1977 10 17	675	0.9+	0.3+	1994 09 03	809	0.4- 0.6+	1998 04 01	704	(1.1+ 3.6-)	
1977 10 17	675	0.4-	1.4+	1994 09 03	809	0.6- 0.5+	1998 04 01	704	0.7+	1.6+
1977 10 22	675	0.4+	1.3-	1994 09 04	809	1.2+ 0.1-	1998 04 01	704	0.9+	0.2-
1977 10 22	675	(0.7+ 3.3-)		1994 09 04	809	0.0 0.1+				

2395 T-3 = 1994 PV₁₁Id. G. V. Williams (*MPC* 24757)

1998 MAY 11

M.P.C. 31777

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	153.29617	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.16837521	ω	139.21437	+0.45506525
<i>a</i>	3.2480095	Ω	283.67011	+0.80410007
<i>e</i>	0.0140815	<i>i</i>	2.73089	+0.38254241
<i>P</i>	5.85	<i>H</i>	13.5	<i>U</i>
			<i>G</i>	0.15
				4

Residuals in seconds of arc

1977 10 07	675	(2.2+ 3.0-)	1977 10 22	675	0.8- 1.0-	1994 09 04	809	0.7- 0.8-
1977 10 11	675	1.6+ 1.3+	1994 08 10	809	(4.0+ 5.8+)	1998 04 21	704	0.1+ 1.1+
1977 10 11	675	1.0- 0.5+	1994 08 10	809	(3.2+ 3.8+)	1998 04 21	704	0.1+ 1.2+
1977 10 12	675	0.4- 0.3-	1994 08 10	809	(2.9+ 4.5+)	1998 04 21	704	(1.1- 2.3+)
1977 10 12	675	0.2- 0.6+	1994 08 11	809	1.0+ 0.5+	1998 04 21	704	0.3- 1.5+
1977 10 16	675	0.1+ 1.2-	1994 08 11	809	1.2+ 0.4+	1998 04 22	704	0.3+ 0.5-
1977 10 16	675	0.9+ 1.5-	1994 08 11	809	0.4+ 0.8+	1998 04 22	704	1.2- 0.5-
1977 10 17	675	1.7- 0.6+	1994 09 03	809	0.1- 0.4-	1998 04 22	704	1.1+ 1.8-
1977 10 17	675	(2.6- 0.0)	1994 09 03	809	0.7- 0.2+	1998 04 22	704	0.2- 1.5-
1977 10 21	675	1.6+ 1.3-	1994 09 03	809	1.4- 0.6-	1998 04 22	704	(3.9- 3.4-)
1977 10 21	675	(0.9+ 3.4-)	1994 09 04	809	0.5+ 0.2+			
1977 10 22	675	0.2+ 1.9+	1994 09 04	809	0.1- 0.2-			

3150 T-3 = 1998 FM₈₀

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	172.18699	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.21303296	ω	255.42205	+0.92536914
<i>a</i>	2.7765458	Ω	126.82248	+0.35608954
<i>e</i>	0.0818583	<i>i</i>	1.32619	+0.12996999
<i>P</i>	4.63	<i>H</i>	14.5	<i>U</i>
			<i>G</i>	0.15
				6

Residuals in seconds of arc

1977 10 07	675	0.9+ 1.2-	1977 10 22	675	1.1+ 2.3-	1998 03 24	704	1.2- 0.2-
1977 10 11	675	1.6- 0.6+	1977 10 22	675	0.7+ 1.5-	1998 03 24	704	0.7- 0.4-
1977 10 11	675	1.2- 0.4+	1998 03 24	704	1.2+ 0.9+	1998 03 24	704	0.5- 2.0+
1977 10 12	675	0.6+ 0.2-	1998 03 24	704	0.3- 1.2-	1998 03 24	704	0.4- 0.0
1977 10 12	675	1.3+ 0.1-	1998 03 24	704	0.0 1.1-	1998 03 24	704	0.2+ 0.2-
1977 10 16	675	1.0+ 0.2+	1998 03 24	704	0.2+ 1.1+	1998 03 25	704	0.2- 0.8-
1977 10 16	675	0.7+ 0.0	1998 03 24	704	0.8+ 0.9-	1998 03 25	704	0.5+ 0.6-
1977 10 17	675	1.7- 0.7+	1998 03 24	704	0.9- 1.5+	1998 03 25	704	0.4+ 0.2+
1977 10 17	675	0.6- 0.4+	1998 03 24	704	0.2+ 0.3+	1998 03 25	704	0.9- 1.1-
1977 10 21	675	0.6- 1.6+	1998 03 24	704	1.7+ 0.1+	1998 03 25	704	0.2- 0.7+
1977 10 21	675	0.5- 1.3+	1998 03 24	704	0.1+ 0.3-			

3286 T-3 = 1998 EY₈

Id. A. Gnädig

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	352.95012	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.21397092	ω	173.58777	-0.90365974
<i>a</i>	2.7684257	Ω	31.59193	-0.40169384
<i>e</i>	0.0572208	<i>i</i>	12.18528	-0.14846254
<i>P</i>	4.61	<i>H</i>	14.5	<i>U</i>
			<i>G</i>	0.15
				5

Residuals in seconds of arc

1977 10 11	675	1.6- 1.6+	1977 10 17	675	0.2- 1.0-	1998 03 23	012	0.6- 0.4+
1977 10 11	675	1.3+ 1.1+	1977 10 17	675	1.1+ 0.7+	1998 03 23	012	0.6- 1.1+
1977 10 11	675	0.3+ 1.8+	1977 10 21	675	0.9- 1.3+	1998 03 24	012	0.9- 0.1+
1977 10 11	675	0.8+ 1.0+	1977 10 21	675	0.8- 1.5+	1998 03 24	704	0.6+ 0.1-
1977 10 12	675	1.7+ 1.5-	1998 03 09	012	0.9+ 0.1+	1998 03 24	704	1.7- 0.0
1977 10 12	675	0.1- 1.0-	1998 03 09	012	0.7- 0.3+	1998 03 24	704	0.4- 0.1-
1977 10 12	675	1.1- 1.6-	1998 03 09	012	0.9- 0.9+	1998 03 24	704	1.7- 0.3-
1977 10 16	675	0.4+ 2.1-	1998 03 09	012	1.0+ 0.1+	1998 03 25	704	0.4+ 0.5+
1977 10 16	675	1.1- 0.9+	1998 03 09	012	1.0+ 0.4-	1998 03 25	704	0.6+ 0.3+
1977 10 16	675	0.7- 1.7-	1998 03 09	012	0.0 1.1-	1998 03 25	704	0.0 0.4-

1977 10 16	675	0.1- 0.6-	1998 03 19	012	0.8+ 0.3+	1998 03 25	704	1.0+ 1.3-
1977 10 17	675	0.4- 0.4+	1998 03 19	012	0.8+ 0.3+	1998 03 25	704	0.3- 1.4-
1977 10 17	675	1.4+ 1.0-	1998 03 20	012	0.5+ 0.4+			

4102 T-3 = 1998 FT₇₆

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	107.85875	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.31026055	ω	41.54232	-0.30404643
<i>a</i>	2.1609846	Ω	66.25394	+0.85387818
<i>e</i>	0.0626829	<i>i</i>	4.14368	+0.42243084
<i>P</i>	3.18	<i>H</i>	15.0	<i>U</i>
			<i>G</i>	0.15
				6

Residuals in seconds of arc

1977 10 07	675	1.0+ 1.5-	1977 10 22	675	1.5+ 1.3-	1998 03 25	704	0.1- 1.6+
1977 10 11	675	0.4- 0.0	1977 10 22	675	1.2+ 0.5+	1998 04 20	704	0.7+ 0.2-
1977 10 11	675	0.3- 0.0	1998 03 24	704	0.3+ 0.1-	1998 04 20	704	1.1+ 0.4-
1977 10 12	675	0.7- 1.2-	1998 03 24	704	0.5- 0.3+	1998 04 20	704	0.8+ 0.2+
1977 10 12	675	0.3+ 1.3-	1998 03 24	704	0.2+ 0.0	1998 04 20	704	0.8+ 0.5-
1977 10 16	675	0.9- 1.1+	1998 03 24	704	0.5- 0.1+	1998 04 20	704	0.5- 0.5-
1977 10 16	675	2.1- 1.4+	1998 03 24	704	0.4- 1.1+	1998 04 22	704	0.2+ 0.6-
1977 10 17	675	0.1+ 0.5-	1998 03 25	704	0.5- 0.2+	1998 04 22	704	0.4+ 0.2-
1977 10 17	675	2.0- 0.4-	1998 03 25	704	0.3+ 0.2-	1998 04 22	704	0.7+ 0.7-
1977 10 21	675	0.7+ 0.7+	1998 03 25	704	4.0- 2.2-	1998 04 22	704	0.1+ 0.9+
1977 10 21	675	1.9+ 1.5+	1998 03 25	704	0.5+ 0.8+	1998 04 22	704	0.1+ 0.7-

4245 T-3 = 1981 WC₂ = 1998 FC₇₈

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	137.53869	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.26139935	ω	9.32082	+0.31779401
<i>a</i>	2.4225145	Ω	62.22424	+0.86126050
<i>e</i>	0.1288834	<i>i</i>	7.52874	+0.39653161
<i>P</i>	3.77	<i>H</i>	14.5	<i>U</i>
			<i>G</i>	0.15
				4

Residuals in seconds of arc

1977 10 07	675	0.7+ 0.9-	1977 10 22	675	0.7- 1.4+	1998 03 25	704	1.1- 0.7-
1977 10 11	675	0.7+ 1.4-	1981 11 23	046	0.8+ 0.8+	1998 04 20	704	0.5- 0.6-
1977 10 11	675	0.1+ 0.8-	1981 11 23	046	0.7- 1.1-	1998 04 20	704	0.1+ 0.2+
1977 10 12	675	0.2+ 0.7+	1998 03 24	704	0.0 0.7+	1998 04 20	704	0.9+ 0.3+
1977 10 12	675	0.1+ 0.5+	1998 03 24	704	0.1+ 0.4+	1998 04 20	704	1.1+ 0.7-
1977 10 16	675	1.0- 1.1+	1998 03 24	704	0.0 1.6-	1998 04 20	704	0.5- 0.3+
1977 10 16	675	1.3- 0.7+	1998 03 24	704	1.4- 1.4+	1998 04 22	704	0.1+ 0.0
1977 10 17	675	0.5+ 0.4-	1998 03 24	704	0.1- 1.6+	1998 04 22	704	0.8+ 0.1-
1977 10 17	675	0.0 0.6-	1998 03 25	704	0.4+ 0.3-	1998 04 22	704	0.3+ 0.9-
1977 10 21	675	0.8- 0.7+	1998 03 25	704	0.9+ 0.1+	1998 04 22	704	0.5- 1.3-
1977 10 21	675	0.5- 0.5-	1998 03 25	704	0.6- 0.3-	1998 04 22	704	(0.4- 2.1-)
1977 10 22	675	2.2+ 1.0-	1998 03 25	704	0.1- 0.7+			

5721 T-3 = 1998 FT₈₂

Epoch 1998 July 6.0 TT = JDT 2451000.5

Williams

<i>M</i>	345.25847	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.21348472	ω	95.57225	-0.85198424
<i>a</i>	2.7726275	Ω	115.12007	-0.51732136
<i>e</i>	0.0868209	<i>i</i>	7.60982	-0.08063164
<i>P</i>	4.62	<i>H</i>	14.5	<i>U</i>
			<i>G</i>	0.15
				7

Residuals in seconds of arc

1977 10 11	675	1.3- 0.9+	1977 10 16	675	3.2+ 0.6-	1998 03 24	704	0.7+ 0.2+
1977 10 11	675	1.6- 0.7+	1977 10 17	675	1.6+ 0.6+	1998 03 24	704	0.1+ 0.4-
1977 10 12	675	0.2+ 1.2-	1977 10 17	675	0.1- 0.9+	1998 03 25	704	0.9- 0.1-
1977 10 12	675	0.0 1.4-	1977 10 21	675	0.0 0.4-	1998 03 25	704	0.6+ 0.5+
1977 10 16	675	0.2- 0.2+	1977 10 21	675	1.3- 1.6+	1998 03 25	704	0.0 0.9+
1977 10 16	675	1.7+ 1.5-	1998 03 24	704	0.4- 0.8+	1998 03 25	704	1.0+ 0.6-
1977 10 16	675	2.1- 0.4+	1998 03 24	704	0.3+ 1.8-	1998 03 25	704	1.3- 0.5+

Object	<i>H</i>	<i>G</i>	Epoch	<i>M</i>	ω	Ω	<i>i</i>	<i>e</i>	<i>a</i>	Obs.	Opp. & Arc	rms	Perts	<i>U</i>	Computer	<i>MPC</i>	Object
(41)	7.12	0.10	19980706	302.60545	46.12124	178.34120	15.77067	0.2747534	2.7623092	618	67 1856–1997	0.55	M-v	0	Goffin	22696	(41)
(87)	6.94	0.15	19980706	17.04240	268.94532	73.42435	10.84311	0.0813995	3.4962962	666	73 1866–1997	0.53	M-v	0	Goffin	22072	(87)
(136)	9.69	0.15	19980706	211.29816	132.40306	186.62386	9.57416	0.0844403	2.2871738	180	49 1874–1997	0.56	M-v	0	Goffin	31578	(136)
(313)	8.90	0.15	19980706	285.73580	315.83904	176.86450	11.64235	0.1791588	2.3759329	633	62 1891–1997	0.56	M-v	0	Goffin	30778	(313)
(371)	8.72	0.15	19980706	139.86721	342.06510	283.87414	7.38991	0.0632596	2.7256600	239	48 1893–1997	0.56	M-v	0	Goffin	31414	(371)
(674)	7.42	0.15	19980706	287.38951	41.52876	58.33278	13.49207	0.1903761	2.9284201	350	49 1901–1997	0.56	M-v	0	Goffin	31223	(674)
(738)	10.13	0.15	19980706	353.26642	44.42223	132.41479	3.52744	0.0634734	3.0342721	148	42 1908–1998	0.55	M-v	0	Goffin	26917	(738)
(928)	10.1	0.15	19980706	24.86495	24.38786	129.98441	17.64694	0.1516485	3.1341154	121	25 1920–1998	0.55	M-v	0	Goffin	26919	(928)
(1069)	9.3	0.15	19980706	266.06859	35.01663	142.59659	13.57041	0.1065379	3.1274220	161	24 1927–1996	0.55	M-v	0	Goffin	26920	(1069)
(1105)	10.09	0.15	19980706	195.58087	223.08249	117.24367	10.95797	0.0978190	3.0148433	46	18 1929–1998	0.71	M-v	1	Forti	26921	(1105)
(1110)	11.8	0.15	19980706	58.42499	77.95422	242.08921	5.85566	0.2416812	2.2178746	110	21 1934–1997	0.53	M-v	0	Goffin	26921	(1110)
(1146)	9.80	0.15	19980706	332.10350	61.68146	214.73503	17.15388	0.2439332	3.0540005	73	19 1930–1998	0.87	M-v	1	Bowell	31225	(1146)
(1437)	8.30	0.15	19980706	353.16950	127.48415	315.82633	20.55380	0.0448685	5.1335511	261	25 1937–1997	0.51	M-v	0	Goffin	23970	(1437)
(1924)	12.8	0.15	19980706	76.11777	151.92738	350.46331	2.73924	0.1332507	2.3387737	53	9 1960–1998	0.99	M-v	2	Williams	31136	(1924)
(1990)	13.14	0.15	19980706	39.93658	11.17201	193.79805	3.12881	0.0513443	2.1737510	51	14 1956–1998	0.96	M-v	1	Williams	29656	(1990)
(2708)	11.8	0.15	19980706	0.17788	330.24157	111.96851	2.77887	0.1674160	3.0884196	81	14 1950–1997	0.54	M-v	0	Goffin	29658	(2708)
(2727)	12.3	0.15	19980706	67.65485	279.65169	202.63454	3.50995	0.1011393	2.6106473	91	18 1939–1998	0.97	M-v	1	Williams	31137	(2727)
(2775)	13.6	0.15	19980706	290.70266	306.29722	102.33707	3.73588	0.1867772	2.4214428	30	10 1953–1996	0.87	M-v	1	Bowell	30470	(2775)
(2959)	11.2	0.15	19980706	278.80689	285.85981	121.52525	5.23051	0.2743463	3.9427348	82	11 1968–1996	0.55	M-v	0	Goffin	31417	(2959)
(3157)	11.5	0.15	19980706	165.02622	317.20325	42.62419	7.57428	0.1357663	3.1582328	40	10 1951–1998	0.70	M-v	1	Forti	26420	(3157)
(3162)	11.3	0.15	19980706	68.92226	317.24146	128.85804	17.91431	0.1486583	3.1618701	39	8 1981–1998	0.81	M-v	1	Williams	30290	(3162)
(3256)	12.4	0.15	19980706	164.60739	267.06259	174.72003	7.82851	0.0989435	2.7769116	18	4 1976–1990	0.79	M-v	2	Williams	27325	(3256)
(3270)	14.5	0.15	19980706	90.95367	326.64153	147.08758	27.64433	0.3306083	2.1486045	48	6 1982–1998	0.84	M-v	2	Williams	30450	(3270)
(3273)	11.4	0.15	19980706	348.33419	208.46776	46.61218	14.10010	0.0376895	3.3988749	38	6 1975–1998	0.70	M-v	1	Williams	31584	(3273)
(3336)	14.4	0.15	19980706	211.78326	122.81810	243.39638	0.85296	0.1866619	2.3245277	95	9 1971–1998	0.83	M-v	1	Williams	29943	(3336)
(3448)	13.1	0.15	19980706	98.80899	349.17813	45.38793	3.39040	0.1178460	2.1922879	29	8 1977–1998	0.72	M-v	1	Bowell	29660	(3448)
(3714)	12.8	0.15	19980706	192.12855	22.41208	29.75874	14.39453	0.1772330	2.5623448	56	7 1973–1998	0.69	M-v	2	Williams	31585	(3714)
(3853)	12.7	0.15	19980706	183.97879	282.37224	143.22342	9.06526	0.1383039	2.8073083	20	6 1981–1998	0.86	M-v	2	Williams	30451	(3853)
(3886)	12.5	0.15	19980706	278.75436	123.43579	185.73346	5.05766	0.0990564	2.7742719	59	7 1949–1998	0.60	M-v	1	Williams	26400	(3886)
(3960)	12.0	0.15	19980706	51.11746	11.66836	85.12712	14.47336	0.2809164	2.6410596	31	6 1955–1998	0.87	M-v	1	Bowell	30659	(3960)
(4204)	13.0	0.15	19980706	342.51186	322.41577	222.96471	3.80957	0.0862092	2.2689752	25	8 1954–1998	0.84	M-v	2	Williams	30900	(4204)
(4245)	13.8	0.15	19980706	218.33004	25.76609	359.23304	1.95249	0.1678379	2.3745482	23	7 1954–1998	0.80	M-v	2	Williams	31538	(4245)
(4326)	12.5	0.15	19980706	338.53661	148.62254	110.88667	4.24843	0.2084685	3.0687220	36	9 1950–1998	0.86	M-v	1	Bowell	31276	(4326)
(4353)	12.4	0.15	19980706	291.16598	196.45363	79.27698	8.99401	0.1077318	2.3463528	56	10 1931–1998	0.99	M-v	2	Williams	31586	(4353)
(4368)	11.3	0.15	19980706	266.92149	98.79764	225.89907	20.98893	0.0110673	3.1825330	31	6 1977–1998	0.96	M-v	1	Williams	31586	(4368)
(4495)	11.3	0.15	19980706	70.08114	214.33400	224.40895	5.26051	0.1592728	3.9261824	43	6 1972–1998	0.80	M-v	1	Williams	29945	(4495)
(4582)	13.0	0.15	19980706	3.32953	119.92666	108.82623	12.46833	0.1494854	2.6741976	27	4 1983–1998	0.90	M-v	1	Williams	27448	(4582)
(4629)	12.8	0.15	19980706	299.17785	291.48039	32.46706	11.92154	0.2028332	2.6610809	27	5 1976–1998	0.73	M-v	2	Williams	30662	(4629)
(4732)	11.3	0.15	19980706	224.97037	150.47184	226.73692	16.88154	0.0625550	3.1599631	34	5 1955–1998	0.87	M-v	1	Williams	29138	(4732)
(4780)	13.8	0.15	19980706	356.73349	118.46815	108.31098	4.67806	0.0599263	2.1702400	37	6 1979–1998	0.99	M-v	2	Williams	31008	(4780)
(4875)	13.0	0.15	19980706	324.60472	159.07358	124.01482	5.25132	0.1783241	2.2434868	34	9 1931–1998	0.85	M-v	1	Williams	28617	(4875)
(4903)	12.1	0.15	19980706	236.17156	249.81229	91.03257	2.54812	0.1679085	3.1602518	57	9 1953–1998	0.72	M-v	1	Williams	31141	(4903)
(5191)	11.6	0.15	19980706	210.51404	145.91767	233.19070	9.03294	0.1107516	3.0101077	63	8 1974–1998	0.86	M-v	1	Williams	30784	(5191)
(5363)	13.7	0.15	19980706	216.78617	135.95106	244.80029	2.76398	0.1751000	2.2410590	54	8 1971–1998	0.80	M-v	2	Williams	29305	(5363)
(5370)	15.7	0.15	19980706	335.81590	161.18677	177.88169	19.03055	0.6327665	3.3432157	103	3 1986–1998	0.79	M-v	1	Williams	26760	(5370)
(5657)	12.8	0.15	19980706	286.35706	203.63803	166.93772	14.16600	0.1678299	2.5852660	22	6 1986–1998	0.43	M-v	1	Williams	30762	(5657)
(5699)	13.9	0.15	19980706	182.80161	148.11861	257.88878	4.32413	0.1733651	2.4037101	61	5 1977–1998	0.74	M-v	1	Williams	30669	(5699)
(5745)	14.1	0.15	19980706	157.02540	28.09995	23.37408	4.88939	0.1592238	2.1910857	60	6 1956–1998	0.75	M-v	2	Williams	27562	(5745)
(5896)	13.8	0.15	19980706	167.51801	335.30898	104.90572	3.09708	0.0125605	2.2846668	21	7 1954–1998	0.73	M-v	2	Williams	31546	(5896)
(5925)	12.8	0.15	19980706	37.23410	141.18914	66.83095	4.42469	0.1863562	2.3708470	36	8 1943–1998	0.89	M-v	2	Williams	29320	(5925)
(5949)	13.4	0.15	19980706	350.04611	175.68947	83.30867	7.31505	0.1042273	2.2672139	44	5 1981–1998	0.64	M-v	1	Williams	29116	(5949)

(5956)	12.7	0.15	19980706	231.20180	182.98453	188.97284	8.95979	0.2913284	2.7118861	31	7	1959–1998	0.83	M-v	2	Williams	31278	(5956)
(6005)	12.3	0.15	19980706	42.49892	107.76873	25.70530	7.63526	0.1500660	2.7012387	54	6	1989–1998	0.75	M-v	1	Forti	31589	(6005)
(6168)	12.9	0.15	19980706	350.20693	87.05027	134.27540	2.55597	0.0770128	3.1589834	79	8	1979–1998	0.88	M-v	1	Williams	31112	(6168)
(6241)	12.1	0.15	19980706	229.80635	52.45635	331.52456	9.13834	0.1129572	2.9993631	42	5	1953–1998	0.78	M-v	2	Williams	28874	(6241)
(6469)	14.6	0.15	19980706	300.37475	150.39034	159.58580	3.95362	0.2034101	2.2196275	63	7	1969–1998	0.70	M-v	1	Williams	29927	(6469)
(6493)	13.1	0.15	19980706	237.89248	240.77233	142.47829	24.72179	0.0834146	1.9488235	40	5	1982–1998	0.78	M-v	2	Williams	29667	(6493)
(6497)	14.0	0.15	19980706	249.48687	121.08558	234.45685	4.70277	0.2152373	2.3138150	32	6	1953–1998	0.76	M-v	2	Williams	29948	(6497)
(6674)	13.4	0.15	19980706	312.40596	177.92701	98.66925	3.73848	0.1493816	2.4591273	53	6	1950–1998	0.68	M-v	1	Bowell	30788	(6674)
(6683)	11.4	0.15	19980706	117.20957	70.74446	34.84922	14.59208	0.0948226	3.0873056	47	5	1973–1998	0.62	M-v	1	Williams	30474	(6683)
(6693)	13.8	0.15	19980706	257.01714	55.25437	317.36897	9.49744	0.2809387	2.3758926	36	6	1962–1998	0.68	M-v	2	Williams	30293	(6693)
(6732)	12.2	0.15	19980706	10.99240	105.39897	113.92019	3.40461	0.1289221	3.0863814	57	10	1981–1998	0.68	M-v	1	Williams	31010	(6732)
(6766)	14.2	0.15	19980706	218.71739	62.32085	309.00431	3.18938	0.1725548	2.6930661	34	6	1960–1998	0.63	M-v	1	Williams	30903	(6766)
(6832)	12.6	0.15	19980706	5.36183	175.02439	52.84768	1.92438	0.1677061	3.1964291	52	7	1978–1998	0.72	M-v	1	Williams	31010	(6832)
(6883)	12.7	0.15	19980706	212.65278	319.40861	79.86145	2.00145	0.1853675	3.1225988	33	7	1978–1998	0.57	M-v	1	Williams	31251	(6883)
(7117)	14.8	0.15	19980706	48.38206	57.53420	131.81084	4.88906	0.0579800	2.1805262	54	5	1980–1998	0.70	M-v	1	Williams	31281	(7117)
(7142)	12.6	0.15	19980706	350.18694	112.61772	112.88167	0.32728	0.1201028	3.1510384	61	6	1987–1998	0.86	M-v	1	Williams	31149	(7142)
(7299)	13.5	0.15	19980706	106.01026	185.58525	263.26175	13.99467	0.2246492	2.6178354	26	7	1975–1998	0.86	M-v	1	Williams	31124	(7299)
(7325)	13.7	0.15	19980706	132.73002	240.80723	176.89903	7.93535	0.1182250	2.3967501	69	7	1981–1998	0.67	M-v	1	Williams	31125	(7325)
(7385)	14.0	0.15	19980706	154.51969	357.30839	78.09362	3.73141	0.1256959	2.3891631	33	5	1981–1998	0.71	M-v	2	Williams	31256	(7385)
(7569)	13.3	0.15	19980706	159.29883	315.41801	93.39626	8.73774	0.3028950	2.5509575	43	6	1951–1998	0.60	M-v	1	Bowell	31266	(7569)
(7607)	12.6	0.15	19980706	218.16566	177.30914	174.57090	4.46560	0.0808072	2.7832490	57	6	1951–1998	0.65	M-v	1	Williams	31402	(7607)
(7674)	12.5	0.15	19980706	244.28165	217.27868	139.77485	2.73373	0.0831312	2.9134695	41	7	1980–1998	0.71	M-v	1	Williams	31595	(7674)
(8125)	11.0	0.15	19980706	46.90112	56.84068	323.13590	13.15804	0.0488520	5.1273908	30	8	1955–1997	0.60	M-v	1	Bowell	31608	(8125)
1931 TD ₃	13.5	0.15	19980706	332.19720	269.75531	42.56707	8.67143	0.2826855	2.3241763	32	5	1931–1998	0.60	M-v	1	Williams	31414	1931 TD ₃
1964 VZ ₂	14.0	0.15	19980706	132.70991	8.02943	71.42885	2.78061	0.2538959	3.0147264	28	5	1964–1998	0.73	M-v	1	Williams	31414	1964 VZ ₂
1971 SB	15.0	0.15	19980706	125.87501	76.46734	355.72802	22.89504	0.0983115	1.8627401	43	4	1971–1998	0.65	M-v	2	Williams	31578	1971 SB
1971 UH ₁	13.0	0.15	19980706	275.80426	255.71328	84.63590	2.81638	0.1832349	3.1971926	29	4	1971–1998	0.77	M-v	1	Williams	27724	1971 UH ₁
1974 SF	15.0	0.15	19980706	194.52813	175.48348	187.57479	4.95909	0.2432918	2.3628050	19	5	1974–1998	0.85	M-v	2	Williams	28610	1974 SF
1975 LT	15.0	0.15	19980706	326.94364	353.23734	302.66991	3.77598	0.2054993	2.2225710	23	5	1952–1998	0.57	M-v	1	Williams	28610	1975 LT
1975 TQ ₃	13.0	0.15	19980706	162.61229	303.20127	35.41023	13.16530	0.1818132	2.6189608	42	5	1954–1998	0.68	M-v	2	Williams	31578	1975 TQ ₃
1975 XF	14.5	0.15	19980706	189.05167	199.82849	157.31881	6.42464	0.1998707	2.3174662	31	4	1975–1998	0.90	M-v	4	Williams	31578	1975 XF
1976 UP ₂	15.0	0.15	19980706	199.35864	349.12510	26.45967	5.03478	0.2020355	2.2280412	30	4	1976–1998	0.75	M-v	4	Williams	31578	1976 UP ₂
1976 UN ₁₄	14.5	0.15	19980706	201.90633	334.91554	53.39424	5.37320	0.0366306	2.2189809	22	3	1976–1998	0.40	M-v	4	Williams	28580	1976 UN ₁₄
1976 UB ₁₆	14.0	0.15	19980706	252.14021	299.03879	37.70713	12.20070	0.1791705	2.8136965	23	3	1976–1998	0.66	M-v	3	Williams	26556	1976 UB ₁₆
1977 EK ₁	14.5	0.15	19980706	37.56746	5.11420	193.64805	5.19868	0.1522314	2.2930466	36	7	1977–1998	0.59	M-v	2	Williams	28313	1977 EK ₁
1977 EU ₁	14.0	0.15	19980706	20.18858	15.26577	155.21337	2.01687	0.1043906	2.6211454	35	2	1977–1998	0.58	M-v	4	Marsden	31578	1977 EU ₁
1977 PP ₁	13.5	0.15	19980706	184.52019	164.14225	199.09192	5.02683	0.1032510	2.7497729	33	3	1977–1998	0.76	M-v	4	Williams	31578	1977 PP ₁
1977 QN ₂	14.5	0.15	19980706	267.76846	6.84041	314.54482	2.43524	0.2539365	2.3715152	26	4	1977–1998	0.73	M-v	2	Williams	31578	1977 QN ₂
1977 QD ₃	13.5	0.15	19980706	307.32640	316.63488	7.86183	10.31343	0.2403340	2.6517341	19	6	1977–1998	0.90	M-v	2	Williams	29652	1977 QD ₃
1977 RK	15.0	0.15	19980706	30.39146	133.84580	46.75676	21.46443	0.0500952	1.9515484	35	5	1977–1998	0.72	M-v	2	Williams	31414	1977 RK
1977 RR ₆	14.0	0.15	19980706	170.58640	12.24019	355.63602	4.72882	0.1728616	2.4356501	42	7	1954–1998	0.84	M-v	2	Marsden	31578	1977 RR ₆
1977 RQ ₁₉	15.0	0.15	19980706	220.93098	207.07128	159.18305	3.20171	0.0817697	2.3873816	29	5	1977–1998	0.87	M-v	2	Williams	31578	1977 RQ ₁₉
1978 EU ₉	13.0	0.15	19980706	333.71181	80.02955	157.21029	2.43545	0.0042694	2.9047911	52	5	1978–1998	0.66	M-v	3	Williams	31578	1978 EU ₉
1978 NS	14.5	0.15	19980706	249.86458	276.52435	71.36502	0.44969	0.2067940	3.0241244	25	5	1978–1998	0.62	M-v	2	Williams	29131	1978 NS
1978 PE	14.5	0.15	19980706	233.31483	214.01216	133.41617	5.23413	0.2305752	2.2992693	37	4	1978–1998	0.77	M-v	2	Williams	31579	1978 PE
1978 QE	11.5	0.15	19980706	252.14639	65.00671	283.67871	14.98293	0.1128293	3.0341908	21	6	1975–1998	0.84	M-v	1	Williams	29652	1978 QE
1978 QA ₂	14.5	0.15	19980706	248.72590	154.81888	188.17819	3.67329	0.2212765	2.2999345	52	6	1978–1998	0.99	M-v	2	Williams	31579	1978 QA ₂
1978 RK	12.5	0.15	19980706	161.43647	23.74173	1.79791	18.07772	0.1751472	3.1656872	32	4	1978–1998	0.79	M-v	3	Williams	31579	1978 RK
1978 RU	14.0	0.15	19980706	338.98671	273.14236	12.58262	4.20181	0.2519464	2.5682083	20	5	1978–1998	0.71	M-v	2	Williams	28610	1978 RU
1978 RR ₁	14.5	0.15	19980706	315.74202	161.08106	149.53526	3.38941	0.1737367	2.2715092	19	5	1978–1998	0.50	M-v	1	Williams	29652	1978 RR ₁
1978 RA ₈	13.5	0.15	19980706	126.00081	255.93618	147.38747	1.55132	0.1411968	3.1777087	31	4	1978–1998	0.95	M-v	1	Williams	31579	1978 RA ₈
1978 RQ ₉	14.5	0.15	19980706	344.18007	231.94227	350.02636	6.74789	0.0591059	2.3112442	54	4	1978–1998	0.63	M-v	2	Williams	31579	1978 RQ ₉
1978 SQ ₄	14.5	0.15	19980706	164.89754	37.99975	354.56298	4.50161	0.2214042	2.3498222	44	5	1978–1998	0.66	M-v	2	Williams	31579	1978 SQ ₄

1978 TP ₂	14.5	0.15	19980706	199.16727	246.78079	160.08614	4.30331	0.1531760	2.3135417	15	4	1953–1998	0.68	M-v	3	Williams	22270	1978 TP ₂
1978 TL ₄	12.5	0.15	19980706	164.52030	0.47529	48.07290	10.57802	0.1581065	3.1556890	36	4	1978–1998	0.52	M-v	1	Williams	28882	1978 TL ₄
1978 TT ₈	13.5	0.15	19980706	295.87558	275.76462	56.23518	5.08275	0.2721861	2.5977979	19	3	1978–1998	0.87	M-v	3	Williams	26394	1978 TT ₈
1978 UL ₄	14.0	0.15	19980706	219.38246	172.35964	216.68801	12.89397	0.1982989	2.6271424	14	3	1978–1998	0.89	M-v	4	Williams	20806	1978 UL ₄
1978 UN ₄	13.0	0.15	19980706	350.78497	25.47365	213.43105	13.99569	0.0886113	3.1036695	25	3	1978–1998	0.60	M-v	4	Williams	31579	1978 UN ₄
1978 UR ₄	15.5	0.15	19980706	108.68177	136.04266	312.15722	2.46227	0.1942090	2.3599463	35	4	1978–1998	0.88	M-v	2	Williams	31579	1978 UR ₄
1978 VN ₂	13.5	0.15	19980706	250.96924	358.87272	1.92050	1.34203	0.1913199	3.0958707	28	3	1978–1998	0.65	M-v	4	Williams	29652	1978 VN ₂
1978 VP ₂	14.5	0.15	19980706	82.16278	219.64541	283.88163	1.89787	0.1827673	2.3592422	51	5	1978–1998	0.68	M-v	1	Williams	28314	1978 VP ₂
1978 VF ₃	15.5	0.15	19980706	107.41441	5.50333	50.58639	1.47107	0.2285561	2.3985438	29	3	1978–1998	0.83	M-v	4	Williams	23245	1978 VF ₃
1978 VX ₄	15.0	0.15	19980706	258.30649	269.61389	66.06296	4.27169	0.1468379	2.3309256	23	3	1978–1998	0.75	M-v	4	Williams	31579	1978 VX ₄
1978 VC ₆	14.0	0.15	19980706	265.00679	89.87789	243.87627	9.56134	0.3374526	2.6366629	31	5	1978–1998	0.59	M-v	1	Williams	31579	1978 VC ₆
1978 VD ₇	14.0	0.15	19980706	55.12840	333.97541	74.57153	3.12468	0.0720627	2.8368033	27	6	1949–1997	0.64	M-v	2	Williams	31134	1978 VD ₇
1978 VZ ₇	14.0	0.15	19980706	293.88722	305.18916	23.63989	1.06295	0.2096530	3.0879661	30	6	1978–1998	0.68	M-v	1	Williams	29652	1978 VZ ₇
1978 VD ₉	14.5	0.15	19980706	216.11832	341.61024	34.45929	1.28761	0.0807132	2.3410594	27	3	1978–1998	0.69	M-v	5	Williams	31579	1978 VD ₉
1978 VN ₉	14.5	0.15	19980706	255.68930	261.25271	91.60747	3.61569	0.0867500	2.6580243	24	5	1978–1998	0.52	M-v	1	Williams	29653	1978 VN ₉
1978 VG ₁₁	14.0	0.15	19980706	234.37762	311.24030	64.31984	6.75952	0.2197670	2.6466233	27	5	1978–1998	0.71	M-v	2	Williams	26187	1978 VG ₁₁
1978 VH ₁₁	14.5	0.15	19980706	222.40537	305.55909	71.18560	4.55722	0.0924718	2.6707306	42	4	1978–1998	0.65	M-v	2	Williams	28882	1978 VH ₁₁
1979 KO ₁	14.5	0.15	19980706	344.28589	5.34234	268.07505	7.26404	0.2258965	2.4393943	17	3	1979–1998	0.99	M-v	3	Williams	22429	1979 KO ₁
1979 MH ₆	14.0	0.15	19980706	51.20790	3.70345	120.30992	11.28323	0.0486741	2.9975141	14	3	1979–1998	0.84	M-v	4	Williams	31414	1979 MH ₆
1979 QX	13.5	0.15	19980706	154.41548	143.70734	289.00013	2.36602	0.1433653	2.5337641	33	4	1979–1998	0.60	M-v	2	Williams	29315	1979 QX
1979 SG ₂	15.5	0.15	19980706	258.67599	58.90245	301.04710	5.52602	0.2110668	2.2115272	35	4	1979–1998	0.81	M-v	2	Williams	29653	1979 SG ₂
1979 TH ₂	13.5	0.15	19980706	84.43840	49.36337	25.41458	1.14638	0.1635397	3.1536934	58	3	1979–1998	0.74	M-v	3	Marsden	31579	1979 TH ₂
1979 TT ₂	13.5	0.15	19980706	211.38610	315.11170	42.30832	3.72709	0.2645409	2.5732889	22	3	1978–1998	0.71	M-v	4	Williams	31520	1979 TT ₂
1979 UC ₄	14.0	0.15	19980706	156.55320	57.01751	11.55831	3.53849	0.2322330	2.5794854	19	6	1950–1998	0.64	M-v	1	Williams	29910	1979 UC ₄
1979 YQ	13.5	0.15	19980706	194.14641	318.15907	84.17906	9.04533	0.2444239	2.5827946	46	3	1979–1998	0.59	M-v	3	Williams	22073	1979 YQ
1980 RL ₂	14.5	0.15	19980706	311.72121	8.20908	311.19508	1.73444	0.2119254	2.3984948	14	3	1980–1998	0.78	M-v	4	Williams	21966	1980 RL ₂
1980 TZ ₃	14.0	0.15	19980706	213.65949	101.63395	239.00582	1.55370	0.1462917	2.1762759	25	4	1980–1998	0.51	M-v	2	Williams	31414	1980 TZ ₃
1980 UF ₁	16.0	0.15	19980706	94.74025	347.59313	6.93541	8.33192	0.1714170	2.2658962	12	2	1980–1997	0.25	M-v	5	Williams	30754	1980 UF ₁
1980 VA ₃	14.0	0.15	19980706	110.22074	41.36339	349.67047	3.20262	0.1363679	2.2353084	15	4	1953–1998	0.76	M-v	2	Williams	22492	1980 VA ₃
1981 DF	13.0	0.15	19980706	58.23103	151.87218	331.62487	12.86614	0.1041411	3.1615487	49	3	1981–1998	0.57	M-v	3	Williams	31414	1981 DF
1981 DJ	13.5	0.15	19980706	348.78833	333.98753	231.32134	8.87842	0.0650051	3.1992469	33	2	1981–1998	0.97	M-v	4	Williams	31521	1981 DJ
1981 DV	14.0	0.15	19980706	78.20095	268.55420	209.72379	14.10074	0.0486904	2.6305611	38	3	1977–1998	0.71	M-v	4	Williams	31579	1981 DV
1981 DB ₃	14.0	0.15	19980706	216.04749	131.72613	231.68390	8.12410	0.2039142	2.6108335	23	5	1953–1998	0.83	M-v	2	Williams	25647	1981 DB ₃
1981 DO ₃	13.0	0.15	19980706	256.99327	18.94674	289.54382	6.13754	0.1166679	3.2044030	30	4	1981–1998	0.77	M-v	2	Williams	31579	1981 DO ₃
1981 EF ₅	14.0	0.15	19980706	115.27356	223.96547	224.68750	10.50208	0.2134559	2.5963296	36	7	1954–1998	0.71	M-v	1	Williams	28611	1981 EF ₅
1981 ES ₅	14.0	0.15	19980706	157.13700	77.70782	299.53513	10.05254	0.1861225	2.6497629	15	3	1981–1998	0.80	M-v	5	Williams	19857	1981 ES ₅
1981 EA ₇	14.5	0.15	19980706	214.53466	89.31238	272.63363	5.67872	0.2166542	2.2608504	25	6	1979–1998	0.77	M-v	2	Williams	31579	1981 EA ₇
1981 EO ₇	13.5	0.15	19980706	162.92617	210.68905	200.00745	13.32288	0.1062453	2.5972188	55	4	1954–1998	0.98	M-v	3	Williams	31579	1981 EO ₇
1981 EF ₈	13.0	0.15	19980706	114.51704	211.60447	214.41901	7.43886	0.1601838	3.1721319	67	3	1981–1998	0.77	M-v	3	Williams	31579	1981 EF ₈
1981 EO ₉	12.5	0.15	19980706	208.32991	18.66267	324.33451	10.62214	0.1562309	3.2069794	43	8	1949–1998	0.85	M-v	2	Williams	31579	1981 EO ₉
1981 EU ₉	15.5	0.15	19980706	300.56857	87.83652	214.18422	4.49032	0.1833353	2.2491603	53	2	1981–1998	0.82	M-v	4	Williams	31521	1981 EU ₉
1981 EH ₁₁	13.5	0.15	19980706	214.08612	359.12415	344.47034	13.74763	0.1835864	2.6422769	66	3	1981–1998	0.96	M-v	3	Williams	31579	1981 EH ₁₁
1981 ER ₁₁	15.0	0.15	19980706	66.89700	213.73687	290.13704	2.40041	0.0652146	2.6094352	33	3	1979–1998	1.00	M-v	4	Williams	31579	1981 ER ₁₁
1981 EA ₁₂	15.5	0.15	19980706	126.97062	244.17954	222.28891	2.16689	0.0812862	2.2349847	44	7	1971–1998	0.91	M-v	1	Williams	28611	1981 EA ₁₂
1981 EM ₁₂	14.5	0.15	19980706	297.27391	284.98643	340.24145	15.60328	0.0844421	3.1986217	14	3	1977–1998	0.79	M-v	2	Williams	11045	1981 EM ₁₂
1981 EF ₁₄	15.5	0.15	19980706	349.12901	338.69894	267.23761	2.52387	0.1091662	2.2517659	51	5	1979–1998	0.84	M-v	2	Williams	31580	1981 EF ₁₄
1981 EO ₁₄	14.5	0.15	19980706	261.21823	338.39852	339.18767	14.21606	0.1656241	2.6301193	13	3	1981–1998	1.00	M-v	5	Williams	22429	1981 EO ₁₄
1981 ET ₁₄	14.5	0.15	19980706	96.01517	202.89653	267.38984	2.49526	0.1738133	3.1342429	21	4	1978–1998	0.87	M-v	2	Williams	26187	1981 ET ₁₄
1981 EQ ₁₅	15.0	0.15	19980706	66.90918	231.82244	228.59879	6.05046	0.1988569	2.6464960	25	4	1979–1998	0.95	M-v	2	Williams	28580	1981 EQ ₁₅
1981 EQ ₁₆	14.0	0.15	19980706	108.63800	86.99149	340.09107	13.33958	0.1120443	3.2050980	31	3	1981–1998	0.89	M-v	4	Williams	31580	1981 EQ ₁₆
1981 EL ₁₇	15.0	0.15	19980706	338.78864	43.54508	192.42626	14.09845	0.0774200	2.6211517	28	2	1981–1998	0.81	M-v	5	Williams	31521	1981 EL ₁₇
1981 EM ₁₇	14.0	0.15	19980706	277.54306	153.36721	200.26806	7.40826	0.2417654	2.5533242	30	4	1981–1998	0.77	M-v	3	Williams	28314	1981 EM ₁₇
1981 ET ₁₇	14.5	0.15	19980706	93.37454	151.42105	278.51794	1.18471	0.2431669	2.6336311	31	3	1981–1998	0.80	M-v	4	Williams	31580	1981 ET ₁₇

1981 EP ₁₈	14.5	0.15	19980706	8.49560	34.39920	185.80215	8.52505	0.1287289	3.1353355	30	3	1981–1998	0.84	M-v	4	Williams	15703	1981 EP ₁₈
1981 ET ₁₈	15.5	0.15	19980706	72.23036	138.31759	341.92122	4.03496	0.1716361	2.6161686	36	3	1979–1998	0.89	M-v	3	Williams	31521	1981 ET ₁₈
1981 EJ ₁₉	14.0	0.15	19980706	22.36715	15.95388	142.84556	0.66583	0.1235879	3.1997087	43	3	1978–1998	0.91	M-v	4	Williams	31580	1981 EJ ₁₉
1981 ES ₁₉	16.5	0.15	19980706	339.07388	227.02138	352.15299	5.14151	0.0362834	2.2710489	23	2	1981–1998	0.70	M-v	5	Williams	31580	1981 ES ₁₉
1981 EK ₂₀	14.5	0.15	19980706	314.08227	265.86257	358.84898	11.30399	0.1659829	2.6242292	42	2	1981–1998	0.89	M-v	5	Williams	31521	1981 EK ₂₀
1981 EN ₂₀	16.0	0.15	19980706	104.97960	300.16950	149.44465	2.60998	0.1882008	2.2540250	23	3	1976–1998	1.00	M-v	3	Williams	31522	1981 EN ₂₀
1981 ET ₂₀	15.0	0.15	19980706	13.84050	191.32144	356.87655	8.99511	0.1444713	2.6270769	39	3	1981–1998	0.81	M-v	4	Williams	31580	1981 ET ₂₀
1981 ET ₂₁	15.5	0.15	19980706	77.57283	297.98036	167.19361	4.97506	0.2128862	2.6204244	27	2	1981–1998	0.62	M-v	4	Williams	31522	1981 ET ₂₁
1981 EH ₂₂	15.0	0.15	19980706	330.04486	44.92256	207.63520	1.99960	0.0876137	2.6113824	33	2	1981–1998	0.91	M-v	5	Williams	31522	1981 EH ₂₂
1981 EE ₂₃	15.5	0.15	19980706	264.26815	349.06183	304.89363	2.81641	0.1615192	2.6481122	22	4	1979–1998	0.91	M-v	2	Marsden	25438	1981 EE ₂₃
1981 EG ₂₃	14.5	0.15	19980706	56.17611	101.72562	3.32924	0.91150	0.1771092	3.2082394	30	2	1981–1998	0.82	M-v	5	Marsden	31375	1981 EG ₂₃
1981 EM ₂₃	14.0	0.15	19980706	140.48958	42.52507	3.38298	9.95843	0.2093892	3.1515733	27	2	1981–1998	0.98	M-v	5	Williams	31522	1981 EM ₂₃
1981 ES ₂₃	15.0	0.15	19980706	203.21545	242.74607	155.55995	1.49165	0.1005697	2.5692837	24	4	1981–1998	0.89	M-v	2	Williams	31415	1981 ES ₂₃
1981 ET ₂₃	15.5	0.15	19980706	229.80064	356.56913	6.42839	6.23428	0.1978525	2.2393535	17	3	1981–1998	0.91	M-v	5	Williams	31580	1981 ET ₂₃
1981 EV ₂₃	14.5	0.15	19980706	115.16193	104.65046	358.82962	7.10465	0.1546186	2.5861329	34	4	1979–1998	1.00	M-v	2	Williams	28581	1981 EV ₂₃
1981 EF ₂₄	14.0	0.15	19980706	278.15308	280.86140	22.04954	5.28054	0.1665488	3.1661822	19	5	1976–1998	1.05	M-v	2	Williams	29910	1981 EF ₂₄
1981 EN ₂₄	15.0	0.15	19980706	116.69893	197.63879	254.86140	1.78221	0.1142472	2.2514009	65	3	1981–1998	0.79	M-v	3	Williams	31522	1981 EN ₂₄
1981 ES ₂₄	15.5	0.15	19980706	55.71081	165.96702	337.65364	6.61230	0.0390358	2.2686423	25	3	1979–1998	0.81	M-v	4	Williams	31522	1981 ES ₂₄
1981 EH ₂₅	16.0	0.15	19980706	42.62744	10.69823	175.63285	4.55791	0.1145793	2.5961181	26	4	1981–1998	0.72	M-v	3	Williams	30090	1981 EH ₂₅
1981 ER ₂₅	14.5	0.15	19980706	182.09752	235.46282	175.82582	4.36432	0.1301235	2.5755698	29	4	1981–1998	0.85	M-v	1	Williams	29653	1981 ER ₂₅
1981 EB ₂₆	14.5	0.15	19980706	93.57996	103.51096	349.34819	4.18992	0.1575912	3.1692094	34	3	1981–1998	0.94	M-v	3	Williams	31580	1981 EB ₂₆
1981 EC ₂₇	14.0	0.15	19980706	106.07315	253.65378	129.01224	1.44395	0.0901431	2.7151337	36	5	1981–1998	0.80	M-v	1	Williams	31135	1981 EC ₂₇
1981 EF ₂₇	15.0	0.15	19980706	345.47281	50.65711	186.35219	3.97879	0.1134156	2.6158798	36	4	1977–1998	0.90	M-v	3	Williams	31580	1981 EF ₂₇
1981 EU ₂₇	15.5	0.15	19980706	330.89635	94.73696	171.47088	6.16149	0.2560318	2.2646837	34	2	1981–1998	0.86	M-v	4	Williams	31523	1981 EU ₂₇
1981 EQ ₂₉	13.0	0.15	19980706	221.08268	123.42062	245.91168	4.08293	0.0580875	3.1254600	24	4	1976–1998	0.83	M-v	2	Williams	26395	1981 EQ ₂₉
1981 ET ₂₉	14.0	0.15	19980706	40.49493	278.53593	226.38746	4.58843	0.1015332	3.2016076	28	3	1978–1998	0.89	M-v	4	Williams	31580	1981 ET ₂₉
1981 EO ₃₀	14.5	0.15	19980706	340.38117	74.04204	174.98853	12.29477	0.1691216	2.6126636	37	2	1981–1998	0.87	M-v	4	Williams	31523	1981 EO ₃₀
1981 EP ₃₀	13.0	0.15	19980706	199.41205	223.65342	174.41389	20.56735	0.0232719	3.1010911	16	5	1981–1998	0.83	M-v	2	Williams	29940	1981 EP ₃₀
1981 EF ₃₁	15.0	0.15	19980706	138.64368	261.38439	161.28685	4.23802	0.0538170	2.2647150	41	2	1981–1998	0.80	M-v	5	Williams	31523	1981 EF ₃₁
1981 EW ₃₁	13.5	0.15	19980706	208.69865	212.60167	169.54108	9.92916	0.1138860	3.1121177	36	4	1981–1998	0.96	M-v	2	Williams	29653	1981 EW ₃₁
1981 EL ₃₂	14.5	0.15	19980706	304.65694	289.98581	340.85941	13.07067	0.0687366	2.6161232	19	3	1981–1998	0.84	M-v	5	Williams	31580	1981 EL ₃₂
1981 EL ₃₄	13.5	0.15	19980706	223.48242	102.27123	237.48016	1.14830	0.1618569	3.1730036	22	6	1972–1998	0.96	M-v	2	Williams	24116	1981 EL ₃₄
1981 EB ₃₅	15.0	0.15	19980706	101.55754	268.08035	183.71514	5.61438	0.0503272	2.2684068	33	2	1981–1998	0.85	M-v	5	Williams	31523	1981 EB ₃₅
1981 EZ ₃₇	14.0	0.15	19980706	169.49972	222.09451	190.56146	7.34098	0.0509563	3.1234403	20	3	1978–1998	1.09	M-v	4	Williams	22271	1981 EZ ₃₇
1981 EC ₃₉	14.0	0.15	19980706	310.08359	77.40436	178.61618	26.02554	0.1063296	3.1812780	28	2	1981–1998	0.85	M-v	5	Williams	31523	1981 EC ₃₉
1981 ED ₄₀	14.0	0.15	19980706	88.91812	279.64716	178.61737	11.05504	0.2631579	3.1415827	30	3	1981–1998	1.00	M-v	4	Williams	31580	1981 ED ₄₀
1981 EG ₄₀	14.5	0.15	19980706	87.78126	277.07942	147.23535	1.84853	0.2003376	3.2184331	26	5	1978–1998	0.66	M-v	1	Marsden	31415	1981 EG ₄₀
1981 EP ₄₀	14.5	0.15	19980706	231.46682	129.99033	192.87749	7.09000	0.2161193	2.2890743	21	4	1981–1998	1.09	M-v	2	Williams	21968	1981 EP ₄₀
1981 EZ ₄₀	15.5	0.15	19980706	166.80122	22.05661	349.82396	5.34915	0.1779926	2.2837216	26	3	1981–1998	0.78	M-v	4	Williams	31415	1981 EZ ₄₀
1981 EJ ₄₂	14.5	0.15	19980706	31.85896	350.99449	184.39154	11.33039	0.1242069	3.1654902	21	3	1981–1998	0.95	M-v	3	Williams	31580	1981 EJ ₄₂
1981 ES ₄₂	14.5	0.15	19980706	59.75946	79.36179	16.81653	1.93317	0.1691242	2.6616745	28	5	1977–1998	0.83	M-v	2	Williams	31272	1981 ES ₄₂
1981 EC ₄₃	14.5	0.15	19980706	235.63306	132.53427	188.81240	5.08952	0.1906789	2.2890982	26	2	1981–1998	0.96	M-v	5	Williams	31376	1981 EC ₄₃
1981 ER ₄₅	16.5	0.15	19980706	70.96535	302.70752	192.87202	6.51770	0.1049901	2.2595450	32	2	1981–1998	0.80	M-v	5	Williams	31523	1981 ER ₄₅
1981 EE ₄₇	14.0	0.15	19980706	236.13927	214.15775	162.12371	6.01684	0.2109536	2.5561755	25	4	1981–1998	0.64	M-v	2	Williams	26899	1981 EE ₄₇
1981 ET ₄₇	14.0	0.15	19980706	191.32218	351.44828	358.60993	5.18181	0.1973562	2.6638761	20	3	1981–1998	0.79	M-v	4	Marsden	31580	1981 ET ₄₇
1981 QG	13.0	0.15	19980706	68.94430	341.61003	350.19307	1.19440	0.1908180	3.0564752	25	4	1981–1996	0.97	M-v	1	Williams	28294	1981 QG
1981 QS	14.5	0.15	19980706	124.91318	227.04155	161.30694	5.00862	0.1950009	2.4301139	20	3	1981–1998	0.69	M-v	5	Williams	31524	1981 QS
1981 SL	14.5	0.15	19980706	237.39345	140.35458	196.17301	6.93844	0.2568288	2.3656674	32	5	1981–1998	0.65	M-v	1	Williams	31580	1981 SL
1981 SD ₂	13.5	0.15	19980706	184.68472	345.66000	35.16411	6.39861	0.1302744	2.3850757	50	3	1981–1998	0.68	M-v	3	Williams	31580	1981 SD ₂
1981 SG ₃	14.0	0.15	19980706	178.07791	74.37260	280.25558	3.76390	0.2321012	2.4160763	18	3	1981–1998	0.44	M-v	3	Williams	31415	1981 SG ₃
1981 UU ₁₁	13.5	0.15	19980706	181.72669	216.83780	199.24991	8.74122	0.1329390	2.8063930	26	5	1981–1998	0.63	M-v	1	Williams	29316	1981 UU ₁₁
1981 UD ₂₃	14.5	0.15	19980706	240.05407	299.83419	77.40347	3.32208	0.0830060	2.3584249	20	6	1981–1998	0.53	M-v	1	Williams	29316	1981 UD ₂₃
1981 UV ₂₃	13.0	0.15	19980706	161.08290	318.56711	58.87534	7.11308	0.2340345	2.4312857	28	4	1977–1998	0.56	M-v	3	Williams	31580	1981 UV ₂₃

1981 UE ₂₆	13.0	0.15	19980706	145.73151	277.84070	100.99026	3.13483	0.0731528	2.9134034	44	4	1981–1998	0.57	M-v	3	Williams	31580	1981 UE ₂₆
1981 UH ₂₈	14.0	0.15	19980706	301.86346	292.82779	359.10565	4.11481	0.0429141	2.7876438	32	6	1953–1998	0.80	M-v	1	Williams	28611	1981 UH ₂₈
1981 VF	14.0	0.15	19980706	233.67859	320.69138	32.28416	4.87517	0.2489550	2.3699836	30	4	1981–1998	1.00	M-v	3	Williams	29654	1981 VF
1981 WO	12.5	0.15	19980706	48.31562	48.31485	24.30239	11.05594	0.0897325	2.9981727	25	9	1950–1998	0.89	M-v	1	Williams	29654	1981 WO
1981 WE ₁	13.0	0.15	19980706	222.99850	187.77847	201.90114	10.68264	0.2847109	2.7789866	32	5	1953–1998	0.87	M-v	1	Williams	27931	1981 WE ₁
1982 JM ₁	13.0	0.15	19980706	330.06680	207.97901	77.30880	3.53054	0.1641913	3.0542398	28	6	1978–1998	0.59	M-v	1	Williams	29132	1982 JM ₁
1982 QY ₁	12.5	0.15	19980706	218.49400	135.69820	244.30416	7.01772	0.1245017	2.6515281	26	3	1982–1998	0.64	M-v	4	Williams	19497	1982 QY ₁
1982 SM ₂	14.5	0.15	19980706	227.24375	355.16124	348.76576	5.41220	0.1956552	2.2762848	38	3	1982–1998	0.78	M-v	4	Williams	31580	1982 SM ₂
1982 SJ ₇	13.0	0.15	19980706	247.54404	153.77695	177.30594	6.77051	0.2789786	2.6610568	21	3	1982–1998	0.79	M-v	2	Williams	31580	1982 SJ ₇
1982 SG ₁₂	14.0	0.15	19980706	131.34238	236.38908	184.19815	6.43058	0.1168170	2.3065452	48	5	1977–1998	0.77	M-v	3	Williams	31580	1982 SG ₁₂
1982 US ₁	13.0	0.15	19980706	351.32125	167.57034	65.02786	3.38672	0.2082486	2.2776086	10	2	1982–1998	0.98	M-v	7	Marsden	31524	1982 US ₁
1982 UY ₆	13.5	0.15	19980706	291.54329	297.18903	33.87560	6.61680	0.2510330	2.6325418	28	7	1969–1998	0.97	M-v	2	Williams	29654	1982 UY ₆
1982 YR ₁	14.5	0.15	19980706	37.22878	46.82463	7.09057	5.93686	0.2175328	2.4575508	24	3	1982–1998	0.72	M-v	2	Williams	31272	1982 YR ₁
1983 BD	12.0	0.15	19980706	211.61529	258.79820	115.41747	15.18897	0.1556861	2.7631265	39	5	1974–1998	0.68	M-v	2	Williams	31580	1983 BD
1983 CH	13.5	0.15	19980706	302.49857	343.04303	98.05440	5.96809	0.0941288	2.2059486	38	6	1983–1996	0.72	M-v	1	Williams	31580	1983 CH
1983 CZ ₂	14.5	0.15	19980706	45.38806	192.89774	319.56871	6.48722	0.1755305	2.4098612	45	3	1979–1998	0.78	M-v	3	Williams	31580	1983 CZ ₂
1983 RL	15.0	0.15	19980706	187.03880	28.95945	339.93792	19.07211	0.1175751	1.9193891	42	3	1983–1998	0.88	M-v	3	Marsden	31415	1983 RL
1983 RL ₃	15.0	0.15	19980706	214.31367	67.20184	295.15437	3.06706	0.1424942	2.1700804	58	3	1976–1998	0.76	M-v	4	Williams	31524	1983 RL ₃
1983 RL ₄	13.5	0.15	19980706	158.37448	213.08414	166.54086	17.63864	0.2721415	2.6353785	30	4	1981–1998	0.72	M-v	2	Williams	31581	1983 RL ₄
1983 XG	12.5	0.15	19980706	248.67798	162.13436	208.97390	4.84344	0.1592197	3.1802871	40	7	1983–1998	0.71	M-v	1	Marsden	30287	1983 XG
1984 DR	14.0	0.15	19980706	149.95492	291.52099	141.44380	5.79502	0.1379529	2.2523800	71	5	1969–1998	0.69	M-v	1	Williams	31581	1984 DR
1984 DZ	14.5	0.15	19980706	330.16675	259.59782	345.81896	7.78638	0.2085583	2.3173017	64	4	1953–1998	0.80	M-v	4	Marsden	31581	1984 DZ
1984 EU ₁	14.5	0.15	19980706	78.33655	169.62804	333.91182	3.58311	0.1390052	2.2836954	34	4	1984–1998	0.57	M-v	1	Williams	28084	1984 EU ₁
1984 HH ₁	14.5	0.15	19980706	322.23761	83.00934	166.72586	2.44290	0.1949135	2.3442380	24	3	1984–1998	0.74	M-v	5	Marsden	31376	1984 HH ₁
1984 SV ₅	13.0	0.15	19980706	227.39738	344.12597	1.48577	9.00948	0.0828324	3.0397913	76	3	1984–1998	0.81	M-v	4	Williams	31524	1984 SV ₅
1984 SC ₆	14.5	0.15	19980706	291.35921	209.64030	96.46102	3.31654	0.2079159	2.4013628	63	4	1984–1998	0.83	M-v	2	Williams	31581	1984 SC ₆
1985 JU ₁	14.5	0.15	19980706	339.39808	180.33858	90.53225	5.08122	0.1329890	2.1982177	37	7	1976–1998	0.82	M-v	2	Williams	28883	1985 JU ₁
1985 QM ₅	13.5	0.15	19980706	206.89072	188.67243	149.42469	2.54209	0.1401193	2.9419058	43	4	1978–1998	0.79	M-v	3	Williams	31581	1985 QM ₅
1985 TS	14.5	0.15	19980706	251.22190	359.56462	5.41055	3.79008	0.1243740	2.2937187	16	4	1978–1998	0.69	M-v	4	Williams	28315	1985 TS
1985 TJ ₁	12.5	0.15	19980706	203.11201	290.50723	26.61557	10.91382	0.0833183	3.0076959	40	4	1975–1998	0.85	M-v	3	Williams	31272	1985 TJ ₁
1985 UJ ₃	14.5	0.15	19980706	252.61174	222.16235	107.86533	1.26901	0.2412891	2.3177474	49	4	1978–1998	0.77	M-v	4	Williams	31581	1985 UJ ₃
1985 UF ₅	14.0	0.15	19980706	118.90293	224.70818	205.25635	4.11618	0.1987768	2.4169458	56	5	1981–1998	0.79	M-v	3	Williams	31581	1985 UF ₅
1985 VG	13.5	0.15	19980706	208.46988	286.09868	94.32489	4.00400	0.0566211	2.3507217	45	7	1961–1998	0.80	M-v	2	Williams	29655	1985 VG
1985 VF ₁	14.5	0.15	19980706	157.78158	151.59909	272.19357	1.21961	0.2146346	2.3587491	39	4	1985–1998	0.75	M-v	2	Williams	29655	1985 VF ₁
1986 AT ₂	11.5	0.15	19980706	117.08035	291.13526	147.98171	19.19335	0.1500893	3.1682490	41	4	1986–1998	0.52	M-v	2	Williams	31581	1986 AT ₂
1986 QF ₁	14.5	0.15	19980706	176.87871	15.19458	9.47358	5.27010	0.1389973	2.2158746	70	2	1986–1998	0.62	M-v	5	Williams	31524	1986 QF ₁
1986 QX ₁	14.0	0.15	19980706	296.39768	265.88125	18.51695	3.17783	0.0984224	2.1733301	97	3	1986–1998	0.61	M-v	3	Williams	31524	1986 QX ₁
1986 QU ₂	13.5	0.15	19980706	337.20775	198.02234	21.62114	3.62775	0.0340804	2.7265198	57	2	1986–1998	0.54	M-v	4	Williams	31525	1986 QU ₂
1986 QC ₃	14.5	0.15	19980706	128.60470	57.73096	356.07486	7.63311	0.0927699	2.2379873	40	2	1986–1998	0.84	M-v	5	Williams	31525	1986 QC ₃
1986 QG ₃	13.5	0.15	19980706	203.04691	344.32578	13.65306	5.12841	0.1481460	2.7470001	39	2	1986–1998	0.83	M-v	5	Williams	31525	1986 QG ₃
1986 TU ₆	11.5	0.15	19980706	204.73282	357.63917	286.46463	8.96753	0.0737056	3.0038270	37	9	1952–1998	0.57	M-v	1	Williams	24407	1986 TU ₆
1987 BB ₂	15.0	0.15	19980706	113.85127	226.31939	234.12005	1.98621	0.1839216	2.3017639	29	4	1977–1998	0.80	M-v	4	Williams	23336	1987 BB ₂
1987 DO	15.0	0.15	19980706	47.71489	357.93898	144.01195	2.72672	0.1732707	2.3679038	44	3	1987–1998	0.86	M-v	3	Williams	31525	1987 DO
1987 DQ ₆	12.0	0.15	19980706	175.60718	14.77968	352.87520	16.02886	0.0743000	3.1101043	65	3	1932–1998	0.65	M-v	3	Williams	31581	1987 DQ ₆
1987 QT ₁	14.0	0.15	19980706	64.49332	298.52432	331.01696	5.47461	0.2246514	2.3072920	33	4	1955–1994	0.98	M-v	3	Williams	23536	1987 QT ₁
1987 QE ₇	13.5	0.15	19980706	179.59479	180.40396	191.37940	11.84009	0.1863247	2.6242654	30	2	1987–1998	0.86	M-v	5	Williams	31526	1987 QE ₇
1987 RQ ₂	14.0	0.15	19980706	238.46322	298.35620	60.27721	3.04711	0.2632503	2.5335616	33	7	1955–1998	0.80	M-v	2	Williams	29316	1987 RQ ₂
1987 RA ₃	14.0	0.15	19980706	251.45229	166.83523	139.98298	4.35645	0.2405998	2.5714533	21	3	1987–1998	0.72	M-v	4	Williams	31416	1987 RA ₃
1987 RO ₅	11.5	0.15	19980706	126.55359	216.89987	158.54748	6.81577	0.2911769	3.9484298	42	3	1987–1998	0.71	M-v	4	Marsden	31581	1987 RO ₅
1987 SU	14.0	0.15	19980706	131.72593	16.79875	349.98663	3.83300	0.1097161	2.1645570	23	7	1955–1998	1.07	M-v	2	Williams	29941	1987 SU
1987 SC ₁	14.0	0.15	19980706	188.75066	261.98215	139.70459	5.35318	0.2548728	2.5880556	34	4	1987–1998	0.82	M-v	2	Williams	29655	1987 SC ₁
1987 SH ₄	13.5	0.15	19980706	229.86710	313.77811	18.19978	13.88623	0.1950367	2.5990164	43	4	1987–1998	0.67	M-v	3	Williams	31581	1987 SH ₄
1988 EA ₂	14.5	0.15	19980706	14.75338	24.46815	156.60854	3.69208	0.0636149	2.2584780	51	4	1971–1998	0.70	M-v	3	Marsden	31581	1988 EA ₂

1988 MF	14.0	0.15	19980706	143.22130	350.41465	110.28602	25.34360	0.0307484	1.8666267	46	6	1988–1998	0.89	M-v	2	Marsden	27727	1988 MF
1988 PD ₁	14.5	0.15	19980706	257.84530	178.21141	172.51568	25.51460	0.2180016	2.3358339	26	4	1988–1998	0.57	M-v	3	Williams	25648	1988 PD ₁
1988 PN ₁	14.5	0.15	19980706	213.96232	200.02506	155.81325	3.01360	0.1993745	2.4137762	23	2	1988–1998	0.79	M-v	4	Williams	31526	1988 PN ₁
1988 PZ ₁	13.0	0.15	19980706	268.19634	318.42544	24.33666	0.48985	0.1735913	3.1748833	29	5	1979–1998	0.85	M-v	1	Williams	24239	1988 PZ ₁
1988 RK	14.0	0.15	19980706	202.34126	193.29627	176.46171	12.67270	0.1860512	2.4268175	34	4	1954–1998	0.85	M-v	2	Williams	31581	1988 RK
1988 RJ ₃	14.5	0.15	19980706	281.91669	292.62739	357.21983	2.33218	0.1560385	2.3999226	37	2	1988–1998	0.75	M-v	5	Williams	31526	1988 RJ ₃
1988 RS ₃	15.0	0.15	19980706	253.04123	200.57749	157.43240	2.51426	0.2436293	2.3601624	30	3	1988–1998	0.64	M-v	3	Williams	28841	1988 RS ₃
1988 RD ₆	14.5	0.15	19980706	197.81031	312.98122	49.43603	2.08569	0.1962485	2.4260868	40	5	1988–1998	0.79	M-v	2	Williams	31581	1988 RD ₆
1988 RL ₆	14.5	0.15	19980706	240.65793	180.26378	160.01579	7.33147	0.1484979	2.3929615	39	2	1988–1998	0.57	M-v	4	Williams	31526	1988 RL ₆
1988 RC ₇	13.0	0.15	19980706	202.58357	206.75706	177.19234	10.90375	0.2218056	2.4086550	52	5	1979–1998	0.72	M-v	2	Williams	30686	1988 RC ₇
1988 RV ₁₀	13.5	0.15	19980706	49.36870	35.00476	148.73442	2.87131	0.1178734	3.1993871	36	6	1988–1998	0.76	M-v	1	Williams	29656	1988 RV ₁₀
1988 SN	13.5	0.15	19980706	228.60777	21.00399	1.14816	6.82631	0.1331743	2.3831272	30	3	1988–1998	0.90	M-v	3	Williams	29656	1988 SN
1988 SN ₁	14.5	0.15	19980706	281.11495	210.55041	114.79951	7.55122	0.1651676	2.3430618	30	4	1988–1998	0.79	M-v	2	Williams	31581	1988 SN ₁
1988 TE	14.0	0.15	19980706	231.67192	97.63740	261.68934	1.17427	0.2243257	2.4032440	50	4	1976–1998	0.98	M-v	2	Williams	31581	1988 TE
1988 TG	14.0	0.15	19980706	183.76822	197.17408	204.36739	25.11597	0.2762969	2.4451701	47	3	1988–1998	0.85	M-v	3	Williams	29941	1988 TG
1988 TM ₁	14.0	0.15	19980706	192.87120	193.53828	213.40120	1.79760	0.1878221	2.4202245	30	4	1982–1998	0.79	M-v	2	Williams	29941	1988 TM ₁
1988 VP	12.5	0.15	19980706	150.20815	346.20430	54.50188	14.39937	0.0663819	2.5376740	78	7	1984–1998	0.67	M-v	2	Williams	31581	1988 VP
1988 VH ₁	14.0	0.15	19980706	121.82196	182.07105	239.16448	4.52763	0.2952360	2.5574352	64	5	1984–1998	0.78	M-v	3	Williams	31581	1988 VH ₁
1988 VS ₂	13.5	0.15	19980706	158.62824	154.17649	211.64031	13.13682	0.1894869	2.5762845	37	5	1988–1998	0.67	M-v	2	Williams	29656	1988 VS ₂
1988 VO ₃	14.5	0.15	19980706	149.35890	0.24209	15.33154	4.90787	0.2472039	2.5650525	32	5	1951–1998	0.81	M-v	2	Williams	31582	1988 VO ₃
1988 VR ₃	14.0	0.15	19980706	231.98497	194.25296	183.34254	2.24987	0.2042977	2.4136799	30	4	1988–1998	0.86	M-v	3	Williams	29134	1988 VR ₃
1988 VE ₇	14.0	0.15	19980706	142.28685	292.24412	138.69587	6.69472	0.2184384	2.5251135	32	5	1976–1998	0.64	M-v	3	Williams	31582	1988 VE ₇
1988 XE	13.5	0.15	19980706	85.87405	169.47177	252.74661	12.74440	0.2951539	2.6498421	21	3	1962–1998	0.74	M-v	3	Williams	31526	1988 XE
1988 XL	14.0	0.15	19980706	233.75708	120.14236	220.68718	3.05678	0.1318543	2.4878087	43	2	1988–1998	0.69	M-v	5	Williams	31527	1988 XL
1989 AW ₅	14.0	0.15	19980706	117.49212	354.21541	95.64182	3.11418	0.1080656	2.6078369	35	3	1989–1998	0.76	M-v	5	Williams	31582	1989 AW ₅
1989 BZ	13.0	0.15	19980706	4.97002	232.36979	330.41448	12.20392	0.1000280	2.6459252	42	3	1987–1998	0.72	M-v	3	Williams	31527	1989 BZ
1989 CO ₅	14.0	0.15	19980706	279.27912	188.37050	142.56684	3.10425	0.1215532	2.5472554	30	6	1989–1998	0.63	M-v	1	Williams	28613	1989 CO ₅
1989 CE ₆	13.5	0.15	19980706	276.22583	313.96390	326.11882	12.09020	0.1575761	2.6995764	47	2	1989–1998	0.57	M-v	4	Williams	31582	1989 CE ₆
1989 EC ₃	14.0	0.15	19980706	126.82369	278.28744	184.68097	8.60857	0.1236311	2.5718609	31	8	1952–1998	0.70	M-v	1	Williams	28884	1989 EC ₃
1989 GS ₄	14.0	0.15	19980706	312.48673	95.41739	176.31931	2.34549	0.1501515	2.7570993	53	3	1989–1998	0.59	M-v	3	Williams	31582	1989 GS ₄
1989 KF	12.5	0.15	19980706	320.87054	153.25731	83.31323	16.27817	0.0956675	2.8542133	31	3	1989–1998	0.75	M-v	3	Williams	31416	1989 KF
1989 RL	14.5	0.15	19980706	242.16033	155.28300	176.94624	3.09145	0.1813301	2.2221703	26	2	1989–1998	0.93	M-v	4	Williams	31527	1989 RL
1989 SO	12.0	0.15	19980706	177.00665	152.82296	254.22864	4.88097	0.1654848	3.1865507	34	4	1987–1998	0.79	M-v	2	Williams	26419	1989 SO
1989 SZ ₁	15.0	0.15	19980706	347.10790	101.88419	158.89674	4.17565	0.1599132	2.1946135	37	4	1953–1998	0.82	M-v	3	Williams	31527	1989 SZ ₁
1989 SA ₃	12.5	0.15	19980706	154.32533	4.36073	61.36495	7.92284	0.1134315	3.1885843	42	6	1954–1998	0.67	M-v	1	Williams	26419	1989 SA ₃
1989 SD ₃	14.5	0.15	19980706	206.86917	340.81069	41.95163	4.95865	0.1558018	2.2532504	42	3	1989–1998	0.83	M-v	4	Williams	31582	1989 SD ₃
1989 SN ₃	13.5	0.15	19980706	233.21613	185.41697	173.53206	5.35372	0.1740836	3.0876056	25	3	1989–1998	0.90	M-v	4	Williams	31377	1989 SN ₃
1989 SV ₃	15.5	0.15	19980706	122.22988	260.42036	159.68020	4.32220	0.2183112	2.3586550	52	4	1989–1998	0.90	M-v	1	Williams	31582	1989 SV ₃
1989 SM ₄	14.0	0.15	19980706	248.71758	248.85618	109.12588	2.51681	0.1314822	3.0458348	27	4	1989–1998	0.87	M-v	2	Williams	31582	1989 SM ₄
1989 SC ₈	15.0	0.15	19980706	184.28509	96.65261	295.54217	3.80558	0.2019886	2.2822776	27	4	1989–1998	0.69	M-v	2	Williams	31582	1989 SC ₈
1989 SA ₁₀	14.5	0.15	19980706	113.95231	75.82352	4.65393	7.65906	0.0804390	2.2968607	34	2	1989–1998	0.60	M-v	5	Williams	31528	1989 SA ₁₀
1989 TD	15.0	0.15	19980706	178.62304	50.52932	306.85298	3.01932	0.2559950	2.3222373	20	3	1982–1998	0.99	M-v	3	Williams	21973	1989 TD
1989 TW	14.5	0.15	19980706	235.34282	84.50770	285.00578	4.63764	0.1616665	2.2251948	24	3	1989–1998	0.94	M-v	4	Williams	25080	1989 TW
1989 TT ₂	13.0	0.15	19980706	228.30690	234.74843	125.58334	6.28059	0.1653970	3.1222307	22	3	1989–1998	0.73	M-v	4	Williams	31582	1989 TT ₂
1989 TR ₃	13.5	0.15	19980706	346.59019	60.88712	169.16854	9.51189	0.0370542	3.1625128	35	4	1989–1998	0.76	M-v	2	Williams	31582	1989 TR ₃
1989 TY ₄	15.0	0.15	19980706	307.53164	115.98379	164.04107	5.92673	0.1569845	2.2289237	55	4	1989–1998	0.87	M-v	2	Williams	31582	1989 TY ₄
1989 TY ₁₀	14.5	0.15	19980706	199.82179	180.22671	197.87767	4.91568	0.2227188	2.2717525	29	6	1955–1998	0.92	M-v	2	Williams	31582	1989 TY ₁₀
1989 UE	14.5	0.15	19980706	145.33980	324.47832	68.29426	3.23055	0.2258596	2.3593066	30	3	1989–1998	0.70	M-v	3	Marsden	31582	1989 UE
1989 UO	14.5	0.15	19980706	128.02225	334.44267	72.89250	3.26980	0.2037537	2.3735643	26	4	1989–1998	0.73	M-v	3	Marsden	31582	1989 UO
1989 UL ₁	13.0	0.15	19980706	95.76142	293.82705	44.59842	10.25828	0.1122755	2.5594981	43	5	1971–1998	0.80	M-v	2	Williams	31273	1989 UL ₁
1989 UM ₁	14.5	0.15	19980706	223.01435	306.89486	55.66100	3.06203	0.1933716	2.2652492	40	3	1989–1998	0.88	M-v	4	Williams	31582	1989 UM ₁
1989 UV ₁	13.5	0.15	19980706	231.29856	319.02413	20.57079	0.74239	0.2185950	3.1141231	28	5	1978–1998	0.83	M-v	2	Williams	31528	1989 UV ₁
1989 UW ₂	11.5	0.15	19980706	87.39620	312.22338	205.97293	11.13344	0.0135631	3.1388629	25	5	1977–1998	1.03	M-v	1	Williams	29657	1989 UW ₂

1989 UU ₃	15.0	0.15	19980706	196.11496	209.84611	190.04009	3.35765	0.1746701	2.2675822	25	5	1989–1998	0.96	M-v	2	Williams	28884	1989 UU ₃
1989 UB ₈	13.0	0.15	19980706	212.93252	181.67538	213.16011	4.95748	0.1748885	3.1073210	31	7	1978–1998	0.89	M-v	1	Williams	27119	1989 UB ₈
1989 WT	14.0	0.15	19980706	103.43522	68.49171	67.24324	4.42860	0.0323537	2.2680449	31	5	1984–1998	0.83	M-v	1	Williams	29134	1989 WT
1989 WU ₁	13.5	0.15	19980706	81.22200	110.78582	227.15658	9.93671	0.2788409	2.5893699	47	3	1972–1998	0.99	M-v	2	Williams	31273	1989 WU ₁
1989 WZ ₁	14.0	0.15	19980706	133.22529	353.03510	57.95921	3.27428	0.1916834	2.3859896	25	2	1989–1998	0.92	M-v	4	Williams	31528	1989 WZ ₁
1989 XD ₁	15.0	0.15	19980706	227.52139	221.16496	150.23809	4.88071	0.1613835	2.2483253	33	6	1979–1998	0.90	M-v	2	Williams	28885	1989 XD ₁
1989 YA ₂	14.0	0.15	19980706	38.24796	201.05509	280.04457	5.32311	0.1788527	2.5295751	52	5	1980–1998	0.66	M-v	3	Williams	31273	1989 YA ₂
1989 YV ₄	15.0	0.15	19980706	112.54984	74.44914	33.86978	1.57432	0.1269330	2.3973447	20	5	1976–1998	0.80	M-v	2	Williams	21973	1989 YV ₄
1989 YX ₆	14.0	0.15	19980706	126.57940	326.11174	113.11809	5.17865	0.2051365	2.3815941	35	4	1989–1998	0.78	M-v	3	Williams	31582	1989 YX ₆
1990 BC ₂	14.0	0.15	19980706	55.44797	313.92436	203.80278	5.98137	0.0694056	2.4284700	41	3	1990–1998	0.72	M-v	4	Williams	31528	1990 BC ₂
1990 DZ ₁	14.0	0.15	19980706	67.85479	181.04068	316.05185	5.93664	0.0917385	2.4638752	53	4	1986–1998	0.66	M-v	4	Williams	31582	1990 DZ ₁
1990 EK	13.0	0.15	19980706	80.33343	248.95820	184.40667	7.40267	0.3011657	2.5408874	25	3	1964–1998	0.55	M-v	3	Williams	31528	1990 EK
1990 EM ₁	14.5	0.15	19980706	281.49990	92.52705	234.37051	5.38798	0.1561427	2.4307583	54	3	1990–1998	0.55	M-v	2	Williams	31582	1990 EM ₁
1990 FG	14.0	0.15	19980706	233.11651	2.61785	357.07601	25.74024	0.0305260	1.9107595	48	4	1982–1998	0.84	M-v	3	Williams	31582	1990 FG
1990 GS	13.5	0.15	19980706	252.63143	308.39687	359.33116	11.42625	0.0625123	2.5350870	40	5	1954–1998	0.77	M-v	3	Marsden	31582	1990 GS
1990 HA	16.0	0.15	19980706	7.38213	308.26926	184.81873	3.90687	0.6959405	2.5709092	38	2	1989–1990	0.91	M-v	5	Marsden	27454	1990 HA
1990 HE	14.5	0.15	19980706	300.49229	255.78959	35.61605	24.80171	0.1147893	1.9408379	21	2	1990–1998	0.61	M-v	4	Williams	31528	1990 HE
1990 HP	15.0	0.15	19980706	12.03037	187.61691	32.23273	21.55538	0.0506769	1.9404974	36	4	1980–1998	0.70	M-v	2	Williams	31582	1990 HP
1990 KF	13.0	0.15	19980706	273.87587	208.01237	143.09381	11.25133	0.2222227	2.5379455	38	4	1990–1998	0.66	M-v	1	Williams	31582	1990 KF
1990 OH	14.0	0.15	19980706	279.04447	132.87638	217.17069	13.26764	0.3030638	2.6573928	31	4	1990–1998	0.66	M-v	2	Williams	26579	1990 OH
1990 OZ	14.0	0.15	19980706	313.82667	94.02509	182.22255	12.81859	0.1586338	2.6806419	33	2	1990–1998	0.62	M-v	4	Williams	31528	1990 OZ
1990 OE ₄	13.5	0.15	19980706	255.26164	113.75325	210.96837	7.36362	0.3027664	2.7754973	15	4	1953–1998	0.66	M-v	2	Williams	21974	1990 OE ₄
1990 QR ₁	13.5	0.15	19980706	266.55440	194.04726	129.46646	1.13178	0.0655453	2.7836163	68	3	1990–1998	0.72	M-v	4	Williams	31582	1990 QR ₁
1990 QR ₂	12.5	0.15	19980706	302.18749	322.58619	335.39129	4.43063	0.0610835	2.7678273	32	4	1953–1998	0.76	M-v	1	Williams	22813	1990 QR ₂
1990 QZ ₅	13.0	0.15	19980706	172.53865	246.05348	159.88893	12.95999	0.1576371	2.8584051	54	3	1988–1998	0.73	M-v	3	Williams	31378	1990 QZ ₅
1990 QK ₇	13.0	0.15	19980706	115.96874	272.92739	156.45032	10.39022	0.1029110	2.9814948	39	3	1990–1998	0.60	M-v	3	Williams	31582	1990 QK ₇
1990 QX ₈	13.5	0.15	19980706	196.01375	340.89303	17.86582	2.11694	0.0711305	2.8950950	41	2	1990–1998	0.81	M-v	4	Williams	31529	1990 QX ₈
1990 QM ₉	14.5	0.15	19980706	299.36433	282.05504	14.05089	4.44632	0.0543384	2.7465522	26	3	1990–1998	0.75	M-v	4	Williams	30653	1990 QM ₉
1990 RD	13.0	0.15	19980706	192.52864	206.40159	176.98279	7.81999	0.2265057	2.8745711	34	6	1990–1998	0.72	M-v	1	Williams	31583	1990 RD
1990 RK ₇	14.0	0.15	19980706	127.52092	356.67881	105.35975	2.08590	0.1346046	2.8345910	33	9	1952–1998	0.83	M-v	1	Williams	29658	1990 RK ₇
1990 SB ₆	14.0	0.15	19980706	172.89262	265.94225	125.20532	3.26971	0.1073118	2.9427465	35	4	1990–1998	0.82	M-v	2	Williams	31583	1990 SB ₆
1990 SH ₇	14.0	0.15	19980706	213.77640	253.29262	92.57085	3.07785	0.0759772	2.9160300	36	3	1990–1998	0.72	M-v	4	Williams	31529	1990 SH ₇
1990 SO ₇	14.5	0.15	19980706	244.42089	190.87533	154.59466	7.63272	0.1315499	2.8119988	19	4	1990–1998	0.80	M-v	2	Williams	29316	1990 SO ₇
1990 SV ₁₂	13.0	0.15	19980706	115.31041	319.84503	63.41188	2.27606	0.1743668	3.1758670	24	5	1985–1998	0.53	M-v	1	Williams	31274	1990 SV ₁₂
1990 TO ₃	13.5	0.15	19980706	332.64410	56.71728	216.80945	1.24965	0.0287639	2.8403682	32	6	1990–1998	0.71	M-v	1	Williams	29942	1990 TO ₃
1990 TC ₄	13.5	0.15	19980706	165.90751	160.29819	227.68404	1.43196	0.0946614	3.0382723	41	3	1990–1998	0.77	M-v	4	Williams	31583	1990 TC ₄
1990 TT ₄	13.0	0.15	19980706	132.77731	234.99496	163.46733	10.82599	0.2257029	3.1522202	32	2	1990–1998	0.92	M-v	4	Williams	31529	1990 TT ₄
1990 TE ₇	13.5	0.15	19980706	195.30832	166.76338	211.37816	9.08889	0.0927191	2.9736659	30	4	1980–1998	0.75	M-v	3	Williams	31583	1990 TE ₇
1990 TP ₇	13.5	0.15	19980706	143.34337	63.14881	9.98784	1.43243	0.1040417	3.0038458	45	6	1987–1998	0.74	M-v	1	Williams	29913	1990 TP ₇
1990 TG ₈	13.0	0.15	19980706	107.78345	61.62286	38.52427	17.38004	0.2235293	3.0945864	22	3	1990–1998	0.72	M-v	2	Williams	30756	1990 TG ₈
1990 UB ₁	12.0	0.15	19980706	131.74208	15.46749	32.90390	14.76200	0.1500754	3.1484342	37	3	1990–1998	0.69	M-v	3	Williams	31583	1990 UB ₁
1990 UZ ₁	14.5	0.15	19980706	123.67450	261.99602	135.78041	4.43399	0.1586555	2.2063372	20	3	1990–1998	0.75	M-v	4	Williams	31417	1990 UZ ₁
1990 US ₃	13.0	0.15	19980706	150.74120	283.22491	90.20098	7.30440	0.1478269	3.1654425	19	3	1990–1998	1.07	M-v	4	Williams	31529	1990 US ₃
1990 UJ ₅	12.0	0.15	19980706	214.90356	154.12921	175.30225	9.46383	0.0818453	3.0776585	41	4	1990–1998	0.68	M-v	2	Williams	31583	1990 UJ ₅
1990 VK ₁	13.0	0.15	19980706	225.97429	350.73717	23.72024	3.03250	0.1500123	2.8933776	38	5	1980–1998	0.75	M-v	1	Williams	26757	1990 VK ₁
1990 VZ ₄	13.0	0.15	19980706	316.43026	97.73082	188.39697	9.99491	0.0995471	2.9185300	34	4	1989–1998	0.71	M-v	2	Williams	30895	1990 VZ ₄
1990 VK ₆	12.5	0.15	19980706	224.13425	144.95040	193.41528	12.13057	0.1888844	3.0313591	38	4	1979–1998	0.90	M-v	4	Williams	31583	1990 VK ₆
1990 VQ ₆	13.0	0.15	19980706	229.77603	237.50341	118.55095	10.62528	0.0840860	2.9908614	50	5	1990–1998	0.62	M-v	1	Williams	31583	1990 VQ ₆
1990 VX ₆	13.5	0.15	19980706	219.57243	249.77559	101.84594	11.23539	0.1127153	2.9835181	18	3	1990–1998	0.57	M-v	2	Williams	31583	1990 VX ₆
1990 VZ ₆	12.5	0.15	19980706	116.92335	71.99090	24.29786	8.48164	0.1972559	3.1234665	17	4	1976–1998	0.79	M-v	2	Williams	29098	1990 VZ ₆
1990 VH ₁₂	13.0	0.15	19980706	203.13017	171.91981	199.82873	9.42550	0.0584636	3.0340586	42	3	1979–1998	0.77	M-v	4	Williams	31530	1990 VH ₁₂
1990 VN ₁₄	13.0	0.15	19980706	111.25445	301.45801	127.58786	2.23376	0.1653263	3.1744513	30	3	1986–1998	0.68	M-v	2	Williams	31530	1990 VN ₁₄
1990 WF	13.5	0.15	19980706	114.93187	255.32552	130.94216	4.52739	0.1440951	2.2539933	15	2	1990–1998	0.51	M-v	4	Williams	31274	1990 WF

1990 WM	12.0	0.15	19980706	300.29306	159.87920	98.54531	12.26818	0.0777286	3.0017979	24	3	1982–1998	0.63	M-v	3	Williams	31380	1990 WM
1990 WN ₅	12.0	0.15	19980706	347.17601	162.52634	57.98490	11.17239	0.0430359	3.0131475	41	4	1990–1998	0.80	M-v	2	Williams	31583	1990 WN ₅
1990 XB	12.0	0.15	19980706	135.56086	28.75495	69.44332	10.50599	0.0752329	3.0486544	20	4	1963–1998	0.84	M-v	2	Williams	20150	1990 XB
1991 AB ₂	13.5	0.15	19980706	40.45722	332.58239	175.68184	4.02787	0.1251343	2.2673222	26	3	1991–1998	0.64	M-v	3	Williams	31583	1991 AB ₂
1991 AY ₂	15.5	0.15	19980706	357.35010	253.48491	328.51984	0.74824	0.1013946	2.2410936	33	3	1991–1998	0.74	M-v	3	Williams	29299	1991 AY ₂
1991 ED	14.5	0.15	19980706	300.57399	242.15562	35.25402	7.30107	0.1073907	2.2899509	28	3	1981–1998	0.69	M-v	4	Williams	31583	1991 ED
1991 EY ₁	13.5	0.15	19980706	352.99485	244.68533	318.51419	5.06181	0.1387275	2.3110081	25	2	1991–1998	0.72	M-v	6	Williams	31380	1991 EY ₁
1991 ED ₂	14.0	0.15	19980706	60.78916	343.25460	162.20940	4.70131	0.0962231	2.2658051	47	2	1991–1998	0.58	M-v	4	Williams	31530	1991 ED ₂
1991 EX ₂	15.0	0.15	19980706	123.92169	106.44551	345.73192	8.04403	0.0054807	2.2642035	45	2	1991–1998	0.60	M-v	4	Williams	31530	1991 EX ₂
1991 FS	14.5	0.15	19980706	50.87411	109.22242	35.72510	4.79101	0.1773078	2.3105562	25	2	1991–1998	0.62	M-v	4	Williams	31530	1991 FS
1991 FY	14.0	0.15	19980706	65.08408	342.01326	137.91883	8.36397	0.0570558	2.3359681	29	3	1987–1998	0.42	M-v	3	Williams	31583	1991 FY
1991 FJ ₂	15.0	0.15	19980706	53.17406	356.60175	186.86192	2.97534	0.0936540	2.2421973	24	4	1949–1998	0.53	M-v	2	Williams	29613	1991 FJ ₂
1991 FT ₂	15.5	0.15	19980706	150.86828	80.21207	9.55880	4.07030	0.0688464	2.2205239	20	3	1991–1998	0.68	M-v	4	Williams	25440	1991 FT ₂
1991 FC ₄	15.0	0.15	19980706	38.38562	267.66297	252.52943	2.31225	0.1420101	2.3410474	39	2	1991–1998	0.60	M-v	4	Williams	31530	1991 FC ₄
1991 GW	14.5	0.15	19980706	348.06115	171.33762	38.45083	7.95859	0.1889734	2.3571268	39	3	1991–1998	0.64	M-v	3	Williams	31583	1991 GW
1991 GO ₁	14.0	0.15	19980706	93.78668	251.32927	192.04233	22.70260	0.3136431	2.3405282	53	3	1975–1998	0.81	M-v	3	Williams	31583	1991 GO ₁
1991 GR ₂	14.0	0.15	19980706	290.85985	295.09196	18.57063	2.21338	0.1877868	2.3006054	70	4	1971–1998	0.67	M-v	3	Williams	31583	1991 GR ₂
1991 GT ₂	13.5	0.15	19980706	276.08295	79.33465	199.75457	11.38919	0.2251673	2.4199538	33	4	1976–1995	0.68	M-v	1	Williams	29658	1991 GT ₂
1991 GY ₂	15.5	0.15	19980706	20.08784	346.71264	197.02566	5.26966	0.0941855	2.3401088	38	3	1991–1998	0.79	M-v	4	Williams	31583	1991 GY ₂
1991 GG ₆	13.5	0.15	19980706	220.44441	350.74719	27.04352	4.12700	0.1811527	2.2870550	39	6	1975–1998	0.75	M-v	2	Williams	27934	1991 GG ₆
1991 GE ₈	14.5	0.15	19980706	116.46176	96.10377	15.71746	5.58561	0.0969423	2.2849136	17	3	1989–1998	0.76	M-v	3	Williams	25064	1991 GE ₈
1991 GW ₈	16.5	0.15	19980706	350.33754	290.80641	308.00771	1.37779	0.1989040	2.3302931	38	3	1991–1998	0.83	M-v	5	Williams	31531	1991 GW ₈
1991 GN ₉	15.5	0.15	19980706	87.53136	25.01894	88.35905	1.82662	0.1533373	2.3186781	50	3	1991–1998	0.80	M-v	3	Williams	31531	1991 GN ₉
1991 GC ₁₀	15.0	0.15	19980706	120.85302	59.66171	46.85373	5.30348	0.0926351	2.2725469	45	4	1989–1998	0.75	M-v	1	Williams	28886	1991 GC ₁₀
1991 GM ₁₀	11.5	0.15	19980706	200.23167	235.02469	105.80034	4.64584	0.2268012	3.9967112	40	4	1978–1998	0.65	M-v	2	Marsden	31583	1991 GM ₁₀
1991 GN ₁₀	14.5	0.15	19980706	266.63600	243.19299	101.50444	4.77298	0.1827914	2.2710520	42	4	1991–1998	0.66	M-v	2	Williams	31583	1991 GN ₁₀
1991 HC	14.5	0.15	19980706	351.49442	184.95196	88.88935	4.66191	0.1432004	2.2684540	23	6	1954–1998	0.84	M-v	2	Marsden	29135	1991 HC
1991 JL	14.0	0.15	19980706	24.27290	39.69977	191.39375	5.53578	0.1658229	2.2792667	20	6	1984–1998	0.61	M-v	1	Williams	30289	1991 JL
1991 LH ₁	15.0	0.15	19980706	318.38599	180.15870	106.84509	2.42534	0.0962852	2.3476430	36	4	1991–1998	0.69	M-v	1	Williams	29659	1991 LH ₁
1991 LE ₂	13.5	0.15	19980706	213.00920	269.62122	90.44113	7.34258	0.1615672	2.4525783	24	4	1988–1998	0.91	M-v	2	Williams	27728	1991 LE ₂
1991 LV ₂	14.5	0.15	19980706	269.42032	222.69470	101.71759	3.40394	0.1890855	2.4098787	22	3	1991–1998	0.70	M-v	4	Williams	31531	1991 LV ₂
1991 NS ₂	13.5	0.15	19980706	278.84228	97.21787	185.59376	7.67064	0.1708602	2.5523295	21	6	1979–1998	0.76	M-v	2	Williams	28886	1991 NS ₂
1991 PU	13.5	0.15	19980706	154.52433	80.90587	290.01469	4.16248	0.1295164	2.7104756	34	3	1991–1998	0.74	M-v	3	Williams	31531	1991 PU
1991 PL ₂	15.0	0.15	19980706	301.52059	312.85078	338.96239	4.08494	0.1932201	2.4517274	33	2	1991–1998	0.81	M-v	4	Williams	31531	1991 PL ₂
1991 PK ₃	14.5	0.15	19980706	227.62716	288.59875	57.89414	2.38768	0.1076137	2.5398725	37	3	1991–1998	0.75	M-v	4	Williams	31531	1991 PK ₃
1991 PA ₇	14.5	0.15	19980706	316.62949	311.21368	346.78085	2.26658	0.1706033	2.4204763	43	5	1991–1998	0.59	M-v	1	Williams	29659	1991 PA ₇
1991 PT ₇	15.0	0.15	19980706	343.21488	264.88577	10.96342	2.20088	0.1870309	2.3941458	32	6	1950–1998	0.90	M-v	1	Williams	29942	1991 PT ₇
1991 PN ₈	14.0	0.15	19980706	133.13036	212.91545	175.32921	1.95173	0.2311505	2.7673681	25	4	1982–1998	0.95	M-v	2	Marsden	28886	1991 PN ₈
1991 PP ₉	13.5	0.15	19980706	82.98659	103.16002	328.37700	6.83192	0.2129092	2.7808038	25	2	1991–1998	0.75	M-v	5	Williams	31532	1991 PP ₉
1991 PH ₁₀	13.5	0.15	19980706	183.72578	275.94758	116.18992	1.67316	0.1500910	2.6186965	48	3	1991–1998	0.77	M-v	4	Williams	31583	1991 PH ₁₀
1991 PJ ₁₁	13.5	0.15	19980706	245.11781	87.07886	241.77182	2.88505	0.2005591	2.5903391	27	2	1991–1998	0.87	M-v	4	Williams	31532	1991 PJ ₁₁
1991 PL ₁₃	14.5	0.15	19980706	297.38392	47.01634	268.06888	1.62708	0.1790588	2.4513949	41	3	1991–1998	0.55	M-v	2	Williams	26580	1991 PL ₁₃
1991 PZ ₁₄	13.5	0.15	19980706	306.51937	70.81069	195.87964	6.55771	0.1577157	2.5259087	34	2	1991–1998	0.71	M-v	4	Williams	31532	1991 PZ ₁₄
1991 PL ₁₆	14.0	0.15	19980706	254.71591	323.56566	350.62614	12.24085	0.1786373	2.5920474	26	2	1991–1998	0.82	M-v	4	Williams	31532	1991 PL ₁₆
1991 PV ₃₁	13.5	0.15	19980706	203.35761	151.90401	185.11663	5.46031	0.1195765	2.6403087	22	2	1991–1998	0.44	M-v	3	Williams	31532	1991 PV ₃₁
1991 QF	14.0	0.15	19980706	230.32624	316.59158	42.24774	16.91625	0.3162875	2.5263659	22	4	1991–1998	0.58	M-v	2	Williams	29135	1991 QF
1991 RA ₁	14.0	0.15	19980706	231.07311	49.42771	323.52413	11.81603	0.2057155	2.5491320	35	6	1975–1998	0.66	M-v	2	Williams	29943	1991 RA ₁
1991 RO ₂	14.5	0.15	19980706	301.43945	131.04925	206.00258	5.59765	0.2819332	2.4266771	28	3	1971–1998	0.69	M-v	3	Williams	27120	1991 RO ₂
1991 RD ₇	13.5	0.15	19980706	237.79379	354.63996	3.97841	16.36494	0.1823905	2.5636906	40	6	1954–1998	0.67	M-v	2	Williams	31584	1991 RD ₇
1991 RE ₁₀	13.0	0.15	19980706	116.98146	129.36292	307.55588	6.84865	0.2062520	2.7784361	40	4	1991–1998	0.68	M-v	2	Williams	31584	1991 RE ₁₀
1991 RB ₁₂	13.5	0.15	19980706	101.61138	83.21768	320.06694	12.75018	0.1700324	2.8102490	45	3	1991–1998	0.66	M-v	2	Williams	31584	1991 RB ₁₂
1991 RK ₁₆	14.0	0.15	19980706	235.49208	283.54927	61.64465	2.85453	0.1371373	2.5943735	24	2	1991–1998	0.51	M-v	4	Williams	31532	1991 RK ₁₆
1991 RE ₂₀	13.5	0.15	19980706	85.73052	106.98018	344.26361	11.27400	0.0765907	2.7678387	37	2	1991–1998	0.59	M-v	4	Marsden	31584	1991 RE ₂₀

1991 RT ₂₆	13.0	0.15	19980706	231.03407	161.55159	194.70132	13.20276	0.1669087	2.6184791	38	3	1991–1998	0.61	M-v	3	Williams	31584	1991 RT ₂₆
1991 SR ₁	13.5	0.15	19980706	219.76283	158.27124	208.41213	12.79975	0.1645395	2.6075972	37	3	1949–1998	0.75	M-v	4	Williams	31532	1991 SR ₁
1991 TN	14.0	0.15	19980706	114.84157	112.84297	96.96245	5.59810	0.1088405	2.3518557	13	3	1991–1995	0.47	M-v	5	Williams	26399	1991 TN
1991 TV ₁	14.0	0.15	19980706	238.59560	329.75057	52.32970	8.40492	0.3091275	2.5425935	33	5	1987–1998	0.73	M-v	2	Williams	29135	1991 TV ₁
1991 TE ₄	14.0	0.15	19980706	209.47785	352.89188	23.47928	15.19279	0.2161580	2.6574028	22	2	1991–1998	0.87	M-v	4	Williams	31381	1991 TE ₄
1991 TQ ₆	14.0	0.15	19980706	21.90076	242.08802	285.09227	3.93994	0.0990036	2.7345850	35	5	1980–1998	0.64	M-v	2	Williams	31584	1991 TQ ₆
1991 TF ₇	13.0	0.15	19980706	59.06899	315.69419	217.93606	10.97700	0.2075295	2.5995282	23	5	1977–1998	0.66	M-v	1	Williams	28886	1991 TF ₇
1991 UZ	13.0	0.15	19980706	238.15617	212.16050	168.60115	5.57621	0.2157582	2.5572752	25	6	1954–1998	0.42	M-v	1	Williams	30290	1991 UZ
1991 UV ₂	13.0	0.15	19980706	214.90778	318.74321	59.49397	13.08885	0.2840146	2.6433538	40	5	1978–1998	0.96	M-v	2	Williams	31584	1991 UV ₂
1991 VU	13.0	0.15	19980706	226.29177	141.44493	244.08784	6.97431	0.1554190	2.6115905	26	6	1986–1998	0.81	M-v	2	Williams	29660	1991 VU
1991 VD ₂	12.5	0.15	19980706	82.85918	301.17627	103.67291	3.01772	0.1811694	3.1088137	64	3	1985–1998	0.62	M-v	3	Williams	31275	1991 VD ₂
1991 VN ₄	12.0	0.15	19980706	128.14184	278.90977	93.37561	11.64729	0.1039012	3.0081528	16	2	1991–1998	0.54	M-v	4	Williams	31584	1991 VN ₄
1991 VU ₄	14.0	0.15	19980706	222.86414	252.50367	129.44441	3.77133	0.2317592	2.6200323	23	6	1974–1998	0.62	M-v	1	Williams	29135	1991 VU ₄
1991 VX ₅	13.0	0.15	19980706	354.78663	82.34364	87.11110	10.86047	0.0496444	2.9852918	30	2	1991–1998	0.83	M-v	4	Williams	31418	1991 VX ₅
1991 WB	12.5	0.15	19980706	184.68439	315.07491	79.17087	35.98476	0.3296879	2.7476470	32	3	1977–1998	0.72	M-v	2	Williams	21579	1991 WB
1991 XS	13.0	0.15	19980706	44.07619	244.16928	236.55727	9.95176	0.1380337	3.0267398	26	4	1991–1998	0.79	M-v	1	Williams	31584	1991 XS
1992 AF	13.0	0.15	19980706	79.87701	261.71581	228.48632	7.87662	0.2366385	3.0058884	36	5	1982–1998	0.67	M-v	2	Williams	29317	1992 AF
1992 BD ₂	13.0	0.15	19980706	121.96006	235.01504	145.60711	10.88108	0.2209972	3.1685412	34	2	1992–1998	0.70	M-v	4	Williams	31584	1992 BD ₂
1992 BF ₂	13.0	0.15	19980706	68.88263	321.92413	143.89996	12.49430	0.0918040	3.1326371	44	2	1992–1998	0.72	M-v	4	Williams	31533	1992 BF ₂
1992 BK ₂	12.5	0.15	19980706	218.74575	185.00156	158.56013	10.31025	0.0779014	2.9815994	32	4	1992–1998	0.63	M-v	2	Williams	31584	1992 BK ₂
1992 BF ₄	14.0	0.15	19980706	123.75599	75.41480	39.24114	2.35844	0.0288075	2.8667848	34	5	1978–1998	0.62	M-v	2	Williams	29943	1992 BF ₄
1992 CS	12.5	0.15	19980706	190.05489	211.27553	140.13336	23.56678	0.0745774	3.2375418	32	2	1992–1998	0.68	M-v	4	Williams	31533	1992 CS
1992 CQ ₂	12.5	0.15	19980706	215.99603	172.84064	157.74135	10.22974	0.0849499	3.0713142	43	4	1990–1998	0.78	M-v	1	Williams	31584	1992 CQ ₂
1992 DC ₃	13.0	0.15	19980706	202.51648	234.58250	158.99600	2.44946	0.0918791	2.9672032	35	4	1992–1998	0.62	M-v	2	Williams	29660	1992 DC ₃
1992 DX ₅	13.0	0.15	19980706	252.47022	208.08504	100.26870	2.61774	0.1050736	3.2479852	14	2	1992–1998	0.48	M-v	6	Williams	31533	1992 DX ₅
1992 DO ₆	13.5	0.15	19980706	248.20292	213.98996	123.14374	3.08233	0.0734474	3.0911657	38	4	1992–1998	0.71	M-v	1	Williams	31584	1992 DO ₆
1992 DA ₁₀	13.5	0.15	19980706	191.49895	125.21768	234.07839	4.20214	0.1688453	3.1821557	18	3	1992–1998	0.70	M-v	5	Williams	31584	1992 DA ₁₀
1992 DG ₁₀	15.0	0.15	19980706	115.05546	117.85218	278.43264	2.70762	0.1498524	2.1437232	25	2	1992–1998	0.48	M-v	4	Williams	31231	1992 DG ₁₀
1992 EB ₂	14.5	0.15	19980706	343.36000	65.68168	156.32284	5.96268	0.1133153	3.2248333	26	3	1992–1998	0.84	M-v	4	Williams	31584	1992 EB ₂
1992 ED ₄	13.5	0.15	19980706	65.04734	10.31509	114.01269	2.68763	0.1384909	3.1892768	36	2	1992–1998	0.52	M-v	4	Williams	31533	1992 ED ₄
1992 EG ₄	14.0	0.15	19980706	85.69646	32.65144	76.36535	3.07391	0.1300576	3.1462659	32	2	1992–1998	0.79	M-v	5	Williams	31534	1992 EG ₄
1992 EE ₇	13.0	0.15	19980706	309.29335	161.48393	130.66493	12.15034	0.0911485	3.0436533	27	4	1992–1998	0.54	M-v	1	Williams	29943	1992 EE ₇
1992 EK ₇	14.0	0.15	19980706	50.15759	135.76388	43.15271	6.63041	0.1417713	3.0809575	21	3	1992–1998	0.73	M-v	4	Williams	26421	1992 EK ₇
1992 EE ₁₁	13.5	0.15	19980706	1.69034	133.80533	93.34025	1.91015	0.1366424	3.1188844	47	6	1954–1998	0.61	M-v	1	Williams	28886	1992 EE ₁₁
1992 EH ₁₁	13.0	0.15	19980706	98.54035	308.83237	155.33130	2.15921	0.1405457	3.1224016	31	3	1992–1998	0.70	M-v	4	Williams	31584	1992 EH ₁₁
1992 EQ ₁₁	12.5	0.15	19980706	241.50344	327.47260	39.46844	1.98753	0.1397077	2.9348247	16	5	1977–1998	0.81	M-v	1	Williams	26190	1992 EQ ₁₁
1992 EY ₁₁	13.5	0.15	19980706	54.63161	70.38394	70.66908	2.53575	0.1262009	3.1982873	41	3	1992–1998	0.56	M-v	3	Williams	31584	1992 EY ₁₁
1992 EA ₂₂	12.5	0.15	19980706	353.07309	96.72519	142.94723	12.41081	0.0238880	3.0517742	18	4	1992–1998	0.74	M-v	1	Williams	29317	1992 EA ₂₂
1992 ER ₂₈	14.0	0.15	19980706	253.75215	220.46040	108.93173	2.50877	0.1492837	3.1073441	21	4	1989–1998	0.85	M-v	2	Williams	31584	1992 ER ₂₈
1992 EU ₂₈	12.5	0.15	19980706	276.45776	250.53626	48.95371	1.70404	0.1814163	3.2055219	20	2	1992–1998	0.70	M-v	6	Williams	31534	1992 EU ₂₈
1992 OG ₂	13.0	0.15	19980706	56.08324	281.12944	130.51827	5.24634	0.1333436	2.6390624	29	9	1954–1998	0.86	M-v	1	Williams	29660	1992 OG ₂
1992 OP ₅	14.5	0.15	19980706	279.08742	93.89168	182.16641	3.34904	0.1375269	2.3124534	23	4	1992–1998	0.83	M-v	2	Williams	28086	1992 OP ₅
1992 PC	15.0	0.15	19980706	264.42625	158.18961	196.81946	4.77499	0.2162531	2.1995179	30	4	1991–1998	0.73	M-v	3	Williams	28886	1992 PC
1992 PH ₁	15.5	0.15	19980706	347.98987	320.96000	305.61619	4.16649	0.1066974	2.1709550	20	3	1991–1998	0.75	M-v	4	Williams	29136	1992 PH ₁
1992 PZ ₁	15.0	0.15	19980706	281.30244	144.03454	172.06834	4.89237	0.2160771	2.2249762	30	2	1992–1998	0.66	M-v	4	Williams	31534	1992 PZ ₁
1992 PO ₂	14.5	0.15	19980706	227.99758	149.11108	208.99991	6.10344	0.1427277	2.2935000	44	2	1992–1998	0.57	M-v	4	Williams	31534	1992 PO ₂
1992 QW	15.0	0.15	19980706	256.14259	339.56946	5.65710	5.94099	0.2042295	2.2468370	12	3	1982–1998	0.76	M-v	4	Williams	31534	1992 QW
1992 QS ₁	13.0	0.15	19980706	187.70010	310.36961	80.50339	8.88837	0.1229950	2.3666828	25	4	1983–1998	0.51	M-v	1	Williams	31584	1992 QS ₁
1992 RS ₃	15.5	0.15	19980706	284.06729	103.79200	205.16729	2.34118	0.1406285	2.2607642	32	2	1992–1998	0.66	M-v	4	Williams	31534	1992 RS ₃
1992 RZ ₃	15.0	0.15	19980706	328.22655	46.91984	205.46906	0.65744	0.1193669	2.2779208	39	3	1992–1998	0.70	M-v	5	Williams	31584	1992 RZ ₃
1992 RL ₇	15.0	0.15	19980706	161.24487	312.46877	112.06704	2.75366	0.1780915	2.3656171	30	5	1974–1998	0.91	M-v	2	Williams	29317	1992 RL ₇
1992 SE	14.0	0.15	19980706	122.00753	220.69792	184.77227	12.86207	0.2802951	2.5685185	34	2	1992–1998	0.80	M-v	4	Williams	31534	1992 SE
1992 SF	14.5	0.15	19980706	240.03473	17.09880	3.16102	5.84340	0.1872381	2.2629770	25	5	1975–1998	0.62	M-v	2	Williams	30758	1992 SF

1992 ST	14.5	0.15	19980706	132.79822	16.09225	30.94031	8.17333	0.3920598	2.5562019	45	4	1988–1998	0.78	M-v	2	Williams	31418	1992 ST
1992 SK ₂₆	14.5	0.15	19980706	154.17214	211.87278	167.49462	4.54316	0.1603558	2.5424702	35	4	1980–1998	0.63	M-v	4	Marsden	31418	1992 SK ₂₆
1992 SP ₂₆	14.5	0.15	19980706	208.41741	275.65041	84.20359	4.03333	0.1901075	2.4133382	32	5	1988–1998	0.72	M-v	2	Williams	31418	1992 SP ₂₆
1992 US	14.5	0.15	19921025	356.57270	358.22072	41.09021	8.38236	0.2389303	2.3919719	23	1	14 days	0.70			Williams		1992 US
1992 UX	14.0	0.15	19980706	230.20859	305.38895	66.99138	7.62872	0.1269931	2.3394946	31	3	1992–1998	0.73	M-v	3	Williams	31585	1992 UX
1992 UY	14.5	0.15	19980706	229.71125	206.85403	179.78836	6.51827	0.1819703	2.3101838	28	3	1992–1998	0.72	M-v	3	Williams	29317	1992 UY
1992 UA ₁	13.5	0.15	19980706	95.73092	64.18098	10.49555	14.80028	0.1785864	2.6069295	26	4	1975–1998	0.87	M-v	2	Williams	31585	1992 UA ₁
1992 UF ₁	13.5	0.15	19921025	8.71393	348.99650	31.37573	8.02800	0.2214665	2.4056096	13	1	29 days	0.85			Williams		1992 UF ₁
1992 UD ₂	14.0	0.15	19980706	215.45605	336.87175	45.87495	26.16619	0.2595846	2.3497277	36	3	1992–1998	0.70	M-v	3	Williams	29317	1992 UD ₂
1992 UM ₂	14.5	0.15	19980706	232.06724	293.54503	70.22072	4.79220	0.1721952	2.3442781	26	5	1949–1998	0.71	M-v	2	Williams	29661	1992 UM ₂
1992 UN ₂	14.5	0.15	19980706	189.08152	358.91985	50.30839	3.03848	0.1985129	2.3866190	26	4	1988–1998	0.83	M-v	3	Williams	29943	1992 UN ₂
1992 UD ₃	13.5	0.15	19980706	190.35704	180.53337	230.35557	8.15651	0.1569770	2.3740418	25	6	1955–1998	1.00	M-v	2	Williams	29661	1992 UD ₃
1992 UY ₃	14.0	0.15	19980706	286.21652	313.00202	29.24346	5.16178	0.1850936	2.2568351	41	8	1975–1998	0.88	M-v	2	Williams	29661	1992 UY ₃
1992 UP ₁₀	15.0	0.15	19980706	244.10666	287.74275	83.44367	3.97664	0.2483437	2.3011981	21	4	1971–1998	0.71	M-v	2	Williams	29616	1992 UP ₁₀
1992 WX	13.5	0.15	19980706	258.83968	209.15526	131.20738	5.73898	0.2083657	2.3549395	29	3	1952–1998	0.59	M-v	3	Williams	30274	1992 WX
1992 WJ ₂	14.5	0.15	19980706	286.78406	273.46089	51.50744	7.12569	0.1483117	2.3272282	34	4	1991–1998	0.67	M-v	1	Williams	30290	1992 WJ ₂
1992 WU ₃	14.0	0.15	19980706	199.98821	64.75484	334.86284	1.76882	0.2009797	2.4037784	30	6	1987–1998	0.81	M-v	2	Williams	29136	1992 WU ₃
1992 WG ₅	13.0	0.15	19980706	57.62453	22.49403	88.05345	14.15640	0.1141051	2.7090407	29	4	1989–1998	0.53	M-v	1	Williams	31418	1992 WG ₅
1992 YH	13.0	0.15	19980706	147.66010	339.33646	70.07085	13.84143	0.1937780	2.5898652	30	4	1989–1998	0.54	M-v	3	Williams	31418	1992 YH
1992 YY	12.5	0.15	19980706	13.58226	324.14750	268.56150	11.39703	0.0885671	2.5313131	36	4	1959–1998	0.66	M-v	2	Williams	28887	1992 YY
1992 YE ₁	14.0	0.15	19980706	151.95793	327.65621	79.82456	5.12155	0.1445238	2.5898946	24	3	1992–1998	0.64	M-v	4	Williams	28587	1992 YE ₁
1992 YM ₂	14.0	0.15	19980706	231.64269	286.27037	86.42769	7.95037	0.0983506	2.4469762	21	3	1992–1998	0.45	M-v	3	Williams	28587	1992 YM ₂
1992 YU ₂	14.5	0.15	19980706	141.45846	199.39064	227.98420	4.02269	0.2646666	2.5755859	34	4	1971–1998	0.68	M-v	2	Williams	29136	1992 YU ₂
1992 YE ₄	14.5	0.15	19980706	172.92880	240.24550	150.65876	4.08254	0.2361357	2.5794147	27	3	1979–1998	0.85	M-v	4	Williams	31585	1992 YE ₄
1993 AJ	12.5	0.15	19980706	158.23835	287.01162	116.92159	13.89771	0.2017105	2.6266560	26	3	1991–1998	0.56	M-v	3	Williams	22085	1993 AJ
1993 BA	12.5	0.15	19980706	316.53165	183.33788	114.27044	14.74857	0.0615972	2.5677979	20	4	1975–1998	0.62	M-v	2	Williams	28849	1993 BA
1993 BR ₂	13.5	0.15	19980706	47.94517	125.11839	355.20190	4.66968	0.1982244	2.8656252	21	3	1991–1998	0.73	M-v	3	Williams	31383	1993 BR ₂
1993 BW ₂	17.5	0.15	19980706	231.96454	287.40075	121.17627	21.91728	0.3061313	1.3351964	122	3	1993–1998	0.62	M-v	2	Williams	31585	1993 BW ₂
1993 BR ₃	13.5	0.15	19980706	106.01517	8.79037	120.67050	13.11648	0.1017849	2.6158419	29	3	1993–1998	0.64	M-v	3	Williams	29317	1993 BR ₃
1993 BL ₇	13.5	0.15	19980706	112.47532	181.10664	261.55115	2.86037	0.0689207	2.7558286	48	4	1991–1998	0.73	M-v	1	Williams	31535	1993 BL ₇
1993 FO	13.0	0.15	19980706	240.13792	128.19419	192.86742	1.17463	0.1707968	3.0430462	24	4	1979–1998	0.75	M-v	2	Williams	31535	1993 FO
1993 FA ₂	13.0	0.15	19980706	335.20053	84.54500	98.33641	6.16407	0.1098260	3.1917152	33	2	1993–1998	0.42	M-v	4	Williams	31418	1993 FA ₂
1993 FX ₂	14.0	0.15	19980706	220.01047	240.88536	115.57325	3.19685	0.0990686	2.8946061	27	2	1993–1998	0.60	M-v	5	Williams	31535	1993 FX ₂
1993 FG ₅	14.0	0.15	19980706	36.56952	101.60640	62.02301	2.82594	0.0595801	2.9347396	24	2	1993–1998	0.57	M-v	5	Williams	31535	1993 FG ₅
1993 FH ₅	13.5	0.15	19980706	141.66591	23.61260	45.69642	2.85283	0.0341763	2.8746295	36	3	1993–1998	0.70	M-v	5	Williams	31585	1993 FH ₅
1993 FG ₆	13.0	0.15	19980706	194.59709	320.09405	38.84680	2.06728	0.2060823	2.9854511	30	4	1990–1998	0.77	M-v	2	Williams	31585	1993 FG ₆
1993 FM ₇	14.0	0.15	19980706	143.60640	312.75624	109.17693	3.42429	0.0161490	2.9067201	32	3	1990–1998	0.76	M-v	2	Williams	31585	1993 FM ₇
1993 FO ₈	13.5	0.15	19980706	134.67583	12.28984	88.23447	4.61317	0.0692187	2.7400933	21	3	1993–1998	0.59	M-v	4	Williams	30688	1993 FO ₈
1993 FQ ₁₀	13.0	0.15	19980706	108.43217	57.97489	21.47393	10.31660	0.1042815	2.9654963	19	3	1975–1998	0.58	M-v	4	Williams	31585	1993 FQ ₁₀
1993 FP ₁₁	14.0	0.15	19980706	110.04316	13.43838	78.15584	3.22853	0.0275845	2.9359881	22	2	1993–1998	0.63	M-v	5	Williams	31535	1993 FP ₁₁
1993 FL ₁₅	13.0	0.15	19980706	133.83395	317.51584	87.17461	4.11856	0.1203241	3.0434496	24	4	1980–1998	0.82	M-v	2	Williams	31585	1993 FL ₁₅
1993 FF ₁₈	13.0	0.15	19980706	291.68847	153.31061	114.38991	5.84378	0.1399464	3.0673542	24	2	1993–1998	0.71	M-v	5	Williams	31536	1993 FF ₁₈
1993 FM ₁₉	12.5	0.15	19980706	140.42568	290.71757	120.57157	7.17740	0.2234828	2.9289653	30	6	1982–1998	0.70	M-v	1	Williams	25975	1993 FM ₁₉
1993 FX ₂₀	13.5	0.15	19980706	245.77750	154.81434	179.57982	1.90533	0.0899971	2.9212554	23	2	1993–1998	0.93	M-v	7	Williams	31536	1993 FX ₂₀
1993 FF ₂₁	14.0	0.15	19980706	141.04295	95.61161	355.61044	3.07533	0.0604471	2.7929970	11	3	1993–1998	0.44	M-v	4	Williams	28850	1993 FF ₂₁
1993 FD ₂₂	14.0	0.15	19980706	61.52173	243.72488	211.25225	1.10055	0.2501490	3.0829046	33	4	1991–1998	0.79	M-v	1	Marsden	31585	1993 FD ₂₂
1993 FY ₂₂	14.0	0.15	19980706	85.61796	87.53610	358.20045	8.43256	0.1014735	3.0978926	35	3	1971–1998	0.83	M-v	4	Williams	31585	1993 FY ₂₂
1993 FA ₂₃	13.0	0.15	19980706	154.44350	187.87180	211.08372	5.50130	0.0395007	3.0214489	33	3	1977–1998	0.80	M-v	5	Williams	31585	1993 FA ₂₃
1993 FS ₂₃	14.0	0.15	19980706	257.51927	19.30571	329.99110	2.31618	0.0859513	2.7891113	20	5	1990–1998	0.50	M-v	1	Williams	29137	1993 FS ₂₃
1993 FZ ₂₅	13.0	0.15	19980706	92.13220	190.33122	253.14560	1.85465	0.1096100	3.0350540	31	3	1993–1998	0.50	M-v	4	Williams	31585	1993 FZ ₂₅
1993 FW ₂₆	13.0	0.15	19980706	228.51206	339.43537	356.71684	9.59868	0.0892222	2.9920142	32	2	1993–1998	0.64	M-v	4	Williams	31536	1993 FW ₂₆
1993 FS ₂₇	14.0	0.15	19980706	238.76704	156.05562	211.61462	6.03590	0.0777603	2.7355867	20	3	1993–1998	0.54	M-v	3	Williams	26743	1993 FS ₂₇
1993 FS ₂₉	14.0	0.15	19980706	307.88103	351.03109	289.63733	3.72664	0.0598331	2.8480660	31	4	1993–1998	0.84	M-v	1	Williams	31585	1993 FS ₂₉

1993 FT ₃₃	13.5	0.15	19980706	301.74306	258.58543	46.82991	4.49289	0.0813058	2.7969470	30	8	1976–1998	0.51	M-v	1	Williams	31585	1993 FT ₃₃
1993 FW ₃₄	12.5	0.15	19980706	235.33181	166.90632	136.14501	2.69011	0.1495073	3.2115205	19	3	1989–1998	0.64	M-v	3	Williams	28616	1993 FW ₃₄
1993 FF ₄₀	13.0	0.15	19980706	220.41549	160.71115	176.84605	10.72458	0.0458770	2.9934932	19	2	1993–1998	0.64	M-v	4	Williams	31536	1993 FF ₄₀
1993 FZ ₄₄	14.0	0.15	19980706	70.94336	335.07244	155.79231	2.08039	0.1076176	2.8925278	26	2	1993–1998	0.65	M-v	5	Williams	31537	1993 FZ ₄₄
1993 FF ₄₉	13.5	0.15	19980706	91.24235	78.29828	6.00746	6.61733	0.2404006	2.9393231	37	3	1993–1998	0.65	M-v	3	Williams	31537	1993 FF ₄₉
1993 FH ₄₉	14.0	0.15	19980706	146.79815	227.69497	190.55069	1.64327	0.0763515	2.8953281	44	4	1990–1998	0.88	M-v	3	Williams	31585	1993 FH ₄₉
1993 FC ₅₁	14.0	0.15	19980706	210.63870	47.66283	320.92596	1.21766	0.0706695	2.8599999	35	3	1993–1998	0.75	M-v	5	Williams	31585	1993 FC ₅₁
1993 FR ₅₈	13.5	0.15	19980706	145.44460	190.51589	237.00933	1.01254	0.0901972	2.8325935	70	5	1986–1998	0.75	M-v	2	Williams	31585	1993 FR ₅₈
1993 FF ₇₆	14.0	0.15	19980706	216.90710	135.97236	235.28892	1.20205	0.0061141	2.8486547	20	4	1993–1998	0.39	M-v	1	Williams	29137	1993 FF ₇₆
1993 FK ₈₁	13.0	0.15	19980706	356.58121	13.92185	172.33745	9.97398	0.0421428	3.0521158	32	3	1993–1998	0.56	M-v	3	Williams	31585	1993 FK ₈₁
1993 FX ₈₁	13.0	0.15	19980706	46.62954	69.73280	83.62425	6.62336	0.1256282	2.9397257	31	5	1982–1998	0.87	M-v	2	Williams	31585	1993 FX ₈₁
1993 FF ₈₂	13.5	0.15	19980706	33.22604	168.56142	28.21935	4.72406	0.0117265	2.8074894	38	4	1986–1998	0.65	M-v	3	Williams	25961	1993 FF ₈₂
1993 GL	12.5	0.15	19980706	342.76548	206.16492	48.86935	2.75005	0.0289627	2.8659912	33	3	1993–1998	0.56	M-v	4	Williams	31585	1993 GL
1993 GG ₁	12.5	0.15	19980706	324.16748	153.98384	69.27184	6.34761	0.1002388	3.1358037	65	3	1993–1998	0.43	M-v	3	Williams	31585	1993 GG ₁
1993 HG	13.5	0.15	19980706	314.58362	183.53642	41.98375	1.37668	0.1454815	3.1409620	56	3	1993–1998	0.85	M-v	3	Williams	31585	1993 HG
1993 HH	12.0	0.15	19980706	339.70108	150.15340	37.79507	16.79299	0.0738008	3.2072970	18	3	1990–1998	0.63	M-v	4	Williams	31276	1993 HH
1993 HJ ₃	13.5	0.15	19980706	108.53902	359.94784	104.67959	3.20202	0.0327624	2.8988957	39	3	1993–1998	0.68	M-v	5	Williams	31585	1993 HJ ₃
1993 KT ₁	14.0	0.15	19980706	275.00600	211.16984	77.57496	25.09379	0.0499436	1.9513774	28	5	1990–1998	0.68	M-v	2	Williams	31585	1993 KT ₁
1993 KB ₂	12.0	0.15	19980706	317.63610	97.80118	176.03877	18.20375	0.1600085	3.1059102	51	3	1992–1998	0.70	M-v	3	Williams	31585	1993 KB ₂
1993 MK	14.0	0.15	19980706	257.82439	236.89309	112.46466	24.49612	0.0920308	1.9438432	21	4	1973–1998	0.95	M-v	2	Williams	28888	1993 MK
1993 OW ₁	14.5	0.15	19980706	274.27282	212.69671	128.08515	27.35285	0.0962650	1.9414028	23	4	1992–1998	0.53	M-v	2	Williams	25340	1993 OW ₁
1993 QU ₄	14.5	0.15	19980706	96.19596	152.34095	159.54757	11.12379	0.1126818	2.5478197	22	2	1993–1997	0.52	M-v	4	Williams	30980	1993 QU ₄
1993 TC ₃	15.0	0.15	19980706	172.77986	193.41122	166.26272	2.39424	0.2068286	2.2119223	28	4	1980–1998	0.92	M-v	2	Williams	31419	1993 TC ₃
1993 TU ₂₄	13.0	0.15	19980706	199.65728	183.30038	51.71555	7.03871	0.0565505	2.5506730	25	3	1983–1997	0.76	M-v	4	Williams	31538	1993 TU ₂₄
1993 TX ₂₆	14.5	0.15	19980706	354.46057	156.36447	184.25232	9.88600	0.1024157	3.0526438	28	3	1980–1997	0.53	M-v	3	Williams	31538	1993 TX ₂₆
1993 TV ₃₄	15.0	0.15	19980706	106.09911	358.25184	86.02286	0.97546	0.0700885	2.1952469	47	3	1993–1998	0.62	M-v	3	Williams	31538	1993 TV ₃₄
1993 UU	13.5	0.15	19980706	149.26410	322.40996	59.13435	7.83933	0.1972113	2.2625879	23	3	1993–1998	0.52	M-v	3	Williams	31586	1993 UU
1993 UB ₁	12.5	0.15	19980706	138.75337	356.20148	8.52269	23.23993	0.1549972	2.3247805	24	6	1954–1998	0.56	M-v	2	Williams	30291	1993 UB ₁
1993 UF ₇	14.5	0.15	19980706	132.87790	267.06919	145.71874	4.52994	0.1100058	2.2284679	43	4	1986–1998	0.85	M-v	1	Williams	31586	1993 UF ₇
1993 VY	14.0	0.15	19980706	109.11178	30.23506	26.25947	25.09474	0.1926813	2.2765024	23	3	1969–1998	0.70	M-v	2	Williams	31236	1993 VY
1993 VB ₈	14.5	0.15	19980706	124.69652	333.96153	104.23070	7.04957	0.0709811	2.3098393	20	3	1989–1998	0.43	M-v	3	Williams	31419	1993 VB ₈
1993 WB	14.5	0.15	19980706	75.31539	123.10689	337.88564	1.74184	0.1829364	2.3314468	47	2	1993–1998	0.84	M-v	5	Marsden	31384	1993 WB
1993 XL	14.0	0.15	19980706	202.58188	228.45731	100.93745	7.15886	0.2171398	2.2729866	24	2	1993–1998	0.52	M-v	5	Williams	31539	1993 XL
1993 XN	13.0	0.15	19980706	302.12317	280.50485	268.50681	12.16614	0.1250348	2.6476330	31	2	1993–1998	0.52	M-v	4	Williams	31586	1993 XN
1993 XQ ₁	14.5	0.15	19980706	203.34360	200.47787	204.48463	2.15736	0.0515480	2.1655173	20	4	1989–1998	0.73	M-v	2	Williams	28589	1993 XQ ₁
1993 YG	15.0	0.15	19980706	131.99132	138.63993	286.45123	2.80154	0.1403321	2.3107140	30	2	1993–1998	0.71	M-v	5	Williams	31539	1993 YG
1993 YK	14.5	0.15	19980706	58.24801	15.55640	90.01826	8.19237	0.2043728	2.4665408	42	2	1993–1998	0.75	M-v	4	Williams	31586	1993 YK
1993 YN ₂	15.0	0.15	19980706	76.99682	203.11676	254.36659	2.83002	0.1732283	2.3802912	32	2	1993–1998	0.45	M-v	3	Williams	31586	1993 YN ₂
1994 AC	14.5	0.15	19980706	179.99731	160.89080	255.35897	3.15334	0.0929462	2.1779168	36	3	1991–1998	0.57	M-v	3	Williams	31140	1994 AC
1994 AG	15.0	0.15	19980706	130.98810	246.51520	192.91309	1.48440	0.1532901	2.2707499	41	3	1994–1998	0.82	M-v	4	Williams	31586	1994 AG
1994 AS	12.5	0.15	19980706	182.91827	202.19953	31.78099	1.80853	0.1631684	3.1083608	20	3	1981–1997	0.65	M-v	4	Williams	31237	1994 AS
1994 AC ₁	14.5	0.15	19980706	124.58262	104.15955	301.43582	8.01844	0.1911668	2.3699854	20	3	1994–1998	0.81	M-v	4	Williams	27716	1994 AC ₁
1994 AT ₁	12.5	0.15	19980706	89.79684	328.65120	55.84823	13.72887	0.2242951	2.6536577	31	3	1991–1998	0.49	M-v	2	Williams	31276	1994 AT ₁
1994 AV ₁	14.0	0.15	19980706	51.99361	207.43518	302.09949	6.01077	0.1802885	2.4041890	49	3	1989–1998	0.57	M-v	3	Williams	31586	1994 AV ₁
1994 AP ₂	13.0	0.15	19980706	117.19241	291.31062	148.04467	23.09133	0.2085057	2.3646885	48	5	1987–1998	0.72	M-v	1	Williams	31586	1994 AP ₂
1994 AR ₂	14.5	0.15	19980706	320.85282	199.48233	57.37361	0.95009	0.1738402	2.3673885	33	4	1980–1998	0.52	M-v	2	Williams	31586	1994 AR ₂
1994 AD ₃	15.5	0.15	19980706	104.08685	312.83361	111.99294	3.81888	0.2198296	2.3588052	43	3	1994–1998	0.60	M-v	3	Williams	31586	1994 AD ₃
1994 AE ₃	16.0	0.15	19980706	13.48774	226.41020	332.55750	2.41818	0.1104180	2.3503172	32	2	1994–1998	0.63	M-v	4	Williams	31540	1994 AE ₃
1994 AB ₈	16.0	0.15	19980706	44.51225	126.95468	31.46783	1.75663	0.1202975	2.3988630	19	2	1994–1998	0.68	M-v	4	Williams	31540	1994 AB ₈
1994 AC ₁₇	13.5	0.15	19980706	0.95195	55.45412	106.47341	3.62672	0.2191747	2.5594008	48	4	1986–1998	0.77	M-v	3	Williams	31419	1994 AC ₁₇
1994 BM	14.0	0.15	19980706	124.32155	112.19641	316.75916	6.02820	0.1142167	2.4044404	66	3	1993–1998	0.88	M-v	3	Williams	31586	1994 BM
1994 BW	14.5	0.15	19980706	356.94345	123.34923	104.98046	7.30699	0.0916599	2.3225476	25	3	1991–1998	0.48	M-v	4	Williams	31586	1994 BW
1994 BX	15.0	0.15	19980706	34.12952	122.45557	75.32523	7.54586	0.0971371	2.3340375	24	3	1994–1998	0.46	M-v	4	Williams	30662	1994 BX

1994 BN ₄	14.0	0.15	19980706	253.56418	75.07303	254.35918	5.69666	0.1498040	2.3071319	81	3	1994–1998	0.64	M-v	3	Williams	31586	1994 BN ₄
1994 BS ₄	14.5	0.15	19980706	184.39397	342.63824	73.86257	2.47026	0.0224650	2.2731181	47	5	1989–1998	0.66	M-v	1	Williams	29662	1994 BS ₄
1994 CL	13.5	0.15	19980706	332.49879	255.61935	356.66729	10.94347	0.1309606	2.4195192	58	3	1994–1998	0.64	M-v	3	Williams	31540	1994 CL
1994 CB ₁	14.0	0.15	19980706	53.88094	197.38232	248.03379	3.17636	0.2977953	2.5689939	25	4	1988–1998	0.59	M-v	2	Williams	31276	1994 CB ₁
1994 CF ₁	13.0	0.15	19980706	60.30701	116.86672	298.81966	11.57992	0.1814161	2.6931246	19	3	1992–1998	0.56	M-v	2	Williams	31105	1994 CF ₁
1994 CQ ₁	14.5	0.15	19980706	110.96595	238.20168	187.44779	3.70530	0.1933405	2.4031356	34	3	1994–1998	0.82	M-v	3	Williams	31540	1994 CQ ₁
1994 CD ₉	14.0	0.15	19980706	127.28028	59.65032	6.17930	23.75081	0.2423622	2.3308382	47	3	1989–1998	0.65	M-v	4	Williams	31586	1994 CD ₉
1994 CT ₁₂	14.0	0.15	19980706	109.42599	292.59244	125.86074	7.63449	0.1307102	2.5519873	41	3	1994–1998	0.63	M-v	3	Williams	31586	1994 CT ₁₂
1994 CJ ₁₇	15.0	0.15	19980706	172.22267	280.18500	118.07679	7.36080	0.1254838	2.3952970	24	3	1994–1998	0.72	M-v	4	Williams	29104	1994 CJ ₁₇
1994 CO ₁₇	14.0	0.15	19980706	301.81368	206.06082	75.74591	4.02140	0.1414889	2.4535146	27	5	1975–1998	0.87	M-v	2	Williams	31586	1994 CO ₁₇
1994 CC ₁₈	14.5	0.15	19980706	107.64663	56.32181	358.48137	12.91467	0.1738725	2.5643887	34	4	1990–1998	0.67	M-v	3	Williams	31586	1994 CC ₁₈
1994 EB	14.0	0.15	19980706	78.88188	320.85818	172.56248	6.56928	0.0789264	2.4687804	60	4	1990–1998	0.69	M-v	3	Williams	31586	1994 EB
1994 EP	14.5	0.15	19980706	43.82818	120.84747	64.68924	4.92069	0.0968836	2.4306816	30	3	1992–1998	0.48	M-v	2	Williams	31238	1994 EP
1994 EL ₃	14.0	0.15	19980706	300.02451	147.59006	165.89606	12.98114	0.0838096	2.3903851	33	4	1994–1998	0.97	M-v	2	Williams	29318	1994 EL ₃
1994 EC ₅	14.5	0.15	19980706	271.35396	328.70794	345.76086	6.14318	0.0599521	2.4147326	44	2	1994–1998	0.61	M-v	5	Williams	31541	1994 EC ₅
1994 EG ₇	15.0	0.15	19980706	113.41523	337.34577	120.72021	7.02258	0.0976509	2.4147825	19	3	1990–1998	0.77	M-v	4	Williams	23992	1994 EG ₇
1994 EH ₇	13.5	0.15	19980706	260.52175	275.13135	10.65173	12.83223	0.1652111	2.6411037	17	4	1990–1998	0.74	M-v	3	Williams	31276	1994 EH ₇
1994 EJ ₇	14.0	0.15	19980706	221.48467	293.05762	90.18251	5.99935	0.1443538	2.2896512	36	3	1994–1998	0.48	M-v	4	Williams	29137	1994 EJ ₇
1994 GP	12.5	0.15	19980706	327.97809	160.13528	44.74303	8.72922	0.1549088	2.7834772	41	3	1994–1998	0.62	M-v	4	Williams	28590	1994 GP
1994 HA	13.5	0.15	19980706	322.66546	69.81846	201.36521	14.37602	0.1406350	2.5883252	69	5	1990–1998	0.70	M-v	2	Williams	31586	1994 HA
1994 JN	13.5	0.15	19980706	318.60565	87.25374	201.64761	13.62111	0.1959230	2.5893026	49	4	1990–1998	0.72	M-v	3	Williams	31586	1994 JN
1994 JS ₁	14.5	0.15	19980706	21.66756	22.22274	168.82112	19.44872	0.3510234	2.6032727	53	3	1994–1998	0.62	M-v	2	Williams	31586	1994 JS ₁
1994 LR	11.5	0.15	19980706	293.02491	129.32080	95.01545	12.66608	0.0532135	3.0788612	26	4	1972–1998	0.52	M-v	1	Williams	31277	1994 LR
1994 LJ ₁	13.0	0.15	19980706	22.11013	93.84904	84.31563	12.30967	0.2057644	2.6877371	30	3	1989–1998	0.51	M-v	2	Williams	31105	1994 LJ ₁
1994 LK ₁	12.5	0.15	19980706	316.98935	181.05909	129.17222	15.88191	0.1269322	2.5645962	19	4	1993–1998	0.68	M-v	3	Williams	29663	1994 LK ₁
1994 NQ	14.0	0.15	19940707	329.09290	240.01941	104.04265	23.36675	0.2738790	2.3119710	8	1	6 days	1.38			Williams		1994 NQ
1994 NT ₁	13.5	0.15	19980706	79.22734	46.40122	125.16340	14.08540	0.0956848	2.7072143	31	5	1980–1998	0.88	M-v	2	Williams	30291	1994 NT ₁
1994 NM ₂	13.0	0.15	19940707	349.82156	196.66024	115.74385	23.79276	0.2088315	3.1710881	12	1	28 days	1.45			Williams		1994 NM ₂
1994 OC	11.5	0.15	19980706	211.05607	62.72597	322.92175	11.97453	0.1378724	3.0383787	48	4	1994–1998	0.59	M-v	1	Williams	31586	1994 OC
1994 PV	13.0	0.15	19980706	259.73349	182.32829	148.58597	6.19520	0.1504064	3.1348928	34	3	1994–1998	0.53	M-v	4	Williams	31586	1994 PV
1994 PL ₉	12.5	0.15	19980706	206.25532	48.35879	332.63053	10.15155	0.0824468	3.1709098	27	3	1994–1998	0.78	M-v	3	Williams	31586	1994 PL ₉
1994 PG ₁₇	13.5	0.15	19980706	291.07709	28.98558	261.93794	2.16895	0.1868916	3.0767870	43	3	1994–1998	0.70	M-v	4	Williams	31541	1994 PG ₁₇
1994 PT ₁₉	13.5	0.15	19980706	279.02447	119.61999	183.40625	1.83507	0.1679729	3.1176416	40	2	1994–1998	0.64	M-v	4	Williams	31541	1994 PT ₁₉
1994 PC ₃₄	13.0	0.15	19980706	301.42591	135.72215	155.89070	10.42225	0.0670872	2.9935683	29	3	1993–1998	0.74	M-v	3	Williams	31587	1994 PC ₃₄
1994 PS ₃₇	13.5	0.15	19980706	73.26723	347.52609	159.61688	0.84238	0.1605097	3.1510824	23	7	1975–1998	0.73	M-v	1	Williams	28853	1994 PS ₃₇
1994 PD ₃₈	13.5	0.15	19980706	342.92838	71.75072	153.09819	7.57930	0.1613474	3.0966970	28	3	1992–1998	0.87	M-v	3	Williams	31541	1994 PD ₃₈
1994 RC ₁	12.5	0.15	19980706	228.53014	192.75579	192.64093	9.38944	0.2240023	3.1497465	26	7	1977–1998	0.87	M-v	1	Williams	30291	1994 RC ₁
1994 RC ₁₁	13.0	0.15	19980706	236.40623	335.52429	50.56010	1.08915	0.1968574	3.0845924	30	8	1951–1998	0.77	M-v	1	Marsden	30472	1994 RC ₁₁
1994 SH ₃	14.0	0.15	19980706	254.39179	112.34152	209.84489	1.21830	0.1434985	3.3381228	25	3	1994–1998	0.51	M-v	4	Williams	31587	1994 SH ₃
1994 TX ₁₂	13.5	0.15	19980706	290.09841	321.15324	353.50795	0.79465	0.1691662	3.1744308	30	4	1977–1998	0.45	M-v	1	Williams	29138	1994 TX ₁₂
1994 UN ₁	12.0	0.15	19980706	235.31207	155.83500	218.01409	9.96145	0.1062153	3.3570626	29	4	1988–1998	0.88	M-v	2	Williams	30454	1994 UN ₁
1994 VR ₆	13.5	0.15	19980706	320.03199	280.98949	51.79431	30.34860	0.4262361	2.7367065	133	4	1994–1998	0.71	M-v	2	Williams	29663	1994 VR ₆
1995 CG	13.5	0.15	19980706	298.29670	163.08817	137.76992	24.48896	0.0749874	1.9607268	20	2	1995–1998	0.41	M-v	4	Williams	31542	1995 CG
1995 CK	14.0	0.15	19980706	54.49051	313.16660	114.43314	7.44942	0.0884242	2.3365283	21	3	1993–1998	0.52	M-v	2	Williams	31277	1995 CK
1995 CV	12.5	0.15	19980706	308.85024	144.66661	152.99729	7.04777	0.0873133	5.2293540	51	4	1995–1998	0.58	M-v	2	Williams	31277	1995 CV
1995 FA ₁	15.0	0.15	19980706	334.19295	29.49608	217.49389	1.63379	0.1281303	2.1607045	49	3	1995–1998	0.73	M-v	3	Williams	31587	1995 FA ₁
1995 FM ₁₁	16.0	0.15	19980706	287.10712	104.50439	184.66449	3.75735	0.1381293	2.1548744	22	3	1992–1998	0.65	M-v	4	Williams	31587	1995 FM ₁₁
1995 HK	14.5	0.15	19980706	354.81578	76.74190	132.30263	2.59195	0.0938456	2.2150997	29	3	1995–1998	0.86	M-v	4	Marsden	31587	1995 HK
1995 HL	13.5	0.15	19980706	253.27733	248.72243	54.25102	9.97868	0.2077550	2.3785721	29	5	1981–1998	0.66	M-v	1	Marsden	31587	1995 HL
1995 KL ₁	13.5	0.15	19980706	343.48920	284.49386	306.57598	22.06206	0.2077993	2.3112698	33	3	1974–1998	0.38	M-v	1	Williams	31587	1995 KL ₁
1995 KM ₁	15.5	0.15	19980706	285.96881	182.43631	117.86537	4.00310	0.2210958	2.3041369	43	2	1995–1998	0.63	M-v	4	Williams	31542	1995 KM ₁
1995 LJ	15.5	0.15	19980706	309.13855	343.90778	315.98159	7.08642	0.3272923	2.3088066	25	3	1988–1998	0.79	M-v	2	Williams	25652	1995 LJ
1995 OJ	15.0	0.15	19980706	23.16657	72.43869	125.53264	3.08396	0.1738492	2.3442180	69	3	1980–1998	0.59	M-v	3	Williams	31587	1995 OJ

1995 ON ₄	14.5	0.15	19980706	329.93949	104.61951	135.98187	2.77655	0.1116900	2.5654556	29	2	1995–1998	0.76	M-v	5	Williams	31543	1995 ON ₄
1995 OH ₁₀	14.5	0.15	19980706	225.89794	42.39564	291.58158	2.87839	0.2221796	2.6712801	15	3	1982–1998	0.63	M-v	5	Williams	31587	1995 OH ₁₀
1995 PV	13.5	0.15	19980706	313.44722	322.29693	343.03794	7.81807	0.1737933	2.2845612	43	4	1994–1998	0.52	M-v	2	Williams	29318	1995 PV
1995 QC ₂	13.5	0.15	19980706	266.67847	328.47229	338.92702	15.61972	0.1707860	2.5964669	27	4	1977–1998	0.71	M-v	2	Williams	31587	1995 QC ₂
1995 QG ₂	14.0	0.15	19980706	352.89668	177.42659	75.35737	7.23866	0.0968937	2.3573143	41	5	1985–1998	0.81	M-v	1	Williams	29664	1995 QG ₂
1995 QJ ₃	13.5	0.15	19980706	181.46787	184.16323	188.37457	13.36005	0.0717870	2.9384810	47	3	1995–1998	0.71	M-v	3	Williams	31587	1995 QJ ₃
1995 QQ ₃	14.5	0.15	19980706	229.30402	231.86230	134.44709	5.64182	0.1520275	2.5551059	34	6	1987–1998	0.61	M-v	1	Williams	29139	1995 QQ ₃
1995 QP ₁₀	13.5	0.15	19980706	55.32996	327.40260	162.76717	13.37713	0.1176736	3.0987421	34	3	1987–1998	0.58	M-v	3	Williams	31543	1995 QP ₁₀
1995 RK	15.0	0.15	19980706	308.10559	59.09967	248.91616	5.18724	0.1129226	2.3727329	30	3	1995–1998	0.70	M-v	3	Williams	28856	1995 RK
1995 SH	14.0	0.15	19980706	37.22432	9.02803	188.95924	13.53808	0.0932078	2.6200845	53	3	1995–1998	0.42	M-v	2	Williams	31420	1995 SH
1995 SX	14.5	0.15	19980706	273.46550	142.91158	194.62453	5.84016	0.1433834	2.3874099	63	4	1994–1998	0.55	M-v	1	Williams	29946	1995 SX
1995 SL ₂	13.0	0.15	19980706	191.98834	240.12535	161.98308	13.23351	0.1814475	2.6445636	25	3	1995–1998	0.63	M-v	2	Williams	29664	1995 SL ₂
1995 SQ ₂	15.0	0.15	19980706	299.73551	26.60623	258.40996	10.59886	0.1511314	2.6455750	40	3	1995–1998	0.60	M-v	4	Williams	31587	1995 SQ ₂
1995 SX ₂	14.5	0.15	19980706	288.85264	280.70623	42.10483	3.50800	0.1918633	2.4243540	30	2	1995–1998	0.65	M-v	4	Williams	31386	1995 SX ₂
1995 SL ₃	16.0	0.15	19980706	311.05398	52.85177	248.67063	0.61423	0.1802429	2.4262743	53	3	1995–1998	0.55	M-v	3	Williams	28857	1995 SL ₃
1995 SZ ₄	14.0	0.15	19980706	206.41416	167.51180	203.31475	2.73123	0.1160912	2.5857450	78	3	1995–1998	0.72	M-v	2	Williams	31587	1995 SZ ₄
1995 SH ₅	14.0	0.15	19980706	172.06661	94.74800	297.32438	0.67544	0.1027791	2.9894103	66	3	1995–1998	0.49	M-v	3	Williams	31587	1995 SH ₅
1995 SL ₅	15.0	0.15	19980706	298.44663	132.66647	183.70503	2.98930	0.1937924	2.4340344	43	4	1976–1998	0.68	M-v	1	Williams	31587	1995 SL ₅
1995 SR ₉	14.5	0.15	19980706	97.67577	94.72940	355.83439	12.96199	0.1254174	3.1528901	48	2	1995–1998	0.80	M-v	3	Williams	31587	1995 SR ₉
1995 SX ₁₉	13.0	0.15	19980706	225.91576	164.92811	184.61398	1.89707	0.0800072	2.8904659	44	3	1993–1998	0.60	M-v	4	Williams	31587	1995 SX ₁₉
1995 SD ₂₄	14.5	0.15	19980706	252.20408	161.47202	163.91365	5.11025	0.1052113	2.7533223	26	2	1995–1998	0.58	M-v	4	Williams	31587	1995 SD ₂₄
1995 SO ₂₆	13.5	0.15	19980706	101.04863	277.28386	197.15434	9.90768	0.0584428	2.9952493	29	2	1995–1998	0.49	M-v	4	Williams	31587	1995 SO ₂₆
1995 SR ₂₆	14.0	0.15	19980706	230.07892	144.82422	201.26888	1.70642	0.0712425	2.8791698	38	4	1985–1998	0.88	M-v	3	Williams	31543	1995 SR ₂₆
1995 SM ₂₉	13.0	0.15	19980706	163.88069	338.47952	55.28778	2.80769	0.1670903	3.1949565	35	4	1978–1998	0.91	M-v	2	Williams	31543	1995 SM ₂₉
1995 SO ₃₃	12.5	0.15	19980706	315.28917	195.17880	11.39985	0.98190	0.1150056	3.0854069	48	3	1977–1998	0.59	M-v	3	Williams	31241	1995 SO ₃₃
1995 ST ₄₈	14.5	0.15	19980706	342.65515	115.77740	98.08640	2.44826	0.1582280	2.9774750	32	2	1995–1998	0.66	M-v	4	Marsden	31587	1995 ST ₄₈
1995 SV ₅₂	12.5	0.15	19980706	147.56941	258.86779	141.77540	7.09309	0.1454883	3.1564209	28	3	1992–1998	0.62	M-v	3	Williams	31587	1995 SV ₅₂
1995 SV ₅₃	14.5	0.15	19980706	57.94266	279.58228	209.02127	1.34162	0.0667214	2.9478298	36	2	1995–1998	0.65	M-v	4	Williams	31543	1995 SV ₅₃
1995 SM ₅₄	13.5	0.15	19980706	238.37109	231.68200	102.28353	3.25893	0.0779129	2.8615553	53	3	1995–1998	0.70	M-v	4	Williams	31587	1995 SM ₅₄
1995 TC	14.0	0.15	19980706	270.43680	341.89523	313.63069	0.89273	0.0168544	2.9063543	84	3	1995–1998	0.58	M-v	3	Williams	31587	1995 TC
1995 TG	12.5	0.15	19980706	191.74575	301.34846	60.81147	12.18590	0.1707041	3.1062460	114	3	1995–1998	0.56	M-v	3	Williams	31587	1995 TG
1995 TN	13.5	0.15	19980706	161.74106	47.70033	1.85938	10.39030	0.0336550	3.0551180	82	3	1995–1998	0.63	M-v	3	Williams	31587	1995 TN
1995 TT	12.5	0.15	19980706	220.91123	323.55210	29.05643	10.62035	0.1140366	2.9890538	54	2	1995–1998	0.56	M-v	4	Williams	31544	1995 TT
1995 UL	13.0	0.15	19980706	263.48773	329.80897	357.21261	4.65455	0.0689828	2.7543195	55	3	1995–1998	0.56	M-v	4	Williams	31587	1995 UL
1995 UB ₁	13.5	0.15	19980706	67.40773	282.21390	242.63823	8.50979	0.0202617	2.9830572	36	3	1995–1998	0.54	M-v	3	Williams	29303	1995 UB ₁
1995 UJ ₁	13.0	0.15	19980706	196.52204	174.79191	196.35442	10.10024	0.0951811	2.9835887	49	2	1995–1998	0.49	M-v	3	Williams	31544	1995 UJ ₁
1995 UD ₂	13.5	0.15	19980706	276.26010	100.48860	232.36965	8.72150	0.1445407	2.5375836	34	5	1979–1998	0.73	M-v	1	Williams	29319	1995 UD ₂
1995 UP ₂	13.5	0.15	19980706	107.20785	101.29298	25.23126	10.59547	0.0614171	2.9905790	62	3	1995–1998	0.39	M-v	3	Williams	31587	1995 UP ₂
1995 UJ ₄	11.5	0.15	19980706	56.38039	136.03171	49.24755	11.44436	0.0540788	3.0014616	19	5	1984–1998	0.56	M-v	1	Williams	31587	1995 UJ ₄
1995 UU ₄	12.5	0.15	19980706	222.55572	138.01324	230.43314	9.64667	0.1109616	2.9993871	46	3	1989–1998	0.59	M-v	3	Williams	31587	1995 UU ₄
1995 UF ₆	13.5	0.15	19980706	273.98906	274.46027	48.95442	12.50989	0.1876619	2.6758802	43	3	1995–1998	0.66	M-v	3	Williams	31587	1995 UF ₆
1995 UJ ₆	13.0	0.15	19980706	229.11132	110.32947	239.47734	9.46815	0.1115894	3.0199458	30	3	1989–1998	0.67	M-v	3	Williams	31587	1995 UJ ₆
1995 UP ₆	14.0	0.15	19980706	277.39993	92.20056	229.96601	13.42322	0.1628627	2.5642154	54	3	1995–1998	0.56	M-v	3	Williams	31588	1995 UP ₆
1995 UW ₆	13.5	0.15	19980706	118.21868	58.30389	29.90659	8.43533	0.1043974	3.0791364	48	3	1995–1998	0.67	M-v	3	Williams	31588	1995 UW ₆
1995 UJ ₈	13.5	0.15	19980706	155.28246	197.44209	228.28107	11.47300	0.1706087	3.1855409	12	3	1978–1998	0.66	M-v	4	Williams	26423	1995 UJ ₈
1995 UA ₉	13.0	0.15	19980706	233.00070	321.90122	12.46223	4.37795	0.0804769	3.0685459	35	3	1984–1998	0.77	M-v	3	Williams	31544	1995 UA ₉
1995 UX ₄₄	13.0	0.15	19980706	159.69395	47.46826	23.12625	1.91484	0.0856841	2.9525798	14	2	1995–1997	0.43	M-v	4	Williams	31544	1995 UX ₄₄
1995 UD ₄₅	12.5	0.15	19980706	205.05239	331.93612	48.53531	12.42132	0.1554891	2.9989669	28	4	1981–1998	0.71	M-v	2	Williams	29923	1995 UD ₄₅
1995 UF ₄₅	12.5	0.15	19980706	163.02498	340.58599	71.58954	2.42239	0.1734504	3.1100940	25	4	1979–1998	0.71	M-v	1	Williams	29665	1995 UF ₄₅
1995 VL	14.5	0.15	19980706	273.60741	284.96355	60.61983	12.60173	0.1718165	2.6372411	22	3	1978–1998	0.71	M-v	3	Williams	26423	1995 VL
1995 VY	13.5	0.15	19980706	263.09420	289.07183	73.32476	3.79045	0.2673269	2.5683536	29	6	1958–1998	0.63	M-v	1	Marsden	29665	1995 VY
1995 VT ₁	12.5	0.15	19980706	182.34546	151.02368	242.89807	8.80558	0.1176841	3.1746121	21	3	1978–1998	0.73	M-v	4	Williams	26407	1995 VT ₁
1995 WH	13.0	0.15	19980706	264.66309	243.65587	101.70135	3.44950	0.0488607	2.8661024	26	5	1983–1998	0.62	M-v	1	Williams	29319	1995 WH

1995 WJ	14.0	0.15	19980706	266.60438	280.17234	71.05766	5.69741	0.2706956	2.6076927	29	5	1978–1998	0.77	M-v	2	Williams	26407	1995 WJ
1995 WL	13.5	0.15	19980706	254.70121	234.98462	107.78160	3.38562	0.0966523	2.9442377	26	3	1995–1998	0.51	M-v	4	Williams	29627	1995 WL
1995 WT	12.5	0.15	19980706	175.17956	164.32282	256.34643	7.38654	0.2329053	3.1191498	24	6	1950–1998	0.79	M-v	2	Williams	30456	1995 WT
1995 WF ₂	12.5	0.15	19980706	173.61947	269.27198	146.97982	1.38506	0.2000548	3.2037399	32	7	1977–1998	0.67	M-v	1	Williams	29946	1995 WF ₂
1995 WM ₂	13.5	0.15	19980706	179.32930	170.43662	228.65352	15.24577	0.2298312	2.9327187	36	3	1995–1998	0.65	M-v	2	Williams	29305	1995 WM ₂
1995 WC ₄	11.5	0.15	19980706	236.71975	273.18666	62.34479	14.71829	0.2133191	3.1250418	32	5	1973–1998	0.72	M-v	1	Williams	31420	1995 WC ₄
1995 WM ₅	13.5	0.15	19980706	285.31628	341.53280	341.37014	1.36517	0.0802982	3.0189586	35	4	1994–1998	0.51	M-v	1	Williams	29319	1995 WM ₅
1995 WV ₅	13.0	0.15	19980706	288.29080	61.97033	239.16940	9.88847	0.0291034	3.0895197	43	3	1995–1998	0.56	M-v	4	Williams	31588	1995 WV ₅
1995 WC ₇	14.0	0.15	19980706	165.17883	30.04982	39.36573	6.07023	0.1502071	3.0949474	28	3	1995–1998	0.36	M-v	3	Williams	31588	1995 WC ₇
1995 WL ₇	12.5	0.15	19980706	276.12393	259.79811	81.00301	6.45061	0.1331494	2.8144652	38	6	1962–1998	0.52	M-v	1	Williams	29319	1995 WL ₇
1995 WM ₇	14.5	0.15	19980706	222.83260	305.56262	77.88282	10.05554	0.1175192	2.9771356	23	2	1995–1998	0.47	M-v	4	Williams	31544	1995 WM ₇
1995 WV ₄₂	12.0	0.15	19980706	231.11182	234.43730	108.38519	14.80098	0.2295950	3.1305529	21	7	1988–1998	0.94	M-v	1	Williams	31588	1995 WV ₄₂
1995 YA	12.5	0.15	19980706	9.62968	159.05971	74.25545	7.49870	0.0540881	3.0077981	23	5	1992–1998	0.72	M-v	1	Williams	29665	1995 YA
1995 YN ₁	13.0	0.15	19980706	245.19642	182.21027	182.54683	1.88222	0.1940596	3.1388599	30	4	1983–1998	0.71	M-v	1	Williams	26761	1995 YN ₁
1995 YB ₂	12.5	0.15	19980706	31.60521	249.21310	310.72829	1.86052	0.1260058	3.9688539	40	4	1993–1998	0.68	M-v	1	Williams	29665	1995 YB ₂
1995 YY ₂	12.5	0.15	19980706	235.52729	269.35641	100.29094	10.78974	0.2384273	3.1428899	18	4	1955–1998	0.76	M-v	2	Williams	30667	1995 YY ₂
1995 YK ₃	12.0	0.15	19980706	7.49777	341.39689	245.98247	3.65605	0.0543702	3.9329286	42	5	1989–1998	0.73	M-v	1	Williams	29946	1995 YK ₃
1996 AY ₁	14.0	0.15	19980706	211.63330	274.97356	121.30747	17.24615	0.1775913	3.2136195	34	3	1996–1998	0.35	M-v	3	Williams	29666	1996 AY ₁
1996 BW ₄	15.5	0.15	19980706	325.12246	343.85458	72.50479	3.65362	0.1600216	2.2551702	28	7	1981–1997	0.51	M-v	1	Williams	30093	1996 BW ₄
1996 CM ₇	14.0	0.15	19980706	333.75585	55.11165	339.96956	9.22957	0.2264398	2.3210651	25	3	1991–1996	0.68	M-v	2	Williams	28861	1996 CM ₇
1996 DH	16.5	0.15	19980706	289.31446	351.34653	309.40327	17.23054	0.2766686	1.5871242	117	2	1996–1998	0.56	M-v	3	Williams	31420	1996 DH
1996 EU ₂	11.5	0.15	19980706	160.04807	171.70351	263.98119	15.48493	0.1072321	3.4130658	27	4	1977–1998	0.51	M-v	1	Williams	31278	1996 EU ₂
1996 HR ₂₁	13.5	0.15	19980706	95.60689	107.71876	175.46041	1.21075	0.1642117	3.1735660	29	5	1990–1997	0.94	M-v	1	Williams	31588	1996 HR ₂₁
1996 OR ₁	14.0	0.15	19980706	68.10457	168.06260	3.33806	5.94831	0.0764049	2.2949106	36	5	1987–1998	0.59	M-v	1	Williams	29319	1996 OR ₁
1996 PK	14.5	0.15	19980706	340.53384	203.32870	7.65339	3.04076	0.0829384	2.3138227	94	3	1991–1998	0.56	M-v	3	Marsden	31588	1996 PK
1996 PQ	14.5	0.15	19980706	105.69869	273.21046	147.83952	7.15598	0.1067030	2.3298634	40	2	1996–1998	0.57	M-v	4	Williams	31588	1996 PQ
1996 PB ₅	14.5	0.15	19980706	152.91069	85.34913	305.71158	3.32859	0.1709560	2.2577588	41	3	1986–1998	0.79	M-v	3	Williams	31588	1996 PB ₅
1996 PN ₅	14.0	0.15	19980706	121.92592	272.76380	80.77846	2.60777	0.1020336	2.7476609	22	3	1992–1997	0.55	M-v	4	Williams	31142	1996 PN ₅
1996 PZ ₆	15.5	0.15	19980706	232.06403	266.31518	86.77478	23.81185	0.1166151	1.9467620	31	3	1977–1998	0.74	M-v	3	Williams	28319	1996 PZ ₆
1996 PA ₇	14.0	0.15	19980706	168.32653	303.45443	85.96061	25.39653	0.3520032	2.3246912	42	2	1996–1998	0.58	M-v	3	Williams	31388	1996 PA ₇
1996 QU	14.5	0.15	19980706	131.07408	82.84684	326.81594	22.50787	0.2582772	2.3167264	61	3	1982–1998	0.72	M-v	2	Williams	31588	1996 QU
1996 QQ ₁	13.5	0.15	19980706	101.87355	273.13133	108.85257	2.13758	0.2019813	3.1296300	88	3	1991–1998	0.68	M-v	3	Williams	31278	1996 QQ ₁
1996 QX ₁	13.5	0.15	19980706	104.43868	84.96095	312.46413	12.17543	0.1749569	2.6962426	26	3	1979–1998	0.59	M-v	2	Williams	31588	1996 QX ₁
1996 RW	14.5	0.15	19980706	80.75033	182.41400	260.77713	2.10154	0.2028361	2.5940290	21	2	1996–1998	0.53	M-v	4	Marsden	31388	1996 RW
1996 RG ₁	14.5	0.15	19980706	205.68571	18.16549	9.13537	5.75534	0.1651576	2.1809605	42	4	1991–1998	0.62	M-v	3	Williams	31588	1996 RG ₁
1996 RJ ₂	15.0	0.15	19980706	104.19729	264.39743	182.60693	6.20876	0.0749438	2.2995295	27	2	1996–1998	0.62	M-v	4	Williams	31545	1996 RJ ₂
1996 RQ ₂	14.0	0.15	19980706	343.69719	240.04464	314.23250	1.55922	0.1502467	2.4084110	52	4	1991–1998	0.54	M-v	2	Williams	31588	1996 RQ ₂
1996 RE ₄	13.0	0.15	19980706	193.22945	306.25715	26.68721	12.75398	0.1696754	2.6068340	38	4	1975–1998	0.49	M-v	2	Williams	31278	1996 RE ₄
1996 RS ₅	12.0	0.15	19980706	142.39513	346.34282	15.10872	14.48930	0.1839743	2.8902062	32	4	1989–1998	0.66	M-v	2	Williams	29666	1996 RS ₅
1996 RZ ₂₀	16.0	0.15	19980706	196.40088	1.74694	349.23466	7.78090	0.0691238	2.2422954	17	2	1996–1998	0.63	M-v	5	Williams	31388	1996 RZ ₂₀
1996 SG ₄	15.0	0.15	19980706	125.54850	171.10994	274.16131	3.08708	0.2071059	2.5800144	29	4	1989–1998	0.70	M-v	3	Williams	29666	1996 SG ₄
1996 SU ₄	14.5	0.15	19980706	58.34060	122.64288	20.26679	6.72477	0.0779048	2.3920676	37	2	1996–1998	0.56	M-v	4	Williams	31546	1996 SU ₄
1996 SH ₆	14.0	0.15	19980706	14.29251	355.40048	195.17759	7.94666	0.0641427	2.2964381	43	2	1996–1998	0.68	M-v	4	Williams	31546	1996 SH ₆
1996 SS ₆	13.0	0.15	19980706	197.50617	249.88412	67.53913	3.05725	0.0536787	2.9149491	63	4	1981–1998	0.53	M-v	3	Williams	31278	1996 SS ₆
1996 TR	15.0	0.15	19980706	172.72917	205.83602	175.17371	7.02036	0.1281906	2.3576068	29	2	1996–1998	0.71	M-v	4	Williams	31588	1996 TR
1996 TP ₁	14.5	0.15	19980706	153.60850	18.97722	17.49719	3.82808	0.2093040	2.4199692	37	5	1985–1998	0.63	M-v	2	Williams	31588	1996 TP ₁
1996 TY ₄	14.5	0.15	19980706	40.19830	121.31387	16.76701	13.93976	0.1312426	2.6136677	38	3	1994–1998	0.48	M-v	3	Williams	31588	1996 TY ₄
1996 TR ₅	14.5	0.15	19980706	190.74220	4.38652	344.25895	25.30350	0.2292005	2.3606395	20	3	1985–1998	0.86	M-v	4	Williams	28306	1996 TR ₅
1996 TQ ₇	15.0	0.15	19980706	20.48453	84.50106	100.10316	5.55878	0.0656790	2.2924435	35	2	1996–1998	0.74	M-v	4	Williams	31546	1996 TQ ₇
1996 TJ ₉	14.5	0.15	19980706	256.79363	64.14898	208.91976	2.87429	0.0841157	2.5417719	59	3	1992–1998	0.55	M-v	3	Williams	31278	1996 TJ ₉
1996 TM ₉	15.5	0.15	19980706	219.38570	355.29626	0.48812	0.88216	0.0271706	2.1910304	61	2	1996–1998	0.60	M-v	4	Williams	31588	1996 TM ₉
1996 TL ₁₀	14.5	0.15	19980706	195.69057	44.87058	320.80739	4.77266	0.1818724	2.2557655	40	4	1971–1998	0.78	M-v	2	Williams	31588	1996 TL ₁₀
1996 TO ₁₀	14.0	0.15	19980706	173.55989	305.55252	88.89187	6.11467	0.1772242	2.2329835	23	3	1989–1998	0.70	M-v	3	Williams	31421	1996 TO ₁₀

1996 TR ₁₀	13.0	0.15	19980706	214.09215	144.15899	160.54969	10.61664	0.2541149	2.3971867	20	5	1981–1998	0.95	M-v	2	Williams	31421	1996 TR ₁₀
1996 TS ₁₀	15.0	0.15	19980706	179.44686	356.90071	38.83200	5.67354	0.1417686	2.2020540	35	2	1996–1998	0.82	M-v	4	Williams	31546	1996 TS ₁₀
1996 TU ₁₁	15.0	0.15	19980706	161.63698	342.37238	70.98320	7.97359	0.0969283	2.2722386	35	2	1996–1998	0.52	M-v	3	Williams	31588	1996 TU ₁₁
1996 TN ₁₂	15.0	0.15	19980706	106.77651	230.37000	241.21330	1.45488	0.1672303	2.3548210	60	3	1992–1998	0.53	M-v	3	Williams	28619	1996 TN ₁₂
1996 TQ ₁₂	15.0	0.15	19980706	266.70167	158.45690	189.90050	25.98663	0.0518134	1.8395315	27	3	1991–1998	0.67	M-v	3	Williams	29307	1996 TQ ₁₂
1996 TG ₁₃	15.0	0.15	19980706	98.54204	121.73009	342.29230	2.15179	0.1552833	2.4626419	29	2	1996–1998	0.98	M-v	4	Williams	31546	1996 TG ₁₃
1996 TT ₁₄	14.0	0.15	19980706	210.27047	238.93993	121.46801	3.39093	0.1953343	2.1880961	24	2	1996–1998	0.65	M-v	4	Williams	31547	1996 TT ₁₄
1996 TD ₂₁	15.0	0.15	19980706	344.28108	193.31607	31.20650	1.86873	0.0991137	2.3168150	39	3	1992–1998	0.44	M-v	4	Williams	31589	1996 TD ₂₁
1996 TC ₅₄	15.5	0.15	19980706	105.29158	48.23091	18.89415	3.84856	0.1663033	2.5370703	16	3	1976–1998	0.98	M-v	4	Williams	31589	1996 TC ₅₄
1996 UB	13.0	0.15	19980706	186.81782	90.72621	247.79355	1.00631	0.0123375	2.8691458	34	4	1991–1998	0.63	M-v	2	Williams	31589	1996 UB
1996 UD	14.0	0.15	19980706	160.69057	7.33415	47.07382	6.43260	0.1695550	2.3290894	46	4	1983–1998	0.71	M-v	3	Williams	31589	1996 UD
1996 UF	14.5	0.15	19980706	225.91079	201.51375	149.72335	1.59341	0.1553990	2.1750306	31	3	1988–1998	0.65	M-v	3	Williams	31547	1996 UF
1996 UG	14.5	0.15	19980706	183.69715	345.80610	38.15872	8.15513	0.1833549	2.3149811	29	3	1989–1998	0.66	M-v	3	Williams	29631	1996 UG
1996 UM	14.5	0.15	19980706	221.94070	200.56347	190.56198	21.97829	0.0829022	1.9475881	20	3	1985–1998	0.52	M-v	3	Williams	28865	1996 UM
1996 UN	15.0	0.15	19980706	81.44858	304.12355	199.39373	4.78828	0.1407260	2.2236093	59	2	1996–1998	0.54	M-v	3	Williams	31547	1996 UN
1996 UR	13.5	0.15	19980706	142.16855	190.38537	194.44593	5.87350	0.1610623	2.6927502	38	3	1987–1998	0.65	M-v	3	Williams	31390	1996 UR
1996 UU	13.5	0.15	19980706	139.55822	199.96825	210.04597	12.77330	0.1528403	2.5586294	52	3	1992–1998	0.69	M-v	3	Williams	31589	1996 UU
1996 UH ₁	14.0	0.15	19980706	178.34485	306.73845	85.62022	5.66026	0.1601789	2.2285196	62	4	1974–1998	0.55	M-v	2	Williams	31144	1996 UH ₁
1996 UK ₁	14.5	0.15	19980706	195.71531	301.33402	50.29769	3.23698	0.1824297	2.3724491	17	3	1985–1998	0.60	M-v	4	Williams	31589	1996 UK ₁
1996 VJ	12.5	0.15	19980706	98.81908	355.50692	51.33829	11.08454	0.1036136	3.1815629	28	4	1992–1998	0.66	M-v	2	Williams	31279	1996 VJ
1996 VN	14.5	0.15	19980706	72.42565	120.43402	358.31686	5.40105	0.2102409	2.6839203	76	2	1996–1998	0.51	M-v	3	Williams	31547	1996 VN
1996 VV	13.5	0.15	19980706	241.21352	233.95532	57.07453	4.13945	0.1361728	2.5226440	46	3	1992–1998	0.58	M-v	3	Williams	31279	1996 VV
1996 VE ₁	14.5	0.15	19980706	160.56080	271.50997	126.34620	7.41090	0.0983973	2.5426740	45	2	1996–1998	0.74	M-v	3	Williams	31548	1996 VE ₁
1996 VF ₁	16.0	0.15	19980706	133.30383	40.72625	31.24232	3.78865	0.1548663	2.4068941	40	2	1996–1998	0.66	M-v	4	Williams	31548	1996 VF ₁
1996 VO ₁	12.5	0.15	19980706	183.51965	329.76160	34.56297	14.12817	0.1769371	2.5935287	41	3	1979–1998	0.54	M-v	3	Williams	31589	1996 VO ₁
1996 VQ ₁	13.5	0.15	19980706	291.52950	292.81975	312.88545	11.41705	0.0672026	2.6607154	34	3	1991–1998	0.63	M-v	4	Williams	31589	1996 VQ ₁
1996 VG ₂	14.5	0.15	19980706	168.12936	209.54684	192.43624	1.90015	0.2049710	2.4077707	39	4	1981–1998	0.79	M-v	3	Williams	31589	1996 VG ₂
1996 VW ₂	14.5	0.15	19980706	152.42155	56.99393	19.86018	4.77388	0.0978291	2.2680438	26	4	1981–1998	0.58	M-v	2	Williams	28891	1996 VW ₂
1996 VK ₃	14.0	0.15	19980706	118.80201	205.19618	226.64629	2.55386	0.0771068	2.7433461	41	4	1991–1998	0.77	M-v	3	Williams	31589	1996 VK ₃
1996 VL ₃	13.5	0.15	19980706	167.56932	134.89298	246.44571	2.61155	0.1002840	2.6511150	32	3	1987–1998	0.80	M-v	4	Williams	31548	1996 VL ₃
1996 VN ₃	13.0	0.15	19980706	91.97499	5.66058	72.80404	2.12378	0.2218222	3.1945336	46	3	1984–1998	0.67	M-v	3	Williams	31589	1996 VN ₃
1996 VN ₄	13.0	0.15	19980706	19.99852	301.13855	218.37969	1.18447	0.0404321	2.9353103	37	3	1994–1998	0.70	M-v	4	Marsden	31391	1996 VN ₄
1996 VP ₄	13.5	0.15	19980706	112.76195	189.86569	218.62042	2.32663	0.1526181	3.0853388	20	3	1993–1998	0.60	M-v	4	Williams	28619	1996 VP ₄
1996 VS ₄	13.5	0.15	19980706	305.75256	195.48514	59.24122	4.11814	0.0504583	2.6921418	47	4	1982–1998	0.78	M-v	2	Marsden	31589	1996 VS ₄
1996 VX ₄	14.5	0.15	19980706	216.63971	16.48494	331.32554	1.87989	0.2291545	2.3626185	23	2	1996–1998	0.87	M-v	5	Williams	31548	1996 VX ₄
1996 VB ₅	13.5	0.15	19980706	235.56108	287.35591	51.35865	6.42366	0.0463089	2.2287181	81	3	1986–1998	0.62	M-v	3	Williams	31589	1996 VB ₅
1996 VM ₅	14.5	0.15	19980706	53.81551	73.27169	88.73546	5.03989	0.0703450	2.4428403	87	3	1992–1998	0.56	M-v	2	Williams	31589	1996 VM ₅
1996 VS ₅	13.0	0.15	19980706	337.78599	358.70131	235.66689	14.04020	0.0575161	2.5607547	19	3	1982–1998	0.66	M-v	4	Williams	31548	1996 VS ₅
1996 VT ₅	14.0	0.15	19980706	175.24938	326.06025	89.92662	7.56971	0.1000768	2.3016189	26	3	1989–1998	0.80	M-v	3	Williams	29117	1996 VT ₅
1996 VU ₅	13.0	0.15	19980706	112.69360	279.95665	137.04826	2.21052	0.1697993	3.1367413	37	4	1990–1998	0.63	M-v	2	Williams	31589	1996 VU ₅
1996 VV ₅	13.5	0.15	19980706	207.04343	147.69881	207.55823	5.69691	0.0997224	2.5322677	43	3	1979–1998	0.86	M-v	4	Williams	31589	1996 VV ₅
1996 VX ₅	14.5	0.15	19980706	141.49863	180.37197	233.73517	5.17872	0.1904563	2.6241797	36	3	1989–1998	0.84	M-v	4	Williams	31589	1996 VX ₅
1996 VA ₆	13.5	0.15	19980706	156.69973	327.80505	84.76290	14.38200	0.1402562	2.5620213	29	3	1992–1998	0.77	M-v	3	Williams	28891	1996 VA ₆
1996 VB ₆	13.5	0.15	19980706	129.29748	296.61228	126.20134	3.07891	0.0570240	2.8884586	61	4	1981–1998	0.59	M-v	3	Williams	31589	1996 VB ₆
1996 VP ₆	14.0	0.15	19980706	152.82814	65.26963	326.36869	4.96895	0.1938138	2.5177709	45	4	1984–1998	0.83	M-v	3	Williams	31589	1996 VP ₆
1996 VR ₇	14.5	0.15	19980706	159.60952	345.87950	71.21961	5.09120	0.1081170	2.4333615	34	3	1992–1998	0.71	M-v	4	Williams	31589	1996 VR ₇
1996 VU ₇	14.5	0.15	19980706	182.94610	313.36650	68.08992	3.61487	0.1874221	2.4425100	31	3	1992–1998	0.80	M-v	4	Williams	31589	1996 VU ₇
1996 VE ₈	13.5	0.15	19980706	152.53955	153.01792	255.23785	5.49148	0.0695166	2.4851921	47	4	1980–1998	0.78	M-v	4	Williams	31589	1996 VE ₈
1996 VH ₈	14.0	0.15	19980706	181.37273	11.32360	24.26864	7.16042	0.1456573	2.2835408	48	4	1982–1998	0.62	M-v	4	Williams	31589	1996 VH ₈
1996 VJ ₈	14.0	0.15	19980706	136.43942	79.06795	344.66142	4.42896	0.1698413	2.5355614	41	4	1976–1998	0.76	M-v	3	Williams	31589	1996 VJ ₈
1996 VU ₈	15.0	0.15	19980706	164.61358	216.37795	207.87898	6.13299	0.1317010	2.2391313	25	3	1995–1998	0.60	M-v	4	Williams	28891	1996 VU ₈
1996 VZ ₈	15.0	0.15	19980706	205.08950	223.64779	144.17919	1.98011	0.1610374	2.2671753	23	2	1996–1998	0.84	M-v	5	Williams	31549	1996 VZ ₈
1996 VB ₉	11.5	0.15	19980706	70.42083	259.46906	160.31826	4.51125	0.2525801	4.0008357	26	5	1990–1998	0.74	M-v	1	Williams	31422	1996 VB ₉

1996 VD ₉	13.0	0.15	19980706	163.05639	270.65843	115.46151	4.06201	0.1201551	2.6217485	38	4	1987–1998	0.83	M-v	2	Williams	31589	1996 VD ₉
1996 VE ₉	12.0	0.15	19980706	2.54297	94.93292	78.62556	11.00506	0.0446912	3.0086810	42	5	1951–1998	0.55	M-v	2	Marsden	31422	1996 VE ₉
1996 VX ₁₅	14.5	0.15	19980706	21.17973	356.01094	202.86861	1.73603	0.1590751	2.3890990	69	3	1987–1998	0.69	M-v	3	Williams	31589	1996 VX ₁₅
1996 VY ₂₉	14.0	0.15	19980706	239.52830	135.90782	185.60437	2.96020	0.1627282	2.2900582	30	4	1982–1998	0.76	M-v	4	Williams	31589	1996 VY ₂₉
1996 VB ₃₀	14.5	0.15	19980706	196.99739	195.49692	150.46411	2.61412	0.2355208	2.4314128	18	3	1995–1998	0.57	M-v	4	Marsden	31422	1996 VB ₃₀
1996 VG ₃₀	13.5	0.15	19980706	93.52011	227.78287	246.68727	7.79501	0.2043878	2.7015888	43	3	1987–1998	0.66	M-v	3	Williams	28868	1996 VG ₃₀
1996 VH ₃₀	13.0	0.15	19980706	101.59182	73.03107	52.46822	8.09824	0.1491809	2.4402522	35	4	1986–1998	0.73	M-v	2	Williams	29632	1996 VH ₃₀
1996 VJ ₃₀	13.5	0.15	19980706	213.29148	104.38712	243.69911	5.43807	0.1440364	2.3993956	38	3	1992–1998	0.84	M-v	3	Williams	31589	1996 VJ ₃₀
1996 VK ₃₀	14.0	0.15	19980706	130.62473	304.14796	125.32999	5.06038	0.2580641	2.6443865	22	3	1991–1998	0.76	M-v	3	Williams	31589	1996 VK ₃₀
1996 VM ₃₀	14.0	0.15	19980706	199.24410	326.87446	46.03639	9.29147	0.2067495	2.2844910	27	4	1958–1998	0.53	M-v	2	Williams	31422	1996 VM ₃₀
1996 VO ₃₀	14.0	0.15	19980706	199.22915	129.36111	248.34451	3.42780	0.1919959	2.2635446	63	4	1962–1998	0.74	M-v	4	Williams	31589	1996 VO ₃₀
1996 WD	13.0	0.15	19980706	177.28683	308.36458	61.72931	11.18208	0.1980320	2.6769087	26	2	1996–1998	0.51	M-v	4	Williams	31549	1996 WD
1996 WQ ₁	14.0	0.15	19980706	57.09733	330.98145	204.16379	1.54190	0.1475923	2.4162875	32	5	1979–1998	0.52	M-v	1	Williams	29947	1996 WQ ₁
1996 WC ₂	14.0	0.15	19980706	28.22828	119.48824	69.90302	8.02556	0.0329838	2.3835369	53	3	1991–1998	0.79	M-v	3	Williams	31589	1996 WC ₂
1996 XC	14.0	0.15	19980706	317.70696	167.43224	96.10252	6.70507	0.1903434	2.4370977	61	3	1991–1998	0.43	M-v	3	Williams	31589	1996 XC
1996 XY	13.5	0.15	19980706	320.55118	158.50217	83.35461	10.70111	0.0566760	2.7767888	31	3	1989–1998	0.67	M-v	4	Williams	31391	1996 XY
1996 XD ₁	14.5	0.15	19980706	310.11933	217.82038	93.77611	3.28250	0.1679220	2.1394093	20	3	1977–1998	0.31	M-v	4	Williams	28870	1996 XD ₁
1996 XJ ₁	14.5	0.15	19980706	255.40049	249.88368	79.11089	3.61702	0.1897904	2.4502109	21	2	1996–1998	0.66	M-v	4	Williams	31549	1996 XJ ₁
1996 XT ₁	13.5	0.15	19980706	213.74968	271.40678	79.83315	3.23136	0.0773507	2.8771501	46	3	1994–1998	0.62	M-v	3	Williams	31589	1996 XT ₁
1996 XV ₁	14.0	0.15	19980706	271.65713	45.25030	283.83430	5.80835	0.1296746	2.3501978	24	3	1989–1998	0.71	M-v	3	Williams	31589	1996 XV ₁
1996 XE ₂	14.0	0.15	19980706	95.59366	50.95861	75.27108	7.35019	0.0586380	2.3811667	50	3	1985–1998	0.65	M-v	2	Williams	31590	1996 XE ₂
1996 XM ₂	14.0	0.15	19980706	264.58135	248.93725	82.76049	5.00948	0.2402743	2.2121170	44	2	1996–1998	0.47	M-v	4	Williams	31549	1996 XM ₂
1996 XB ₃	14.0	0.15	19980706	265.82455	182.25944	139.48684	3.20262	0.2051752	2.4204609	27	3	1988–1998	0.49	M-v	3	Williams	31590	1996 XB ₃
1996 XF ₃	14.0	0.15	19980706	330.20842	119.47740	128.13292	1.66209	0.1037471	2.9134726	35	3	1993–1998	0.68	M-v	5	Williams	31590	1996 XF ₃
1996 XW ₅	12.5	0.15	19980706	342.07187	285.26747	299.88101	9.23629	0.0503326	3.0673888	28	3	1992–1998	0.46	M-v	4	Williams	31550	1996 XW ₅
1996 XY ₅	12.5	0.15	19980706	116.35032	301.94714	86.79445	6.48268	0.2311949	3.9476068	15	3	1980–1998	0.34	M-v	4	Williams	28871	1996 XY ₅
1996 XF ₆	13.5	0.15	19980706	72.10670	91.87021	41.81475	2.18244	0.1674917	3.1694202	33	4	1987–1998	0.52	M-v	1	Williams	31590	1996 XF ₆
1996 XQ ₁₁	14.5	0.15	19980706	144.43843	0.15767	73.95821	3.54824	0.1836012	2.7551385	18	3	1993–1998	0.60	M-v	4	Williams	28872	1996 XQ ₁₁
1996 XY ₁₁	15.0	0.15	19980706	357.02606	156.05687	73.97213	3.14460	0.0066789	2.8426521	21	3	1993–1998	0.58	M-v	5	Williams	28872	1996 XY ₁₁
1996 XE ₁₂	14.0	0.15	19980706	229.25018	302.72374	42.41642	2.58534	0.1051710	2.9023573	25	3	1993–1998	0.63	M-v	4	Williams	31590	1996 XE ₁₂
1996 XA ₁₈	15.0	0.15	19980706	43.12809	112.71968	56.27920	5.94280	0.1246471	2.6039494	36	3	1994–1998	0.51	M-v	3	Williams	31590	1996 XA ₁₈
1996 XC ₁₈	14.5	0.15	19980706	356.54110	161.23614	56.87133	8.13478	0.1002282	2.4678243	23	2	1996–1998	0.43	M-v	4	Williams	31392	1996 XC ₁₈
1996 XS ₁₈	14.0	0.15	19980706	96.70288	21.54758	80.40907	2.78109	0.0902119	3.0764803	62	2	1996–1998	0.60	M-v	3	Williams	31550	1996 XS ₁₈
1996 XU ₁₈	13.0	0.15	19980706	100.71567	334.76646	123.72588	2.43158	0.1490637	3.1665983	54	2	1996–1998	0.40	M-v	3	Williams	31550	1996 XU ₁₈
1996 XW ₁₈	14.0	0.15	19980706	324.16474	192.19381	115.44729	7.77457	0.1309557	2.2955946	41	3	1995–1998	0.41	M-v	3	Marsden	31590	1996 XW ₁₈
1996 XE ₁₉	12.5	0.15	19980706	199.89506	159.90817	179.33852	3.82290	0.2239525	2.9914525	21	3	1949–1998	0.74	M-v	4	Williams	30671	1996 XE ₁₉
1996 XJ ₁₉	13.5	0.15	19980706	49.45100	324.52672	211.98035	2.97209	0.0417250	2.7050639	30	3	1991–1998	0.61	M-v	4	Williams	31590	1996 XJ ₁₉
1996 XQ ₁₉	14.0	0.15	19980706	153.21021	139.77265	255.09694	2.40413	0.0843320	2.7875056	39	2	1996–1998	0.80	M-v	4	Williams	31550	1996 XQ ₁₉
1996 XX ₁₉	15.0	0.15	19980706	250.59921	251.02263	102.30003	4.01938	0.1608287	2.2396739	28	3	1992–1998	0.67	M-v	3	Williams	28873	1996 XX ₁₉
1996 XD ₂₀	15.5	0.15	19980706	177.79958	300.23219	101.21772	6.56092	0.1124888	2.4266181	32	2	1996–1998	0.44	M-v	4	Williams	31590	1996 XD ₂₀
1996 XS ₂₅	13.0	0.15	19980706	311.32887	155.79566	101.72725	20.27331	0.1860355	3.1132222	36	2	1996–1998	0.45	M-v	3	Williams	31590	1996 XS ₂₅
1996 XU ₂₅	13.5	0.15	19980706	155.34566	171.80983	219.09740	1.81462	0.0612170	2.8923389	35	3	1981–1998	0.78	M-v	4	Williams	31550	1996 XU ₂₅
1996 XT ₃₀	12.5	0.15	19980706	314.01157	148.79701	80.73024	18.18461	0.0933935	3.1787989	24	3	1982–1998	0.62	M-v	4	Williams	31590	1996 XT ₃₀
1996 XU ₃₀	14.5	0.15	19980706	162.74221	188.95386	242.92872	9.27339	0.0975066	2.3404983	21	3	1978–1998	0.60	M-v	4	Williams	29320	1996 XU ₃₀
1996 XA ₃₂	14.5	0.15	19980706	21.65003	300.67624	272.56985	1.48931	0.0753346	2.3232257	34	4	1960–1998	0.54	M-v	2	Williams	30473	1996 XA ₃₂
1996 XG ₃₂	14.0	0.15	19980706	359.63256	8.88517	235.14066	1.95379	0.1338077	2.2502060	37	5	1981–1998	0.78	M-v	2	Williams	31279	1996 XG ₃₂
1996 XL ₃₂	14.0	0.15	19980706	287.44650	160.11772	118.35446	6.21552	0.1452114	3.1124519	27	2	1996–1998	0.61	M-v	4	Williams	31551	1996 XL ₃₂
1996 YK	12.5	0.15	19980706	209.01608	156.49396	187.83429	0.45941	0.1188427	3.2563368	26	4	1989–1998	0.86	M-v	2	Williams	31590	1996 YK
1996 YM	14.0	0.15	19980706	202.02717	299.83941	87.97568	3.53162	0.2086197	2.4099286	24	5	1988–1998	0.80	M-v	3	Williams	29667	1996 YM
1996 YT	14.0	0.15	19980706	334.41810	244.21061	38.02836	3.48712	0.1712065	2.4069413	22	4	1994–1998	0.70	M-v	1	Williams	29947	1996 YT
1996 YG ₁	15.0	0.15	19980706	347.55787	189.04394	77.22073	12.85254	0.1193008	2.4845014	55	2	1996–1998	0.55	M-v	3	Marsden	31590	1996 YG ₁
1996 YH ₁	15.0	0.15	19980706	321.07981	150.81038	127.69605	7.27443	0.1134713	2.5285697	38	2	1996–1998	0.36	M-v	4	Marsden	31551	1996 YH ₁
1996 YD ₂	12.5	0.15	19980706	91.87615	110.45404	4.28039	12.21675	0.1061995	3.0320470	45	3	1972–1998	0.70	M-v	3	Williams	31590	1996 YD ₂

1996 YF ₂	13.0	0.15	19980706	213.50604	83.78562	288.18989	4.71289	0.2256210	2.5209286	40	3	1991–1998	0.64	M-v	4	Williams	31590	1996 YF ₂
1996 YQ ₂	14.5	0.15	19980706	197.06313	315.20649	93.42850	5.71898	0.1417392	2.3396900	29	4	1991–1998	0.68	M-v	2	Williams	29119	1996 YQ ₂
1996 YT ₂	15.5	0.15	19980706	175.68844	202.70213	183.04198	2.48808	0.2013309	2.5232034	21	2	1996–1998	0.31	M-v	4	Marsden	31551	1996 YT ₂
1996 YY ₂	13.0	0.15	19980706	168.95963	302.25217	75.41244	2.33140	0.1799127	3.0991500	28	2	1996–1998	0.89	M-v	5	Williams	31551	1996 YY ₂
1996 YD ₃	13.5	0.15	19980706	307.36117	273.50765	351.51356	9.46568	0.0763077	3.0298807	52	2	1996–1998	0.75	M-v	3	Williams	31551	1996 YD ₃
1996 YP ₃	14.0	0.15	19980706	305.44208	178.93784	63.84411	15.01510	0.0648926	2.5824252	30	3	1990–1998	0.57	M-v	3	Williams	31422	1996 YP ₃
1997 AH	14.0	0.15	19980706	188.32268	311.96828	93.02546	6.25980	0.1797638	2.4598696	22	4	1988–1998	0.54	M-v	4	Williams	29141	1997 AH
1997 AU	13.5	0.15	19980706	220.51027	339.72580	20.65711	2.17411	0.0868704	2.8815922	40	3	1993–1998	0.72	M-v	4	Williams	31590	1997 AU
1997 AO ₁	11.0	0.15	19980706	251.87552	187.60608	112.84212	5.17715	0.0712011	3.9506113	37	4	1986–1998	0.63	M-v	1	Williams	31590	1997 AO ₁
1997 AT ₁	12.0	0.15	19980706	90.92268	175.53078	296.86426	12.63008	0.1060536	3.1729637	39	4	1979–1998	0.53	M-v	1	Williams	31590	1997 AT ₁
1997 AZ ₁	13.0	0.15	19980706	137.50128	59.15076	4.43031	5.90787	0.1080112	3.1961769	43	2	1997–1998	0.78	M-v	4	Williams	31551	1997 AZ ₁
1997 AR ₂	13.0	0.15	19980706	98.53907	4.91455	116.57246	2.36548	0.1393532	3.1714028	27	4	1980–1998	0.64	M-v	2	Williams	30460	1997 AR ₂
1997 AX ₃	14.0	0.15	19980706	261.10406	80.76503	281.16024	4.25314	0.1928325	2.2124498	19	4	1979–1998	0.66	M-v	2	Williams	29121	1997 AX ₃
1997 AC ₄	14.0	0.15	19980706	320.64475	329.66962	341.87091	2.23016	0.2288658	2.3614547	31	5	1973–1998	0.66	M-v	2	Williams	29947	1997 AC ₄
1997 AK ₄	13.0	0.15	19980706	126.57980	168.37328	279.77344	2.49332	0.1918538	3.0029570	21	4	1971–1998	0.68	M-v	2	Williams	29121	1997 AK ₄
1997 AO ₄	13.5	0.15	19980706	294.12899	186.43418	125.15314	5.89203	0.1034651	2.7423514	22	4	1991–1998	0.49	M-v	2	Williams	29633	1997 AO ₄
1997 AR ₄	13.0	0.15	19980706	104.50952	269.96520	217.13747	1.30536	0.0698874	2.9310894	32	4	1990–1998	0.50	M-v	1	Williams	29320	1997 AR ₄
1997 AU ₆	13.5	0.15	19980706	191.32806	278.86059	123.11576	3.02347	0.0697583	2.8628350	35	5	1990–1998	0.80	M-v	1	Williams	31144	1997 AU ₆
1997 AD ₁₀	15.0	0.15	19980706	283.88515	191.91655	145.27720	4.13322	0.1991835	2.4071975	27	4	1950–1998	0.67	M-v	2	Williams	29320	1997 AD ₁₀
1997 AN ₁₂	14.5	0.15	19980706	38.67975	325.44738	205.79102	7.38695	0.0412208	2.5762069	46	2	1997–1998	0.46	M-v	3	Williams	31552	1997 AN ₁₂
1997 AQ ₁₂	12.5	0.15	19980706	150.68010	302.43479	115.09199	12.50729	0.1115995	3.1427377	24	4	1978–1998	0.55	M-v	1	Williams	31590	1997 AQ ₁₂
1997 AV ₁₃	15.0	0.15	19980706	215.52440	218.08470	177.78934	4.10886	0.1500325	2.2294536	36	5	1969–1998	0.64	M-v	2	Williams	29320	1997 AV ₁₃
1997 AS ₁₆	13.5	0.15	19980706	79.14943	87.91077	47.96404	2.45101	0.0345314	3.0451176	33	3	1992–1998	0.67	M-v	3	Williams	31552	1997 AS ₁₆
1997 AP ₁₇	13.5	0.15	19980706	294.03970	193.85451	95.35001	10.74360	0.0537404	2.9909680	41	3	1989–1998	0.67	M-v	4	Williams	31590	1997 AP ₁₇
1997 AQ ₁₇	13.5	0.15	19980706	231.28724	46.98678	294.24700	5.45581	0.1958740	2.8028798	43	2	1996–1998	0.57	M-v	4	Williams	31552	1997 AQ ₁₇
1997 AT ₁₈	13.5	0.15	19980706	131.52724	79.57778	352.52610	9.27605	0.0285012	3.1136693	57	2	1997–1998	0.53	M-v	4	Williams	31552	1997 AT ₁₈
1997 AK ₁₉	13.5	0.15	19980706	307.25041	150.11875	164.86875	3.23191	0.1600074	2.2866976	20	5	1950–1998	0.72	M-v	2	Williams	29309	1997 AK ₁₉
1997 AF ₂₁	14.5	0.15	19980706	280.39436	339.29070	2.25843	2.48778	0.2037778	2.1440095	29	6	1939–1998	0.66	M-v	1	Williams	29125	1997 AF ₂₁
1997 AF ₂₂	13.0	0.15	19980706	139.81443	73.48064	334.97635	16.10775	0.2508596	3.2068289	26	2	1997–1998	0.59	M-v	4	Williams	31552	1997 AF ₂₂
1997 AR ₂₂	14.5	0.15	19980706	228.57538	5.71990	33.28600	5.51696	0.1239371	2.2895853	22	3	1985–1997	0.56	M-v	3	Williams	29320	1997 AR ₂₂
1997 BZ ₁	14.5	0.15	19980706	254.33652	291.73774	65.87237	1.63456	0.0730610	2.5756913	26	4	1989–1998	0.62	M-v	1	Williams	29636	1997 BZ ₁
1997 BA ₂	13.0	0.15	19980706	264.17044	227.63781	103.29420	3.11556	0.0359533	2.9309252	28	4	1990–1998	0.64	M-v	1	Williams	31010	1997 BA ₂
1997 BL ₂	11.5	0.15	19980706	241.18383	202.26063	143.14838	11.07427	0.0305994	3.2490580	33	6	1989–1998	0.67	M-v	1	Williams	29947	1997 BL ₂
1997 BR ₂	13.5	0.15	19980706	227.89872	225.47398	152.66441	4.37549	0.0814289	2.7346531	38	5	1991–1998	0.83	M-v	1	Williams	29637	1997 BR ₂
1997 BH ₃	14.5	0.15	19980706	120.92552	297.68189	169.57798	7.92982	0.1905652	2.7939685	61	4	1991–1998	0.50	M-v	1	Williams	31392	1997 BH ₃
1997 BG ₉	14.0	0.15	19980706	168.74199	105.37403	325.80712	1.04771	0.0611233	2.8561882	24	4	1976–1998	0.65	M-v	2	Williams	29638	1997 BG ₉
1997 CM	13.0	0.15	19980706	102.64196	169.06682	325.91973	11.92343	0.1024483	3.0860578	41	4	1990–1998	0.38	M-v	1	Marsden	29638	1997 CM
1997 CO	13.0	0.15	19980706	208.57667	213.47053	174.83772	2.02523	0.1028611	2.8791003	34	7	1980–1998	0.73	M-v	1	Williams	29639	1997 CO
1997 CQ ₁	13.5	0.15	19980706	153.57140	269.16346	142.74980	19.14668	0.1595666	3.2247369	46	2	1997–1998	0.40	M-v	3	Williams	31552	1997 CQ ₁
1997 CV ₁	14.5	0.15	19980706	329.65620	197.77251	110.51694	2.62880	0.1581208	2.1313083	43	3	1992–1998	0.50	M-v	4	Marsden	31590	1997 CV ₁
1997 CA ₃	13.5	0.15	19980706	163.99436	319.57520	100.36922	3.59389	0.1777229	3.1587338	19	3	1995–1998	0.70	M-v	4	Williams	29640	1997 CA ₃
1997 CN ₁₃	14.0	0.15	19980706	341.27117	163.37576	135.46790	7.81626	0.1268705	2.3213656	30	3	1977–1998	0.46	M-v	4	Marsden	30461	1997 CN ₁₃
1997 CA ₁₇	13.5	0.15	19980706	133.27494	159.29421	283.95172	7.83819	0.1479832	3.1995095	45	3	1994–1998	0.59	M-v	3	Williams	29667	1997 CA ₁₇
1997 CF ₁₇	14.0	0.15	19980706	116.82678	176.31603	284.77734	3.94955	0.1412065	3.1860933	32	3	1995–1998	0.44	M-v	3	Williams	29311	1997 CF ₁₇
1997 CM ₁₉	14.0	0.15	19980706	357.08552	218.03109	81.30881	13.52715	0.1655908	2.6816090	13	3	1990–1998	0.29	M-v	4	Marsden	29928	1997 CM ₁₉
1997 CU ₂₆	6.5	0.15	19980706	328.23515	241.96027	300.47292	23.41855	0.1680426	15.7127868	282	2	1997–1998	0.48	M-v	3	Marsden	31590	1997 CU ₂₆
1997 CW ₂₇	14.0	0.15	19980706	242.90331	79.46950	291.40996	1.59448	0.1989274	2.4289358	29	4	1971–1998	0.77	M-v	2	Williams	29667	1997 CW ₂₇
1997 ET ₁	13.5	0.15	19980706	171.89562	305.15690	84.87461	3.19276	0.0855102	2.8441371	73	5	1981–1998	0.62	M-v	3	Williams	31590	1997 ET ₁
1997 EJ ₆	13.5	0.15	19980706	38.54611	149.22323	52.30117	11.32488	0.1445101	3.1976930	42	2	1997–1998	0.47	M-v	4	Marsden	31553	1997 EJ ₆
1997 EO ₇	13.0	0.15	19980706	318.86349	321.09046	330.21735	9.20861	0.1709939	3.1611374	36	2	1997–1998	0.34	M-v	3	Williams	31553	1997 EO ₇
1997 FC	12.5	0.15	19980706	43.71789	92.19148	129.41986	11.83979	0.0578805	2.9947526	27	3	1996–1998	0.64	M-v	3	Williams	29646	1997 FC
1997 NP ₃	16.0	0.15	19970621	355.80712	156.17864	149.60558	4.08567	0.1010316	2.7090447	9	1	4 days	0.73		E	Williams		1997 NP ₃
1997 NQ ₃	15.5	0.15	19970621	354.19268	143.60235	159.32056	2.29617	0.1135822	2.1976198	9	1	4 days	0.56		E	Williams		1997 NQ ₃

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1997 NO ₄	16.0	0.15	19970621	175.74594	293.51773	142.07286	9.53476	0.1177060	2.4879732	9	1	2 days	0.76	E	Williams	1997 NO ₄
1997 NQ ₄	15.5	0.15	19970621	356.66825	135.31298	121.83787	12.97517	0.1296444	3.2155013	9	1	2 days	0.37	E	Williams	1997 NQ ₄
1997 NS ₄	17.0	0.15	19970621	355.04126	57.45425	206.19830	9.11987	0.1289778	2.3981520	9	1	2 days	0.22	E	Williams	1997 NS ₄
1997 NU ₄	17.0	0.15	19970621	174.26733	238.92609	201.77856	10.22161	0.1520813	2.2313562	9	1	2 days	0.14	E	Williams	1997 NU ₄
1997 NV ₄	17.5	0.15	19970621	354.90807	132.64022	131.21232	10.46064	0.1193510	2.3848073	9	1	2 days	0.52	E	Williams	1997 NV ₄
1997 NX ₄	14.5	0.15	19970621	356.43625	150.29391	107.99339	19.04757	0.0557399	2.9884632	9	1	2 days	0.64	E	Williams	1997 NX ₄
1997 NY ₄	15.5	0.15	19970621	176.20146	207.41527	233.19473	20.03240	0.0963955	2.5743423	9	1	2 days	0.19	E	Williams	1997 NY ₄
1997 PE ₃	14.5	0.15	19970909	109.88997	240.48302	340.24401	9.49893	0.1943278	2.6889304	43	1	55 days	0.42		Williams	1997 PE ₃
1997 QK ₂	17.0	0.15	19970820	356.79774	14.68080	315.40157	12.63541	0.2681447	2.4284720	12	1	2 days	0.80	E	Williams	1997 QK ₂
1997 QS ₄	14.0	0.15	19980706	42.22113	152.76819	200.92956	1.24657	0.1919516	3.1022519	17	3	1976–1997	0.75	M-v	4 Williams	30680 1997 QS ₄
1997 RD ₈	17.0	0.15	19970909	83.56052	40.32272	209.34513	1.22233	0.1431285	2.2097581	15	1	7 days	0.46	D	Williams	1997 RD ₈
1997 SQ ₂₃	17.5	0.15	19970929	16.55140	355.64417	3.27248	1.54072	0.1350554	2.1245201	9	1	32 days	0.37		Williams	1997 SQ ₂₃
1997 TZ	17.0	0.15	19970929	358.71548	29.61054	307.48476	2.32422	0.1276499	2.5381378	9	1	3 days	0.20	E	Williams	1997 TZ
1997 TA ₁	17.0	0.15	19970929	336.59497	198.26684	180.43140	3.35230	0.2790549	2.6955885	9	1	3 days	0.14		Williams	1997 TA ₁
1997 TC ₁	17.0	0.15	19970929	335.48257	39.76146	330.14021	3.80533	0.1132817	2.2115718	9	1	3 days	0.13	E	Williams	1997 TC ₁
1997 TH ₁	17.0	0.15	19970929	358.64791	19.99145	321.80873	2.04148	0.2296018	2.6136287	9	1	3 days	0.44	E	Williams	1997 TH ₁
1997 TK ₁	15.5	0.15	19970929	178.28030	185.78826	330.35472	3.81138	0.1278087	2.4162778	9	1	3 days	0.46	E	Williams	1997 TK ₁
1997 TL ₁	16.0	0.15	19970929	329.68111	211.39405	155.10633	25.01278	0.0458993	3.1329923	9	1	3 days	0.22	E	Williams	1997 TL ₁
1997 TM ₁	17.0	0.15	19970929	358.47360	155.84440	186.49464	0.76270	0.1222854	2.3059545	9	1	3 days	0.95	E	Williams	1997 TM ₁
1997 TN ₁	16.0	0.15	19970929	359.27014	165.16931	210.22122	10.11221	0.1369703	3.1798788	9	1	2 days	0.18	E	Williams	1997 TN ₁
1997 TO ₁	16.5	0.15	19970929	180.47308	335.93205	217.96593	6.28269	0.0847659	2.2995688	9	1	2 days	0.20	E	Williams	1997 TO ₁
1997 TP ₁	18.0	0.15	19970929	0.31838	10.94023	0.95423	7.70943	0.2130286	2.3056105	9	1	2 days	0.13	E	Williams	1997 TP ₁
1997 TS ₁	15.5	0.15	19970929	359.97709	164.59482	210.45280	9.74438	0.0969148	3.0377039	9	1	2 days	0.32	E	Williams	1997 TS ₁
1997 TT ₁	17.0	0.15	19970929	358.13769	29.75267	347.41965	4.53639	0.0998847	2.7702494	9	1	2 days	0.23	E	Williams	1997 TT ₁
1997 TU ₁	14.5	0.15	19970929	178.78090	228.34604	328.73706	3.21827	0.1245976	2.6607163	9	1	2 days	0.24	E	Williams	1997 TU ₁
1997 TW ₁	15.0	0.15	19970929	179.57104	184.36708	12.21402	25.30179	0.1130153	2.4640499	9	1	2 days	0.79	E	Williams	1997 TW ₁
1997 TX ₁	15.0	0.15	19970929	355.57306	22.10745	358.53194	6.24924	0.0994721	2.7684793	9	1	2 days	1.19	E	Williams	1997 TX ₁
1997 TY ₁	16.5	0.15	19970929	358.61448	127.04331	249.19296	2.37307	0.0982064	2.4876071	9	1	2 days	0.56	E	Williams	1997 TY ₁
1997 TA ₂	18.5	0.15	19970929	359.12604	111.20814	263.70952	1.78622	0.1430175	2.3266787	9	1	2 days	0.85	E	Williams	1997 TA ₂
1997 TB ₂	15.0	0.15	19970929	178.29210	339.12874	217.61664	5.50604	0.1104148	2.2447451	9	1	2 days	0.23	E	Williams	1997 TB ₂
1997 TD ₂	17.5	0.15	19970929	358.83571	156.97374	218.44535	4.11514	0.1225762	2.2719781	9	1	2 days	0.40	E	Williams	1997 TD ₂
1997 TE ₂	16.0	0.15	19970929	181.51256	233.32098	322.16087	2.64453	0.1123519	2.6888462	9	1	2 days	0.72	E	Williams	1997 TE ₂
1997 TG ₂	18.0	0.15	19970929	359.09741	100.82413	274.44725	1.46769	0.0887792	2.1872699	9	1	2 days	0.98	E	Williams	1997 TG ₂
1997 TH ₂	17.5	0.15	19970929	359.16089	110.78133	264.49670	1.56844	0.1323560	2.2970033	9	1	2 days	0.87	E	Williams	1997 TH ₂
1997 TJ ₂	16.0	0.15	19970929	359.31931	158.40782	217.64937	4.46894	0.1472624	2.6289548	9	1	2 days	0.58	E	Williams	1997 TJ ₂
1997 TK ₂	15.0	0.15	19970929	356.95528	8.94211	11.03801	14.65098	0.1121607	2.8058156	9	1	2 days	1.09	E	Williams	1997 TK ₂
1997 TL ₂	13.0	0.15	19970929	13.80047	158.04477	202.58062	21.52767	0.0748838	3.1231218	14	1	27 days	1.20		Williams	1997 TL ₂
1997 TM ₂	13.0	0.15	19970929	240.27630	151.55297	350.24888	4.28266	0.0263854	5.1430423	9	1	2 days	0.14	E	Williams	1997 TM ₂
1997 TN ₂	16.0	0.15	19970929	358.54895	5.91154	11.71159	16.23221	0.1254664	2.5623419	9	1	2 days	0.45	E	Williams	1997 TN ₂
1997 TP ₂	17.0	0.15	19970929	359.33685	11.95656	5.34376	7.30104	0.1338052	2.8745787	9	1	2 days	0.31	E	Williams	1997 TP ₂
1997 TQ ₂	16.5	0.15	19970929	359.17741	30.08590	347.90979	3.07715	0.1247371	3.1299175	9	1	2 days	0.48	E	Williams	1997 TQ ₂
1997 TS ₂	17.0	0.15	19970929	358.96299	5.37667	12.72666	15.45910	0.1347724	2.8771417	9	1	2 days	0.33	E	Williams	1997 TS ₂
1997 TT ₂	16.5	0.15	19970929	355.93964	23.40561	358.52621	4.04038	0.1253094	2.8458080	9	1	2 days	0.94	E	Williams	1997 TT ₂
1997 TU ₂	16.5	0.15	19970929	359.63536	43.87340	332.62160	1.77126	0.1155515	2.5321508	9	1	2 days	0.61	E	Williams	1997 TU ₂
1997 TV ₂	16.5	0.15	19970929	358.58568	5.72469	13.90774	16.44693	0.1219003	3.1172606	9	1	2 days	0.22	E	Williams	1997 TV ₂
1997 TW ₂	13.0	0.15	19970929	355.64054	178.17214	206.48484	15.39108	0.0452570	4.9064085	9	1	2 days	0.16	E	Williams	1997 TW ₂
1997 TY ₂	15.5	0.15	19970929	357.87213	21.02435	358.76571	3.44810	0.1139686	2.8078713	9	1	2 days	1.02	E	Williams	1997 TY ₂
1997 TZ ₂	16.0	0.15	19970929	357.24674	10.45808	10.73457	9.01462	0.0949312	3.0240051	9	1	2 days	0.76	E	Williams	1997 TZ ₂
1997 TC ₃	16.5	0.15	19970929	359.50402	69.32577	308.69207	1.13078	0.1427617	2.9010031	9	1	2 days	0.36	E	Williams	1997 TC ₃
1997 TE ₃	15.5	0.15	19970929	178.89542	350.63764	208.40643	7.04908	0.1415191	2.3965679	9	1	2 days	0.16	E	Williams	1997 TE ₃
1997 TF ₃	16.5	0.15	19970929	358.70832	21.46627	355.74291	2.50628	0.0816403	2.1654874	9	1	2 days	0.27	E	Williams	1997 TF ₃
1997 TJ ₃	16.0	0.15	19970929	358.95836	13.94455	5.62996	4.17126	0.1215576	3.1139328	9	1	2 days	0.17	E	Williams	1997 TJ ₃
1997 TF ₁₀	16.0	0.15	19970929	358.04827	187.24660	209.32528	8.47525	0.1356658	2.7481430	7	1	2 days	0.72	E	Williams	1997 TF ₁₀

1997 UF ₉	16.5	0.15	19980706	33.88421	157.75496	37.28202	25.87956	0.6042468	1.4424027	146	1	174 days	0.58	M-v	4	Marsden	31590	1997 UF ₉
1997 UA ₂₂	14.0	0.15	19980706	103.35911	252.28432	106.67899	5.78421	0.2016935	2.2906318	28	1	125 days	0.71	M-v	4	Williams	31423	1997 UA ₂₂
1997 UU ₂₄	14.0	0.15	19971019	64.87388	304.78014	357.46647	3.73240	0.1984597	2.6383333	17	1	9 days	1.05			Williams		1997 UU ₂₄
1997 UD ₂₅	13.0	0.15	19980706	48.03749	303.88325	93.67186	3.50805	0.0554134	2.8881128	32	3	1987–1997	0.74	M-v	6	Williams	31554	1997 UD ₂₅
1997 VX	13.0	0.15	19980706	99.90492	339.49915	31.25575	8.68412	0.1403999	2.3270472	21	4	1972–1998	0.53	M-v	1	Williams	31148	1997 VX
1997 WU ₃	14.0	0.15	19980706	322.34964	275.12179	241.80818	4.85742	0.0929063	2.2428331	38	4	1982–1998	0.62	M-v	2	Williams	31591	1997 WU ₃
1997 WG ₇	15.0	0.15	19980706	70.99072	147.47619	301.82477	5.67967	0.1682579	2.2148395	40	4	1987–1998	0.66	M-v	2	Williams	31251	1997 WG ₇
1997 WL ₇	14.0	0.15	19980706	12.09146	213.68324	250.60848	3.48449	0.0904168	2.6453599	32	2	1991–1998	0.78	M-v	4	Williams	31591	1997 WL ₇
1997 WJ ₁₃	13.0	0.15	19980706	81.83638	122.08892	263.01187	7.99716	0.0443299	2.9955584	22	1	119 days	0.83	M-v	5	Williams	31591	1997 WJ ₁₃
1997 WB ₂₂	13.0	0.15	19980706	304.36210	137.14423	98.24880	9.30297	0.0920523	2.3153511	48	3	1942–1998	0.43	M-v	3	Williams	31424	1997 WB ₂₂
1997 WQ ₂₂	15.5	0.15	19980706	141.03225	67.17379	310.52820	1.82688	0.1771757	2.2624281	27	2	1993–1998	0.49	M-v	5	Williams	31591	1997 WQ ₂₂
1997 WT ₂₂	19.0	0.15	19980706	68.84454	74.57847	72.07461	8.16059	0.3062381	1.4855664	142	1	152 days	0.50	M-v	4	Williams	31591	1997 WT ₂₂
1997 WT ₂₃	14.5	0.15	19980706	104.29986	94.39500	254.68358	1.49895	0.1919079	2.4097239	42	5	1982–1998	0.58	M-v	1	Williams	31591	1997 WT ₂₃
1997 WQ ₃₄	14.0	0.15	19980706	142.10627	235.76424	88.21747	6.19413	0.1060108	2.4001906	28	2	1981–1998	0.58	M-v	5	Williams	31394	1997 WQ ₃₄
1997 WV ₃₆	15.0	0.15	19971128	75.05787	99.84155	216.85638	6.29740	0.2755245	2.3342170	12	1	6 days	0.85			Williams		1997 WV ₃₆
1997 WF ₃₇	16.5	0.15	19971128	44.32616	245.56865	114.40825	3.43866	0.2064791	2.3559611	11	1	6 days	0.84			Williams		1997 WF ₃₇
1997 WX ₃₇	15.0	0.15	19971128	72.65784	177.70969	150.89481	2.80925	0.1982313	2.3845620	12	1	5 days	0.71			Williams		1997 WX ₃₇
1997 XH	14.5	0.15	19980706	328.60298	272.82785	319.44221	5.61990	0.1427372	2.2278727	17	1	90 days	0.43	M-v	5	Nakano		1997 XH
1997 XM	14.0	0.15	19980706	62.55462	49.83141	24.10692	2.46103	0.1804543	2.5810290	26	3	1984–1998	0.65	M-v	2	Williams	31283	1997 XM
1997 XP ₂	15.0	0.15	19980706	68.09790	186.69218	243.73697	4.58372	0.2591983	2.6139740	19	1	132 days	0.36	M-v	4	Williams	31591	1997 XP ₂
1997 XQ ₂	12.5	0.15	19980706	142.21094	139.88598	182.80679	2.56976	0.0886961	2.7239371	77	3	1991–1998	0.66	M-v	2	Marsden	31591	1997 XQ ₂
1997 XN ₃	14.4	0.15	19980127	312.14406	86.25699	99.20363	3.77164	0.1536663	2.4300743	29	1	59 days	0.56			Nakano		1997 XN ₃
1997 XX ₃	12.5	0.15	19980706	275.98666	137.74459	159.08523	5.36960	0.1888916	3.9471619	39	2	1997–1998	0.72	M-v	4	Williams	31591	1997 XX ₃
1997 XY ₃	13.5	0.15	19980706	107.57688	321.84522	136.62492	5.19898	0.0301798	2.7957064	16	1	139 days	0.41	M-v	6	Williams		1997 XY ₃
1997 XV ₄	15.5	0.15	19980706	97.25331	317.85054	128.64623	2.25531	0.0916013	2.2499187	20	1	86 days	0.55	M-v	6	Marsden	31424	1997 XV ₄
1997 XZ ₄	15.5	0.15	19980706	128.14409	303.13126	119.69070	0.66230	0.0385911	2.1911521	12	1	88 days	0.30	M-v	6	Marsden		1997 XZ ₄
1997 XD ₅	15.0	0.15	19980706	316.73221	116.75124	124.35503	6.21332	0.0464407	2.4300271	26	1	109 days	0.63	M-v	5	Williams	31591	1997 XD ₅
1997 XF ₅	13.5	0.15	19980706	43.04056	166.20764	328.32950	15.35792	0.0806926	3.1750763	25	1	88 days	0.62	M-v	4	Williams	31591	1997 XF ₅
1997 XG ₅	14.5	0.15	19980706	126.03077	17.46606	31.90326	2.14537	0.0865792	2.8314792	31	3	1991–1998	0.56	M-v	3	Williams	31591	1997 XG ₅
1997 XH ₅	15.5	0.15	19980706	65.52417	141.31910	346.02954	3.56530	0.0817712	2.3117338	25	1	106 days	0.78	M-v	5	Williams	31591	1997 XH ₅
1997 XV ₇	13.5	0.15	19971218	47.58619	117.67937	293.54975	11.61796	0.1713925	2.6827547	18	1	50 days	0.62			Williams		1997 XV ₇
1997 XN ₈	14.5	0.15	19980706	100.19608	117.06741	311.65864	3.60514	0.0853596	2.2299041	42	3	1995–1998	0.65	M-v	3	Williams	31591	1997 XN ₈
1997 XR ₈	14.5	0.15	19980706	78.77777	336.73038	87.21943	2.26945	0.1660373	3.1325801	11	1	61 days	0.32	M-v	7	Nakano		1997 XR ₈
1997 XY ₈	15.5	0.15	19980706	108.86579	20.00439	72.80747	1.28601	0.0914259	2.4419654	35	1	134 days	0.50	M-v	4	Williams	31591	1997 XY ₈
1997 XA ₉	13.5	0.15	19980706	117.67032	309.43462	128.83490	2.99190	0.0665416	2.9007896	38	2	1990–1998	0.53	M-v	4	Williams	31554	1997 XA ₉
1997 XH ₉	13.5	0.15	19980706	158.80609	337.72403	54.55652	3.56201	0.1812415	3.0506984	18	1	133 days	0.61	M-v	6	Williams	31591	1997 XH ₉
1997 XE ₁₁	14.5	0.15	19980706	100.49781	260.43999	178.09994	8.53294	0.2141888	2.3198033	26	1	101 days	0.75	M-v	5	Williams	31591	1997 XE ₁₁
1997 XH ₁₁	12.5	0.15	19980706	44.66440	78.38420	68.26464	11.19522	0.0986740	2.6441782	22	1	110 days	0.48	M-v	5	Williams		1997 XH ₁₁
1997 XT ₁₁	13.5	0.15	19980706	39.66400	48.90563	105.64604	16.16022	0.0611500	2.6383640	30	1	110 days	0.36	M-v	4	Williams		1997 XT ₁₁
1997 XK ₁₃	13.0	0.15	19980706	227.63632	159.82953	152.23428	18.93651	0.1369098	3.1828160	11	1	90 days	0.53	M-v	7	Marsden		1997 XK ₁₃
1997 YP ₂	14.0	0.15	19980706	121.10752	168.28198	207.95906	4.12511	0.1866632	2.2591794	30	2	1995–1998	0.63	M-v	5	Williams	31127	1997 YP ₂
1997 YV ₂	13.0	0.15	19980706	358.30389	51.50275	105.40195	2.19117	0.1241239	3.0999571	51	1	113 days	0.59	M-v	5	Williams		1997 YV ₂
1997 YF ₃	14.0	0.15	19980706	4.78744	295.86899	227.48415	1.52470	0.1444405	2.4384329	14	2	1977–1998	0.52	M-v	5	Williams	31255	1997 YF ₃
1997 YX ₃	14.0	0.15	19980706	84.07218	86.01237	298.93795	27.97800	0.4202771	2.7838471	81	2	1984–1998	0.60	M-v	3	Williams	31591	1997 YX ₃
1997 YM ₄	14.0	0.15	19980706	136.64438	57.66021	270.31259	12.77456	0.1720570	2.5772747	26	2	1989–1998	0.48	M-v	5	Williams	31284	1997 YM ₄
1997 YA ₅	13.5	0.15	19980706	34.70139	180.20598	267.97169	16.48963	0.1497070	2.7600272	32	1	73 days	0.37	M-v	4	Williams	31425	1997 YA ₅
1997 YQ ₅	14.5	0.15	19980706	81.17333	295.54480	115.20735	6.66141	0.2484301	2.6255023	45	2	1979–1998	0.68	M-v	5	Williams	31255	1997 YQ ₅
1997 YS ₅	12.5	0.15	19980706	45.03964	143.25702	307.40805	9.47346	0.2431014	3.0294720	22	2	1991–1998	0.47	M-v	3	Williams	31591	1997 YS ₅
1997 YU ₅	15.5	0.15	19980706	48.30567	174.09384	281.31151	6.96049	0.2714614	2.7854641	13	1	65 days	0.30	M-v	4	Williams		1997 YU ₅
1997 YV ₆	13.5	0.15	19980706	350.50522	241.94753	293.72801	15.31972	0.1707867	2.9342473	22	1	115 days	0.44	M-v	4	Williams	31591	1997 YV ₆
1997 YM ₇	14.5	0.15	19980107	118.65104	245.68588	114.02501	10.35439	0.1746790	2.8109530	13	1	33 days	0.67			Williams		1997 YM ₇
1997 YB ₈	12.0	0.15	19980706	169.69724	190.44586	132.12707	10.53076	0.0672648	2.9893511	52	4	1954–1998	0.36	M-v	1	Marsden	31591	1997 YB ₈
1997 YP ₉	15.5	0.15	19971218	36.31170	131.65458	276.60652	11.17022	0.2578087	2.7617203	9	1	7 days	0.26			Williams		1997 YP ₉

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1997 YB ₁₀	13.0	0.15	19980706	65.06752	118.38744	313.31012	6.85356	0.2080982	2.7716340	31	3	1987–1998	0.80	M-v	3	Williams	31285	1997 YB ₁₀
1997 YR ₁₁	15.0	0.15	19980706	169.82587	10.91944	12.47009	6.48586	0.0232865	2.1979927	25	3	1980–1998	0.74	M-v	3	Williams	31591	1997 YR ₁₁
1997 YU ₁₁	14.0	0.15	19980706	169.53282	352.63614	20.41858	7.04909	0.1127156	2.3527575	16	1	64 days	0.54	M-v	5	Williams		1997 YU ₁₁
1997 YV ₁₁	12.5	0.15	19980706	89.11661	315.08464	125.42711	17.61972	0.0960290	3.1923854	21	1	84 days	0.56	M-v	5	Williams	31591	1997 YV ₁₁
1997 YW ₁₁	13.5	0.15	19980706	161.30819	248.79974	93.33118	4.72406	0.0992977	2.8000187	18	1	62 days	0.38	M-v	5	Williams		1997 YW ₁₁
1997 YV ₁₃	13.5	0.15	19980706	80.00168	131.71308	266.81682	4.98176	0.3874632	2.5985962	20	1	107 days	0.61	M-v	5	Williams		1997 YV ₁₃
1997 YW ₁₃	13.5	0.15	19980706	12.89088	266.00281	258.80746	5.42497	0.1161979	2.2893382	28	4	1967–1998	0.51	M-v	3	Williams	31425	1997 YW ₁₃
1997 YE ₁₄	12.5	0.15	19980706	256.67424	338.11864	298.47145	8.18513	0.1319113	2.7926329	40	4	1986–1998	0.59	M-v	2	Williams	31591	1997 YE ₁₄
1997 YM ₁₄	14.0	0.15	19980706	42.45316	355.43121	127.76393	8.20871	0.1015109	2.4340700	24	2	1995–1998	0.74	M-v	4	Williams	31258	1997 YM ₁₄
1997 YD ₁₅	14.0	0.15	19980706	59.16213	352.23282	96.88155	3.59242	0.1332455	2.6188455	38	1	62 days	0.46	M-v	5	Williams		1997 YD ₁₅
1997 YF ₁₈	13.0	0.15	19980706	325.28924	185.66901	51.55126	11.78808	0.1403431	3.1294263	26	1	87 days	0.41	M-v	5	Williams		1997 YF ₁₈
1997 YV ₁₈	14.0	0.15	19971218	45.01210	303.00523	101.48462	8.29164	0.2139425	2.8343245	12	1	13 days	0.47			Williams		1997 YV ₁₈
1998 AH	14.0	0.15	19980706	54.62547	67.01357	13.31981	4.05635	0.2829583	2.6024966	43	1	102 days	0.60	M-v	4	Williams		1998 AH
1998 AJ	12.5	0.15	19980706	66.61380	305.82555	118.67469	4.10898	0.1718755	3.1133183	50	3	1969–1998	0.68	M-v	3	Williams	31259	1998 AJ
1998 AR	13.5	0.15	19980706	57.02199	133.96641	341.53986	4.03081	0.0991615	2.3901995	26	4	1985–1998	0.44	M-v	2	Williams	31591	1998 AR
1998 AV	13.0	0.15	19980706	274.86918	130.81232	114.90903	22.40372	0.0077340	3.1498699	21	1	112 days	0.61	M-v	4	Williams	31286	1998 AV
1998 AB ₂	14.5	0.15	19980706	40.52485	5.60553	108.02394	7.41593	0.0915631	2.5432420	25	1	74 days	0.43	M-v	4	Williams	31592	1998 AB ₂
1998 AC ₄	15.0	0.15	19971128	127.89985	222.46601	98.53656	3.61894	0.1975377	2.4514341	12	1	45 days	0.16			Williams		1998 AC ₄
1998 AX ₄	14.5	0.15	19980706	109.89871	331.38710	93.45474	24.33660	0.0800212	1.9621456	30	1	105 days	0.51	M-v	4	Williams	31592	1998 AX ₄
1998 AH ₅	13.5	0.15	19980127	9.88158	351.47748	140.90189	2.61064	0.1290972	3.1245056	12	1	54 days	0.27			Marsden		1998 AH ₅
1998 AK ₅	14.0	0.15	19980706	293.27785	286.93354	322.89507	9.48383	0.0555192	2.9815334	28	1	70 days	0.58	M-v	5	Williams		1998 AK ₅
1998 AO ₅	14.5	0.15	19980127	194.93205	348.24734	326.42244	7.77455	0.1094347	2.6031589	12	1	55 days	1.11			Marsden		1998 AO ₅
1998 AZ ₅	14.0	0.15	19980127	134.10333	25.86784	340.62783	4.76207	0.1310353	3.1815270	12	1	55 days	0.51			Marsden		1998 AZ ₅
1998 AB ₆	15.0	0.15	19980706	238.20141	317.83771	0.51525	2.08564	0.2243845	2.3785815	20	1	86 days	0.56	M-v	5	Marsden	31426	1998 AB ₆
1998 AC ₆	15.5	0.15	19980127	357.10311	176.50986	333.64546	6.18261	0.0685941	2.4597224	23	1	55 days	0.79			Marsden		1998 AC ₆
1998 AH ₆	14.0	0.15	19980706	338.11585	223.62242	2.17872	1.27352	0.0509409	2.9031618	24	1	101 days	0.41	M-v	4	Williams	31592	1998 AH ₆
1998 AJ ₆	14.5	0.15	19980706	160.58963	43.13350	2.85055	2.87650	0.0597879	2.1950700	38	4	1986–1998	0.64	M-v	2	Williams	31555	1998 AJ ₆
1998 AN ₆	14.0	0.15	19971128	47.77417	305.59830	103.48347	10.68800	0.0731477	3.1733118	15	1	45 days	0.25			Williams		1998 AN ₆
1998 AL ₇	14.0	0.15	19980706	25.54624	267.97794	243.00168	1.26631	0.1413269	2.4156044	13	3	1976–1998	0.77	M-v	5	Williams	31260	1998 AL ₇
1998 AQ ₈	13.5	0.15	19980706	202.07637	94.05151	238.02693	4.25364	0.0197753	2.8180736	25	1	79 days	0.57	M-v	4	Williams	31592	1998 AQ ₈
1998 AL ₁₀	14.5	0.15	19980706	94.69840	264.79917	141.79993	4.92362	0.1592165	2.5233054	11	1	84 days	0.33	M-v	5	Williams	31592	1998 AL ₁₀
1998 AM ₁₀	14.0	0.15	19980706	206.02419	174.25491	145.94792	7.88874	0.0898773	2.4536114	23	1	92 days	0.49	M-v	4	Williams	31592	1998 AM ₁₀
1998 AN ₁₀	15.5	0.15	19980706	79.80166	216.77776	232.73403	2.97161	0.0817585	2.2391555	10	1	76 days	0.46	M-v	5	Williams	31592	1998 AN ₁₀
1998 BV	13.9	0.15	19980127	10.68552	346.04735	133.54620	5.68035	0.1657757	2.3235742	33	1	44 days	0.74			Nakano		1998 BV
1998 BJ ₁	14.0	0.15	19980127	311.00703	69.22280	123.07902	9.76702	0.0664029	3.0101462	18	1	43 days	0.73			Williams		1998 BJ ₁
1998 BM ₁	14.5	0.15	19980127	14.60947	341.16792	137.93497	6.23521	0.1261091	3.1668327	21	1	44 days	0.64			Williams		1998 BM ₁
1998 BB ₂	12.5	0.15	19980706	257.00865	157.57754	102.39492	17.76538	0.1380299	3.1201273	57	3	1988–1998	0.66	M-v	3	Marsden	31592	1998 BB ₂
1998 BC ₂	15.0	0.15	19980706	93.76729	70.29168	345.54548	4.85133	0.1613403	2.2514955	34	3	1953–1998	0.73	M-v	2	Marsden	31555	1998 BC ₂
1998 BE ₂	12.5	0.15	19980706	301.12164	67.04960	150.44980	1.82627	0.1244415	3.1828769	21	1	102 days	0.37	M-v	6	Williams		1998 BE ₂
1998 BV ₂	15.0	0.15	19980706	69.55116	43.14945	46.03310	1.94042	0.1473038	2.4238019	23	1	73 days	0.70	M-v	5	Williams	31288	1998 BV ₂
1998 BB ₄	13.9	0.15	19980127	5.77523	344.88580	138.21627	5.49189	0.1755722	2.3616421	38	1	38 days	0.43			Nakano		1998 BB ₄
1998 BD ₄	14.0	0.15	19980706	99.60638	93.84843	316.41229	12.22209	0.1596291	2.6009261	27	2	1990–1998	0.74	M-v	5	Williams	31427	1998 BD ₄
1998 BH ₄	15.0	0.15	19980706	15.08027	204.05918	334.28567	2.25315	0.2234856	2.3621500	26	1	89 days	0.44	M-v	4	Williams	31592	1998 BH ₄
1998 BK ₄	16.5	0.15	19980706	12.54677	74.51206	110.56122	3.81731	0.2133442	2.2580083	30	1	111 days	0.49	M-v	4	Williams	31592	1998 BK ₄
1998 BW ₅	16.5	0.15	19980107	43.02359	299.86853	123.40407	2.90259	0.2114190	2.7688439	12	1	8 days	0.67		E	Williams		1998 BW ₅
1998 BJ ₆	13.7	0.15	19980127	22.94176	339.34407	110.71394	9.75803	0.1736171	2.8734745	24	1	7 days	0.54			Nakano		1998 BJ ₆
1998 BE ₇	14.5	0.15	19980706	41.22351	298.45018	103.27591	14.44572	0.5065362	3.1030848	65	1	81 days	0.61	M-v	5	Williams	31592	1998 BE ₇
1998 BR ₇	14.0	0.15	19980706	109.59530	70.66156	333.93640	23.11698	0.2793020	2.3223767	32	1	97 days	0.51	M-v	4	Williams		1998 BR ₇
1998 BX ₇	16.5	0.15	19980706	65.16723	271.41670	145.17022	8.95267	0.5034243	2.6027934	87	1	81 days	0.35	M-v	4	Williams	31592	1998 BX ₇
1998 BZ ₇	17.5	0.15	19980706	29.20757	102.79868	112.51671	6.48146	0.5552520	2.0393992	219	1	72 days	0.47	M-v	5	Marsden	31592	1998 BZ ₇
1998 BD ₈	13.0	0.15	19980706	140.65460	48.33516	327.38459	12.89844	0.1879474	2.6251152	35	3	1979–1998	0.61	M-v	2	Williams	31398	1998 BD ₈
1998 BE ₈	14.5	0.15	19980706	119.56367	64.96450	343.09214	4.06127	0.1532026	2.2058822	32	3	1990–1998	0.68	M-v	2	Williams	31592	1998 BE ₈
1998 BG ₈	13.5	0.15	19980706	128.45995	306.53974	84.87713	3.53589	0.1536629	2.5251518	33	3	1988–1998	0.49	M-v	4	Williams	31592	1998 BG ₈

1998 BH ₈	13.0	0.15	19980706	257.61961	163.65468	122.60823	11.03173	0.1275592	2.6740318	37	2	1982–1998	0.75	M-v	5	Williams	31592	1998 BH ₈
1998 BK ₈	14.5	0.15	19980706	7.34732	97.99824	84.55809	3.56120	0.0980880	2.2808319	31	2	1995–1998	0.54	M-v	5	Williams	31428	1998 BK ₈
1998 BL ₈	13.5	0.15	19980706	220.33190	350.57437	336.39890	13.06634	0.2185326	2.3403098	25	2	1985–1998	0.53	M-v	5	Williams	31398	1998 BL ₈
1998 BQ ₈	15.5	0.15	19980706	355.25661	73.22658	129.79894	6.18389	0.1362768	2.4026428	32	2	1991–1998	0.64	M-v	5	Williams	31399	1998 BQ ₈
1998 BM ₁₀	16.0	0.15	19980706	27.71942	44.80114	122.97374	24.16016	0.3706489	2.4165962	51	1	85 days	0.51	M-v	4	Williams		1998 BM ₁₀
1998 BR ₁₀	15.5	0.15	19980127	24.32512	9.74491	96.91695	3.73650	0.1841107	2.5651633	14	1	38 days	0.96			Williams		1998 BR ₁₀
1998 BS ₁₀	15.0	0.15	19980127	87.98646	265.17007	125.29988	7.25991	0.2248565	2.2640403	19	1	38 days	0.95			Williams		1998 BS ₁₀
1998 BL ₁₁	14.5	0.15	19980706	326.10285	110.37106	98.45095	3.23576	0.1506552	2.4076598	23	1	87 days	0.38	M-v	4	Williams		1998 BL ₁₁
1998 BC ₁₂	12.5	0.15	19980706	37.15827	354.09803	110.91341	11.62288	0.0292328	3.0398364	35	3	1986–1998	0.65	M-v	3	Williams	31265	1998 BC ₁₂
1998 BH ₁₂	14.5	0.15	19980706	104.97715	289.20756	115.64860	15.55752	0.1039580	2.5752379	30	2	1995–1998	0.34	M-v	5	Williams	31266	1998 BH ₁₂
1998 BS ₁₃	13.5	0.15	19980706	7.27207	254.36686	257.45023	3.07895	0.0453422	2.7855824	47	1	113 days	0.67	M-v	4	Williams	31593	1998 BS ₁₃
1998 BF ₁₄	15.0	0.15	19980706	46.85754	344.41812	135.83776	6.48090	0.1436914	2.4331453	41	1	86 days	0.60	M-v	4	Williams		1998 BF ₁₄
1998 BC ₁₅	14.5	0.15	19980706	309.87772	316.61525	281.61462	6.03790	0.1899713	2.3304643	30	3	1953–1998	0.51	M-v	2	Williams	31400	1998 BC ₁₅
1998 BD ₁₅	14.0	0.15	19980107	345.73428	195.03145	299.59014	13.19582	0.0905508	2.6900877	12	1	31 days	0.43			Williams		1998 BD ₁₅
1998 BQ ₁₅	14.4	0.15	19980127	76.04857	273.40773	123.81046	12.92442	0.1439612	2.7176712	11	1	12 days	0.44			Nakano		1998 BQ ₁₅
1998 BN ₁₆	11.5	0.15	19980706	34.82001	58.30306	88.20277	14.62683	0.0450686	3.4024285	24	1	68 days	0.34	M-v	4	Williams		1998 BN ₁₆
1998 BA ₁₈	13.5	0.15	19980127	315.99627	220.11087	334.72315	15.88431	0.0343213	3.2420639	12	1	41 days	1.51			Marsden		1998 BA ₁₈
1998 BF ₁₈	15.5	0.15	19980706	72.02619	81.18992	13.89023	2.12396	0.1735236	2.6250708	22	2	1996–1998	0.63	M-v	4	Williams	31266	1998 BF ₁₈
1998 BQ ₁₈	15.5	0.15	19980706	331.60443	110.01740	146.32857	7.23302	0.2181644	2.4209263	15	1	61 days	0.68	M-v	7	Williams		1998 BQ ₁₈
1998 BV ₁₈	15.5	0.15	19980706	8.38258	127.98277	72.34200	3.53739	0.2502385	3.0431069	18	1	96 days	0.26	M-v	4	Williams		1998 BV ₁₈
1998 BZ ₁₈	15.5	0.15	19980706	11.20955	226.33357	295.20714	2.61858	0.1732346	2.5842210	19	1	120 days	0.62	M-v	5	Williams	31291	1998 BZ ₁₈
1998 BJ ₁₉	14.5	0.15	19980706	329.27925	63.85056	157.62758	2.32837	0.0877025	2.2245339	21	1	87 days	0.32	M-v	5	Williams		1998 BJ ₁₉
1998 BF ₂₃	15.5	0.15	19980127	13.53311	144.68517	331.45478	6.18487	0.2685570	2.7264380	23	1	38 days	0.60			Williams		1998 BF ₂₃
1998 BP ₂₄	14.0	0.15	19980706	326.62854	279.47969	307.85752	12.23277	0.1993529	2.5299911	50	1	85 days	0.47	M-v	5	Williams	31593	1998 BP ₂₄
1998 BU ₂₄	15.0	0.15	19980127	32.37997	30.62508	65.47751	3.38973	0.1535088	2.4540143	14	1	34 days	1.20			Williams		1998 BU ₂₄
1998 BL ₂₅	13.5	0.15	19980706	57.89327	322.60629	151.28477	4.24821	0.0502455	2.7934275	29	2	1991–1998	0.66	M-v	4	Williams	31593	1998 BL ₂₅
1998 BM ₂₅	14.5	0.15	19980706	44.74368	157.53416	342.22410	5.96361	0.1359915	2.3116074	43	3	1977–1998	0.51	M-v	4	Williams	31400	1998 BM ₂₅
1998 BN ₂₅	14.0	0.15	19980706	240.02750	347.82596	321.79735	1.00426	0.0372755	2.1534443	43	3	1992–1998	0.53	M-v	4	Williams	31593	1998 BN ₂₅
1998 BP ₂₅	13.5	0.15	19980706	348.16643	61.84688	131.92381	2.96919	0.1484022	3.1510189	26	2	1982–1998	0.69	M-v	5	Williams	31401	1998 BP ₂₅
1998 BU ₂₅	12.5	0.15	19980706	9.80346	14.10740	134.60912	10.60876	0.0509195	3.0440228	64	3	1977–1998	0.75	M-v	3	Williams	31429	1998 BU ₂₅
1998 BE ₂₆	14.0	0.15	19980706	137.45310	243.83238	173.19294	10.54378	0.1080468	2.9793411	31	2	1975–1998	0.74	M-v	4	Williams	31556	1998 BE ₂₆
1998 BH ₂₆	14.0	0.15	19980706	319.53973	277.01233	356.41598	15.71458	0.1889316	2.5295713	67	2	1991–1998	0.72	M-v	4	Williams	31556	1998 BH ₂₆
1998 BL ₂₆	15.0	0.15	19980706	341.19102	88.80151	143.13311	3.02196	0.0343413	2.7401507	40	2	1991–1998	0.76	M-v	4	Williams	31593	1998 BL ₂₆
1998 BO ₂₆	17.0	0.15	19980706	34.86296	197.94432	327.08998	4.43314	0.3947037	2.3769196	45	1	81 days	0.63	M-v	4	Williams	31593	1998 BO ₂₆
1998 BP ₂₆	17.5	0.15	19980706	62.00470	186.42833	331.16613	20.23555	0.2573662	1.7229335	128	1	82 days	0.54	M-v	4	Williams	31593	1998 BP ₂₆
1998 BM ₂₇	17.5	0.15	19980107	50.76419	303.91094	113.70421	2.01667	0.1685575	2.3352281	9	1	8 days	0.16			Williams		1998 BM ₂₇
1998 BN ₂₇	16.0	0.15	19980107	222.63483	319.80662	319.00013	7.63232	0.1774743	2.6553874	9	1	8 days	0.21			Williams		1998 BN ₂₇
1998 BE ₃₀	13.0	0.15	19980706	334.33626	208.93545	3.64421	10.83074	0.0495398	2.9920325	25	2	1995–1998	0.52	M-v	4	Williams	31593	1998 BE ₃₀
1998 BH ₃₁	17.0	0.15	19980127	354.25449	189.10394	311.61810	10.47332	0.2193709	3.0178130	9	1	7 days	0.19			Williams		1998 BH ₃₁
1998 BE ₃₃	14.5	0.15	19980706	108.82883	257.43144	167.83315	10.28154	0.2860912	2.6955502	34	3	1983–1998	0.71	M-v	3	Williams	31556	1998 BE ₃₃
1998 BP ₃₃	14.0	0.15	19980216	45.39903	334.03552	131.46386	10.32928	0.1017723	2.7553983	25	1	53 days	0.63			Williams		1998 BP ₃₃
1998 BQ ₃₃	14.0	0.15	19980216	227.74376	223.90823	79.37447	5.02591	0.1554769	2.3338604	22	1	53 days	0.63			Williams		1998 BQ ₃₃
1998 BR ₃₃	15.0	0.15	19980706	31.13411	144.12020	10.77166	9.35553	0.0515302	2.4530363	33	4	1983–1998	0.61	M-v	3	Williams	31594	1998 BR ₃₃
1998 BS ₃₃	14.5	0.15	19980706	20.16371	62.45864	116.77498	6.41871	0.1373536	2.4640243	34	2	1994–1998	0.49	M-v	3	Williams	31594	1998 BS ₃₃
1998 BT ₃₃	14.5	0.15	19980706	142.49803	309.37196	81.83226	6.06993	0.1553148	2.3357478	26	2	1978–1998	0.71	M-v	5	Williams	31402	1998 BT ₃₃
1998 BV ₃₃	13.0	0.15	19980706	152.81310	332.16608	56.17483	5.89415	0.0489537	3.2134607	26	1	63 days	0.66	M-v	5	Williams		1998 BV ₃₃
1998 BW ₃₃	15.0	0.15	19980216	15.93359	141.10979	353.15658	13.40294	0.1884720	2.6606536	29	1	49 days	0.72			Marsden		1998 BW ₃₃
1998 BB ₃₄	14.0	0.15	19980216	140.22467	349.61099	26.02204	5.36911	0.0799470	2.7587855	23	1	49 days	1.01			Marsden		1998 BB ₃₄
1998 BN ₃₆	18.0	0.15	19980107	305.52014	243.43778	315.50784	1.75765	0.1822371	2.4717388	9	1	16 days	0.25			Williams		1998 BN ₃₆
1998 BL ₃₉	15.0	0.15	19980127	211.50529	335.56846	313.17951	7.22027	0.1669941	2.2523695	15	1	36 days	0.39			Williams		1998 BL ₃₉
1998 BC ₄₁	12.0	0.15	19980706	279.66761	340.78062	296.04495	12.74222	0.1452527	2.6295826	26	1	60 days	0.46	M-v	5	Williams	31594	1998 BC ₄₁
1998 BD ₄₁	14.5	0.15	19980706	35.52401	36.83130	36.77732	5.36765	0.3154722	2.5780361	24	1	109 days	0.93	M-v	5	Williams	31594	1998 BD ₄₁
1998 BB ₄₂	13.5	0.15	19980706	111.91353	34.12103	14.62551	6.70357	0.1307625	2.6025515	39	5	1981–1998	0.76	M-v	2	Williams	31402	1998 BB ₄₂

1998 BD ₄₂	16.0	0.15	19980706	5.73248	88.67509	89.76882	6.86464	0.2156883	2.3101653	25	1	80 days	0.69	M-v	5	Marsden	31594	1998 BD ₄₂
1998 BW ₄₃	13.0	0.15	19980706	98.54461	5.10520	35.70694	8.67982	0.2206378	2.7838096	15	3	1980–1998	0.76	M-v	4	Williams	31402	1998 BW ₄₃
1998 BO ₄₄	12.5	0.15	19980107	7.59942	351.57055	118.10897	11.24582	0.0612761	3.2616237	11	1	20 days	0.20			Williams		1998 BO ₄₄
1998 BX ₄₄	16.0	0.15	19980127	25.52573	153.02721	309.49265	9.36805	0.0488138	3.1525905	8	1	30 days	0.15			Williams		1998 BX ₄₄
1998 BN ₄₈	17.2	0.15	19980127	35.93933	312.11382	133.06118	3.21368	0.1319089	2.1701349	8	1	8 days	1.07		E	Nakano		1998 BN ₄₈
1998 BO ₄₈	13.7	0.15	19980127	161.47043	175.34505	160.92573	1.64999	0.1261116	2.2087084	6	1	5 days	0.85		E	Nakano		1998 BO ₄₈
1998 CA	14.5	0.15	19980706	44.93726	20.51425	95.81873	9.39585	0.2301985	2.5805673	42	1	114 days	0.61	M-v	4	Williams	31430	1998 CA
1998 CH	12.5	0.15	19980706	97.80305	293.51132	106.49582	22.76363	0.0685614	2.6910858	57	2	1997–1998	0.30	M-v	3	Williams	31594	1998 CH
1998 CR	13.0	0.15	19980706	131.37122	228.63044	162.99565	10.64704	0.1407057	3.0497977	58	2	1990–1998	0.53	M-v	5	Marsden	31594	1998 CR
1998 CL ₁	15.0	0.15	19980706	46.73276	227.29967	254.47830	2.21064	0.1754166	3.0633981	26	2	1993–1998	0.60	M-v	4	Marsden	31404	1998 CL ₁
1998 CR ₁	14.5	0.15	19980216	261.40578	115.59624	157.66852	5.41048	0.1755809	2.5270322	38	1	52 days	0.82			Marsden		1998 CR ₁
1998 CZ ₁	14.0	0.15	19980706	356.55313	137.47796	95.02215	13.39644	0.1150794	2.6050484	35	2	1994–1998	0.43	M-v	4	Williams	31404	1998 CZ ₁
1998 CA ₂	14.0	0.15	19980706	56.35023	89.08253	64.39376	15.16995	0.1568407	2.5881563	20	1	72 days	0.36	M-v	5	Williams		1998 CA ₂
1998 CC ₂	14.5	0.15	19980706	66.19772	138.65045	319.82379	5.57156	0.2124170	2.5493341	39	3	1990–1998	0.62	M-v	3	Williams	31594	1998 CC ₂
1998 CH ₂	15.5	0.15	19980706	43.50397	141.49965	348.57881	7.51911	0.1762654	2.5520138	46	4	1990–1998	0.84	M-v	3	Williams	31594	1998 CH ₂
1998 CM ₂	14.0	0.15	19980706	48.68266	287.27660	137.37881	3.15295	0.1504132	2.4311228	41	2	1991–1998	0.68	M-v	3	Williams	31557	1998 CM ₂
1998 CP ₂	13.5	0.15	19980706	343.70828	28.70855	181.56570	2.04039	0.1621574	2.3044560	30	4	1981–1998	0.62	M-v	2	Williams	31557	1998 CP ₂
1998 CR ₂	12.5	0.15	19980706	187.57385	186.27038	165.71794	10.20234	0.0966136	3.0564785	39	2	1995–1998	0.54	M-v	4	Williams	31594	1998 CR ₂
1998 CW ₂	14.5	0.15	19980216	283.93645	101.54620	134.03086	3.41135	0.0587501	2.3934179	25	1	26 days	0.81			Marsden		1998 CW ₂
1998 CX ₂	15.0	0.15	19980216	12.38717	347.36260	151.62616	6.08820	0.0644730	2.3955021	12	1	26 days	1.42			Marsden		1998 CX ₂
1998 CZ ₂	15.5	0.15	19980216	351.39330	12.75159	153.88777	5.20971	0.2113966	2.6846326	12	1	26 days	0.52			Marsden		1998 CZ ₂
1998 CC ₃	15.0	0.15	19980706	219.98929	0.99313	335.38346	3.66577	0.0666845	2.1499186	23	3	1993–1998	0.67	M-v	3	Marsden	31594	1998 CC ₃
1998 CD ₃	15.5	0.15	19980216	332.57373	31.98131	154.38217	3.79263	0.0983800	2.2996117	12	1	26 days	0.46			Marsden		1998 CD ₃
1998 CE ₃	13.5	0.15	19980216	82.18136	79.56496	340.85986	8.90873	0.1009857	2.9910824	12	1	26 days	0.95			Marsden		1998 CE ₃
1998 CG ₃	14.0	0.15	19980216	151.16767	201.89212	153.12994	5.34955	0.1712975	2.2278220	12	1	26 days	0.53			Marsden		1998 CG ₃
1998 CH ₃	14.5	0.15	19980216	352.63354	168.50568	354.71559	3.55173	0.0991126	3.0435658	15	1	26 days	1.05			Marsden		1998 CH ₃
1998 CK ₃	14.5	0.15	19980216	289.75709	238.60854	1.44948	2.35343	0.1413706	2.4596351	31	1	46 days	1.60			Marsden		1998 CK ₃
1998 CM ₃	14.0	0.15	19980216	243.01852	129.98158	150.09790	5.84679	0.0818529	2.6643910	12	1	26 days	0.33			Marsden		1998 CM ₃
1998 CO ₃	14.0	0.15	19980216	226.33384	314.00820	349.82723	4.28606	0.2236038	2.2583987	25	1	26 days	1.54			Marsden		1998 CO ₃
1998 CR ₃	14.0	0.15	19980706	40.31194	11.23469	124.05244	0.54309	0.1351951	3.1544385	32	2	1996–1998	0.80	M-v	5	Marsden	31557	1998 CR ₃
1998 CU ₃	15.0	0.15	19980706	42.71973	119.22334	27.64033	1.66006	0.1299944	2.3862278	26	1	77 days	0.85	M-v	4	Marsden		1998 CU ₃
1998 CV ₃	15.0	0.15	19980216	34.62337	319.31001	157.63640	6.84368	0.0526348	2.3468848	12	1	26 days	0.80			Marsden		1998 CV ₃
1998 CW ₃	14.0	0.15	19980216	355.74208	27.66704	132.62060	5.65718	0.1659494	2.5775812	17	1	26 days	0.96			Williams		1998 CW ₃
1998 CY ₃	13.0	0.15	19980216	102.72782	244.31275	151.00285	13.18871	0.1729538	2.6783619	35	1	53 days	1.01			Marsden		1998 CY ₃
1998 CC ₄	13.0	0.15	19980706	112.00877	89.05861	312.00959	9.44521	0.0990630	2.9881551	24	1	106 days	0.60	M-v	5	Williams	31594	1998 CC ₄
1998 CF ₄	14.5	0.15	19980216	356.10089	352.14603	163.12371	4.01586	0.1595846	2.6566275	12	1	26 days	1.37			Marsden		1998 CF ₄
1998 CH ₄	13.5	0.15	19980216	320.45851	25.93878	169.65546	5.37899	0.0665713	3.1115185	12	1	26 days	0.89			Marsden		1998 CH ₄
1998 CJ ₄	13.5	0.15	19980706	78.31474	119.13237	325.74267	11.27791	0.1986760	2.6187108	22	2	1996–1998	0.66	M-v	4	Williams	31405	1998 CJ ₄
1998 CL ₄	13.0	0.15	19980216	154.60769	28.88228	325.04118	8.73245	0.0565282	2.9773734	12	1	26 days	1.23			Marsden		1998 CL ₄
1998 CM ₄	14.0	0.15	19980216	358.83793	2.43698	149.44834	9.23410	0.0865196	2.7625508	12	1	26 days	1.96			Marsden		1998 CM ₄
1998 CR ₄	14.0	0.15	19980216	150.86707	202.83466	149.40810	7.35338	0.1614718	2.3093332	12	1	26 days	1.06			Marsden		1998 CR ₄
1998 CV ₄	13.5	0.15	19980216	115.24008	42.08728	336.52600	6.78233	0.1850623	2.5688376	12	1	26 days	1.25			Marsden		1998 CV ₄
1998 CW ₄	14.0	0.15	19980216	82.92064	79.20266	329.61513	12.76813	0.1716712	2.5797857	12	1	26 days	0.56			Marsden		1998 CW ₄
1998 CX ₄	14.5	0.15	19980216	35.29468	150.10462	324.02082	7.61870	0.0321448	2.4649783	12	1	26 days	0.55			Marsden		1998 CX ₄
1998 CY ₄	14.0	0.15	19980216	107.83412	198.77375	204.39877	1.19561	0.0170836	2.9168114	27	1	26 days	1.11			Marsden		1998 CY ₄
1998 CZ ₄	14.5	0.15	19980216	345.96930	274.37773	255.47024	1.22516	0.1102132	2.6668567	12	1	26 days	0.66			Marsden		1998 CZ ₄
1998 CA ₅	13.5	0.15	19980216	317.94934	229.32456	329.99030	8.34185	0.0559034	3.0799812	12	1	26 days	0.53			Marsden		1998 CA ₅
1998 CC ₅	14.0	0.15	19980216	117.20824	62.90957	318.71005	5.41561	0.1495142	2.3716344	12	1	26 days	0.78			Marsden		1998 CC ₅
1998 CE ₅	15.0	0.15	19980216	303.25533	230.91065	348.28028	2.08741	0.1052074	2.3647759	12	1	26 days	1.12			Marsden		1998 CE ₅
1998 DA	13.5	0.15	19980706	262.69408	179.24829	97.38293	6.32632	0.0529165	2.6931709	35	3	1987–1998	0.54	M-v	3	Williams	31594	1998 DA
1998 DE	15.5	0.15	19980216	359.74605	157.44928	350.09504	3.31731	0.2263283	2.6413899	29	1	14 days	1.20			Williams		1998 DE
1998 DF	14.5	0.15	19980706	100.36741	301.48589	132.38613	4.69066	0.1152884	2.3134955	39	2	1996–1998	0.59	M-v	4	Williams	31594	1998 DF
1998 DO	14.5	0.15	19980706	106.02031	253.82591	160.88927	12.96097	0.1610663	2.7780600	22	1	66 days	0.64	M-v	6	Williams		1998 DO

1998 DP	12.0	0.15	19980308	166.25315	217.26423	112.92220	13.95380	0.1204137	3.1613424	32	1	52 days	0.23		Marsden		1998 DP
1998 DT	13.5	0.15	19980706	196.11666	77.94532	265.52957	0.87195	0.0899982	3.0507376	47	3	1995–1998	0.63	M-v 3	Marsden	31557	1998 DT
1998 DX	14.0	0.15	19980706	192.50442	229.42739	89.84896	7.33248	0.1282633	2.3263803	38	1	114 days	0.64	M-v 5	Williams	31595	1998 DX
1998 DC ₁	14.5	0.15	19980706	40.48232	136.04406	345.35765	13.04938	0.1594683	3.1421589	30	1	60 days	0.54	M-v 5	Marsden		1998 DC ₁
1998 DK ₁	15.0	0.15	19980706	64.83891	135.52992	0.26823	2.35906	0.0526796	2.1558467	44	3	1993–1998	0.64	M-v 4	Williams	31557	1998 DK ₁
1998 DP ₁	14.0	0.15	19980706	47.76446	344.20753	123.01576	7.22906	0.0910735	2.4569361	29	3	1992–1998	0.74	M-v 3	Williams	31595	1998 DP ₁
1998 DW ₁	14.0	0.15	19980308	135.56048	260.02349	95.17913	7.27932	0.2739400	2.3942396	21	1	54 days	0.88		Williams		1998 DW ₁
1998 DB ₂	14.5	0.15	19980328	44.73040	104.06182	3.16315	7.32666	0.1849700	2.7902226	24	1	32 days	0.63		Williams		1998 DB ₂
1998 DD ₂	16.5	0.15	19980706	49.79362	109.76088	347.57186	8.34661	0.3180708	3.0584561	22	2	1996–1998	0.35	M-v 3	Williams	31558	1998 DD ₂
1998 DG ₂	14.5	0.15	19980308	19.99844	103.57709	40.00277	11.27342	0.1013413	2.5712928	15	1	33 days	0.32		Williams		1998 DG ₂
1998 DK ₂	14.0	0.15	19980308	128.65169	289.62419	111.58098	13.70278	0.0110934	3.0441184	14	1	42 days	0.52		Williams		1998 DK ₂
1998 DO ₂	13.5	0.15	19980308	256.55724	243.26094	47.88705	14.08370	0.1672601	3.1288941	15	1	33 days	0.68		Williams		1998 DO ₂
1998 DR ₂	13.0	0.15	19980706	63.03812	120.36625	347.48064	9.24564	0.0495119	2.9980266	30	2	1990–1998	0.46	M-v 4	Williams	31595	1998 DR ₂
1998 DW ₂	13.0	0.15	19980706	152.32699	135.16678	253.19029	3.36215	0.0815881	2.7976809	48	3	1990–1998	0.53	M-v 4	Williams	31595	1998 DW ₂
1998 DC ₃	14.5	0.15	19980216	313.24422	62.01384	140.28096	10.80326	0.0610856	2.9437733	19	1	26 days	1.05		Williams		1998 DC ₃
1998 DN ₃	13.5	0.15	19980706	27.81277	148.72111	349.63168	8.48802	0.1146157	2.7316696	23	4	1980–1998	0.43	M-v 2	Williams	31406	1998 DN ₃
1998 DS ₃	12.5	0.15	19980706	58.27852	311.69601	149.00549	10.68839	0.0776412	3.0174116	32	2	1988–1998	0.55	M-v 5	Williams	31595	1998 DS ₃
1998 DL ₄	14.0	0.15	19980216	13.72198	173.05446	314.30270	13.04893	0.1595770	2.8670573	26	1	43 days	0.42		Williams		1998 DL ₄
1998 DN ₄	14.0	0.15	19980216	27.75370	305.52446	163.08451	10.19845	0.1509746	2.7539956	16	1	10 days	0.40		Williams		1998 DN ₄
1998 DT ₄	15.5	0.15	19980216	24.12096	331.35088	146.81057	6.12295	0.0714485	2.3659976	18	1	10 days	0.80		Williams		1998 DT ₄
1998 DU ₄	15.0	0.15	19980216	20.87129	321.75614	149.56168	10.49525	0.2453631	2.7128609	29	1	46 days	1.40		Williams		1998 DU ₄
1998 DV ₄	15.5	0.15	19980216	58.97409	294.26171	141.98463	0.55175	0.1055093	2.2729314	16	1	10 days	0.62		Williams		1998 DV ₄
1998 DW ₄	14.5	0.15	19980216	203.52107	157.97904	148.84219	3.41458	0.0981241	2.2987257	16	1	10 days	0.98		E Williams		1998 DW ₄
1998 DX ₄	15.0	0.15	19980216	88.57581	229.55779	161.96081	1.52741	0.2370077	2.3154714	17	1	10 days	0.02		Williams		1998 DX ₄
1998 DA ₅	16.0	0.15	19980216	332.34125	54.04024	130.20913	4.05866	0.1574328	2.3214222	19	1	10 days	0.86		E Williams		1998 DA ₅
1998 DE ₅	14.0	0.15	19980216	162.64758	324.76015	13.13473	4.72979	0.1739202	2.5250304	18	1	10 days	0.63		Williams		1998 DE ₅
1998 DN ₅	15.0	0.15	19980706	25.17172	282.54889	244.14388	6.61434	0.1717300	2.4701138	25	2	1989–1998	0.69	M-v 4	Williams	31407	1998 DN ₅
1998 DR ₅	13.0	0.15	19980706	296.08639	318.71981	310.38900	14.71574	0.1758491	2.6248078	33	2	1995–1998	0.41	M-v 4	Williams	31407	1998 DR ₅
1998 DZ ₅	14.5	0.15	19980706	32.52559	348.61765	165.18313	4.53394	0.1745484	2.5528983	33	4	1990–1998	0.67	M-v 4	Marsden	31595	1998 DZ ₅
1998 DA ₆	15.0	0.15	19980706	75.16145	184.79097	276.90128	1.21833	0.1457447	2.4218911	21	2	1994–1998	0.91	M-v 6	Marsden	31408	1998 DA ₆
1998 DB ₆	13.5	0.15	19980127	74.92765	69.11171	334.93889	13.37323	0.2638896	2.9310005	28	1	37 days	0.87		Marsden		1998 DB ₆
1998 DC ₆	14.5	0.15	19980216	353.22893	75.78051	87.50543	0.05643	0.2105402	3.1556695	25	1	10 days	1.18		E Marsden		1998 DC ₆
1998 DD ₆	15.0	0.15	19980216	92.80064	240.51880	154.46906	3.35591	0.2326824	2.4466237	20	1	10 days	0.83		Marsden		1998 DD ₆
1998 DE ₆	15.5	0.15	19980216	35.63205	119.38961	347.30118	0.78459	0.1336764	2.3744397	23	1	10 days	1.24		Marsden		1998 DE ₆
1998 DF ₆	15.5	0.15	19980216	272.75868	95.38481	147.85173	2.74490	0.0267288	2.3029638	20	1	10 days	0.97		E Marsden		1998 DF ₆
1998 DG ₆	14.5	0.15	19980216	242.84791	297.33992	349.18926	11.75674	0.1755557	2.5726098	16	1	10 days	0.81		Williams		1998 DG ₆
1998 DJ ₆	14.5	0.15	19980216	119.13392	309.53406	80.25477	3.17502	0.0519042	2.8474295	11	1	10 days	0.55		Williams		1998 DJ ₆
1998 DL ₆	15.0	0.15	19980216	118.13632	312.30051	78.00200	4.39868	0.0496264	2.6292418	11	1	10 days	0.57		Williams		1998 DL ₆
1998 DJ ₇	14.5	0.15	19980706	41.43929	30.15706	127.14761	3.05252	0.0107583	2.8684856	37	3	1990–1998	0.74	M-v 4	Williams	31558	1998 DJ ₇
1998 DL ₇	16.0	0.15	19980216	82.74899	275.23415	137.96711	3.06976	0.1403539	2.5764204	12	1	10 days	0.40		Marsden		1998 DL ₇
1998 DM ₇	15.0	0.15	19980216	326.94915	203.15275	352.62897	4.33647	0.1338370	2.7214847	25	1	10 days	1.45		Marsden		1998 DM ₇
1998 DQ ₇	14.5	0.15	19980216	90.19572	156.77077	253.60866	5.61715	0.1689294	2.3051689	19	1	10 days	0.61		Williams		1998 DQ ₇
1998 DR ₇	15.5	0.15	19980308	67.06645	30.01352	56.13580	4.08475	0.1622424	2.2876191	24	1	31 days	0.53		Williams		1998 DR ₇
1998 DT ₇	14.5	0.15	19980216	265.44292	311.09247	302.92703	4.17832	0.1121524	2.2509785	16	1	9 days	0.45		Williams		1998 DT ₇
1998 DU ₇	12.5	0.15	19980308	64.40186	347.27683	90.88105	12.22877	0.0849476	2.9977341	27	1	40 days	0.88		Marsden		1998 DU ₇
1998 DL ₈	14.0	0.15	19980706	244.60535	94.59831	211.76115	4.15553	0.0539890	2.8161139	25	2	1994–1998	0.48	M-v 5	Williams	31595	1998 DL ₈
1998 DZ ₈	14.5	0.15	19980216	293.49776	92.02055	137.89608	5.72055	0.0894046	3.0854311	12	1	9 days	0.99		E Marsden		1998 DZ ₈
1998 DD ₉	14.5	0.15	19980308	311.44735	86.15188	148.72185	10.13762	0.1454305	2.7346881	20	1	31 days	0.51		Williams		1998 DD ₉
1998 DE ₉	13.5	0.15	19980308	2.33066	157.10213	12.81608	14.74403	0.0079448	3.2160365	15	1	31 days	0.51		Williams		1998 DE ₉
1998 DH ₉	14.5	0.15	19980308	341.73535	51.90198	142.08164	15.13302	0.0869336	2.6486204	14	1	31 days	0.44		Williams		1998 DH ₉
1998 DJ ₉	14.0	0.15	19980308	46.09478	86.59628	34.16206	10.58239	0.0601705	3.1732027	15	1	31 days	0.61		Williams		1998 DJ ₉
1998 DM ₉	14.5	0.15	19980308	359.01575	111.72264	61.05888	8.34754	0.1778985	2.6198111	15	1	31 days	0.39		Williams		1998 DM ₉
1998 DN ₉	14.5	0.15	19980308	324.17169	160.58526	56.28282	10.46965	0.1270898	2.7355317	15	1	31 days	0.48		Williams		1998 DN ₉

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1998 DS ₉	12.5	0.15	19980706	307.52448	144.17388	158.75395	24.32682	0.1933889	2.3634226	36	1	65 days	0.30	M-v	4	Williams	1998 DS ₉
1998 DV ₉	18.0	0.15	19980706	56.43548	0.59705	130.51582	8.68860	0.4340138	1.7455010	98	1	68 days	0.56	M-v	5	Williams	31595 1998 DV ₉
1998 DW ₉	12.5	0.15	19980706	128.92520	163.02944	247.38658	7.47407	0.0999140	3.4330295	47	2	1993–1998	0.56	M-v	4	Williams	31559 1998 DW ₉
1998 DY ₉	13.5	0.15	19980706	29.89640	211.07503	303.63302	3.08525	0.0652078	2.1404498	34	2	1996–1998	0.46	M-v	3	Williams	31559 1998 DY ₉
1998 DE ₁₀	14.0	0.15	19980308	351.91073	301.77900	232.04133	3.10668	0.0388564	2.7767124	32	1	41 days	0.93			Williams	1998 DE ₁₀
1998 DJ ₁₀	13.0	0.15	19980706	79.62296	106.47533	348.75648	2.02254	0.1932589	2.8984703	40	3	1986–1998	0.55	M-v	3	Williams	31559 1998 DJ ₁₀
1998 DM ₁₀	15.5	0.15	19980216	54.16490	249.44216	193.26354	6.37147	0.0972229	2.3626398	16	1	9 days	0.76			Williams	1998 DM ₁₀
1998 DN ₁₀	14.0	0.15	19980216	179.44883	172.64279	153.98706	14.14415	0.1973964	2.5909748	23	1	9 days	1.12			Williams	1998 DN ₁₀
1998 DQ ₁₀	15.0	0.15	19980308	253.62228	139.47677	163.57810	6.28845	0.1692059	2.3091868	28	1	54 days	0.61			Williams	1998 DQ ₁₀
1998 DS ₁₀	16.5	0.15	19980308	41.35720	347.39537	104.04618	3.01248	0.3304268	2.2848078	51	1	29 days	1.58			Marsden	1998 DS ₁₀
1998 DT ₁₀	13.5	0.15	19980706	0.31106	307.25590	258.91015	2.19164	0.1790576	2.4612566	113	3	1971–1998	0.73	M-v	2	Williams	31596 1998 DT ₁₀
1998 DW ₁₀	13.5	0.15	19980216	81.29223	21.61841	47.18278	10.33355	0.0753845	2.9789919	23	1	51 days	0.67			Williams	1998 DW ₁₀
1998 DD ₁₁	15.0	0.15	19980308	311.45565	81.15986	144.98206	9.55792	0.1796498	2.7098256	42	1	36 days	0.91			Marsden	1998 DD ₁₁
1998 DG ₁₁	14.0	0.15	19980216	277.97650	199.36561	58.72029	3.36429	0.1608767	3.1980367	19	1	25 days	0.96			Williams	1998 DG ₁₁
1998 DH ₁₁	15.0	0.15	19980706	283.71090	160.74884	138.11142	24.73822	0.0313303	1.9226669	23	3	1988–1998	0.51	M-v	3	Williams	31559 1998 DH ₁₁
1998 DJ ₁₁	11.5	0.15	19980706	220.25586	356.88338	327.97715	4.61590	0.0527170	3.8953910	51	4	1976–1998	0.70	M-v	3	Williams	31560 1998 DJ ₁₁
1998 DR ₁₁	14.0	0.15	19980308	68.20400	319.65925	133.98621	2.77539	0.0468707	2.8797447	27	1	26 days	1.33			Marsden	1998 DR ₁₁
1998 DS ₁₁	15.5	0.15	19980308	22.47214	346.75691	150.10530	7.94910	0.1340377	2.3928613	28	1	29 days	0.59			Marsden	1998 DS ₁₁
1998 DT ₁₁	14.5	0.15	19980706	359.57195	60.44798	147.97677	5.30775	0.1811135	2.5586369	39	1	63 days	0.47	M-v	5	Williams	1998 DT ₁₁
1998 DU ₁₁	12.5	0.15	19980706	309.09446	169.09697	88.55824	2.25427	0.1614540	3.0906920	40	2	1993–1998	0.71	M-v	6	Marsden	31560 1998 DU ₁₁
1998 DV ₁₁	14.5	0.15	19980308	338.06341	36.27451	166.48647	4.92721	0.1809813	2.6827313	39	1	53 days	0.61			Williams	1998 DV ₁₁
1998 DY ₁₁	14.0	0.15	19980308	45.15653	339.71097	115.69121	13.40105	0.1247752	2.6724168	14	1	55 days	0.34			Williams	1998 DY ₁₁
1998 DD ₁₂	15.0	0.15	19980706	110.16036	292.03815	152.31059	7.10029	0.0978511	2.4226910	28	2	1992–1998	0.65	M-v	5	Williams	31560 1998 DD ₁₂
1998 DV ₁₂	14.5	0.15	19980706	112.22699	271.49831	122.25011	14.12508	0.2208208	2.5529873	17	1	99 days	0.27	M-v	5	Williams	1998 DV ₁₂
1998 DW ₁₂	13.5	0.15	19980706	58.66983	300.07272	132.50936	4.14249	0.3107568	3.0718402	27	1	90 days	0.34	M-v	4	Williams	31596 1998 DW ₁₂
1998 DZ ₁₂	14.0	0.15	19980706	75.43100	109.35119	357.90137	7.37527	0.1541608	2.5719215	61	2	1992–1998	0.56	M-v	4	Williams	31560 1998 DZ ₁₂
1998 DB ₁₃	14.0	0.15	19980308	94.77488	196.35933	206.63399	3.98706	0.1636226	3.0765698	24	1	50 days	0.37			Marsden	1998 DB ₁₃
1998 DC ₁₃	15.0	0.15	19980308	126.71888	239.35886	146.02071	3.50977	0.1795238	2.2146732	24	1	28 days	0.59			Williams	1998 DC ₁₃
1998 DD ₁₃	13.5	0.15	19980706	358.86122	170.71127	25.15272	12.56001	0.1583306	3.0650576	32	2	1995–1998	0.39	M-v	4	Williams	31560 1998 DD ₁₃
1998 DG ₁₃	16.5	0.15	19980127	3.95821	339.17083	152.83634	25.28786	0.1964718	2.3232569	19	1	35 days	1.03			Williams	1998 DG ₁₃
1998 DH ₁₃	14.5	0.15	19980308	17.43649	330.07369	177.84442	23.51754	0.0956592	3.0490829	21	1	26 days	1.04			Williams	1998 DH ₁₃
1998 DJ ₁₃	15.5	0.15	19980216	40.77217	162.91870	298.18857	10.15880	0.0896877	2.5311194	13	1	6 days	0.60			Williams	1998 DJ ₁₃
1998 DM ₁₃	13.5	0.15	19980706	271.35929	72.87956	235.13662	12.97550	0.0898121	2.5898399	19	1	65 days	0.38	M-v	4	Williams	1998 DM ₁₃
1998 DP ₁₃	15.0	0.15	19980328	302.44321	283.58493	342.57291	28.27956	0.3195520	2.6590103	27	1	58 days	0.97			Williams	1998 DP ₁₃
1998 DQ ₁₃	13.5	0.15	19980706	34.69053	56.97220	107.87074	2.48369	0.1135856	3.0374488	44	2	1980–1998	0.63	M-v	4	Williams	31561 1998 DQ ₁₃
1998 DR ₁₃	14.0	0.15	19980308	286.57245	198.12013	59.02365	2.71195	0.0272663	2.8389790	20	1	25 days	0.72			Williams	1998 DR ₁₃
1998 DT ₁₃	16.0	0.15	19980308	41.23502	112.08518	13.52869	2.67458	0.1414066	2.3893014	20	1	23 days	0.92			Williams	1998 DT ₁₃
1998 DU ₁₃	16.5	0.15	19980706	71.68461	133.46348	3.84982	7.00383	0.0491067	2.3371859	30	2	1960–1998	0.83	M-v	5	Williams	31561 1998 DU ₁₃
1998 DZ ₁₃	16.0	0.15	19980706	310.16749	183.76569	103.17917	1.59178	0.1850367	2.2845068	25	2	1981–1998	0.68	M-v	5	Williams	31561 1998 DZ ₁₃
1998 DL ₁₄	15.0	0.15	19980706	4.43373	175.25031	16.06894	2.83720	0.1331717	2.4065979	29	4	1976–1998	0.42	M-v	3	Williams	31561 1998 DL ₁₄
1998 DM ₁₄	13.0	0.15	19980127	274.24924	62.22405	170.59802	10.49835	0.0515544	2.9893650	19	1	37 days	0.73			Williams	1998 DM ₁₄
1998 DX ₁₄	13.5	0.15	19980216	17.20699	131.23370	0.10588	14.54411	0.0931368	3.1277120	11	1	10 days	0.29			Williams	1998 DX ₁₄
1998 DD ₁₅	14.0	0.15	19980706	77.52691	267.65125	180.18634	11.37004	0.2548274	2.6082846	35	2	1977–1998	0.70	M-v	5	Williams	31561 1998 DD ₁₅
1998 DF ₁₅	15.0	0.15	19980216	39.06035	309.78339	162.96182	5.18981	0.0994897	2.8040827	16	1	10 days	0.74		E	Williams	1998 DF ₁₅
1998 DG ₁₅	13.5	0.15	19980706	232.86102	157.95338	163.25275	12.78074	0.0624560	2.7038506	28	3	1991–1998	0.63	M-v	4	Williams	31561 1998 DG ₁₅
1998 DH ₁₅	14.0	0.15	19980308	192.55419	313.14413	20.14659	2.00655	0.0772949	2.8283825	26	1	28 days	0.74			Williams	1998 DH ₁₅
1998 DJ ₁₅	15.5	0.15	19980308	337.78460	201.32563	348.67103	6.64761	0.0651492	2.3138030	20	1	28 days	1.21			Williams	1998 DJ ₁₅
1998 DK ₁₅	15.5	0.15	19980706	74.47626	58.22395	50.05111	2.85356	0.1666143	2.3451915	21	1	61 days	0.78	M-v	6	Williams	1998 DK ₁₅
1998 DL ₁₅	14.5	0.15	19980706	109.85631	65.44917	11.85374	7.09840	0.0961797	2.3038210	29	1	61 days	0.60	M-v	5	Williams	1998 DL ₁₅
1998 DM ₁₅	16.0	0.15	19980308	3.82361	96.43188	62.60731	4.01915	0.2087085	2.6242777	15	1	31 days	0.44			Williams	1998 DM ₁₅
1998 DR ₁₅	14.5	0.15	19980706	143.48118	55.81111	358.17846	6.15052	0.0709248	2.2978265	37	4	1982–1998	0.69	M-v	3	Williams	31561 1998 DR ₁₅
1998 DS ₁₅	14.5	0.15	19980308	16.68709	75.40615	73.87315	10.73635	0.1274399	2.6244541	19	1	42 days	0.41			Williams	1998 DS ₁₅
1998 DT ₁₅	14.0	0.15	19980308	62.97300	341.12955	121.91237	15.71927	0.0598937	2.6149286	18	1	42 days	0.55			Williams	1998 DT ₁₅

1998 DU ₁₅	15.0	0.15	19980216	280.01005	76.94535	155.00171	15.27918	0.0563209	2.5282432	15	1	9 days	0.58		Williams	1998 DU ₁₅
1998 DZ ₁₅	15.5	0.15	19980216	40.89148	128.07776	318.14816	21.53228	0.2391142	2.3064880	16	1	7 days	0.81	E	Williams	1998 DZ ₁₅
1998 DA ₁₆	15.5	0.15	19980706	53.71638	293.56570	185.73258	10.88936	0.1826361	2.5629795	21	1	62 days	0.57	M-v 4	Williams	1998 DA ₁₆
1998 DB ₁₆	14.5	0.15	19980216	20.12311	218.13332	262.30149	6.75670	0.1750729	2.7802767	16	1	7 days	1.26		Williams	1998 DB ₁₆
1998 DE ₁₆	15.5	0.15	19980706	321.40742	110.37221	142.45827	3.82732	0.1185118	2.2715884	26	2	1995–1998	0.74	M-v 5	Williams	1998 DE ₁₆
1998 DF ₁₆	14.0	0.15	19980308	71.43161	308.92497	131.92966	18.29813	0.1193457	3.1770238	15	1	27 days	0.55		Williams	1998 DF ₁₆
1998 DQ ₁₇	17.0	0.15	19980216	330.42081	46.23990	143.87348	6.07736	0.1274998	2.2687019	14	1	9 days	1.17		Williams	1998 DQ ₁₇
1998 DC ₁₈	14.0	0.15	19980308	231.32086	264.63492	48.17042	4.25998	0.0827832	2.7848776	18	1	31 days	0.51		Williams	1998 DC ₁₈
1998 DQ ₁₈	17.5	0.15	19980216	336.25923	49.01121	133.95858	2.45941	0.1510733	2.1438926	10	1	8 days	1.03		Williams	1998 DQ ₁₈
1998 DG ₁₉	15.0	0.15	19980216	335.58607	67.46805	114.10640	2.82864	0.0703305	2.8001284	18	1	8 days	1.23		Williams	1998 DG ₁₉
1998 DM ₁₉	17.5	0.15	19980216	354.18590	147.83131	12.77329	2.86732	0.1416579	2.2539961	10	1	7 days	0.94		Williams	1998 DM ₁₉
1998 DF ₂₀	13.5	0.15	19980706	134.18681	240.41821	169.23975	13.11185	0.1735182	2.6659491	60	1	63 days	0.60	M-v 6	Williams	1998 DF ₂₀
1998 DG ₂₀	14.0	0.15	19980706	334.80648	157.46454	95.77695	8.53153	0.0968753	2.4812711	38	1	63 days	0.31	M-v 4	Williams	1998 DG ₂₀
1998 DJ ₂₀	15.0	0.15	19980308	250.28176	285.43281	356.87824	5.94264	0.1199628	2.2340193	34	1	24 days	0.78		Marsden	1998 DJ ₂₀
1998 DK ₂₀	15.5	0.15	19980706	74.71436	74.44341	27.40973	2.35663	0.1739440	2.4153702	33	1	147 days	0.67	M-v 5	Williams	1998 DK ₂₀
1998 DN ₂₀	12.5	0.15	19980706	139.93679	273.40134	123.68322	12.20626	0.2882747	2.6385487	31	1	62 days	0.53	M-v 5	Marsden	1998 DN ₂₀
1998 DS ₂₀	15.0	0.15	19980706	343.34048	54.37238	175.62825	15.52394	0.1475300	3.1902658	24	2	1992–1998	0.86	M-v 4	Williams	1998 DS ₂₀
1998 DY ₂₀	14.0	0.15	19980216	82.40227	273.54803	150.10528	11.83884	0.0581571	3.2139386	21	1	10 days	1.26	E	Williams	1998 DY ₂₀
1998 DZ ₂₀	13.5	0.15	19980216	193.65878	345.55630	337.25305	13.51063	0.1653241	2.5655950	20	1	10 days	1.12		Marsden	1998 DZ ₂₀
1998 DA ₂₁	16.0	0.15	19980216	42.96099	312.65045	130.95114	1.81182	0.2567734	2.4061449	20	1	10 days	0.93		Marsden	1998 DA ₂₁
1998 DC ₂₁	13.5	0.15	19980216	64.15131	102.25252	340.27449	10.49620	0.0601431	2.9769099	27	1	10 days	0.95		Marsden	1998 DC ₂₁
1998 DS ₂₁	15.0	0.15	19980216	343.67172	175.56995	358.55401	4.05934	0.1070200	2.7405955	19	1	10 days	1.92	E	Marsden	1998 DS ₂₁
1998 DT ₂₁	14.0	0.15	19980216	172.14275	288.87353	52.31474	2.00382	0.1603635	3.0778527	11	1	10 days	0.99		Williams	1998 DT ₂₁
1998 DK ₂₃	14.0	0.15	19980706	326.67154	263.11815	320.36808	9.03118	0.2094715	2.7492500	31	1	86 days	0.37	M-v 5	Williams	1998 DK ₂₃
1998 DN ₂₃	17.0	0.15	19980706	10.20933	42.93149	185.02869	2.56937	0.2268848	2.3223127	12	1	60 days	0.21	M-v 5	Williams	1998 DN ₂₃
1998 DU ₂₃	14.5	0.15	19980216	141.58279	316.27161	29.63976	5.31283	0.2699439	2.6754483	20	1	51 days	0.52		Williams	1998 DU ₂₃
1998 DV ₂₃	15.5	0.15	19980308	4.36209	166.93811	25.70211	8.44637	0.0770127	2.3675178	26	1	54 days	0.68		Williams	1998 DV ₂₃
1998 DB ₂₄	14.6	0.15	19980706	317.44088	298.62968	314.17262	17.21852	0.0555003	1.9623215	19	1	62 days	0.44	M-v 5	Nakano	1998 DB ₂₄
1998 DC ₂₄	13.0	0.15	19980706	71.42189	268.03091	182.85299	13.68072	0.2438062	2.6763326	27	3	1994–1998	0.65	M-v 3	Williams	1998 DC ₂₄
1998 DD ₂₄	14.5	0.15	19980216	259.58503	159.63326	96.66301	5.24448	0.1121392	2.1947686	15	1	4 days	0.87		Williams	1998 DD ₂₄
1998 DJ ₂₄	15.5	0.15	19980216	47.15163	306.14633	149.05652	11.00789	0.1208084	2.4775869	25	1	10 days	0.94		Marsden	1998 DJ ₂₄
1998 DT ₂₅	15.0	0.15	19980216	115.59650	16.11950	9.67987	4.21653	0.1434373	2.6729216	11	1	8 days	0.69		Williams	1998 DT ₂₅
1998 DX ₂₅	16.0	0.15	19980706	46.29613	15.68391	115.76516	2.79148	0.1685506	2.7531877	20	1	86 days	0.61	M-v 6	Marsden	1998 DX ₂₅
1998 DY ₂₆	13.5	0.15	19980216	299.76594	235.62874	342.88150	10.42129	0.0545879	3.0004502	22	1	8 days	2.13	E	Marsden	1998 DY ₂₆
1998 DN ₂₇	15.0	0.15	19980216	108.88542	248.11307	157.19606	3.76661	0.0408233	2.3763748	12	1	5 days	0.69	E	Williams	1998 DN ₂₇
1998 DO ₂₇	15.5	0.15	19980216	323.83891	91.98966	109.00039	2.73361	0.1360019	2.6622708	26	1	4 days	0.88		Marsden	1998 DO ₂₇
1998 DS ₂₉	12.5	0.15	19980308	243.34407	92.61814	169.34331	9.41237	0.0281736	3.1068572	13	1	28 days	0.30		Williams	1998 DS ₂₉
1998 DZ ₂₉	16.0	0.15	19980216	288.18143	121.08649	122.20481	2.38853	0.1601566	2.2745154	14	1	10 days	0.86		Williams	1998 DZ ₂₉
1998 DV ₃₁	14.0	0.15	19980216	10.93437	156.49696	336.91225	11.55216	0.2363704	2.6166341	32	1	55 days	1.08		Marsden	1998 DV ₃₁
1998 DW ₃₁	15.0	0.15	19980308	12.11525	195.06945	316.90482	6.64543	0.0598344	2.2919100	29	1	41 days	0.92		Williams	1998 DW ₃₁
1998 DM ₃₂	14.0	0.15	19980216	131.17538	28.42618	254.32353	13.85341	0.3652159	2.2271308	9	1	7 days	0.31		Williams	1998 DM ₃₂
1998 DB ₃₃	14.0	0.15	19980216	344.26471	81.50512	76.73110	8.47185	0.1121932	2.5562076	10	1	4 days	0.84		Williams	1998 DB ₃₃
1998 DJ ₃₃	15.0	0.15	19980216	353.06154	48.15024	110.71198	5.89628	0.1012682	2.2811347	12	1	6 days	1.39	E	Williams	1998 DJ ₃₃
1998 DM ₃₃	15.0	0.15	19980216	293.97525	270.81028	333.74275	14.27175	0.2382952	2.6788572	12	1	10 days	0.72		Marsden	1998 DM ₃₃
1998 DQ ₃₃	13.5	0.15	19980308	96.46142	296.39258	126.23983	2.97676	0.0832009	2.6394528	16	1	23 days	0.72		Williams	1998 DQ ₃₃
1998 DR ₃₃	15.5	0.15	19980308	358.09285	7.98717	163.84686	13.53631	0.2009928	2.5491234	33	1	27 days	0.70		Williams	1998 DR ₃₃
1998 DT ₃₃	15.5	0.15	19980706	58.57927	341.56538	157.46684	5.80696	0.0593390	2.3893993	33	3	1992–1998	0.84	M-v 4	Williams	1998 DT ₃₃
1998 DV ₃₃	15.0	0.15	19980216	348.22101	74.93952	101.92982	2.11957	0.1364342	2.3880933	17	1	6 days	1.20		Marsden	1998 DV ₃₃
1998 DW ₃₃	15.5	0.15	19980308	10.87700	13.24364	141.96050	1.97257	0.1144995	2.4035768	25	1	28 days	0.96		Williams	1998 DW ₃₃
1998 DX ₃₃	13.0	0.15	19980706	299.60066	214.17026	41.78921	2.55317	0.0184138	2.8563143	27	2	1994–1998	0.53	M-v 4	Williams	1998 DX ₃₃
1998 DY ₃₃	14.0	0.15	19980308	62.21910	301.69959	129.97236	4.02900	0.3008710	2.5959323	22	1	25 days	1.43		Marsden	1998 DY ₃₃
1998 DZ ₃₃	14.5	0.15	19980706	20.89945	14.31583	165.70492	12.17558	0.1464062	2.5764821	33	1	62 days	0.67	M-v 5	Williams	1998 DZ ₃₃
1998 DA ₃₄	14.0	0.15	19980706	350.09223	206.53686	4.86539	5.17904	0.0316624	2.4909782	30	3	1982–1998	0.77	M-v 4	Williams	1998 DA ₃₄

1998 DC ₃₄	16.5	0.15	19980216	15.21792	130.83989	10.51908	1.77006	0.1410099	2.2848914	14	1	5 days	0.79		Williams		1998 DC ₃₄
1998 DE ₃₄	13.5	0.15	19980706	43.21098	138.98341	2.30476	1.00283	0.1581340	3.0483816	31	2	1993–1998	0.76	M-v	5	Williams	31563 1998 DE ₃₄
1998 DG ₃₄	14.0	0.15	19980706	153.09572	14.62529	16.69022	3.74415	0.1965762	2.3946526	29	2	1992–1998	0.87	M-v	6	Williams	31564 1998 DG ₃₄
1998 DH ₃₄	11.5	0.15	19980706	251.61099	221.61804	76.31421	3.21270	0.0487759	3.9525077	25	1	61 days	0.82	M-v	6	Marsden	1998 DH ₃₄
1998 DJ ₃₄	15.0	0.15	19980308	5.72042	169.56271	352.62559	13.11564	0.1053881	2.5405349	41	1	37 days	0.85			Williams	1998 DJ ₃₄
1998 DL ₃₄	14.0	0.15	19980308	27.86784	139.52301	357.39055	12.05318	0.0801488	2.7972684	24	1	24 days	0.79			Williams	1998 DL ₃₄
1998 DN ₃₄	13.0	0.15	19980706	20.84252	67.08387	102.28936	3.52357	0.0692404	3.2131105	31	2	1989–1998	0.81	M-v	4	Williams	31564 1998 DN ₃₄
1998 DO ₃₄	15.0	0.15	19980308	299.55386	104.72677	149.53293	8.96825	0.2179122	2.5264795	18	1	27 days	0.51			Williams	1998 DO ₃₄
1998 DQ ₃₄	16.0	0.15	19980308	350.93534	161.75455	22.54798	3.92299	0.2375319	2.5899622	18	1	24 days	0.91			Williams	1998 DQ ₃₄
1998 DV ₃₄	14.0	0.15	19980706	331.82605	73.78616	155.14854	3.62092	0.0388941	2.7484415	33	2	1995–1998	0.73	M-v	5	Williams	31564 1998 DV ₃₄
1998 DW ₃₄	13.5	0.15	19980308	102.58955	250.10579	164.02991	17.56002	0.1367121	2.8057199	22	1	23 days	0.71			Williams	1998 DW ₃₄
1998 DY ₃₄	13.5	0.15	19980308	55.43551	89.27046	20.83644	1.99438	0.0603424	2.8873241	29	1	29 days	0.58			Williams	1998 DY ₃₄
1998 DB ₃₅	15.0	0.15	19980308	284.11323	239.75351	25.47651	3.35736	0.1640856	2.4430694	23	1	23 days	0.98			Williams	1998 DB ₃₅
1998 DG ₃₅	13.5	0.15	19980308	244.70010	285.72467	9.75912	9.65642	0.0913717	2.9792786	19	1	23 days	0.72			Williams	1998 DG ₃₅
1998 DH ₃₅	14.5	0.15	19980706	39.76731	160.63400	356.80704	13.74333	0.0912153	2.5748291	25	1	61 days	0.55	M-v	4	Williams	1998 DH ₃₅
1998 DL ₃₅	15.5	0.15	19980308	31.66953	166.83220	327.64481	2.48717	0.1171135	2.4449067	32	1	34 days	1.04			Williams	1998 DL ₃₅
1998 DM ₃₅	15.5	0.15	19980308	47.26714	137.54417	332.39485	5.13786	0.1746165	2.4294527	44	1	52 days	0.96			Williams	1998 DM ₃₅
1998 DN ₃₅	14.5	0.15	19980216	6.00637	152.82254	346.87642	1.04963	0.0852386	2.2644909	16	1	13 days	0.94			Williams	1998 DN ₃₅
1998 DQ ₃₅	13.5	0.15	19980127	263.41352	287.79731	327.75025	11.54250	0.1385922	2.6606229	20	1	55 days	0.74			Williams	1998 DQ ₃₅
1998 DS ₃₅	15.0	0.15	19980216	35.60441	313.24188	150.34080	7.12332	0.0947406	2.2889924	13	1	12 days	0.99			Williams	1998 DS ₃₅
1998 DT ₃₅	15.0	0.15	19980216	80.21533	82.28437	330.23754	1.20486	0.1184142	2.5886864	14	1	13 days	1.30		E	Williams	1998 DT ₃₅
1998 DU ₃₅	13.5	0.15	19980308	260.90456	115.55034	151.65594	9.43307	0.1643080	2.7835824	17	1	24 days	0.56			Williams	1998 DU ₃₅
1998 DV ₃₅	14.0	0.15	19980216	33.50654	313.59823	149.59919	10.82083	0.1379695	2.8314454	13	1	10 days	0.84			Williams	1998 DV ₃₅
1998 DW ₃₅	14.0	0.15	19980216	69.99484	262.21644	150.28648	11.75046	0.2149380	2.6703551	13	1	4 days	0.87			Williams	1998 DW ₃₅
1998 DX ₃₅	13.0	0.15	19980216	284.59742	211.24158	23.27231	1.02982	0.0982917	3.1562379	16	1	8 days	0.68		E	Williams	1998 DX ₃₅
1998 DD ₃₆	14.0	0.15	19980216	303.64408	184.20346	39.59038	6.03110	0.2187325	2.4796694	18	1	7 days	0.61			Williams	1998 DD ₃₆
1998 EC	12.5	0.15	19980706	212.38587	248.74490	97.62258	16.71150	0.2004141	2.5420471	30	3	1991–1998	0.43	M-v	3	Williams	31564 1998 EC
1998 EN	15.5	0.15	19980308	279.32713	298.33307	324.11213	6.27866	0.1332699	2.2369945	20	1	20 days	0.78			Williams	1998 EN
1998 ES	15.5	0.15	19980308	83.32261	227.30706	189.67128	5.02882	0.2320980	2.3532991	26	1	20 days	1.39			Williams	1998 ES
1998 EQ ₁	14.5	0.15	19980328	51.08893	307.20540	188.76065	14.36834	0.0919134	2.6664408	41	1	51 days	0.52			Williams	1998 EQ ₁
1998 ER ₁	16.0	0.15	19980328	295.88053	90.89627	175.59020	1.27466	0.0665715	2.2594835	24	1	51 days	1.16			Williams	1998 ER ₁
1998 EU ₁	16.5	0.15	19980328	37.22670	134.59371	11.64927	2.53888	0.1468401	2.4356322	14	1	51 days	1.37			Williams	1998 EU ₁
1998 EA ₂	16.0	0.15	19980308	275.14578	275.97991	15.39478	5.36613	0.1360849	2.3359118	15	1	23 days	0.93			Williams	1998 EA ₂
1998 EH ₂	15.0	0.15	19980328	88.90093	79.10606	28.30341	5.42923	0.0249118	2.5249388	15	1	51 days	0.67			Williams	1998 EH ₂
1998 EL ₂	15.0	0.15	19980328	266.58730	156.55178	157.17145	2.70262	0.1906248	2.2822917	21	1	51 days	0.66			Williams	1998 EL ₂
1998 EO ₂	13.0	0.15	19980328	240.73557	199.29616	143.30108	2.16948	0.2442744	3.2172403	20	1	51 days	1.36			Williams	1998 EO ₂
1998 EP ₂	15.5	0.15	19980328	17.26173	173.61865	2.34248	2.30423	0.1532895	2.4390710	42	1	51 days	0.65			Williams	1998 EP ₂
1998 EC ₃	16.5	0.15	19980706	359.45806	128.36422	128.38012	8.36442	0.5130488	2.1313141	219	1	59 days	0.58	M-v	4	Williams	31598 1998 EC ₃
1998 ED ₃	15.0	0.15	19980706	77.89578	29.88541	103.53620	7.04461	0.0842868	2.4798715	23	1	61 days	0.32	M-v	4	Williams	1998 ED ₃
1998 EL ₃	16.5	0.15	19980216	312.06524	77.54752	136.45943	3.05584	0.1409091	2.2053125	21	1	3 days	1.33			Marsden	1998 EL ₃
1998 EP ₃	13.5	0.15	19980706	284.96117	300.56245	6.83374	9.42120	0.1762080	2.6520230	40	2	1996–1998	0.51	M-v	4	Williams	31564 1998 EP ₃
1998 ES ₃	13.5	0.15	19980706	356.71576	194.57910	21.05866	13.62739	0.1023701	2.6103888	35	1	61 days	0.45	M-v	4	Williams	1998 ES ₃
1998 EZ ₅	15.0	0.15	19980308	86.91050	323.38562	104.94727	3.03050	0.1850645	2.3622720	19	1	23 days	0.62			Williams	1998 EZ ₅
1998 ED ₆	11.5	0.15	19980706	182.79709	53.35469	293.63454	13.43878	0.2017406	3.1097802	26	2	1992–1998	0.52	M-v	5	Williams	31598 1998 ED ₆
1998 EE ₆	14.0	0.15	19980706	74.48920	208.30631	239.75403	5.47104	0.1942326	2.7273306	23	2	1996–1998	0.47	M-v	5	Williams	31598 1998 EE ₆
1998 EF ₆	14.5	0.15	19980706	337.95005	279.05664	322.72974	20.82932	0.2490037	2.2995448	36	3	1977–1998	0.57	M-v	4	Williams	31565 1998 EF ₆
1998 EH ₆	17.0	0.15	19980216	7.89687	331.10882	175.25937	8.77258	0.2388396	2.6760690	14	1	4 days	1.34			Williams	1998 EH ₆
1998 EL ₆	14.5	0.15	19980216	67.45245	266.22543	178.11471	9.18784	0.1089777	3.1984190	10	1	4 days	0.99		E	Williams	1998 EL ₆
1998 EM ₆	15.5	0.15	19980216	48.63725	129.66172	314.06931	2.43916	0.2926487	3.1691763	10	1	4 days	1.28		E	Williams	1998 EM ₆
1998 EO ₆	14.5	0.15	19980308	168.55018	175.15578	183.06987	4.10471	0.0892942	2.6119405	28	1	25 days	1.17			Williams	1998 EO ₆
1998 EP ₆	14.5	0.15	19980706	27.08518	215.19039	325.05487	2.01993	0.1034226	2.1886861	40	6	1943–1998	0.59	M-v	2	Williams	31565 1998 EP ₆
1998 ER ₆	15.0	0.15	19980706	26.37504	200.85083	336.95346	4.08687	0.0829630	2.2957013	38	3	1977–1998	0.61	M-v	4	Williams	31565 1998 ER ₆
1998 EW ₆	16.0	0.15	19980308	32.29315	141.43993	12.65392	20.88332	0.0871365	1.9353322	30	1	29 days	0.55			Williams	1998 EW ₆

1998 EX ₆	14.0	0.15	19980706	335.22786	166.69485	76.76483	3.05351	0.1690899	2.4269485	56	3	1953–1998	0.61	M-v	4	Williams	31565	1998 EX ₆
1998 EM ₇	16.0	0.15	19980308	37.40940	115.57748	354.91804	4.38574	0.1623276	2.2807866	39	1	51 days	1.03			Marsden		1998 EM ₇
1998 EX ₇	14.0	0.15	19980706	122.83426	168.28229	250.53223	2.96883	0.1401140	2.2695525	40	3	1986–1998	0.54	M-v	4	Williams	31565	1998 EX ₇
1998 EZ ₇	16.0	0.15	19980308	1.92221	349.20642	171.10864	14.03765	0.1414485	2.5767105	28	1	57 days	1.02			Williams		1998 EZ ₇
1998 EA ₈	13.5	0.15	19980308	224.34417	136.86478	174.01019	14.39302	0.1946909	2.5730989	34	1	29 days	1.02			Williams		1998 EA ₈
1998 EB ₈	16.0	0.15	19980706	336.85495	182.63239	65.33700	1.51844	0.1162356	2.1990251	39	2	1996–1998	0.44	M-v	5	Williams	31566	1998 EB ₈
1998 EJ ₈	14.0	0.15	19980308	248.47250	127.83860	171.11236	6.67742	0.1523824	2.5366434	35	1	59 days	0.78			Williams		1998 EJ ₈
1998 EK ₈	14.2	0.15	19980328	315.44642	301.10435	276.66795	5.80591	0.0682202	2.3600792	23	1	54 days	0.69			Nakano		1998 EK ₈
1998 EM ₈	14.0	0.15	19980308	138.06625	259.86710	107.54193	3.87539	0.2603816	2.3159436	22	1	27 days	1.04			Williams		1998 EM ₈
1998 EO ₈	13.0	0.15	19980706	99.31812	249.79028	179.60957	8.84819	0.0818176	2.9969618	26	2	1996–1998	0.48	M-v	4	Williams	31566	1998 EO ₈
1998 EQ ₈	13.5	0.15	19980216	307.87739	20.60051	190.22898	3.20094	0.0349530	2.7980412	31	1	49 days	0.84			Williams		1998 EQ ₈
1998 ET ₈	14.5	0.15	19980308	308.45030	251.05840	331.41609	11.27586	0.0813908	2.5401285	37	1	24 days	0.93			Williams		1998 ET ₈
1998 EV ₈	14.0	0.15	19980328	330.87903	209.78655	41.61706	35.67478	0.1526094	2.7901350	25	1	56 days	0.43			Williams		1998 EV ₈
1998 EW ₈	17.0	0.15	19980328	301.58609	234.01381	7.32579	4.83324	0.1273870	2.2418526	40	1	48 days	0.40			Williams		1998 EW ₈
1998 EX ₈	15.0	0.15	19980328	34.26777	99.36254	38.23555	11.41895	0.2120065	2.6803637	24	1	46 days	0.77			Williams		1998 EX ₈
1998 EZ ₈	14.0	0.15	19980706	325.52037	200.44985	47.72229	9.51673	0.1436987	2.5627661	32	1	68 days	0.47	M-v	5	Williams		1998 EZ ₈
1998 EA ₉	15.0	0.15	19980328	307.97268	157.99183	111.75689	9.03036	0.2353061	2.5666431	28	1	52 days	0.39			Marsden		1998 EA ₉
1998 EB ₉	14.5	0.15	19980216	141.29854	253.96737	106.30119	8.42898	0.1853246	2.4042406	11	1	6 days	0.64			Williams		1998 EB ₉
1998 EC ₉	14.0	0.15	19980308	283.81794	176.11239	86.53873	6.30425	0.2557155	2.5484199	27	1	20 days	0.88			Williams		1998 EC ₉
1998 EN ₉	13.9	0.15	19980308	206.00981	245.74947	67.81143	2.77435	0.0683407	2.6290461	20	1	36 days	0.72			Nakano		1998 EN ₉
1998 EP ₉	15.0	0.15	19980706	2.51277	83.94755	112.01362	3.29834	0.1418693	2.4365288	26	1	100 days	0.56	M-v	4	Williams	31599	1998 EP ₉
1998 EQ ₉	16.5	0.15	19980308	324.06547	77.81066	139.49603	5.01695	0.2141395	2.4440798	31	1	38 days	1.11			Williams		1998 EQ ₉
1998 ER ₉	15.5	0.15	19980308	40.56141	344.40193	118.65744	5.26910	0.0948265	2.3064656	36	1	54 days	1.16			Marsden		1998 ER ₉
1998 EB ₁₀	14.5	0.15	19980216	231.76798	9.85374	288.73753	3.97338	0.1509650	2.3081272	15	1	7 days	1.29			Williams		1998 EB ₁₀
1998 EG ₁₀	14.0	0.15	19980706	130.93856	103.51899	308.60200	7.15973	0.1031893	2.3572814	27	3	1969–1998	0.58	M-v	6	Williams	31566	1998 EG ₁₀
1998 EM ₁₀	15.5	0.15	19980308	312.12269	217.86607	13.14122	6.51284	0.1610621	2.2702379	25	1	25 days	0.87			Marsden		1998 EM ₁₀
1998 EN ₁₀	14.0	0.15	19980308	127.81980	349.32039	42.53243	5.16423	0.0964901	2.5957095	15	1	24 days	0.70			Williams		1998 EN ₁₀
1998 EU ₁₀	14.5	0.15	19980308	346.40460	40.20481	143.85308	12.22698	0.0697122	2.5839856	21	1	28 days	0.78			Williams		1998 EU ₁₀
1998 EV ₁₀	14.0	0.15	19980308	90.98962	275.18990	130.23664	9.32594	0.2955877	2.7992943	15	1	24 days	0.72			Williams		1998 EV ₁₀
1998 EW ₁₀	14.5	0.15	19980308	269.08584	264.81040	12.39137	13.17506	0.1712179	2.6567633	14	1	24 days	1.17			Williams		1998 EW ₁₀
1998 EY ₁₀	15.5	0.15	19980308	312.79890	187.46663	58.54041	5.22853	0.2936867	2.6215665	15	1	24 days	0.82			Williams		1998 EY ₁₀
1998 EZ ₁₀	14.5	0.15	19980216	202.19465	301.67224	22.10339	6.46248	0.0637150	2.3342753	9	1	4 days	0.77		E	Marsden		1998 EZ ₁₀
1998 EA ₁₁	16.0	0.15	19980308	49.08352	347.22633	109.97024	5.44122	0.2133840	2.4513227	18	1	28 days	1.11			Williams		1998 EA ₁₁
1998 EB ₁₁	14.0	0.15	19980308	313.83900	72.40277	150.17884	12.55168	0.0785152	3.0197671	15	1	24 days	0.76			Williams		1998 EB ₁₁
1998 EC ₁₁	15.5	0.15	19980308	30.58037	21.06938	102.63999	2.90049	0.1974879	2.3663526	27	1	29 days	0.77			Marsden		1998 EC ₁₁
1998 EE ₁₁	14.5	0.15	19980308	321.65670	180.89114	46.13812	4.18840	0.2237413	2.7865471	15	1	24 days	0.46			Williams		1998 EE ₁₁
1998 EF ₁₁	16.0	0.15	19980308	321.84325	114.90736	110.78453	3.39480	0.2133680	2.3720537	15	1	24 days	0.91			Williams		1998 EF ₁₁
1998 EG ₁₁	15.0	0.15	19980308	331.30571	71.24038	132.17490	5.87996	0.0935349	2.4795237	21	1	28 days	0.72			Marsden		1998 EG ₁₁
1998 EJ ₁₁	15.0	0.15	19980308	266.58763	158.40307	110.83904	6.53679	0.0681055	2.2578574	18	1	28 days	1.10			Williams		1998 EJ ₁₁
1998 EK ₁₁	14.5	0.15	19980308	289.72900	166.93280	92.94135	3.89314	0.1826588	2.3600195	15	1	24 days	0.45			Williams		1998 EK ₁₁
1998 EL ₁₁	15.5	0.15	19980308	320.00429	191.16330	38.43383	5.88107	0.2319309	2.6234969	15	1	24 days	1.06			Williams		1998 EL ₁₁
1998 EM ₁₁	15.0	0.15	19980308	35.56501	86.15651	45.48118	5.38035	0.0162922	2.3662612	26	1	34 days	0.90			Williams		1998 EM ₁₁
1998 EP ₁₁	14.0	0.15	19980706	348.58493	218.46327	7.55363	13.42164	0.1802926	2.4774250	35	2	1996–1998	0.77	M-v	4	Williams	31566	1998 EP ₁₁
1998 ER ₁₁	15.5	0.15	19980308	312.25467	146.82456	82.09329	3.91564	0.1265906	2.4296856	15	1	24 days	0.74			Williams		1998 ER ₁₁
1998 ES ₁₁	15.0	0.15	19980308	8.58561	113.61865	45.81764	4.24561	0.0758040	2.5212709	18	1	27 days	0.52			Williams		1998 ES ₁₁
1998 ET ₁₁	14.5	0.15	19980308	236.24076	285.80195	24.10066	7.33778	0.2064778	2.2944371	21	1	28 days	0.56			Williams		1998 ET ₁₁
1998 EU ₁₁	13.0	0.15	19980308	154.58186	232.97876	132.73949	8.09737	0.2580776	2.5573764	18	1	27 days	0.61			Williams		1998 EU ₁₁
1998 EV ₁₁	15.0	0.15	19980308	251.16985	238.57795	50.72769	6.68972	0.1170555	2.3691869	15	1	24 days	1.12			Williams		1998 EV ₁₁
1998 EX ₁₁	15.5	0.15	19980308	284.81733	129.52972	132.13840	7.56716	0.1484017	2.3600294	15	1	24 days	1.11			Williams		1998 EX ₁₁
1998 EY ₁₁	14.5	0.15	19980308	267.12069	266.71948	17.87219	8.66386	0.2030134	2.3774795	18	1	27 days	0.50			Williams		1998 EY ₁₁
1998 EZ ₁₁	15.5	0.15	19980308	308.61952	127.76807	108.84512	4.86122	0.1559895	2.4139332	15	1	24 days	0.67			Williams		1998 EZ ₁₁
1998 EB ₁₂	14.0	0.15	19980308	159.50928	320.63033	43.90101	5.34788	0.1607859	2.1651212	18	1	25 days	0.52			Williams		1998 EB ₁₂
1998 ED ₁₂	15.0	0.15	19980308	269.61633	232.18473	38.58013	6.92242	0.1010011	2.2943299	21	1	28 days	0.64			Williams		1998 ED ₁₂

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1998 EE ₁₂	14.0	0.15	19980308	264.34399	195.87047	84.74777	6.01306	0.1438476	2.3102328	27	1	52 days	0.69		Williams	1998 EE ₁₂
1998 EG ₁₂	14.5	0.15	19980308	154.64852	266.56901	102.77249	6.69504	0.1265212	2.2657877	21	1	28 days	0.78		Williams	1998 EG ₁₂
1998 EL ₁₂	13.5	0.15	19980308	287.06311	113.28453	139.91627	10.89094	0.0835701	2.9960991	17	1	27 days	0.50		Williams	1998 EL ₁₂
1998 EM ₁₂	14.5	0.15	19980308	47.39657	109.46366	4.15129	21.12793	0.0819604	2.6525444	15	1	24 days	0.76		Williams	1998 EM ₁₂
1998 EN ₁₂	13.5	0.15	19980308	323.25104	77.64035	136.02962	10.84331	0.0822675	3.1158789	15	1	24 days	0.79		Williams	1998 EN ₁₂
1998 EO ₁₂	14.0	0.15	19980308	12.81240	134.62736	18.18938	11.77337	0.1320950	3.1357373	18	1	27 days	0.34		Williams	1998 EO ₁₂
1998 EP ₁₂	13.5	0.15	19980308	258.44030	202.32021	75.02963	5.43168	0.0488609	2.7974035	15	1	24 days	0.71		Williams	1998 EP ₁₂
1998 EU ₁₂	15.0	0.15	19980308	279.19946	253.84613	18.27935	6.31068	0.1758253	2.2965230	19	1	27 days	0.58		Williams	1998 EU ₁₂
1998 EV ₁₂	15.0	0.15	19980308	307.37986	126.00487	113.82573	3.14871	0.1544909	2.4228975	19	1	27 days	0.72		Williams	1998 EV ₁₂
1998 EW ₁₂	15.0	0.15	19980308	255.73106	290.96092	3.57637	5.60280	0.1736808	2.2153954	38	1	49 days	0.90		Williams	1998 EW ₁₂
1998 EX ₁₂	14.0	0.15	19980308	359.71320	97.39230	75.94210	2.02565	0.1454630	3.3118094	19	1	23 days	0.54		Williams	1998 EX ₁₂
1998 EZ ₁₂	14.0	0.15	19980308	279.33365	250.75701	12.90215	9.37735	0.0956254	2.7570151	28	1	54 days	0.95		Williams	1998 EZ ₁₂
1998 EA ₁₃	13.0	0.15	19980706	264.89705	213.99970	88.64911	2.29033	0.1397359	3.2399211	14	2	1992–1998	0.95	M-v 6	Williams	31566 1998 EA ₁₃
1998 EE ₁₃	15.5	0.15	19980308	11.09686	20.04962	135.91635	5.54527	0.1637790	2.3386549	15	1	24 days	0.66		Williams	1998 EE ₁₃
1998 EM ₁₃	15.0	0.15	19980308	359.53005	41.31357	131.40618	4.50460	0.1484883	2.4512872	15	1	24 days	0.65		Williams	1998 EM ₁₃
1998 EN ₁₃	14.5	0.15	19980308	355.51556	52.83962	125.79275	6.17621	0.1039640	3.2022389	16	1	29 days	0.63		Williams	1998 EN ₁₃
1998 EQ ₁₃	15.5	0.15	19980308	35.23079	57.49923	75.78653	3.41659	0.0484362	2.2080687	15	1	24 days	0.65		Williams	1998 EQ ₁₃
1998 ER ₁₃	13.5	0.15	19980308	165.02465	208.00563	159.60677	10.43217	0.0750891	3.0589572	18	1	25 days	0.79		Williams	1998 ER ₁₃
1998 EV ₁₃	15.5	0.15	19980706	29.85379	137.50394	39.56109	3.27241	0.1460025	2.3202586	19	1	61 days	0.68	M-v 5	Williams	1998 EV ₁₃
1998 EX ₁₃	12.5	0.15	19980706	233.06002	199.19923	128.07991	4.50833	0.0694551	3.0770770	27	2	1994–1998	0.84	M-v 5	Williams	31567 1998 EX ₁₃
1998 EC ₁₄	15.5	0.15	19980308	36.78842	105.11051	19.89742	4.82784	0.1393860	2.3940234	15	1	21 days	0.59		Williams	1998 EC ₁₄
1998 ED ₁₄	14.0	0.15	19980308	281.39705	210.29397	61.42814	4.10719	0.1738824	2.5340318	21	1	29 days	0.55		Williams	1998 ED ₁₄
1998 EK ₁₄	13.5	0.15	19980308	310.64795	88.64983	146.47287	11.45963	0.1196668	3.0485396	18	1	24 days	0.42		Williams	1998 EK ₁₄
1998 EL ₁₄	15.0	0.15	19980308	332.85988	213.67998	3.87906	12.74403	0.2481772	2.6411787	19	1	26 days	0.77		Williams	1998 EL ₁₄
1998 EO ₁₄	15.5	0.15	19980308	15.46573	68.98157	84.79892	3.14839	0.1107482	2.3853316	15	1	24 days	0.49		Williams	1998 EO ₁₄
1998 ER ₁₄	14.5	0.15	19980308	238.18531	217.36430	93.69816	4.70630	0.1835664	2.1565552	21	1	29 days	0.61		Williams	1998 ER ₁₄
1998 ES ₁₄	12.5	0.15	19980706	177.91457	2.60551	13.08335	10.58507	0.1066259	3.0227588	23	2	1993–1998	0.72	M-v 5	Williams	31567 1998 ES ₁₄
1998 EV ₁₄	15.0	0.15	19980308	47.39225	279.23597	197.64450	15.41805	0.1843033	2.6777088	24	1	28 days	1.07		Williams	1998 EV ₁₄
1998 EM ₂₁	14.5	0.15	19980308	4.69629	147.48364	3.42782	12.71807	0.0917458	2.6713060	12	1	14 days	0.34		Williams	1998 EM ₂₁
1998 EN ₂₁	14.0	0.15	19980308	71.45230	297.98308	115.34469	7.67801	0.0455993	2.1358057	7	1	8 days	0.41		Williams	1998 EN ₂₁
1998 FA	13.0	0.15	19980706	65.24735	21.93669	92.31582	10.30307	0.1264721	2.6384691	44	1	99 days	0.66	M-v 4	Marsden	31600 1998 FA
1998 FB	15.5	0.15	19980308	322.02924	158.20728	46.06553	5.36923	0.0490710	2.5865561	25	1	52 days	0.85		Williams	1998 FB
1998 FD	13.5	0.15	19980308	37.98570	131.11668	330.96676	2.32825	0.2432110	3.0488772	34	1	24 days	0.89		Williams	1998 FD
1998 FG	16.0	0.15	19980328	55.80668	225.99160	248.97168	7.24662	0.0510267	2.4101770	21	1	36 days	0.52		Williams	1998 FG
1998 FJ	15.5	0.15	19980328	284.24360	2.99327	277.97042	1.17125	0.1470252	2.1536906	40	1	38 days	0.45		Marsden	1998 FJ
1998 FA ₁	14.5	0.15	19980328	206.97407	269.59266	74.01284	3.63865	0.0449705	2.6293926	29	1	35 days	0.95		Williams	1998 FA ₁
1998 FJ ₁	16.0	0.15	19980308	18.98789	266.85622	236.94814	6.06400	0.0509451	2.2835073	31	1	59 days	0.92		Williams	1998 FJ ₁
1998 FK ₁	16.0	0.15	19980328	16.39277	183.48175	345.35460	5.04841	0.0813868	2.2304062	46	1	38 days	0.74		Williams	1998 FK ₁
1998 FL ₁	14.0	0.15	19980308	292.10226	198.06531	54.32626	11.91550	0.0580383	2.9930770	11	1	48 days	0.27		Williams	1998 FL ₁
1998 FQ ₁	15.5	0.15	19980328	268.36987	233.32139	66.06999	3.25941	0.1956685	2.4400794	17	1	33 days	0.68		Marsden	1998 FQ ₁
1998 FD ₂	15.0	0.15	19980308	350.83558	41.98041	141.41295	3.70088	0.0469754	2.5378214	30	1	46 days	1.06		Williams	1998 FD ₂
1998 FE ₂	14.5	0.15	19980706	324.75918	172.83439	91.41297	3.98938	0.1302665	2.5106583	63	2	1995–1998	0.51	M-v 4	Williams	31567 1998 FE ₂
1998 FF ₂	19.0	0.15	19980706	355.86541	264.81578	4.88833	10.98697	0.2922316	1.5618915	105	1	37 days	0.59	M-v 5	Williams	1998 FF ₂
1998 FG ₂	21.5	0.15	19980328	51.10111	95.01137	2.64286	4.09907	0.3561708	1.2983569	100	1	15 days	0.87		Williams	1998 FG ₂
1998 FH ₂	15.0	0.15	19980706	358.19787	236.54659	347.30409	22.21282	0.2540582	2.3690352	18	1	66 days	0.35	M-v 5	Williams	1998 FH ₂
1998 FJ ₂	15.5	0.15	19980328	31.92859	128.83252	357.41691	30.60984	0.2166225	2.5689371	18	1	26 days	0.72		Williams	1998 FJ ₂
1998 FK ₂	14.5	0.15	19980706	215.02810	177.17295	182.46645	22.18310	0.0820654	1.9312946	48	2	1990–1998	0.69	M-v 4	Williams	31567 1998 FK ₂
1998 FM ₂	16.0	0.15	19980328	328.80961	235.30828	1.27720	31.24221	0.2576270	2.6260258	34	1	30 days	0.97		Williams	1998 FM ₂
1998 FX ₂	18.5	0.15	19980706	27.78202	17.02066	181.25628	9.99586	0.4944370	2.1496039	422	1	41 days	0.52	M-v 5	Williams	31600 1998 FX ₂
1998 FA ₃	16.0	0.15	19980328	326.04623	92.97617	162.54490	5.49527	0.2147990	2.5920153	26	1	39 days	0.65		Williams	1998 FA ₃
1998 FB ₃	14.5	0.15	19980706	309.19183	191.86135	105.40889	4.09614	0.1497535	2.6016007	39	2	1995–1998	0.41	M-v 4	Williams	31567 1998 FB ₃
1998 FE ₃	14.5	0.15	19980328	113.05195	349.37354	93.52373	4.74081	0.1079331	2.6471185	26	1	39 days	0.66		Williams	1998 FE ₃
1998 FF ₃	14.0	0.15	19980706	14.47519	234.26354	321.06155	7.46157	0.0848196	2.4824595	56	3	1994–1998	0.71	M-v 3	Williams	31567 1998 FF ₃

1998 FK ₃	14.5	0.15	19980706	97.16790	313.24069	151.62088	14.58718	0.1298670	2.5883980	20	1	143 days	0.45	M-v	4	Williams	1998 FK ₃
1998 FZ ₄	15.5	0.15	19980328	353.32662	98.54127	106.85729	5.43915	0.1199296	2.3448885	26	1	30 days	0.53			Williams	1998 FZ ₄
1998 FA ₅	15.5	0.15	19980328	15.55249	158.10796	6.22726	11.39508	0.1245413	2.5353218	35	1	30 days	0.69			Williams	1998 FA ₅
1998 FB ₅	15.5	0.15	19980308	62.66119	276.08910	196.06019	22.37756	0.0943300	1.9568306	36	1	54 days	0.93			Williams	1998 FB ₅
1998 FJ ₅	16.0	0.15	19980328	63.44304	305.34233	181.14422	23.62765	0.0321766	1.9170558	15	1	36 days	0.41			Williams	1998 FJ ₅
1998 FK ₅	15.5	0.15	19980328	216.01376	322.98992	22.04221	24.10446	0.1205202	1.7746119	26	1	31 days	0.53			Williams	1998 FK ₅
1998 FL ₅	21.0	0.15	19980328	32.38835	297.46237	186.01117	14.50467	0.3643665	1.5434808	73	1	24 days	1.21			Williams	1998 FL ₅
1998 FM ₅	16.0	0.15	19980706	40.85917	311.44927	177.07804	11.50635	0.5547160	2.2657527	336	1	41 days	0.56	M-v	5	Williams	1998 FM ₅
1998 FN ₅	15.0	0.15	19980328	26.61260	259.27028	263.27039	11.62445	0.1123820	2.6392175	17	1	32 days	0.18			Williams	1998 FN ₅
1998 FO ₅	14.5	0.15	19980328	347.69684	69.91034	134.05481	4.78300	0.0582521	2.6156808	60	1	34 days	0.64			Williams	1998 FO ₅
1998 FP ₅	14.0	0.15	19980328	10.72160	93.34824	90.67740	6.49307	0.1168313	3.1749057	32	1	29 days	0.65			Williams	1998 FP ₅
1998 FQ ₅	15.0	0.15	19980328	299.09783	234.83935	41.21794	11.31756	0.2065751	2.4447832	31	1	41 days	0.33			Marsden	1998 FQ ₅
1998 FB ₆	16.0	0.15	19980706	322.77277	120.63807	153.46779	3.87342	0.1860603	2.2413001	32	2	1992–1998	0.69	M-v	4	Williams	31568 1998 FB ₆
1998 FA ₈	15.0	0.15	19980328	5.45282	145.72878	14.99194	3.12711	0.1834072	2.7200631	32	1	51 days	0.61			Williams	1998 FA ₈
1998 FO ₈	12.5	0.15	19980328	335.12384	208.28460	14.68169	16.69144	0.1867596	3.1618728	25	1	43 days	0.37			Williams	1998 FO ₈
1998 FM ₉	19.5	0.15	19980706	24.30221	31.53569	162.78887	10.38639	0.4442796	2.2863376	105	1	60 days	0.74	M-v	4	Williams	1998 FM ₉
1998 FN ₉	21.0	0.15	19980706	82.89867	329.13880	183.95174	14.61938	0.2357521	1.3964267	64	1	35 days	0.54	M-v	6	Williams	1998 FN ₉
1998 FV ₉	14.5	0.15	19980216	143.72511	10.88333	331.94003	4.74757	0.1540742	2.2456704	10	1	51 days	0.52			Williams	1998 FV ₉
1998 FW ₉	16.0	0.15	19980706	334.03530	62.42047	194.87492	12.69005	0.1804365	2.3218672	36	2	1991–1998	0.82	M-v	4	Williams	31568 1998 FW ₉
1998 FA ₁₀	14.5	0.15	19980706	86.07175	121.75123	355.23819	15.80230	0.0459058	2.6710838	33	1	79 days	0.74	M-v	5	Williams	1998 FA ₁₀
1998 FB ₁₀	14.5	0.15	19980706	309.40056	73.41569	208.33400	6.28190	0.1933648	2.5732761	36	2	1994–1998	0.78	M-v	4	Williams	31568 1998 FB ₁₀
1998 FF ₁₀	15.5	0.15	19980328	341.66038	6.01527	204.51679	5.19269	0.1444769	2.2396913	28	1	51 days	0.85			Williams	1998 FF ₁₀
1998 FH ₁₀	13.0	0.15	19980706	99.83929	91.76703	359.72345	21.98114	0.1045364	3.2176419	36	1	79 days	0.57	M-v	5	Williams	1998 FH ₁₀
1998 FR ₁₀	12.5	0.15	19980328	311.42186	260.55507	349.88528	7.66833	0.1520517	3.9410169	34	1	42 days	0.59			Williams	1998 FR ₁₀
1998 FY ₁₀	14.5	0.15	19980308	192.41466	305.03919	29.23673	2.25566	0.0684815	2.6581188	9	1	28 days	0.20			Marsden	1998 FY ₁₀
1998 FH ₁₁	15.0	0.15	19980706	359.84502	97.50323	130.03101	8.77471	0.1284789	2.3459932	18	3	1987–1998	0.47	M-v	4	Marsden	31568 1998 FH ₁₁
1998 FJ ₁₁	15.0	0.15	19980328	321.64300	161.05380	86.01888	7.55424	0.1892953	2.5370292	9	1	39 days	0.25			Williams	1998 FJ ₁₁
1998 FO ₁₁	13.8	0.15	19980328	351.91192	19.47527	179.50865	12.97165	0.0516893	2.6202929	31	1	39 days	0.59			Nakano	1998 FO ₁₁
1998 FP ₁₁	14.5	0.15	19980706	23.83743	25.89144	168.23440	5.96942	0.1143736	2.4002155	42	2	1983–1998	0.49	M-v	4	Williams	31568 1998 FP ₁₁
1998 FQ ₁₁	14.0	0.15	19980706	20.71748	212.45336	333.59898	11.87021	0.2092872	2.5889674	37	4	1973–1998	0.68	M-v	3	Williams	31569 1998 FQ ₁₁
1998 FR ₁₁	16.0	0.15	19980706	349.77512	157.77657	130.41804	6.58839	0.7100066	2.8006582	51	1	65 days	0.57	M-v	5	Williams	1998 FR ₁₁
1998 FS ₁₁	19.5	0.15	19980328	357.61915	166.43793	25.61455	4.37572	0.4166324	2.3136121	50	1	29 days	0.47			Marsden	1998 FS ₁₁
1998 FT ₁₁	13.5	0.15	19980308	140.09703	48.23837	339.41721	17.14886	0.1024944	2.6110836	28	1	36 days	0.79			Williams	1998 FT ₁₁
1998 FY ₁₁	13.5	0.15	19980706	334.99027	86.73219	159.61650	8.34548	0.1508041	2.6504933	35	3	1982–1998	0.62	M-v	4	Williams	31569 1998 FY ₁₁
1998 FA ₁₂	15.5	0.15	19980308	0.63775	147.64123	29.31977	8.53765	0.0485647	2.3239298	33	1	54 days	0.47			Williams	1998 FA ₁₂
1998 FE ₁₂	16.0	0.15	19980328	309.07690	100.35526	143.71881	9.69560	0.2220065	2.3739851	26	1	27 days	0.41			Marsden	1998 FE ₁₂
1998 FF ₁₂	15.0	0.15	19980328	78.04855	60.27459	29.68877	8.05590	0.1035786	2.5434302	22	1	28 days	0.42			Marsden	1998 FF ₁₂
1998 FG ₁₂	21.0	0.15	19980328	17.87815	97.48648	22.62723	8.67853	0.5828229	2.2489869	41	1	22 days	0.82			Williams	1998 FG ₁₂
1998 FH ₁₂	19.0	0.15	19980328	94.56188	284.40503	108.62987	3.53206	0.5401693	1.0925769	41	1	21 days	0.82			Williams	1998 FH ₁₂
1998 FL ₁₂	16.0	0.15	19980328	14.93656	161.76933	21.26239	21.78757	0.0882638	1.9302888	17	1	35 days	0.59			Williams	1998 FL ₁₂
1998 FS ₁₂	15.0	0.15	19980308	339.22715	16.51744	184.32264	4.34618	0.1699466	2.6237749	27	1	29 days	0.73			Williams	1998 FS ₁₂
1998 FF ₁₃	15.0	0.15	19980308	322.49482	237.25502	342.74913	11.24991	0.2221574	2.6966266	36	1	30 days	0.80			Williams	1998 FF ₁₃
1998 FH ₁₃	14.0	0.15	19980308	347.98699	41.26820	133.76194	6.65217	0.0478162	3.0335704	15	1	3 days	0.41			E Williams	1998 FH ₁₃
1998 FJ ₁₃	16.0	0.15	19980308	337.63413	64.93939	127.14655	5.21166	0.1298046	2.2847320	16	1	3 days	0.66			E Williams	1998 FJ ₁₃
1998 FK ₁₃	15.5	0.15	19980308	326.87688	78.20890	129.49232	7.84169	0.1610997	2.5682704	16	1	3 days	0.77			E Williams	1998 FK ₁₃
1998 FM ₁₃	15.0	0.15	19980308	332.68487	84.67565	116.64554	5.56228	0.1676367	2.3446296	16	1	3 days	0.33			Williams	1998 FM ₁₃
1998 FO ₁₃	15.5	0.15	19980308	337.38095	138.08828	54.46133	5.89151	0.1404854	2.4036546	16	1	3 days	0.42			Williams	1998 FO ₁₃
1998 FP ₁₃	15.5	0.15	19980308	288.75247	145.07318	106.75418	6.15417	0.1533483	2.2161408	16	1	3 days	0.43			E Williams	1998 FP ₁₃
1998 FQ ₁₃	13.0	0.15	19980308	233.42568	181.41836	115.94202	11.53113	0.1119956	3.1106232	15	1	3 days	0.57			E Williams	1998 FQ ₁₃
1998 FR ₁₃	13.5	0.15	19980308	263.29683	234.93100	34.09905	10.73639	0.1064712	3.1602526	15	1	3 days	0.54			E Williams	1998 FR ₁₃
1998 FS ₁₃	15.5	0.15	19980308	36.95909	56.98996	60.34141	6.51901	0.1125580	2.2827207	15	1	3 days	0.68			Williams	1998 FS ₁₃
1998 FY ₁₃	13.0	0.15	19980706	8.92145	6.59874	181.92317	10.55243	0.0479881	2.9972650	37	2	1993–1998	0.76	M-v	4	Williams	31569 1998 FY ₁₃
1998 FG ₁₄	16.5	0.15	19980328	232.78884	135.97442	180.97724	22.40807	0.0408440	1.9146162	20	1	40 days	0.80			Williams	1998 FG ₁₄

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1998 FM ₁₄	16.5	0.15	19980328	356.33276	236.61514	314.75894	3.25686	0.2494164	2.6321333	24	1	30 days	0.67		Williams	1998 FM ₁₄
1998 FP ₁₄	13.5	0.15	19980308	106.79441	224.50092	203.66655	9.18221	0.0679738	2.9978737	36	1	54 days	0.76		Williams	1998 FP ₁₄
1998 FQ ₁₄	15.0	0.15	19980308	292.46866	76.43380	206.72939	6.92699	0.2959743	2.6978895	19	1	12 days	0.56		Williams	1998 FQ ₁₄
1998 FT ₁₄	15.5	0.15	19980328	29.88963	165.74064	348.29847	6.93485	0.0429364	2.3127062	33	1	30 days	1.04		Williams	1998 FT ₁₄
1998 FY ₁₄	14.0	0.15	19980706	313.51717	285.34892	0.84678	13.23986	0.2507397	2.6697223	39	1	132 days	0.59	M-v 4	Williams	1998 FY ₁₄
1998 FZ ₁₄	15.0	0.15	19980328	298.56278	4.91097	267.24110	5.93542	0.1626746	2.8305780	29	1	34 days	0.87		Williams	1998 FZ ₁₄
1998 FA ₁₅	14.5	0.15	19980308	140.20229	48.18096	326.70220	14.68243	0.1522371	2.6284875	28	1	40 days	1.22		Williams	1998 FA ₁₅
1998 FF ₁₅	14.5	0.15	19980328	292.46527	230.70728	16.42573	9.53058	0.1144374	2.6205116	35	1	26 days	0.29		Marsden	1998 FF ₁₅
1998 FK ₁₅	16.0	0.15	19980328	0.94082	14.00603	171.20010	5.72172	0.1591869	2.3934115	21	1	35 days	0.37		Williams	1998 FK ₁₅
1998 FL ₁₅	14.0	0.15	19980706	60.91275	333.57928	144.42640	12.06107	0.1641026	2.5623796	33	1	88 days	0.50	M-v 4	Williams	1998 FL ₁₅
1998 FM ₁₅	14.0	0.15	19980308	147.44292	187.29179	188.41554	1.65698	0.0596315	2.7513090	34	1	57 days	0.34		Williams	1998 FM ₁₅
1998 FN ₁₅	16.0	0.15	19980328	8.86131	316.53455	219.35390	14.04111	0.1826791	2.7294876	25	1	26 days	0.70		Williams	1998 FN ₁₅
1998 FO ₁₅	15.0	0.15	19980706	58.90984	147.20528	359.01090	2.45215	0.1185658	2.4214233	31	1	67 days	0.54	M-v 5	Williams	1998 FO ₁₅
1998 FW ₁₅	15.0	0.15	19980328	350.99294	141.35815	59.69656	10.45042	0.1669386	2.3853817	15	1	24 days	1.21		Williams	1998 FW ₁₅
1998 FY ₁₅	13.5	0.15	19980706	55.03534	258.58142	231.97596	2.75477	0.0839688	2.6139829	37	2	1977–1998	0.94	M-v 5	Williams	31569 1998 FY ₁₅
1998 FD ₁₆	15.0	0.15	19980328	335.29360	63.14842	145.30442	12.09372	0.1288177	2.5961238	29	1	29 days	0.50		Marsden	1998 FD ₁₆
1998 FE ₁₆	15.0	0.15	19980706	328.79040	106.33067	161.21454	2.48037	0.1853055	2.3947903	49	2	1995–1998	0.62	M-v 4	Williams	31569 1998 FE ₁₆
1998 FG ₁₆	13.5	0.15	19980328	105.88287	320.98732	80.53085	3.21225	0.0970275	2.8636410	17	1	50 days	0.71		Marsden	1998 FG ₁₆
1998 FH ₁₆	13.5	0.15	19980328	23.84329	10.33336	139.57241	1.70871	0.1023919	3.1368682	26	1	33 days	0.68		Marsden	1998 FH ₁₆
1998 FJ ₁₆	16.0	0.15	19980328	16.08486	139.14650	24.84823	8.58303	0.1147870	2.5502162	24	1	24 days	0.37		Marsden	1998 FJ ₁₆
1998 FK ₁₆	14.0	0.15	19980308	63.86251	284.61257	151.81371	13.06674	0.1793020	2.6063377	16	1	19 days	0.48		Marsden	1998 FK ₁₆
1998 FL ₁₆	14.0	0.15	19980308	64.72292	299.95949	142.16489	7.14303	0.1213451	2.7214862	16	1	19 days	0.42		Marsden	1998 FL ₁₆
1998 FN ₁₆	15.5	0.15	19980308	58.58575	288.26163	156.41681	6.63611	0.1697580	2.3381624	16	1	19 days	0.64		Marsden	1998 FN ₁₆
1998 FO ₁₆	14.5	0.15	19980308	103.84109	27.72391	7.98960	1.09131	0.2043126	2.4279860	15	1	19 days	1.03		Marsden	1998 FO ₁₆
1998 FP ₁₆	13.5	0.15	19980308	280.85948	279.84853	349.09468	2.54127	0.2612955	3.1797503	15	1	19 days	0.89		Marsden	1998 FP ₁₆
1998 FW ₁₆	14.0	0.15	19980308	154.47563	26.79749	332.91643	3.98100	0.1922183	2.3523594	18	1	19 days	0.83		Williams	1998 FW ₁₆
1998 FN ₁₇	14.0	0.15	19980308	221.74677	226.13065	77.84644	3.20200	0.0766124	2.6988953	24	1	28 days	0.88		Williams	1998 FN ₁₇
1998 FS ₁₇	16.0	0.15	19980308	22.49663	85.31331	44.79628	3.18532	0.1881341	2.6707910	19	1	58 days	0.71		Williams	1998 FS ₁₇
1998 FE ₁₈	14.0	0.15	19980308	357.85074	112.89983	52.89415	1.16956	0.1483809	3.1104060	22	1	24 days	0.71		Williams	1998 FE ₁₈
1998 FO ₁₈	15.0	0.15	19980308	64.76671	243.89539	196.27860	1.46914	0.1641209	2.3933996	20	1	30 days	0.42		Williams	1998 FO ₁₈
1998 FG ₂₀	14.5	0.15	19980308	162.12576	205.82337	150.09030	5.11536	0.2050269	2.3176487	19	1	19 days	1.00		Williams	1998 FG ₂₀
1998 FO ₂₀	16.0	0.15	19980308	334.98686	53.42078	145.98051	6.38368	0.1692738	2.2875606	19	1	5 days	0.45		Williams	1998 FO ₂₀
1998 FU ₂₀	15.0	0.15	19980308	288.83762	103.76038	144.00878	5.12619	0.1028525	2.2850400	13	1	24 days	0.52		Marsden	1998 FU ₂₀
1998 FW ₂₀	15.0	0.15	19980308	293.44965	155.05527	95.50171	2.50952	0.1661139	2.3027281	16	1	25 days	0.71		Marsden	1998 FW ₂₀
1998 FJ ₂₁	15.0	0.15	19980308	351.51081	166.95681	8.47564	4.47020	0.0963948	2.5765234	16	1	25 days	0.90		Marsden	1998 FJ ₂₁
1998 FM ₂₁	15.5	0.15	19980308	46.78654	309.14992	158.89005	3.92815	0.1114940	2.2292196	19	1	19 days	0.73		Williams	1998 FM ₂₁
1998 FR ₂₁	15.0	0.15	19980308	12.61333	173.34912	331.51953	3.91684	0.1977787	3.1293425	18	1	19 days	1.41		Williams	1998 FR ₂₁
1998 FE ₂₂	15.0	0.15	19980308	56.55941	207.89499	245.97855	3.94110	0.1440456	2.7299389	16	1	19 days	1.69		Williams	1998 FE ₂₂
1998 FU ₂₂	15.0	0.15	19980308	241.41959	130.10785	166.06718	2.91209	0.1309782	2.2097516	20	1	19 days	0.99		Williams	1998 FU ₂₂
1998 FA ₂₃	13.0	0.15	19980308	336.61654	30.03599	160.74359	12.03322	0.0541799	3.0918057	28	1	55 days	0.76		Williams	1998 FA ₂₃
1998 FB ₂₃	13.0	0.15	19980308	91.95574	268.70023	158.71711	9.99283	0.0476311	3.1109993	13	1	6 days	0.52	E	Williams	1998 FB ₂₃
1998 FC ₂₃	15.0	0.15	19980308	304.96568	227.95076	356.66449	7.26001	0.0398390	2.2774404	13	1	24 days	0.66		Marsden	1998 FC ₂₃
1998 FJ ₂₃	15.0	0.15	19980308	37.85107	45.18622	71.25258	2.14845	0.1423834	2.3823703	16	1	25 days	0.98		Marsden	1998 FJ ₂₃
1998 FL ₂₃	15.5	0.15	19980308	30.17099	113.59245	7.80720	6.02850	0.2002344	2.3636438	22	1	25 days	1.26		Marsden	1998 FL ₂₃
1998 FQ ₂₃	15.5	0.15	19980308	25.04419	53.40915	80.50556	2.43416	0.1343407	2.4247870	12	1	24 days	0.57		Marsden	1998 FQ ₂₃
1998 FY ₂₃	14.0	0.15	19980308	38.02935	319.38085	162.21030	10.59249	0.0888425	3.0606311	17	1	26 days	0.69		Williams	1998 FY ₂₃
1998 FE ₂₄	13.5	0.15	19980308	33.60426	308.05266	175.43294	5.69061	0.1224083	3.1240948	23	1	21 days	0.57		Williams	1998 FE ₂₄
1998 FQ ₂₄	14.5	0.15	19980308	66.05817	90.36226	342.74734	13.85049	0.2436694	2.8421196	20	1	19 days	0.80		Williams	1998 FQ ₂₄
1998 FJ ₂₅	15.5	0.15	19980308	177.89610	19.11275	330.76406	7.62791	0.0834081	2.2567249	13	1	19 days	0.98		Williams	1998 FJ ₂₅
1998 FN ₂₅	14.0	0.15	19980308	25.67942	311.09449	187.85706	10.05980	0.0617931	3.0225870	14	1	18 days	0.76		Williams	1998 FN ₂₅
1998 FQ ₂₅	14.5	0.15	19980308	354.81060	200.48654	335.07614	7.43217	0.2094976	3.2477870	13	1	16 days	0.49		Williams	1998 FQ ₂₅
1998 FF ₂₆	15.5	0.15	19980308	337.91481	168.44665	29.16079	1.25541	0.1620240	2.3371630	16	1	25 days	0.78		Marsden	1998 FF ₂₆
1998 FK ₂₆	15.0	0.15	19980308	30.31640	344.32516	147.74974	4.01009	0.0802144	2.2885282	27	1	28 days	1.20		Marsden	1998 FK ₂₆

1998 FL ₂₆	13.5	0.15	19980308	49.43464	108.45875	354.35525	21.85641	0.1496693	3.1114779	16	1	25 days	0.96	Marsden	1998 FL ₂₆
1998 FQ ₂₆	14.5	0.15	19980308	351.56775	100.25423	77.60500	2.63896	0.1031912	2.4420462	19	1	25 days	1.13	Marsden	1998 FQ ₂₆
1998 FR ₂₆	15.5	0.15	19980308	50.53482	1.49448	111.31990	3.11592	0.0473204	2.1596128	18	1	5 days	0.80	Williams	1998 FR ₂₆
1998 FU ₂₆	13.0	0.15	19980308	58.64750	97.55468	6.91456	8.65567	0.0453436	3.1237869	16	1	25 days	0.62	Marsden	1998 FU ₂₆
1998 FA ₂₇	13.5	0.15	19980308	97.31378	65.65977	343.37797	9.67526	0.2114287	2.7072727	13	1	16 days	0.63	Williams	1998 FA ₂₇
1998 FW ₂₇	15.5	0.15	19980308	50.87858	196.34505	266.21583	1.39334	0.1606281	2.3463504	25	1	29 days	1.41	Williams	1998 FW ₂₇
1998 FD ₂₈	15.0	0.15	19980308	1.23581	247.59153	280.14839	1.35622	0.1234656	2.4752023	25	1	29 days	1.06	Williams	1998 FD ₂₈
1998 FE ₂₈	15.5	0.15	19980308	36.59225	298.10423	188.14392	4.08816	0.0879045	2.3362998	25	1	29 days	1.50	Williams	1998 FE ₂₈
1998 FF ₂₈	14.5	0.15	19980308	160.99894	181.46265	181.00286	5.90387	0.2149183	2.2407095	15	1	19 days	1.05	Williams	1998 FF ₂₈
1998 FC ₂₉	13.0	0.15	19980308	172.50210	184.60579	171.93570	13.63838	0.1062859	3.1785036	16	1	24 days	0.46	Williams	1998 FC ₂₉
1998 FM ₂₉	14.5	0.15	19980308	284.25612	91.00115	177.91792	14.85459	0.2010382	2.5574786	20	1	29 days	0.90	Williams	1998 FM ₂₉
1998 FT ₂₉	15.0	0.15	19980308	20.60370	312.11980	191.42997	8.11783	0.1305099	2.6117318	24	1	29 days	1.32	Williams	1998 FT ₂₉
1998 FU ₂₉	16.0	0.15	19980308	329.16439	347.70805	224.83255	3.06662	0.1611890	2.3032985	18	1	33 days	0.71	Williams	1998 FU ₂₉
1998 FX ₂₉	15.0	0.15	19980308	342.27943	318.02865	237.35870	3.39464	0.1631003	2.4788292	23	1	33 days	0.60	Williams	1998 FX ₂₉
1998 FZ ₂₉	15.0	0.15	19980706	327.59046	46.16654	211.38290	4.88958	0.1631103	2.2350349	32	2	1995–1998	0.74	M-v 5 Williams	31569 1998 FZ ₂₉
1998 FC ₃₀	13.5	0.15	19980308	81.61329	102.13833	341.90695	14.43024	0.0624258	2.5562920	19	1	12 days	0.45	Williams	1998 FC ₃₀
1998 FH ₃₀	13.5	0.15	19980308	83.32103	252.71065	185.36767	10.99209	0.0892611	2.9650553	15	1	18 days	0.65	Williams	1998 FH ₃₀
1998 FM ₃₀	14.5	0.15	19980308	340.96081	14.96799	183.34693	11.44927	0.1703135	2.6705800	25	1	29 days	0.84	Williams	1998 FM ₃₀
1998 FJ ₃₁	15.5	0.15	19980308	56.90189	68.23346	31.04781	5.06262	0.1434661	2.2006314	19	1	5 days	0.73	Williams	1998 FJ ₃₁
1998 FU ₃₁	15.5	0.15	19980308	10.94378	186.14767	331.70610	0.78113	0.1218154	2.4128965	17	1	12 days	0.58	Williams	1998 FU ₃₁
1998 FY ₃₁	15.0	0.15	19980308	343.08077	356.76755	194.66281	3.72666	0.0621843	2.2365193	26	1	29 days	0.93	Williams	1998 FY ₃₁
1998 FE ₃₂	15.5	0.15	19980308	10.05912	320.07419	198.65661	6.63202	0.1576961	2.4024053	23	1	26 days	1.07	Williams	1998 FE ₃₂
1998 FK ₃₂	14.5	0.15	19980328	2.85820	309.69978	227.40628	2.28395	0.0406847	2.2080328	23	1	30 days	0.52	Williams	1998 FK ₃₂
1998 FO ₃₂	13.5	0.15	19980328	280.55855	299.86290	348.49371	11.03644	0.2644975	2.6137405	23	1	30 days	0.78	Williams	1998 FO ₃₂
1998 FC ₃₃	14.0	0.15	19980308	341.22370	19.47956	173.24503	17.97990	0.0267672	2.5205170	25	1	5 days	0.50	E Williams	1998 FC ₃₃
1998 FD ₃₃	14.5	0.15	19980308	300.50135	121.09069	131.20799	1.94358	0.1825072	2.8977242	29	1	5 days	1.16	E Williams	1998 FD ₃₃
1998 FF ₃₃	15.5	0.15	19980308	316.00604	76.24147	159.83643	3.58188	0.2061632	2.3389488	30	1	5 days	0.60	Williams	1998 FF ₃₃
1998 FZ ₃₃	14.5	0.15	19980308	8.88521	169.36114	354.40813	14.09084	0.0780447	2.5584806	29	1	53 days	0.52	Williams	1998 FZ ₃₃
1998 FA ₃₄	14.5	0.15	19980308	92.11462	83.56965	352.43101	6.96007	0.0609396	2.5798125	18	1	12 days	1.07	Williams	1998 FA ₃₄
1998 FF ₃₄	14.0	0.15	19980328	277.70618	342.34819	301.74311	1.59755	0.1927430	2.3768412	20	1	30 days	0.60	Williams	1998 FF ₃₄
1998 FH ₃₄	16.0	0.15	19980308	334.27452	8.60075	197.26718	2.48361	0.1121721	2.2077837	18	1	12 days	0.94	Williams	1998 FH ₃₄
1998 FL ₃₄	13.5	0.15	19980308	338.09119	345.09031	212.26108	3.93728	0.0155844	2.7356155	26	1	53 days	0.71	Williams	1998 FL ₃₄
1998 FO ₃₄	14.5	0.15	19980328	48.92514	134.08342	349.56726	12.91549	0.0902673	2.3399889	24	1	30 days	0.43	Williams	1998 FO ₃₄
1998 FP ₃₄	13.5	0.15	19980308	323.60605	45.83930	182.94264	24.71717	0.2071339	3.1762022	30	1	55 days	1.01	Williams	1998 FP ₃₄
1998 FR ₃₄	14.5	0.15	19980328	334.17345	224.80438	348.76397	14.95936	0.1208284	2.5709527	34	1	30 days	0.51	Williams	1998 FR ₃₄
1998 FW ₃₄	14.5	0.15	19980308	117.45043	215.94467	195.21256	3.20792	0.0740142	2.3286465	30	1	52 days	0.58	Williams	1998 FW ₃₄
1998 FY ₃₄	13.5	0.15	19980328	129.76538	186.76839	217.44470	1.24778	0.0772721	2.8508384	28	1	30 days	0.72	Williams	1998 FY ₃₄
1998 FJ ₃₆	14.5	0.15	19980328	81.15978	287.75758	160.81489	6.93083	0.0956860	2.3646877	18	1	35 days	0.35	Marsden	1998 FJ ₃₆
1998 FJ ₃₇	13.0	0.15	19980308	183.73323	348.00150	354.52354	14.52026	0.1178746	2.6261757	15	1	25 days	0.84	Marsden	1998 FJ ₃₇
1998 FB ₃₈	16.5	0.15	19980308	346.18058	214.97949	331.77598	3.79244	0.1361045	2.2394011	22	1	20 days	1.05	Williams	1998 FB ₃₈
1998 FG ₃₈	15.5	0.15	19980308	5.17160	349.05312	174.34207	6.72445	0.0540097	2.4430106	21	1	19 days	1.70	Williams	1998 FG ₃₈
1998 FU ₃₈	13.5	0.15	19980308	48.21173	281.89626	185.58320	5.55261	0.1496563	3.0915741	24	1	29 days	0.85	Williams	1998 FU ₃₈
1998 FB ₄₀	13.5	0.15	19980308	199.31721	159.37978	177.04280	11.42056	0.0621971	2.9744462	16	1	12 days	0.95	Williams	1998 FB ₄₀
1998 FD ₄₀	15.5	0.15	19980308	42.57934	120.19510	355.00380	5.55106	0.1682375	2.6411711	16	1	12 days	0.99	Williams	1998 FD ₄₀
1998 FH ₄₀	15.0	0.15	19980308	348.27659	179.68350	5.69366	6.71774	0.0417354	2.5395128	23	1	5 days	0.84	E Williams	1998 FH ₄₀
1998 FM ₄₁	15.0	0.15	19980328	72.04221	200.02632	254.42838	0.75452	0.1351824	2.5617549	18	1	30 days	0.83	Williams	1998 FM ₄₁
1998 FP ₄₁	14.0	0.15	19980328	135.97370	64.37176	333.25855	1.54322	0.1107744	2.5964796	25	1	30 days	0.77	Williams	1998 FP ₄₁
1998 FT ₄₁	13.5	0.15	19980706	350.70281	21.50848	189.66350	10.12750	0.0531017	3.0199481	37	2	1977–1998	0.56	M-v 5 Williams	31570 1998 FT ₄₁
1998 FZ ₄₁	15.5	0.15	19980328	339.58460	331.90581	239.05164	1.64851	0.1659073	2.3510445	22	1	30 days	0.74	Williams	1998 FZ ₄₁
1998 FB ₄₂	13.5	0.15	19980308	231.89467	138.07225	187.61690	15.73929	0.2817676	2.6378047	25	1	52 days	0.52	Williams	1998 FB ₄₂
1998 FC ₄₂	13.5	0.15	19980328	296.11585	95.51043	186.14029	21.10462	0.3227453	3.2163357	22	1	30 days	0.49	Williams	1998 FC ₄₂
1998 FD ₄₂	16.0	0.15	19980328	348.09100	227.21011	333.39489	4.22624	0.1896928	2.3762432	24	1	30 days	0.78	Williams	1998 FD ₄₂
1998 FE ₄₂	15.5	0.15	19980308	337.34972	330.89134	233.59587	4.02112	0.1159757	2.7395248	20	1	5 days	1.50	Williams	1998 FE ₄₂

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1998 FJ ₄₂	15.5	0.15	19980308	344.50805	302.73719	254.74065	2.21596	0.1790686	2.3563746	28	1	34 days	0.87		Williams	1998 FJ ₄₂
1998 FP ₄₂	15.5	0.15	19980328	38.25495	293.81771	196.07566	6.58834	0.1729148	2.4314446	20	1	30 days	0.64		Williams	1998 FP ₄₂
1998 FS ₄₂	13.5	0.15	19980328	60.21674	216.78131	246.31139	1.69637	0.1723598	3.1891962	24	1	30 days	1.25		Williams	1998 FS ₄₂
1998 FT ₄₂	13.5	0.15	19980706	127.73711	65.84787	350.06581	10.55924	0.1564210	3.0512698	26	1	133 days	0.77	M-v 5	Williams	1998 FT ₄₂
1998 FU ₄₂	14.5	0.15	19980328	160.07747	171.59381	204.36912	3.73156	0.1708166	2.2017713	25	1	30 days	1.07		Williams	1998 FU ₄₂
1998 FW ₄₂	14.5	0.15	19980706	96.19096	267.41319	192.85664	5.83883	0.1080835	2.4061993	41	3	1992–1998	0.75	M-v 2	Williams	31570 1998 FW ₄₂
1998 FY ₄₂	15.0	0.15	19980308	11.35635	276.30806	244.94969	0.85760	0.1207818	2.4121507	23	1	52 days	0.65		Williams	1998 FY ₄₂
1998 FC ₄₃	14.0	0.15	19980328	42.39481	136.47043	349.13990	5.48707	0.1589732	3.0919073	25	1	30 days	0.72		Williams	1998 FC ₄₃
1998 FK ₄₃	15.0	0.15	19980308	17.21060	314.56852	198.15980	2.02223	0.1735593	2.8721633	30	1	56 days	0.81		Williams	1998 FK ₄₃
1998 FC ₄₄	14.5	0.15	19980328	290.95649	264.43576	4.62020	7.24411	0.1643918	2.7435744	19	1	30 days	0.73		Williams	1998 FC ₄₄
1998 FV ₄₆	16.0	0.15	19980308	353.56097	348.70422	196.99310	2.14633	0.1411997	2.4580831	23	1	33 days	0.69		Williams	1998 FV ₄₆
1998 FW ₄₆	16.5	0.15	19980308	44.14656	297.58633	187.11343	3.85727	0.0961955	2.2645155	24	1	12 days	0.68		Williams	1998 FW ₄₆
1998 FZ ₄₆	16.0	0.15	19980328	284.95323	280.63757	352.71901	3.96572	0.1264556	2.1676526	20	1	30 days	0.58		Williams	1998 FZ ₄₆
1998 FD ₄₇	14.5	0.15	19980328	350.17167	204.15891	353.48555	11.20343	0.1861637	3.1471674	22	1	30 days	0.69		Williams	1998 FD ₄₇
1998 FE ₄₇	15.5	0.15	19980706	60.81459	154.07336	349.24324	6.69228	0.0881873	2.3747287	28	1	101 days	0.66	M-v 4	Williams	1998 FE ₄₇
1998 FK ₄₇	14.5	0.15	19980706	275.45163	315.26944	352.55739	7.37728	0.1262687	2.3300815	27	1	78 days	0.77	M-v 5	Williams	1998 FK ₄₇
1998 FL ₄₇	16.0	0.15	19980328	297.58335	312.45309	315.92080	2.01639	0.2003735	2.3440389	20	1	30 days	0.92		Williams	1998 FL ₄₇
1998 FO ₄₇	14.0	0.15	19980328	200.94459	58.36855	286.91872	1.62210	0.0821247	2.6498804	34	1	35 days	0.55		Williams	1998 FO ₄₇
1998 FZ ₄₇	15.0	0.15	19980706	22.57116	208.89776	341.48189	5.58265	0.0848031	2.3016394	33	2	1977–1998	0.58	M-v 4	Williams	31570 1998 FZ ₄₇
1998 FB ₄₈	14.0	0.15	19980328	68.87378	125.06394	337.15976	4.88471	0.1118891	2.6738331	25	1	40 days	0.98		Williams	1998 FB ₄₈
1998 FE ₄₈	13.5	0.15	19980706	257.72722	321.66816	355.32132	17.99540	0.1477805	3.1597113	25	1	81 days	0.94	M-v 5	Williams	1998 FE ₄₈
1998 FF ₄₈	15.0	0.15	19980308	340.49169	2.59013	199.56966	8.46743	0.1150880	2.5591228	28	1	51 days	0.71		Williams	1998 FF ₄₈
1998 FJ ₄₈	15.5	0.15	19980216	325.26333	232.60611	352.18752	16.23087	0.1879827	3.1433873	14	1	56 days	0.79		Williams	1998 FJ ₄₈
1998 FK ₄₈	16.0	0.15	19980328	43.60809	279.14950	209.65138	4.83083	0.1357950	2.2536055	20	1	30 days	1.08		Williams	1998 FK ₄₈
1998 FL ₄₈	15.5	0.15	19980308	261.03399	16.00212	267.88805	3.30281	0.0480585	2.5219505	16	1	12 days	1.02		Williams	1998 FL ₄₈
1998 FN ₄₈	13.0	0.15	19980308	302.07426	285.78973	330.89596	7.50135	0.1557809	4.0054137	23	1	12 days	0.97		Williams	1998 FN ₄₈
1998 FO ₄₈	14.0	0.15	19980706	17.57646	243.84572	309.12135	3.29531	0.0881026	2.5356308	32	1	66 days	0.69	M-v 5	Williams	1998 FO ₄₈
1998 FP ₄₈	16.0	0.15	19980328	317.85648	29.29410	216.44627	4.03174	0.2028709	2.3825222	19	1	30 days	1.47		Williams	1998 FP ₄₈
1998 FC ₄₉	15.0	0.15	19980328	342.78011	213.99312	353.67311	8.09820	0.1579723	2.7386399	25	1	30 days	0.67		Williams	1998 FC ₄₉
1998 FD ₄₉	14.5	0.15	19980706	107.67696	87.62202	357.68570	13.36903	0.1279901	2.5661449	39	1	65 days	0.67	M-v 5	Williams	1998 FD ₄₉
1998 FK ₄₉	14.5	0.15	19980706	19.57267	351.49278	198.20835	2.23209	0.1236295	2.6143793	31	2	1994–1998	0.59	M-v 5	Williams	31570 1998 FK ₄₉
1998 FN ₄₉	13.5	0.15	19980328	144.79830	207.61038	188.39326	12.01709	0.0648329	2.9731969	21	1	35 days	0.39		Williams	1998 FN ₄₉
1998 FO ₄₉	14.5	0.15	19980706	185.94025	25.01523	358.08858	7.83575	0.1038052	2.3053284	37	1	84 days	0.46	M-v 4	Williams	1998 FO ₄₉
1998 FQ ₄₉	14.0	0.15	19980328	232.52386	355.79425	332.94215	1.66821	0.2113134	2.4388114	31	1	35 days	0.79		Williams	1998 FQ ₄₉
1998 FY ₄₉	16.0	0.15	19980308	39.64396	130.98704	2.55787	6.61185	0.0728868	2.4002687	28	1	54 days	1.12		Williams	1998 FY ₄₉
1998 FZ ₄₉	14.5	0.15	19980328	100.03219	69.46894	4.37073	7.14384	0.0992975	2.3570065	26	1	35 days	0.48		Williams	1998 FZ ₄₉
1998 FF ₅₂	14.0	0.15	19980216	9.67011	358.23734	163.71464	4.44193	0.1501065	3.1492441	21	1	50 days	0.79		Williams	1998 FF ₅₂
1998 FT ₅₂	15.5	0.15	19980308	352.99360	185.97205	3.72689	7.77248	0.1764170	2.8709889	18	1	12 days	0.63		Williams	1998 FT ₅₂
1998 FV ₅₂	15.5	0.15	19980216	316.51190	69.48542	159.14982	1.82102	0.0968261	3.0624392	15	1	51 days	0.94		Williams	1998 FV ₅₂
1998 FZ ₅₂	13.5	0.15	19980706	220.62956	147.87285	197.45632	3.76571	0.0627898	3.0990173	30	2	1995–1998	0.94	M-v 5	Williams	31570 1998 FZ ₅₂
1998 FA ₅₃	13.5	0.15	19980706	99.06737	82.20962	4.90870	5.27194	0.1464381	3.2025612	23	1	63 days	0.47	M-v 5	Williams	1998 FA ₅₃
1998 FE ₅₃	15.5	0.15	19980328	326.23207	241.41148	342.11398	3.24006	0.0676602	2.5365398	22	1	30 days	1.16		Williams	1998 FE ₅₃
1998 FG ₅₃	14.5	0.15	19980706	300.15887	297.97150	339.58152	3.70764	0.0366904	2.3031244	34	2	1978–1998	0.51	M-v 4	Williams	31570 1998 FG ₅₃
1998 FQ ₅₃	15.5	0.15	19980308	79.53650	134.76793	319.38423	2.42128	0.0588178	2.3474181	28	1	46 days	1.34		Williams	1998 FQ ₅₃
1998 FS ₅₃	14.5	0.15	19980328	349.48374	209.98911	352.74164	14.56911	0.2253149	2.9948049	29	1	53 days	1.02		Williams	1998 FS ₅₃
1998 FV ₅₃	15.0	0.15	19980308	116.84127	76.93574	340.24773	5.63888	0.0750611	2.5199238	17	1	12 days	1.72		Williams	1998 FV ₅₃
1998 FW ₅₃	15.5	0.15	19980328	308.11577	335.94145	274.88098	2.31679	0.1237656	2.4195644	28	1	30 days	0.97		Williams	1998 FW ₅₃
1998 FX ₅₃	16.0	0.15	19980308	19.29382	256.32810	252.43420	2.95992	0.2235173	2.5432329	22	1	28 days	0.93		Williams	1998 FX ₅₃
1998 FY ₅₃	13.5	0.15	19980328	334.98096	306.64153	270.85348	3.66317	0.1014503	3.1112397	29	1	30 days	0.96		Williams	1998 FY ₅₃
1998 FZ ₅₃	14.5	0.15	19980308	155.95252	155.96137	223.76994	5.02801	0.1893949	2.2958201	30	1	52 days	1.09		Williams	1998 FZ ₅₃
1998 FA ₅₄	15.5	0.15	19980328	335.52384	323.97724	256.91441	2.03368	0.1566242	2.3584545	20	1	30 days	0.52		Williams	1998 FA ₅₄
1998 FB ₅₄	14.5	0.15	19980328	359.14440	239.77758	308.50592	2.20928	0.0322470	2.6423706	31	1	43 days	0.48		Williams	1998 FB ₅₄
1998 FD ₅₄	14.0	0.15	19980308	42.28005	300.13310	192.89713	10.05037	0.0817765	2.9799488	22	1	28 days	0.62		Williams	1998 FD ₅₄

1998 FE ₅₄	15.5	0.15	19980308	63.55684	274.84783	192.06572	9.04658	0.0939119	2.3619546	18	1	12 days	0.72		Williams	1998 FE ₅₄
1998 FJ ₅₄	15.0	0.15	19980328	143.99509	39.14287	354.78269	6.93594	0.1316306	2.3060145	17	1	30 days	0.72		Williams	1998 FJ ₅₄
1998 FK ₅₄	14.0	0.15	19980706	110.07255	91.39970	357.62936	11.00882	0.0547341	2.9814676	31	1	85 days	0.72	M-v 5	Williams	1998 FK ₅₄
1998 FV ₅₄	14.0	0.15	19980328	19.89834	337.52345	183.35564	16.93977	0.1348778	3.0585314	21	1	43 days	0.72		Williams	1998 FV ₅₄
1998 FK ₅₅	13.5	0.15	19980328	77.83806	283.68449	176.64616	16.23923	0.0701201	3.2442597	13	1	15 days	0.39		Williams	1998 FK ₅₅
1998 FQ ₅₆	15.0	0.15	19980308	286.50019	235.75201	39.94198	2.84866	0.1843355	2.3267164	13	1	14 days	0.97		Williams	1998 FQ ₅₆
1998 FJ ₅₇	14.0	0.15	19980308	162.97761	9.01038	8.89870	15.97799	0.1119996	2.6269085	21	1	12 days	0.54		Williams	1998 FJ ₅₇
1998 FN ₅₇	15.5	0.15	19980706	60.14455	312.25720	195.61972	5.57261	0.1153011	2.2982868	25	2	1996–1998	0.63	M-v 4	Williams	31571 1998 FN ₅₇
1998 FO ₅₇	16.0	0.15	19980706	37.80375	182.23906	353.79160	7.22450	0.1822499	2.2266346	27	1	78 days	0.36	M-v 4	Williams	1998 FO ₅₇
1998 FW ₅₇	15.5	0.15	19980328	0.78087	281.84003	266.26200	1.53691	0.1351460	2.4554331	23	1	30 days	0.79		Williams	1998 FW ₅₇
1998 FH ₅₈	14.5	0.15	19980308	349.89350	189.92875	6.45023	0.45028	0.1260330	3.1066338	18	1	12 days	0.46		Williams	1998 FH ₅₈
1998 FJ ₅₈	15.0	0.15	19980308	251.47487	121.01084	186.68672	1.84521	0.1557341	2.4136219	18	1	12 days	0.80		Williams	1998 FJ ₅₈
1998 FK ₅₈	13.5	0.15	19980308	20.41549	157.21697	5.61723	8.99233	0.0298188	2.9998205	24	1	34 days	0.48		Williams	1998 FK ₅₈
1998 FO ₅₈	14.0	0.15	19980706	129.31691	242.17920	182.75292	11.94060	0.1645395	2.6661319	33	3	1987–1998	0.71	M-v 3	Williams	31571 1998 FO ₅₈
1998 FR ₅₈	13.5	0.15	19980328	33.55162	103.83312	45.68801	1.81185	0.0843949	3.1220380	26	1	45 days	0.48		Williams	1998 FR ₅₈
1998 FV ₅₈	14.0	0.15	19980308	191.59586	180.18814	174.91040	9.40860	0.0793299	3.0770329	14	1	14 days	0.84		Williams	1998 FV ₅₈
1998 FX ₅₈	15.5	0.15	19980308	82.00734	278.57718	175.10029	6.74741	0.0569730	2.2804603	16	1	14 days	0.55		Williams	1998 FX ₅₈
1998 FA ₅₉	15.0	0.15	19980706	220.25654	281.58253	74.81130	2.48105	0.1448364	2.4467025	33	2	1984–1998	0.82	M-v 4	Williams	31571 1998 FA ₅₉
1998 FQ ₅₉	16.0	0.15	19980328	1.32594	53.21189	133.02576	3.39337	0.1238643	2.2040842	23	1	33 days	0.80		Williams	1998 FQ ₅₉
1998 FT ₅₉	15.5	0.15	19980706	357.77161	52.94997	168.84859	6.86514	0.0689297	2.3572794	25	2	1996–1998	0.68	M-v 4	Williams	31571 1998 FT ₅₉
1998 FU ₅₉	14.5	0.15	19980308	163.36111	357.49949	18.18369	11.95699	0.2230274	2.4207983	13	1	6 days	0.99	E	Williams	1998 FU ₅₉
1998 FZ ₅₉	14.0	0.15	19980328	278.74786	263.47895	16.36594	10.96311	0.0840985	3.0016024	23	1	33 days	0.81		Williams	1998 FZ ₅₉
1998 FE ₆₀	14.0	0.15	19980308	46.00402	305.09368	175.93534	10.96397	0.1886435	3.0933124	23	1	55 days	0.77		Williams	1998 FE ₆₀
1998 FF ₆₀	16.0	0.15	19980328	349.65497	35.76828	167.06293	2.80499	0.1516781	2.3922875	33	1	33 days	0.72		Williams	1998 FF ₆₀
1998 FG ₆₀	14.5	0.15	19980328	287.03200	251.28530	16.62616	9.09008	0.0533642	2.9808967	18	1	33 days	1.38		Williams	1998 FG ₆₀
1998 FJ ₆₀	14.0	0.15	19980328	161.15316	209.57459	175.07673	4.68014	0.1086805	2.7397308	17	1	33 days	1.03		Williams	1998 FJ ₆₀
1998 FL ₆₀	15.0	0.15	19980328	273.49461	131.88640	174.08633	6.73851	0.2719035	2.3935914	18	1	33 days	1.24		Williams	1998 FL ₆₀
1998 FN ₆₀	14.0	0.15	19980328	235.66639	303.24267	18.62666	9.78139	0.0881993	3.0330649	19	1	33 days	1.19		Williams	1998 FN ₆₀
1998 FP ₆₀	15.5	0.15	19980706	50.70583	134.83089	19.01090	4.33207	0.1772186	2.4414108	26	1	87 days	0.53	M-v 5	Williams	1998 FP ₆₀
1998 FU ₆₀	15.0	0.15	19980328	8.21849	356.08468	180.58634	3.98223	0.1772484	2.6965611	19	1	33 days	0.50		Williams	1998 FU ₆₀
1998 FW ₆₀	15.5	0.15	19980328	307.19131	69.13372	186.99697	6.36813	0.1413530	2.5998599	17	1	33 days	1.44		Williams	1998 FW ₆₀
1998 FY ₆₀	15.0	0.15	19980328	347.13875	197.78579	5.46033	14.44759	0.0567060	2.5331633	19	1	30 days	0.67		Williams	1998 FY ₆₀
1998 FD ₆₁	15.0	0.15	19980328	324.37981	47.83579	186.00003	4.87708	0.1220105	2.1712059	30	1	45 days	0.74		Williams	1998 FD ₆₁
1998 FL ₆₁	12.0	0.15	19980706	246.07431	328.15645	3.75426	10.71336	0.1093713	3.0243573	40	6	1963–1998	0.61	M-v 1	Williams	31571 1998 FL ₆₁
1998 FM ₆₁	16.0	0.15	19980308	301.25599	264.38429	0.62368	4.40590	0.2065621	2.3650513	21	1	32 days	0.82		Williams	1998 FM ₆₁
1998 FN ₆₁	15.0	0.15	19980308	16.79325	330.08364	191.11540	23.43661	0.1358071	2.5626860	24	1	52 days	0.70		Williams	1998 FN ₆₁
1998 FT ₆₁	15.0	0.15	19980706	337.00929	2.69769	254.83507	1.47170	0.1808162	2.4057966	32	2	1991–1998	0.62	M-v 6	Williams	31571 1998 FT ₆₁
1998 FU ₆₁	15.5	0.15	19980328	339.11397	332.85159	242.79653	1.52568	0.1020279	2.2824119	25	1	33 days	0.81		Williams	1998 FU ₆₁
1998 FV ₆₁	14.5	0.15	19980328	216.22167	339.50253	2.94553	13.98507	0.1181411	2.6923030	22	1	30 days	1.24		Williams	1998 FV ₆₁
1998 FW ₆₁	14.0	0.15	19980308	96.84456	213.43021	216.49029	5.27594	0.1718995	2.4472224	33	1	54 days	0.62		Williams	1998 FW ₆₁
1998 FX ₆₁	15.0	0.15	19980328	30.91636	191.41528	318.08295	2.77298	0.1451595	2.6985957	38	1	39 days	0.97		Williams	1998 FX ₆₁
1998 FZ ₆₁	15.0	0.15	19980328	87.16359	193.37751	254.71700	3.29120	0.1332746	2.3093656	40	1	39 days	0.78		Williams	1998 FZ ₆₁
1998 FA ₆₂	16.0	0.15	19980328	286.34171	308.83720	332.27517	4.10773	0.1505212	2.1660530	23	1	30 days	0.95		Williams	1998 FA ₆₂
1998 FB ₆₂	14.0	0.15	19980328	170.96101	63.70615	315.75607	4.19768	0.0709759	2.7308918	37	1	33 days	1.29		Williams	1998 FB ₆₂
1998 FD ₆₂	15.0	0.15	19980328	287.65245	284.37167	349.06008	6.22683	0.0949632	2.3481064	30	1	39 days	0.70		Williams	1998 FD ₆₂
1998 FG ₆₂	14.5	0.15	19980328	25.92818	224.68692	286.41637	2.54972	0.2176704	3.2880116	17	1	39 days	0.75		Williams	1998 FG ₆₂
1998 FH ₆₂	15.5	0.15	19980328	81.98833	164.93459	289.34869	2.12161	0.1294103	2.5993791	14	1	40 days	1.11		Williams	1998 FH ₆₂
1998 FJ ₆₂	14.5	0.15	19980328	63.35724	246.81217	201.49144	10.13415	0.3401053	2.7664230	19	1	33 days	1.29		Williams	1998 FJ ₆₂
1998 FM ₆₂	13.0	0.15	19980328	189.08352	165.67976	199.56759	17.32850	0.1436700	2.7760458	19	1	33 days	0.85		Williams	1998 FM ₆₂
1998 FR ₆₂	15.5	0.15	19980328	283.75938	54.40035	231.51146	1.73334	0.1545442	2.3894366	26	1	40 days	1.37		Williams	1998 FR ₆₂
1998 FS ₆₂	15.5	0.15	19980328	315.03918	46.54688	200.29189	6.10162	0.1127185	2.4253128	25	1	33 days	1.32		Williams	1998 FS ₆₂
1998 FV ₆₂	14.0	0.15	19980328	256.95830	105.01569	200.02210	9.81838	0.0928565	2.9709538	18	1	15 days	0.99		Williams	1998 FV ₆₂
1998 FX ₆₂	14.5	0.15	19980706	86.65343	107.36485	7.56549	13.32101	0.1146034	2.6367181	34	1	60 days	0.59	M-v 5	Williams	1998 FX ₆₂

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1998 FY ₆₂	14.0	0.15	19980706	132.04293	248.32804	187.91903	13.90571	0.0563871	2.5597378	32	1	60 days	0.50	M-v	5	Williams	1998 FY ₆₂
1998 FZ ₆₂	13.5	0.15	19980328	143.98382	207.87472	188.17779	14.18080	0.1890167	2.6421540	26	1	42 days	0.79			Williams	1998 FZ ₆₂
1998 FA ₆₃	15.5	0.15	19980328	11.55484	169.07799	6.72642	5.45755	0.1001127	2.3272657	25	1	33 days	0.93			Williams	1998 FA ₆₃
1998 FB ₆₃	13.5	0.15	19980328	117.53023	226.33795	188.13932	16.89236	0.2142018	2.9323968	23	1	33 days	0.74			Williams	1998 FB ₆₃
1998 FF ₆₃	15.5	0.15	19980328	304.42880	80.73161	182.14997	12.97111	0.1653281	2.5503908	18	1	33 days	1.03			Williams	1998 FF ₆₃
1998 FH ₆₃	13.5	0.15	19980328	121.69466	284.06223	138.79684	2.65688	0.0629812	2.8530933	29	1	50 days	0.81			Williams	1998 FH ₆₃
1998 FL ₆₃	15.0	0.15	19980328	104.49103	297.34449	139.52811	3.39430	0.0758143	2.5440782	19	1	33 days	1.06			Williams	1998 FL ₆₃
1998 FO ₆₃	15.5	0.15	19980328	8.61522	9.85375	169.51984	6.57347	0.0920193	2.4714292	17	1	33 days	0.68			Williams	1998 FO ₆₃
1998 FQ ₆₃	14.0	0.15	19980328	246.90199	277.87952	44.97772	5.22234	0.2076050	2.8476411	22	1	39 days	0.75			Williams	1998 FQ ₆₃
1998 FS ₆₃	15.0	0.15	19980328	192.29491	330.28490	29.57545	7.61339	0.1479724	2.2007760	16	1	29 days	0.75			Williams	1998 FS ₆₃
1998 FT ₆₃	16.0	0.15	19980706	33.99272	50.42389	129.81750	2.89981	0.1549003	2.3350987	27	1	81 days	0.53	M-v	4	Williams	1998 FT ₆₃
1998 FW ₆₃	15.5	0.15	19980328	339.27845	95.89366	119.93966	3.32026	0.1349707	2.3911795	23	1	33 days	0.79			Williams	1998 FW ₆₃
1998 FZ ₆₃	14.5	0.15	19980328	248.41740	276.04421	37.74482	6.78093	0.1238059	2.3412798	21	1	33 days	0.59			Williams	1998 FZ ₆₃
1998 FA ₆₄	15.5	0.15	19980328	2.45446	14.48957	171.97940	8.41771	0.1825566	2.5488281	20	1	33 days	0.56			Williams	1998 FA ₆₄
1998 FC ₆₄	14.0	0.15	19980328	124.75598	19.95112	36.97278	5.50780	0.1071160	2.7338076	20	1	33 days	0.71			Williams	1998 FC ₆₄
1998 FD ₆₄	14.0	0.15	19980328	86.12000	12.11453	77.01029	3.34521	0.1422031	3.0783661	14	1	38 days	0.63			Williams	1998 FD ₆₄
1998 FE ₆₄	15.0	0.15	19980328	140.84279	9.16526	35.47013	7.08664	0.0804154	2.4543777	23	1	39 days	1.07			Williams	1998 FE ₆₄
1998 FG ₆₄	14.5	0.15	19980328	324.42586	54.81771	178.82089	9.47995	0.0929677	3.0355949	27	1	39 days	1.07			Williams	1998 FG ₆₄
1998 FH ₆₄	14.0	0.15	19980706	17.39251	52.63898	138.81635	2.68886	0.1506664	3.1475940	38	3	1992–1998	0.80	M-v	4	Williams	1998 FH ₆₄
1998 FK ₆₄	14.5	0.15	19980328	136.68938	227.59953	175.15894	9.32055	0.1896648	2.7276459	18	1	39 days	1.11			Williams	1998 FK ₆₄
1998 FO ₆₄	15.5	0.15	19980328	354.31209	13.72936	183.79647	12.69819	0.0881677	2.6408519	16	1	33 days	0.88			Williams	1998 FO ₆₄
1998 FP ₆₄	14.0	0.15	19980328	257.71613	140.73339	183.12782	13.25100	0.3097463	2.5692714	19	1	33 days	1.02			Williams	1998 FP ₆₄
1998 FQ ₆₄	14.5	0.15	19980328	259.99201	288.42945	15.73171	6.43715	0.1234137	2.3208768	23	1	33 days	0.56			Williams	1998 FQ ₆₄
1998 FS ₆₄	16.0	0.15	19980328	354.80376	15.63134	182.24591	2.28324	0.1764031	2.2909096	19	1	33 days	0.74			Williams	1998 FS ₆₄
1998 FT ₆₄	15.5	0.15	19980328	65.87778	287.94183	177.24683	2.46648	0.1760412	2.4000562	18	1	33 days	0.99			Williams	1998 FT ₆₄
1998 FU ₆₄	14.0	0.15	19980328	350.00926	18.20366	186.39304	10.79880	0.1295654	3.0325459	29	1	42 days	0.69			Williams	1998 FU ₆₄
1998 FW ₆₄	13.5	0.15	19980328	265.26907	288.31126	12.02662	17.10635	0.1172628	3.1784361	32	1	33 days	0.88			Williams	1998 FW ₆₄
1998 FX ₆₄	14.0	0.15	19980328	155.35072	21.12009	10.78023	5.38414	0.1103338	2.4613026	30	1	40 days	0.65			Williams	1998 FX ₆₄
1998 FY ₆₄	14.0	0.15	19980328	321.72337	231.15771	7.41909	15.00393	0.1019751	2.8519324	40	1	45 days	0.50			Williams	1998 FY ₆₄
1998 FZ ₆₄	14.5	0.15	19980328	303.55318	254.38139	5.61245	7.03235	0.1148355	2.2616660	29	1	39 days	0.53			Williams	1998 FZ ₆₄
1998 FC ₆₅	15.5	0.15	19980328	323.60456	43.89727	193.72915	5.56654	0.1229767	2.2765677	34	1	35 days	0.57			Williams	1998 FC ₆₅
1998 FD ₆₅	15.5	0.15	19980328	293.08580	75.24373	198.57694	4.31067	0.1328278	2.2901450	19	1	33 days	0.89			Williams	1998 FD ₆₅
1998 FE ₆₅	14.5	0.15	19980328	64.85830	125.67320	352.01332	4.36835	0.0897604	2.3100632	42	1	33 days	0.66			Williams	1998 FE ₆₅
1998 FF ₆₅	15.0	0.15	19980328	331.19977	30.48491	197.91906	8.50998	0.1137503	2.5687271	24	1	33 days	0.59			Williams	1998 FF ₆₅
1998 FJ ₆₅	15.5	0.15	19980328	8.56081	193.29859	346.68129	4.11977	0.1499478	2.2506660	22	1	33 days	0.61			Williams	1998 FJ ₆₅
1998 FK ₆₅	15.0	0.15	19980328	291.81602	64.20627	216.33570	4.83899	0.1768867	2.2292557	25	1	35 days	0.85			Williams	1998 FK ₆₅
1998 FL ₆₅	14.0	0.15	19980328	160.21119	178.83317	210.91778	10.22751	0.0743332	3.0958296	24	1	39 days	1.16			Williams	1998 FL ₆₅
1998 FM ₆₅	15.5	0.15	19980328	329.04691	13.66422	224.53191	4.25639	0.2084429	2.5427026	22	1	39 days	1.17			Williams	1998 FM ₆₅
1998 FN ₆₅	14.5	0.15	19980328	301.27930	52.18310	209.08375	10.18783	0.0959014	2.9230392	26	1	39 days	1.23			Williams	1998 FN ₆₅
1998 FR ₆₅	15.0	0.15	19980328	41.96372	214.26011	291.89495	2.61484	0.0589632	2.1880458	51	1	58 days	0.62			Williams	1998 FR ₆₅
1998 FS ₆₅	15.5	0.15	19980328	345.15929	317.28424	253.92726	2.36114	0.1093846	2.2879535	43	1	35 days	0.68			Williams	1998 FS ₆₅
1998 FV ₆₅	15.5	0.15	19980328	303.13031	58.50973	204.97205	5.92918	0.1363219	2.2878654	33	1	33 days	0.63			Williams	1998 FV ₆₅
1998 FY ₆₅	14.5	0.15	19980706	86.81654	201.44717	280.87623	1.48916	0.0771905	2.5777869	56	2	1996–1998	0.64	M-v	4	Williams	1998 FY ₆₅
1998 FZ ₆₅	15.0	0.15	19980328	17.02277	213.01506	320.79083	1.84205	0.0685400	2.5344322	43	1	35 days	0.77			Williams	1998 FZ ₆₅
1998 FB ₆₆	15.0	0.15	19980328	287.10870	281.55985	352.95157	2.51064	0.0714225	2.6481084	31	1	33 days	1.14			Williams	1998 FB ₆₆
1998 FD ₆₆	14.0	0.15	19980328	290.32517	73.33168	199.07466	6.24982	0.0820997	2.4178217	38	1	35 days	0.71			Williams	1998 FD ₆₆
1998 FE ₆₆	14.5	0.15	19980328	310.47712	243.86018	9.44974	3.79548	0.1127612	2.5693836	51	1	35 days	0.53			Williams	1998 FE ₆₆
1998 FG ₆₆	12.5	0.15	19980328	215.95919	150.69608	195.72365	11.14972	0.1272621	3.0483869	35	1	33 days	0.54			Williams	1998 FG ₆₆
1998 FH ₆₆	14.0	0.15	19980328	302.89392	3.08382	255.98296	0.21716	0.0850784	3.2469621	20	1	15 days	0.97			Williams	1998 FH ₆₆
1998 FJ ₆₆	14.0	0.15	19980328	325.43874	218.68994	12.36711	9.67295	0.0636432	2.5315514	33	1	40 days	0.54			Williams	1998 FJ ₆₆
1998 FK ₆₆	13.5	0.15	19980328	85.27912	45.74513	45.47472	0.79137	0.1462595	3.0832647	19	1	33 days	1.03			Williams	1998 FK ₆₆
1998 FM ₆₆	14.5	0.15	19980328	57.41783	112.85539	11.72152	13.78024	0.1022326	2.6163616	22	1	39 days	0.48			Williams	1998 FM ₆₆
1998 FT ₆₆	14.0	0.15	19980328	29.54472	128.38531	26.28885	6.32702	0.1221934	3.1730807	26	1	35 days	0.58			Williams	1998 FT ₆₆

1998 FW ₆₆	15.0	0.15	19980328	294.54156	252.42261	27.04074	7.94424	0.1937527	2.8012716	16	1	33 days	0.97		Williams	1998 FW ₆₆
1998 FX ₆₆	16.0	0.15	19980328	29.32245	29.68085	124.06920	2.06550	0.1315794	2.3824644	22	1	33 days	0.99		Williams	1998 FX ₆₆
1998 FY ₆₆	14.0	0.15	19980706	190.66074	216.24732	169.44893	7.93783	0.0610434	2.4464300	28	3	1979–1998	0.71	M-v 5	Williams	1998 FY ₆₆
1998 FZ ₆₆	16.5	0.15	19980328	306.64390	133.13747	132.66970	2.94991	0.1979526	2.3564159	21	1	39 days	1.22		Williams	1998 FZ ₆₆
1998 FB ₆₇	15.5	0.15	19980328	81.17433	46.09887	55.70712	3.54258	0.0746729	2.1952574	20	1	33 days	1.21		Williams	1998 FB ₆₇
1998 FD ₆₇	13.5	0.15	19980328	343.43064	31.48108	178.69289	16.55165	0.0202837	3.1722702	19	1	33 days	1.18		Williams	1998 FD ₆₇
1998 FH ₆₇	15.0	0.15	19980328	353.99596	165.28119	32.98288	7.78660	0.0635538	2.4599998	19	1	33 days	0.50		Williams	1998 FH ₆₇
1998 FJ ₆₇	15.0	0.15	19980328	122.16250	334.90301	89.86634	3.37912	0.0371725	2.1477787	20	1	33 days	0.58		Williams	1998 FJ ₆₇
1998 FK ₆₇	14.0	0.15	19980328	249.99088	168.60460	148.92124	6.00119	0.1673512	2.2992004	19	1	33 days	0.60		Williams	1998 FK ₆₇
1998 FM ₆₇	14.0	0.15	19980328	316.36547	73.06036	164.63682	9.57566	0.0227652	3.1199287	19	1	33 days	1.30		Williams	1998 FM ₆₇
1998 FP ₆₇	16.5	0.15	19980328	12.73975	70.18622	102.24484	3.21013	0.1741704	2.3778339	19	1	33 days	1.26		Williams	1998 FP ₆₇
1998 FQ ₆₇	13.0	0.15	19980328	263.91921	196.15965	103.01437	3.60501	0.0929808	2.9516409	34	1	39 days	0.65		Williams	1998 FQ ₆₇
1998 FR ₆₇	15.0	0.15	19980328	296.17468	178.62592	86.99120	3.06408	0.0940037	2.2123438	23	1	39 days	0.65		Williams	1998 FR ₆₇
1998 FU ₆₇	14.5	0.15	19980328	115.32073	266.14636	159.86408	5.61694	0.1288680	2.5384417	18	1	33 days	1.27		Williams	1998 FU ₆₇
1998 FW ₆₇	15.5	0.15	19980328	326.90668	64.65173	164.70997	3.79986	0.0685905	2.3986480	16	1	42 days	0.55		Williams	1998 FW ₆₇
1998 FX ₆₇	14.0	0.15	19980328	323.79759	160.01306	81.62623	1.83437	0.1577628	3.0002703	20	1	33 days	0.75		Williams	1998 FX ₆₇
1998 FZ ₆₇	14.0	0.15	19980328	53.91166	329.82369	166.52066	2.21840	0.0308830	2.8743122	20	1	33 days	1.36		Williams	1998 FZ ₆₇
1998 FC ₆₈	15.5	0.15	19980328	95.21541	72.83338	11.93706	7.41843	0.1144637	2.1408476	36	1	33 days	0.99		Williams	1998 FC ₆₈
1998 FE ₆₈	14.0	0.15	19980328	37.44842	312.96151	191.55988	2.07801	0.1526083	3.1768660	23	1	33 days	0.90		Williams	1998 FE ₆₈
1998 FG ₆₈	13.5	0.15	19980328	289.99237	276.56741	14.32515	10.75398	0.2252751	3.2214184	17	1	33 days	1.13		Williams	1998 FG ₆₈
1998 FM ₆₈	15.0	0.15	19980328	316.11904	40.97850	206.05849	5.67614	0.1041437	2.4398973	37	1	43 days	0.54		Williams	1998 FM ₆₈
1998 FN ₆₈	16.0	0.15	19980328	342.52727	11.48297	212.33821	2.95087	0.2633496	2.5603047	27	1	35 days	0.96		Williams	1998 FN ₆₈
1998 FP ₆₈	14.5	0.15	19980328	66.51908	118.06334	3.24113	13.86661	0.0595475	2.6449230	31	1	15 days	0.77		Williams	1998 FP ₆₈
1998 FS ₆₈	14.5	0.15	19980706	310.08967	36.18071	250.15802	3.13281	0.1141921	2.2589486	41	2	1994–1998	0.54	M-v 5	Williams	1998 FS ₆₈
1998 FU ₆₈	14.0	0.15	19980328	336.17912	19.51914	205.61340	11.32432	0.1253958	2.6451397	60	1	33 days	0.80		Williams	1998 FU ₆₈
1998 FX ₆₈	11.5	0.15	19980328	271.03816	96.15069	207.60611	12.99245	0.1543288	3.9646556	33	1	50 days	0.63		Williams	1998 FX ₆₈
1998 FA ₆₉	14.5	0.15	19980328	278.86788	301.34303	355.07972	2.94039	0.1837367	2.2217181	33	1	33 days	0.60		Williams	1998 FA ₆₉
1998 FF ₆₉	15.0	0.15	19980328	33.90989	325.99380	185.32581	0.95191	0.1282302	2.3837850	19	1	33 days	1.18		Williams	1998 FF ₆₉
1998 FG ₆₉	12.5	0.15	19980328	237.77754	132.69744	196.57027	10.19672	0.1072754	2.9907879	37	1	40 days	0.67		Williams	1998 FG ₆₉
1998 FH ₆₉	13.5	0.15	19980328	359.60738	147.75920	47.73323	0.81456	0.1199434	3.1153112	20	1	33 days	0.86		Williams	1998 FH ₆₉
1998 FJ ₆₉	14.5	0.15	19980328	298.98441	104.14523	192.24611	28.03920	0.3496344	2.6530252	23	1	41 days	0.85		Williams	1998 FJ ₆₉
1998 FQ ₆₉	14.0	0.15	19980328	200.24308	179.10100	182.47783	11.88921	0.2537537	2.4147521	18	1	33 days	0.67		Williams	1998 FQ ₆₉
1998 FR ₆₉	14.0	0.15	19980328	54.72323	56.65018	63.30773	3.04040	0.1814537	3.0574148	23	1	33 days	0.66		Williams	1998 FR ₆₉
1998 FU ₆₉	14.5	0.15	19980328	326.00639	214.03350	26.30787	8.21266	0.1685675	2.7824121	23	1	33 days	0.78		Williams	1998 FU ₆₉
1998 FW ₆₉	15.5	0.15	19980328	329.28939	185.74711	46.14025	4.85503	0.1253586	2.2859349	26	1	33 days	0.51		Williams	1998 FW ₆₉
1998 FY ₆₉	15.0	0.15	19980328	27.79445	4.94834	156.34498	4.88783	0.0757559	2.3823694	20	1	33 days	0.83		Williams	1998 FY ₆₉
1998 FZ ₆₉	16.0	0.15	19980328	25.94212	354.33267	160.91613	5.99487	0.1842893	2.3109895	20	1	33 days	1.07		Williams	1998 FZ ₆₉
1998 FA ₇₀	15.5	0.15	19980328	264.35573	255.07630	63.01946	4.07854	0.2683449	2.3465672	19	1	42 days	1.07		Williams	1998 FA ₇₀
1998 FB ₇₀	15.5	0.15	19980328	313.88265	100.90792	150.27119	4.46844	0.1276852	2.2755778	19	1	33 days	1.03		Williams	1998 FB ₇₀
1998 FC ₇₀	14.0	0.15	19980328	103.89743	288.90269	156.47489	6.32632	0.0459257	2.7117000	19	1	33 days	1.08		Williams	1998 FC ₇₀
1998 FE ₇₀	15.0	0.15	19980328	80.46254	80.50381	27.01348	14.95358	0.0490046	2.6594970	19	1	33 days	1.24		Williams	1998 FE ₇₀
1998 FG ₇₀	14.5	0.15	19980328	251.32075	218.81319	100.95131	3.71029	0.1768131	2.1658776	20	1	33 days	0.87		Williams	1998 FG ₇₀
1998 FK ₇₀	15.0	0.15	19980328	29.92901	331.50656	176.43984	9.37104	0.2176096	2.5365805	19	1	33 days	0.61		Williams	1998 FK ₇₀
1998 FL ₇₀	15.5	0.15	19980328	30.88758	126.98417	28.25600	5.29567	0.1066449	2.2787181	29	1	42 days	0.60		Williams	1998 FL ₇₀
1998 FN ₇₀	15.0	0.15	19980328	245.89368	291.47661	31.06407	6.45101	0.1476326	2.4124991	16	1	33 days	1.29		Williams	1998 FN ₇₀
1998 FS ₇₀	13.5	0.15	19980328	293.63919	261.59808	21.46517	13.67097	0.1834162	3.1734717	26	1	33 days	0.91		Williams	1998 FS ₇₀
1998 FU ₇₀	14.5	0.15	19980328	51.65847	310.59094	190.90601	21.86881	0.0296208	2.5573146	20	1	33 days	0.70		Williams	1998 FU ₇₀
1998 FV ₇₀	15.0	0.15	19980328	9.18049	14.16040	169.43004	2.69715	0.0962294	2.3399286	26	1	33 days	0.61		Williams	1998 FV ₇₀
1998 FW ₇₀	15.5	0.15	19980328	327.34342	223.58335	17.56130	6.94632	0.1895857	2.3496000	20	1	33 days	0.94		Williams	1998 FW ₇₀
1998 FY ₇₀	14.5	0.15	19980308	211.18631	154.33926	195.18252	6.00977	0.1516638	2.3931499	22	1	12 days	1.20		Williams	1998 FY ₇₀
1998 FA ₇₁	12.5	0.15	19980328	139.18691	37.31001	18.94630	15.56402	0.0380114	3.1641213	43	1	33 days	0.54		Williams	1998 FA ₇₁
1998 FB ₇₁	13.5	0.15	19980328	96.83883	249.65053	193.96994	11.92224	0.1556161	2.6594154	37	1	33 days	0.73		Williams	1998 FB ₇₁
1998 FC ₇₁	15.5	0.15	19980328	308.62658	57.98900	199.74578	2.45193	0.1141581	2.2374356	36	1	35 days	0.92		Williams	1998 FC ₇₁

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1998 FD ₇₁	14.5	0.15	19980706	89.66722	122.24640	349.70887	1.94657	0.1777703	2.4768552	38	4	1982–1998	0.67	M-v	4	Williams	31572	1998 FD ₇₁
1998 FF ₇₁	15.5	0.15	19980328	326.12127	294.53571	301.74478	2.38433	0.0921505	2.2407212	23	1	33 days	1.12			Williams		1998 FF ₇₁
1998 FG ₇₁	15.0	0.15	19980328	345.76072	219.02321	354.53099	6.15523	0.1289589	2.2611388	28	1	33 days	0.55			Williams		1998 FG ₇₁
1998 FJ ₇₁	13.0	0.15	19980328	127.83541	53.54508	10.55161	9.87705	0.0754671	3.0037299	20	1	33 days	1.34			Williams		1998 FJ ₇₁
1998 FM ₇₁	13.0	0.15	19980328	48.75451	113.83354	18.74325	15.91165	0.1741362	3.1785175	32	1	33 days	0.40			Williams		1998 FM ₇₁
1998 FN ₇₁	15.0	0.15	19980328	1.36016	178.14574	16.21863	9.29067	0.1557667	2.4156748	35	1	33 days	0.55			Williams		1998 FN ₇₁
1998 FO ₇₁	13.5	0.15	19980328	78.70246	273.15631	191.78992	12.38015	0.1263583	2.6739965	42	1	33 days	0.62			Williams		1998 FO ₇₁
1998 FP ₇₁	14.0	0.15	19980308	321.87013	219.85498	22.62897	8.99690	0.1228348	3.1399116	21	1	12 days	0.94			Williams		1998 FP ₇₁
1998 FQ ₇₁	15.5	0.15	19980328	312.91729	72.26010	184.93400	2.62017	0.1405469	2.3265027	25	1	32 days	1.08			Williams		1998 FQ ₇₁
1998 FR ₇₁	13.0	0.15	19980328	344.90553	168.97025	49.31671	2.43762	0.1262210	3.9612795	43	1	33 days	1.19			Williams		1998 FR ₇₁
1998 FV ₇₁	14.5	0.15	19980328	270.19362	301.97904	340.85729	3.82832	0.0805574	2.6965792	22	1	30 days	0.84			Williams		1998 FV ₇₁
1998 FY ₇₁	15.5	0.15	19980328	126.94429	49.17754	2.15553	5.27379	0.0802448	2.1799912	21	1	30 days	0.79			Williams		1998 FY ₇₁
1998 FC ₇₂	15.5	0.15	19980328	352.52357	329.08095	229.48014	3.38468	0.1431344	2.7928253	22	1	30 days	1.24			Williams		1998 FC ₇₂
1998 FF ₇₂	14.0	0.15	19980328	74.98848	178.91496	273.59174	2.84563	0.2166372	3.0669229	31	1	33 days	1.10			Williams		1998 FF ₇₂
1998 FG ₇₂	14.0	0.15	19980328	66.05458	137.26150	344.92042	2.49898	0.0322728	2.6600175	19	1	33 days	0.64			Williams		1998 FG ₇₂
1998 FJ ₇₂	15.0	0.15	19980328	213.39191	154.76469	189.59297	3.74374	0.1171052	2.1996343	17	1	33 days	1.12			Williams		1998 FJ ₇₂
1998 FL ₇₂	16.0	0.15	19980328	325.09486	248.91891	346.39049	1.88285	0.1029693	2.2158607	17	1	33 days	1.41			Williams		1998 FL ₇₂
1998 FQ ₇₂	14.0	0.15	19980328	219.50536	316.96043	30.91914	3.23586	0.1918046	2.4419631	19	1	33 days	1.18			Williams		1998 FQ ₇₂
1998 FR ₇₂	15.0	0.15	19980328	270.18797	286.08758	23.57519	2.76296	0.2215475	2.2958013	17	1	33 days	0.97			Williams		1998 FR ₇₂
1998 FU ₇₂	15.0	0.15	19980328	296.61380	105.37071	147.73429	5.36508	0.0513282	2.7658638	17	1	24 days	0.45			Marsden		1998 FU ₇₂
1998 FV ₇₂	14.0	0.15	19980328	101.65351	268.71683	165.65047	10.56231	0.0755176	3.0024541	22	1	24 days	0.40			Marsden		1998 FV ₇₂
1998 FA ₇₃	15.5	0.15	19980308	104.33331	65.05863	21.83177	7.24777	0.0568588	2.3273526	13	1	29 days	0.60			Williams		1998 FA ₇₃
1998 FD ₇₃	15.0	0.15	19980328	347.18335	132.40518	94.21683	4.05614	0.2618032	3.0226395	26	1	32 days	0.34			Williams		1998 FD ₇₃
1998 FE ₇₃	15.0	0.15	19980706	100.51525	2.15028	77.98175	4.90978	0.0790693	2.6125272	23	1	65 days	0.63	M-v	6	Williams		1998 FE ₇₃
1998 FO ₇₃	14.5	0.15	19980706	86.14977	186.54482	255.51207	3.34108	0.1100445	2.3111411	21	1	91 days	0.63	M-v	6	Williams		1998 FO ₇₃
1998 FP ₇₃	13.5	0.15	19980706	93.99762	341.37751	119.78694	3.84125	0.1349505	3.0567360	50	2	1992–1998	0.55	M-v	5	Williams	31572	1998 FP ₇₃
1998 FR ₇₃	14.0	0.15	19980328	93.14193	16.26954	40.29803	5.90476	0.1634145	2.3767622	39	1	34 days	0.97			Williams		1998 FR ₇₃
1998 FW ₇₃	13.5	0.15	19980308	317.62879	265.36242	304.73767	25.19649	0.1501651	3.0467320	9	1	5 days	0.46			E Williams		1998 FW ₇₃
1998 FY ₇₃	13.0	0.15	19980328	178.78110	12.41299	4.30593	10.01977	0.1082434	3.0176515	16	1	31 days	0.46			Williams		1998 FY ₇₃
1998 FG ₇₄	15.0	0.15	19980328	218.72248	91.17054	256.09750	9.32673	0.0612539	3.1613942	14	1	26 days	0.38			Williams		1998 FG ₇₄
1998 FH ₇₄	15.5	0.15	19980328	48.18708	192.82860	198.02234	21.41554	0.8838537	2.1914682	63	1	19 days	0.89			Williams		1998 FH ₇₄
1998 FJ ₇₄	18.5	0.15	19980328	21.55258	283.03889	197.23678	28.22706	0.5401643	2.4056509	51	1	24 days	0.79			Williams		1998 FJ ₇₄
1998 FL ₇₄	15.5	0.15	19980308	249.52885	298.91744	349.57349	5.77167	0.1853792	2.2843118	31	1	29 days	0.74			Marsden		1998 FL ₇₄
1998 FO ₇₄	14.5	0.15	19980308	315.72944	50.37304	159.56816	9.56052	0.0743981	2.7525203	33	1	29 days	0.74			Marsden		1998 FO ₇₄
1998 FQ ₇₄	14.5	0.15	19980328	89.19157	288.44103	157.64932	10.68034	0.0766624	3.0570376	17	1	8 days	0.63			Williams		1998 FQ ₇₄
1998 FX ₇₄	12.5	0.15	19980328	292.27043	265.10742	14.43298	9.84764	0.1226187	3.1591542	23	1	29 days	0.52			Williams		1998 FX ₇₄
1998 FA ₇₅	16.0	0.15	19980328	318.32417	233.13704	18.45886	0.94194	0.1589167	2.2520128	18	1	28 days	1.44			Williams		1998 FA ₇₅
1998 FB ₇₅	13.0	0.15	19980328	92.83112	55.31663	32.19129	0.47065	0.1737924	3.1853556	25	1	28 days	0.66			Williams		1998 FB ₇₅
1998 FD ₇₅	14.5	0.15	19980328	19.70127	148.03748	24.87216	0.75611	0.1167870	2.5776382	24	1	29 days	0.71			Williams		1998 FD ₇₅
1998 FG ₇₅	14.5	0.15	19980328	251.87355	129.49132	189.95900	6.03235	0.1295947	2.3604478	25	1	29 days	0.76			Williams		1998 FG ₇₅
1998 FJ ₇₅	13.5	0.15	19980328	86.59363	77.51147	24.57961	10.59439	0.0762309	2.9969730	22	1	29 days	0.97			Williams		1998 FJ ₇₅
1998 FN ₇₅	13.5	0.15	19980328	129.24157	36.82015	22.96397	15.87087	0.1187512	2.6072179	31	1	31 days	0.49			Williams		1998 FN ₇₅
1998 FR ₇₅	14.5	0.15	19980328	100.89154	37.03490	44.14253	7.38237	0.0722424	2.3342415	24	1	29 days	0.62			Williams		1998 FR ₇₅
1998 FD ₇₆	14.0	0.15	19980328	155.14251	185.08044	193.27878	12.20895	0.1627113	2.5506373	37	1	30 days	1.25			Williams		1998 FD ₇₆
1998 FG ₇₆	13.5	0.15	19980328	233.81506	287.72720	50.75019	1.94735	0.1654936	3.2174308	17	1	29 days	1.24			Williams		1998 FG ₇₆
1998 FM ₇₆	15.0	0.15	19980328	3.26925	100.81872	86.73922	4.59114	0.1241089	2.3107798	23	1	31 days	0.50			Williams		1998 FM ₇₆
1998 FP ₇₆	15.0	0.15	19980328	37.43015	19.43918	130.61311	4.73011	0.0607487	2.2890318	20	1	29 days	0.71			Williams		1998 FP ₇₆
1998 FQ ₇₆	14.0	0.15	19980328	149.69595	337.81413	59.26904	6.73824	0.1152658	2.5782162	19	1	29 days	1.04			Williams		1998 FQ ₇₆
1998 FU ₇₆	16.0	0.15	19980328	346.20919	120.67627	89.04090	3.64830	0.1272620	2.3709369	25	1	36 days	0.72			Williams		1998 FU ₇₆
1998 FV ₇₆	15.5	0.15	19980328	7.47663	79.84827	100.93673	3.62490	0.2190644	3.0792622	15	1	35 days	1.17			Williams		1998 FV ₇₆
1998 FW ₇₆	16.0	0.15	19980328	17.56588	126.80274	44.75759	6.47992	0.0779127	2.4141799	14	1	38 days	1.22			Williams		1998 FW ₇₆
1998 FY ₇₆	15.0	0.15	19980328	16.42089	119.02969	48.59498	6.21733	0.1910084	2.5636059	23	1	38 days	0.90			Williams		1998 FY ₇₆
1998 FZ ₇₆	15.5	0.15	19980328	320.40084	155.11618	88.46759	3.83738	0.1387522	2.4065307	18	1	29 days	0.87			Williams		1998 FZ ₇₆

1998 FA ₇₇	13.0	0.15	19980328	66.00764	70.19659	50.20463	7.99810	0.0660196	3.0928777	20	1	29 days	0.55	Williams	1998 FA ₇₇
1998 FB ₇₇	14.0	0.15	19980328	351.05876	137.87335	67.49773	5.71408	0.1278239	3.0902828	20	1	29 days	0.81	Williams	1998 FB ₇₇
1998 FC ₇₇	15.0	0.15	19980328	34.05027	9.28724	136.91016	4.81143	0.1710923	2.6827620	17	1	29 days	0.66	Williams	1998 FC ₇₇
1998 FD ₇₇	15.0	0.15	19980328	183.01722	305.12985	65.89637	5.14232	0.0782844	2.2757469	12	1	35 days	0.88	Williams	1998 FD ₇₇
1998 FH ₇₇	13.5	0.15	19980328	111.17037	301.07279	139.00373	10.83057	0.0384870	3.0555963	16	1	39 days	0.42	Williams	1998 FH ₇₇
1998 FM ₇₇	15.5	0.15	19980328	345.42009	147.12359	63.76232	6.15491	0.0834954	2.3453539	20	1	29 days	0.75	Williams	1998 FM ₇₇
1998 FO ₇₇	12.5	0.15	19980328	230.55823	278.82288	50.67257	9.36264	0.0509897	3.5017323	19	1	29 days	0.64	Williams	1998 FO ₇₇
1998 FQ ₇₇	15.0	0.15	19980328	145.59428	354.67775	45.97874	7.17785	0.1463288	2.3039421	17	1	29 days	1.51	Williams	1998 FQ ₇₇
1998 FS ₇₇	14.5	0.15	19980328	304.34880	101.89812	164.30448	7.98189	0.1474034	2.5611824	22	1	28 days	0.37	Williams	1998 FS ₇₇
1998 FT ₇₇	14.0	0.15	19980328	112.69514	25.68282	43.33536	9.76334	0.1428560	2.7611324	18	1	29 days	0.95	Williams	1998 FT ₇₇
1998 FU ₇₇	14.5	0.15	19980328	358.92484	35.23230	162.17231	8.98060	0.1301457	3.0954925	19	1	28 days	1.29	Williams	1998 FU ₇₇
1998 FV ₇₇	14.0	0.15	19980328	254.26375	145.02695	176.04853	13.87683	0.1801574	2.6338747	19	1	28 days	0.99	Williams	1998 FV ₇₇
1998 FW ₇₇	14.5	0.15	19980328	320.42864	192.13356	50.70650	7.95166	0.0984508	2.5958991	19	1	29 days	0.64	Williams	1998 FW ₇₇
1998 FY ₇₇	15.0	0.15	19980328	57.07954	17.85632	109.48120	5.20329	0.0941245	2.2435430	20	1	28 days	0.57	Williams	1998 FY ₇₇
1998 FA ₇₈	15.0	0.15	19980328	303.30163	128.57218	137.73447	6.77347	0.1362323	2.5746488	20	1	28 days	0.96	Williams	1998 FA ₇₈
1998 FB ₇₈	13.0	0.15	19980328	227.43361	302.85625	37.83509	15.93900	0.1534603	2.5857661	25	1	29 days	0.41	Williams	1998 FB ₇₈
1998 FG ₇₈	14.5	0.15	19980328	60.65975	9.60070	100.13798	4.81983	0.2318164	2.5948822	25	1	29 days	1.08	Williams	1998 FG ₇₈
1998 FK ₇₈	15.5	0.15	19980328	289.10587	135.40690	150.01225	5.25018	0.1673374	2.2596035	20	1	29 days	0.73	Williams	1998 FK ₇₈
1998 FL ₇₈	14.5	0.15	19980328	295.26056	159.94282	105.24742	3.42381	0.0492885	2.1855312	23	1	29 days	0.49	Williams	1998 FL ₇₈
1998 FM ₇₈	15.0	0.15	19980328	254.98745	245.72255	71.20127	4.32678	0.1545031	2.1801735	20	1	29 days	0.97	Williams	1998 FM ₇₈
1998 FN ₇₈	14.0	0.15	19980328	67.80890	80.48082	33.86852	13.41248	0.1288707	2.6430632	28	1	29 days	0.64	Williams	1998 FN ₇₈
1998 FQ ₇₈	15.5	0.15	19980328	45.22125	95.38938	24.04943	21.52905	0.2919493	2.3761031	23	1	29 days	0.53	Williams	1998 FQ ₇₈
1998 FR ₇₈	12.0	0.15	19980328	173.22725	207.64903	178.38719	15.44384	0.1032423	3.2260657	23	1	28 days	0.53	Williams	1998 FR ₇₈
1998 FT ₇₈	15.0	0.15	19980328	114.44596	268.82174	159.70134	7.09768	0.1601681	2.2693913	17	1	28 days	1.79	Williams	1998 FT ₇₈
1998 FV ₇₈	14.5	0.15	19980328	285.80267	208.62092	80.48162	5.20483	0.1612027	2.2326306	23	1	28 days	0.33	Williams	1998 FV ₇₈
1998 FW ₇₈	13.0	0.15	19980328	183.13416	326.10992	50.44502	12.17943	0.1576224	2.9895443	18	1	28 days	1.63	Williams	1998 FW ₇₈
1998 FC ₇₉	14.0	0.15	19980328	143.12800	285.39940	128.20083	6.37214	0.0364058	2.8054255	19	1	28 days	0.78	Williams	1998 FC ₇₉
1998 FE ₇₉	14.5	0.15	19980328	72.84411	54.60384	41.93451	12.75456	0.2440769	2.4354334	24	1	29 days	0.43	Williams	1998 FE ₇₉
1998 FF ₇₉	15.0	0.15	19980328	35.48088	25.55382	121.15769	4.69823	0.1947354	2.6201127	18	1	28 days	1.17	Williams	1998 FF ₇₉
1998 FJ ₇₉	14.0	0.15	19980328	257.52026	152.97407	154.95137	7.35085	0.0558749	2.4182963	20	1	28 days	0.83	Williams	1998 FJ ₇₉
1998 FL ₇₉	15.0	0.15	19980328	312.30878	104.73985	149.81190	6.57505	0.0910991	2.3769175	18	1	28 days	0.87	Williams	1998 FL ₇₉
1998 FM ₇₉	15.0	0.15	19980328	339.90331	190.63476	35.07869	9.38771	0.1804493	2.3946546	25	1	29 days	0.43	Williams	1998 FM ₇₉
1998 FN ₇₉	15.0	0.15	19980328	344.65478	123.94608	93.61677	3.87483	0.1255329	2.4504007	25	1	29 days	0.61	Williams	1998 FN ₇₉
1998 FV ₇₉	15.5	0.15	19980328	86.12872	38.12122	61.47973	6.03598	0.0923416	2.2355314	24	1	29 days	1.14	Williams	1998 FV ₇₉
1998 FW ₇₉	14.0	0.15	19980328	39.13085	31.14947	123.70656	4.50486	0.0671561	3.0582691	23	1	29 days	1.17	Williams	1998 FW ₇₉
1998 FX ₇₉	15.5	0.15	19980328	65.58650	18.55208	98.50914	3.51741	0.1319619	2.2847979	22	1	29 days	1.05	Williams	1998 FX ₇₉
1998 FG ₈₀	16.0	0.15	19980328	337.69573	130.03880	83.65303	3.65288	0.1380744	2.2856378	15	1	11 days	1.00	Williams	1998 FG ₈₀
1998 FV ₈₃	15.0	0.15	19980308	344.90394	57.66534	125.98552	3.78430	0.0852522	2.2085797	15	1	28 days	0.57	Marsden	1998 FV ₈₃
1998 FZ ₈₃	13.0	0.15	19980328	272.20821	257.72306	18.37263	9.42606	0.1711377	2.7839915	15	1	12 days	0.40	Williams	1998 FZ ₈₃
1998 FA ₈₄	14.0	0.15	19980308	55.30010	317.92678	143.69467	11.91998	0.0900090	3.0635056	12	1	27 days	1.03	Marsden	1998 FA ₈₄
1998 FF ₈₄	14.5	0.15	19980308	352.58125	38.25168	139.13972	9.56030	0.2075490	2.7285558	15	1	28 days	0.45	Marsden	1998 FF ₈₄
1998 FO ₈₄	15.0	0.15	19980308	0.38080	114.53961	48.32524	7.87421	0.0564859	2.2791249	15	1	23 days	0.51	Williams	1998 FO ₈₄
1998 FM ₈₅	13.5	0.15	19980308	47.11712	327.06889	146.96395	12.29799	0.0587454	3.0723610	21	1	28 days	1.34	Marsden	1998 FM ₈₅
1998 FC ₈₈	15.0	0.15	19980308	56.43002	288.47961	155.88008	11.94585	0.2507236	2.5693872	12	1	27 days	0.94	Marsden	1998 FC ₈₈
1998 FG ₈₈	13.0	0.15	19980308	145.05374	218.47613	155.60377	13.68276	0.1924792	2.5660225	15	1	28 days	0.91	Marsden	1998 FG ₈₈
1998 FU ₉₀	14.5	0.15	19980328	328.06438	196.94118	24.94620	8.15964	0.1830067	2.5799902	15	1	37 days	0.39	Williams	1998 FU ₉₀
1998 FW ₉₆	15.5	0.15	19980706	30.32463	325.58123	201.40990	11.39479	0.2464515	2.6103927	30	1	69 days	0.48	M-v 4 Williams	1998 FW ₉₆
1998 FK ₉₇	14.5	0.15	19980308	153.90520	119.94084	252.46013	4.15158	0.1898181	2.2205375	18	1	29 days	1.35	Williams	1998 FK ₉₇
1998 FN ₉₇	15.5	0.15	19980328	313.26847	317.21116	292.34346	3.88432	0.2461900	2.5218353	10	1	4 days	1.12	E Williams	1998 FN ₉₇
1998 FY ₉₇	15.0	0.15	19980328	205.39431	91.03896	249.03016	4.38033	0.1344408	2.3064850	25	1	8 days	0.92	Williams	1998 FY ₉₇
1998 FZ ₉₇	13.5	0.15	19980308	262.28734	64.71079	232.29004	6.04377	0.2219575	2.5593869	27	1	53 days	0.79	Williams	1998 FZ ₉₇
1998 FP ₉₈	15.0	0.15	19980706	20.29592	289.74820	253.80727	6.69338	0.2419084	2.7560310	26	1	62 days	0.66	M-v 4 Williams	1998 FP ₉₈
1998 FV ₉₈	13.0	0.15	19980328	65.78215	131.93902	326.18056	9.95955	0.1490951	2.9262578	19	1	19 days	0.54	Williams	1998 FV ₉₈

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1998 FW ₉₈	14.5	0.15	19980308	9.21658	280.58757	244.85563	6.07828	0.0600781	2.3887079	25	1	52 days	0.40	Williams	1998 FW ₉₈
1998 FF ₉₉	15.0	0.15	19980328	316.38514	19.18081	219.26261	11.56299	0.1381837	2.4473250	18	1	19 days	1.00	Williams	1998 FF ₉₉
1998 FG ₉₉	15.0	0.15	19980308	309.28897	342.47662	255.66972	5.88288	0.1091962	2.2940665	21	1	51 days	0.59	Williams	1998 FG ₉₉
1998 FM ₉₉	14.0	0.15	19980328	348.97131	348.43875	206.01213	12.21879	0.1224155	2.9270327	18	1	19 days	0.59	Williams	1998 FM ₉₉
1998 FO ₉₉	13.5	0.15	19980328	67.22339	133.90017	336.24320	10.37979	0.0240955	3.0619226	32	1	26 days	0.60	Williams	1998 FO ₉₉
1998 FS ₉₉	14.0	0.15	19980328	50.51046	137.92235	344.95640	13.82070	0.0979787	2.5901997	40	1	34 days	0.66	Williams	1998 FS ₉₉
1998 FW ₉₉	15.5	0.15	19980706	37.89562	278.82567	248.80520	5.00955	0.1562150	2.3998124	24	1	81 days	0.57	M-v 4 Williams	1998 FW ₉₉
1998 FZ ₉₉	14.0	0.15	19980328	300.20294	290.97193	321.40786	7.71847	0.0841209	2.3820935	20	1	19 days	0.67	Williams	1998 FZ ₉₉
1998 FU ₁₀₀	13.5	0.15	19980328	326.83148	341.19344	241.08390	9.30330	0.0695903	3.0144858	18	1	19 days	0.80	Williams	1998 FU ₁₀₀
1998 FW ₁₀₀	14.5	0.15	19980328	6.56256	251.37224	285.44126	6.04234	0.0676057	2.3603395	22	1	29 days	0.96	Williams	1998 FW ₁₀₀
1998 FB ₁₀₁	14.0	0.15	19980328	259.53241	16.65206	275.90381	5.75915	0.1041856	2.3594744	18	1	19 days	0.54	Williams	1998 FB ₁₀₁
1998 FG ₁₀₁	14.4	0.15	19980328	330.66682	33.01362	196.20731	25.87354	0.2304895	3.0998432	13	1	16 days	0.74	Nakano	1998 FG ₁₀₁
1998 FJ ₁₀₁	15.5	0.15	19980328	3.89539	222.15710	318.01704	6.84824	0.1286585	2.4584686	19	1	19 days	0.82	Williams	1998 FJ ₁₀₁
1998 FK ₁₀₁	14.5	0.15	19980328	311.38107	29.16048	215.17742	9.92469	0.1187449	2.5794208	19	1	19 days	0.63	Williams	1998 FK ₁₀₁
1998 FM ₁₀₁	15.0	0.15	19980328	332.44308	248.29260	339.22660	10.09052	0.2250497	2.6204550	20	1	19 days	0.64	Williams	1998 FM ₁₀₁
1998 FN ₁₀₁	14.5	0.15	19980328	27.89249	301.45409	207.12011	12.06602	0.1154227	2.6129792	22	1	29 days	0.69	Williams	1998 FN ₁₀₁
1998 FR ₁₀₁	14.0	0.15	19980328	289.61729	65.77089	205.52971	11.97039	0.1598705	2.7966392	19	1	19 days	0.53	Williams	1998 FR ₁₀₁
1998 FT ₁₀₁	15.0	0.15	19980328	7.44378	241.44673	293.23874	3.63730	0.0735564	2.3034545	24	1	42 days	0.78	Williams	1998 FT ₁₀₁
1998 FW ₁₀₁	15.5	0.15	19980328	307.25933	276.70200	331.38180	6.56299	0.1084806	2.2633539	17	1	19 days	0.84	Williams	1998 FW ₁₀₁
1998 FX ₁₀₁	13.5	0.15	19980308	95.26422	105.80436	329.84617	7.22727	0.0796613	2.7651744	25	1	55 days	0.41	Williams	1998 FX ₁₀₁
1998 FZ ₁₀₁	15.5	0.15	19980328	310.81061	342.71089	255.54966	3.32749	0.0475786	2.1928506	26	1	28 days	0.84	Williams	1998 FZ ₁₀₁
1998 FA ₁₀₂	15.0	0.15	19980328	318.22363	277.70840	321.92536	5.67627	0.1418490	2.3892887	25	1	26 days	0.59	Williams	1998 FA ₁₀₂
1998 FB ₁₀₂	14.5	0.15	19980328	356.75892	199.24849	350.93977	19.09696	0.1367696	3.1382286	20	1	26 days	1.35	Williams	1998 FB ₁₀₂
1998 FR ₁₀₂	15.5	0.15	19980328	5.69155	289.80145	247.57160	5.92217	0.2254485	2.3873077	17	1	19 days	0.61	Williams	1998 FR ₁₀₂
1998 FT ₁₀₂	14.5	0.15	19980706	356.06436	6.70831	211.04549	14.76676	0.0759655	2.6153014	25	1	66 days	0.58	M-v 4 Williams	1998 FT ₁₀₂
1998 FU ₁₀₂	15.0	0.15	19980328	324.73820	324.73764	263.15479	5.85218	0.0762124	2.3029726	15	1	32 days	0.55	Williams	1998 FU ₁₀₂
1998 FW ₁₀₂	14.5	0.15	19980308	341.77118	306.68728	254.55096	5.11334	0.0912735	2.2661996	32	1	47 days	0.74	Williams	1998 FW ₁₀₂
1998 FF ₁₀₃	14.5	0.15	19980328	314.16260	302.00023	314.27783	4.68206	0.2431290	2.6553235	18	1	19 days	0.42	Williams	1998 FF ₁₀₃
1998 FJ ₁₀₃	14.0	0.15	19980328	276.29021	77.12639	215.48212	7.97494	0.2033884	2.4474324	17	1	19 days	0.49	Williams	1998 FJ ₁₀₃
1998 FK ₁₀₃	14.0	0.15	19980328	152.46571	179.28636	205.93907	13.67488	0.1749267	2.6991178	18	1	19 days	1.26	Williams	1998 FK ₁₀₃
1998 FM ₁₀₃	15.5	0.15	19980328	289.80377	331.22536	296.13597	3.41411	0.1063017	2.3676929	23	1	28 days	1.23	Williams	1998 FM ₁₀₃
1998 FO ₁₀₃	14.5	0.15	19980308	264.09201	335.06562	320.65566	5.09999	0.1755763	2.3051854	24	1	54 days	0.64	Williams	1998 FO ₁₀₃
1998 FQ ₁₀₃	14.5	0.15	19980308	301.46717	328.38852	284.01605	3.93491	0.1217424	2.5850499	55	1	47 days	1.21	Williams	1998 FQ ₁₀₃
1998 FS ₁₀₃	14.5	0.15	19980328	95.13986	212.26384	233.14822	6.25252	0.0548854	2.3651604	18	1	19 days	0.53	Williams	1998 FS ₁₀₃
1998 FT ₁₀₃	14.5	0.15	19980328	298.44571	353.95265	282.83412	4.18438	0.2507399	2.6154296	21	1	19 days	0.63	Williams	1998 FT ₁₀₃
1998 FW ₁₀₃	14.5	0.15	19980328	140.36512	175.20036	224.22914	6.82445	0.1112400	2.3508216	18	1	19 days	0.71	Williams	1998 FW ₁₀₃
1998 FZ ₁₀₃	15.0	0.15	19980328	317.92297	298.98121	314.37689	5.69358	0.2474026	2.8212961	19	1	19 days	0.60	Williams	1998 FZ ₁₀₃
1998 FC ₁₀₄	15.0	0.15	19980328	280.77416	47.00516	231.73946	6.17603	0.1417882	2.3206223	18	1	19 days	0.90	Williams	1998 FC ₁₀₄
1998 FF ₁₀₄	15.0	0.15	19980328	36.21095	282.05289	216.49980	12.43505	0.1584584	2.7596534	18	1	19 days	0.69	Williams	1998 FF ₁₀₄
1998 FG ₁₀₄	15.5	0.15	19980328	305.20912	288.66210	326.89952	9.27640	0.1269942	2.2980280	14	1	32 days	0.52	Williams	1998 FG ₁₀₄
1998 FH ₁₀₄	14.5	0.15	19980328	236.35565	38.88049	280.38110	6.46612	0.0932002	2.4050773	17	1	19 days	0.82	Williams	1998 FH ₁₀₄
1998 FL ₁₀₄	13.5	0.15	19980328	310.19983	287.36607	315.41289	9.04585	0.0489873	2.9870581	22	1	24 days	0.63	Williams	1998 FL ₁₀₄
1998 FB ₁₀₅	15.0	0.15	19980328	330.45206	289.72777	307.87924	6.96075	0.2587268	3.0250422	20	1	19 days	0.87	Williams	1998 FB ₁₀₅
1998 FN ₁₀₅	14.0	0.15	19980328	148.06921	61.85330	332.78699	9.10939	0.1015621	2.9829069	20	1	24 days	0.91	Williams	1998 FN ₁₀₅
1998 FP ₁₀₅	14.5	0.15	19980328	64.70474	263.67004	215.17576	9.32196	0.0370505	2.9919448	17	1	19 days	1.26	Williams	1998 FP ₁₀₅
1998 FU ₁₀₅	16.0	0.15	19980328	10.60391	329.68639	203.29049	11.42387	0.1310865	2.6271905	19	1	19 days	1.31	Williams	1998 FU ₁₀₅
1998 FB ₁₀₆	15.5	0.15	19980328	227.02437	85.28630	248.77136	5.45291	0.1679975	2.2246377	16	1	19 days	1.23	Williams	1998 FB ₁₀₆
1998 FC ₁₀₆	15.0	0.15	19980328	288.33317	11.82129	259.97155	4.63159	0.1004400	2.5625110	18	1	19 days	0.53	Williams	1998 FC ₁₀₆
1998 FE ₁₀₆	16.0	0.15	19980328	9.35779	194.52844	344.18856	6.68387	0.0487927	2.2582937	18	1	19 days	0.69	Williams	1998 FE ₁₀₆
1998 FJ ₁₀₆	16.0	0.15	19980328	304.63799	13.96938	245.81964	4.29034	0.1479238	2.2676728	19	1	19 days	0.85	Williams	1998 FJ ₁₀₆
1998 FM ₁₀₆	14.0	0.15	19980328	185.50805	91.95968	273.66156	4.41992	0.0907423	2.7357142	18	1	19 days	0.76	Williams	1998 FM ₁₀₆
1998 FO ₁₀₆	13.5	0.15	19980328	286.25462	285.42061	346.47073	9.63047	0.0680654	2.9990842	21	1	19 days	0.53	Williams	1998 FO ₁₀₆
1998 FR ₁₀₆	15.5	0.15	19980328	52.04053	133.57339	347.63902	9.24389	0.1661279	2.3779731	13	1	4 days	0.42	Williams	1998 FR ₁₀₆

1998 FA ₁₀₇	15.5	0.15	19980328	285.67695	326.23806	322.40283	7.68214	0.2209279	2.2925730	19	1	19 days	0.74	Williams	1998 FA ₁₀₇
1998 FF ₁₀₇	14.0	0.15	19980328	277.59977	301.57297	345.24043	14.32035	0.1282876	2.6113593	20	1	19 days	0.94	Williams	1998 FF ₁₀₇
1998 FR ₁₀₈	14.5	0.15	19980328	16.66671	279.79432	252.53234	6.09771	0.0426355	2.4888807	19	1	19 days	0.52	Williams	1998 FR ₁₀₈
1998 FT ₁₀₈	14.5	0.15	19980328	334.40572	10.41789	212.39264	12.68742	0.1340953	2.6300573	18	1	19 days	0.53	Williams	1998 FT ₁₀₈
1998 FX ₁₀₈	15.0	0.15	19980328	288.42121	31.04102	239.66840	5.30288	0.0806518	2.3106606	21	1	28 days	0.53	Williams	1998 FX ₁₀₈
1998 FD ₁₀₉	13.5	0.15	19980328	188.92958	144.94696	218.16034	8.86087	0.0663732	2.9797081	19	1	19 days	0.81	Williams	1998 FD ₁₀₉
1998 FE ₁₀₉	14.5	0.15	19980328	132.62987	173.27282	234.22567	5.14606	0.1436539	2.3322202	21	1	28 days	0.75	Williams	1998 FE ₁₀₉
1998 FF ₁₀₉	15.5	0.15	19980328	299.93728	34.15657	228.57766	6.27046	0.1164926	2.3058388	19	1	19 days	0.70	Williams	1998 FF ₁₀₉
1998 FH ₁₀₉	12.5	0.15	19980328	232.65036	116.50123	210.30643	14.61491	0.1008180	3.1088843	29	1	22 days	0.54	Williams	1998 FH ₁₀₉
1998 FM ₁₀₉	14.5	0.15	19980328	356.98361	294.04301	260.51146	4.48367	0.0072629	2.7127466	22	1	29 days	0.96	Williams	1998 FM ₁₀₉
1998 FP ₁₀₉	14.5	0.15	19980328	324.57611	259.39531	332.45530	7.30925	0.0754940	2.2893062	20	1	19 days	0.60	Williams	1998 FP ₁₀₉
1998 FS ₁₀₉	14.5	0.15	19980328	332.57077	282.66503	314.15613	6.24172	0.2586860	2.8871178	20	1	19 days	0.48	Williams	1998 FS ₁₀₉
1998 FT ₁₀₉	14.5	0.15	19980328	99.91603	146.81791	287.21968	5.67816	0.1585577	2.2722566	20	1	19 days	0.38	Williams	1998 FT ₁₀₉
1998 FV ₁₀₉	15.5	0.15	19980328	297.07177	334.35565	295.15418	5.39781	0.1416993	2.2408601	20	1	19 days	0.80	Williams	1998 FV ₁₀₉
1998 FX ₁₀₉	15.0	0.15	19980328	66.86877	262.73873	206.81463	21.77411	0.1258346	2.5535507	19	1	22 days	1.35	Williams	1998 FX ₁₀₉
1998 FZ ₁₀₉	13.5	0.15	19980328	279.09241	25.29399	269.90883	7.00673	0.2021852	2.8028531	19	1	19 days	0.43	Williams	1998 FZ ₁₀₉
1998 FA ₁₁₀	15.5	0.15	19980328	32.71666	275.04873	226.13483	10.67148	0.2103499	2.5670159	22	1	29 days	0.47	Williams	1998 FA ₁₁₀
1998 FC ₁₁₀	15.5	0.15	19980328	115.52655	130.60360	294.09654	5.79811	0.1154679	2.2105324	16	1	19 days	1.18	Williams	1998 FC ₁₁₀
1998 FB ₁₁₁	13.5	0.15	19980328	317.65827	329.81892	293.89601	7.16962	0.1880106	3.1115471	15	1	30 days	0.83	Williams	1998 FB ₁₁₁
1998 FS ₁₁₁	15.0	0.15	19980328	292.03915	339.64172	307.45938	4.91080	0.1677167	2.1890240	13	1	7 days	0.59	Williams	1998 FS ₁₁₁
1998 FX ₁₁₁	12.5	0.15	19980328	58.61504	242.28576	249.40709	9.06611	0.0939412	3.0186886	13	1	7 days	0.34	Williams	1998 FX ₁₁₁
1998 FE ₁₁₂	13.5	0.15	19980328	143.65804	176.88904	230.46088	13.85766	0.0505313	2.5651634	19	1	41 days	0.63	Williams	1998 FE ₁₁₂
1998 FG ₁₁₂	14.0	0.15	19980328	343.02057	265.10085	310.08151	8.38577	0.1276320	2.7755488	12	1	30 days	0.44	Williams	1998 FG ₁₁₂
1998 FJ ₁₁₂	12.5	0.15	19980328	135.49830	161.36152	249.73335	9.05742	0.0965511	3.0151183	22	1	25 days	0.63	Williams	1998 FJ ₁₁₂
1998 FN ₁₁₂	13.0	0.15	19980308	274.61094	325.72607	324.30277	9.51466	0.0877823	2.9797435	13	1	10 days	0.60	Williams	1998 FN ₁₁₂
1998 FZ ₁₁₂	15.0	0.15	19980328	46.46410	273.61939	224.98550	12.79233	0.1541266	2.5519494	16	1	21 days	1.06	Williams	1998 FZ ₁₁₂
1998 FF ₁₁₃	13.0	0.15	19980308	70.21863	215.63958	256.61889	8.81461	0.1088323	3.0348640	13	1	10 days	0.51	Williams	1998 FF ₁₁₃
1998 FH ₁₁₃	12.0	0.15	19980328	221.98737	89.90082	252.55580	8.73100	0.1110307	3.0122599	22	1	28 days	0.46	Williams	1998 FH ₁₁₃
1998 FM ₁₁₃	14.5	0.15	19980328	81.87096	176.67911	283.96014	5.93727	0.0880341	2.3759896	19	1	19 days	1.12	Williams	1998 FM ₁₁₃
1998 FN ₁₁₃	14.0	0.15	19980328	32.38839	285.98641	230.23878	10.34525	0.0622869	3.0531091	17	1	19 days	1.41	Williams	1998 FN ₁₁₃
1998 FO ₁₁₃	13.5	0.15	19980328	105.82148	115.50282	329.02713	8.44831	0.0243752	3.0975053	17	1	19 days	0.71	Williams	1998 FO ₁₁₃
1998 FP ₁₁₃	14.5	0.15	19980328	264.12285	339.99510	324.52483	7.00186	0.1367020	2.4300168	24	1	36 days	0.82	Williams	1998 FP ₁₁₃
1998 FQ ₁₁₃	13.0	0.15	19980328	39.51465	255.57055	253.58722	7.08029	0.0725947	3.1720967	15	1	40 days	0.40	Williams	1998 FQ ₁₁₃
1998 FR ₁₁₃	15.0	0.15	19980328	298.98100	17.98978	248.60066	6.18042	0.1140773	2.3416873	17	1	19 days	0.69	Williams	1998 FR ₁₁₃
1998 FT ₁₁₃	13.5	0.15	19980308	83.73774	223.28119	221.79528	10.90019	0.1723545	2.6657072	15	1	10 days	1.18	Williams	1998 FT ₁₁₃
1998 FU ₁₁₃	15.0	0.15	19980328	358.26322	298.06079	255.63844	4.92719	0.0463788	2.3803223	27	1	22 days	0.51	Williams	1998 FU ₁₁₃
1998 FY ₁₁₃	12.5	0.15	19980328	191.39830	113.60822	251.23970	6.42339	0.0974898	3.0791041	18	1	22 days	0.93	Williams	1998 FY ₁₁₃
1998 FZ ₁₁₃	13.5	0.15	19980328	235.05565	94.65469	238.19690	6.93529	0.1656820	2.4171631	18	1	22 days	0.45	Williams	1998 FZ ₁₁₃
1998 FA ₁₁₄	14.0	0.15	19980328	338.04979	320.15550	262.59613	5.46529	0.1408367	2.5649954	16	1	32 days	1.04	Williams	1998 FA ₁₁₄
1998 FC ₁₁₄	15.0	0.15	19980328	35.93393	268.21435	236.47242	6.41058	0.1589910	2.3324036	29	1	40 days	0.86	Williams	1998 FC ₁₁₄
1998 FD ₁₁₄	14.5	0.15	19980328	131.21209	140.08358	275.74765	5.95042	0.1058375	2.2925534	20	1	28 days	0.49	Williams	1998 FD ₁₁₄
1998 FE ₁₁₄	14.5	0.15	19980328	99.69393	144.37917	297.05934	5.64274	0.1297161	2.2733903	20	1	28 days	0.66	Williams	1998 FE ₁₁₄
1998 FX ₁₁₄	14.5	0.15	19980328	312.73420	28.63525	229.47819	11.31565	0.1355671	2.5627813	13	1	7 days	0.66	Williams	1998 FX ₁₁₄
1998 FE ₁₁₅	14.0	0.15	19980328	18.59884	304.87001	226.92905	10.13864	0.2003640	2.7311399	13	1	7 days	0.73	E Williams	1998 FE ₁₁₅
1998 FM ₁₁₅	16.0	0.15	19980328	37.22837	156.85985	350.62946	6.84443	0.2021562	2.3919159	15	1	6 days	0.82	Williams	1998 FM ₁₁₅
1998 FU ₁₁₅	15.5	0.15	19980328	317.95560	299.40827	301.49111	3.80567	0.0592575	2.1993120	21	1	25 days	0.70	Williams	1998 FU ₁₁₅
1998 FW ₁₁₅	16.0	0.15	19980328	33.96558	288.80188	222.31643	6.22854	0.0899572	2.3309065	29	1	28 days	0.88	Williams	1998 FW ₁₁₅
1998 FB ₁₁₆	13.5	0.15	19980328	205.63508	126.17954	242.43456	12.92399	0.1857036	2.5966906	11	1	29 days	0.55	Williams	1998 FB ₁₁₆
1998 FD ₁₁₆	14.0	0.15	19980328	267.51716	328.18863	331.17948	5.95852	0.1288506	2.4279988	28	1	22 days	0.56	Williams	1998 FD ₁₁₆
1998 FE ₁₁₆	15.5	0.15	19980328	9.37642	211.35556	329.42088	5.17779	0.0869131	2.3666901	26	1	22 days	0.91	Williams	1998 FE ₁₁₆
1998 FG ₁₁₆	15.0	0.15	19980328	107.16587	212.60977	222.99081	6.58319	0.0761893	2.2347406	35	1	29 days	0.74	Williams	1998 FG ₁₁₆
1998 FH ₁₁₆	15.0	0.15	19980328	127.60143	116.94519	302.69283	3.55199	0.0456799	2.2977054	27	1	22 days	1.08	Williams	1998 FH ₁₁₆
1998 FJ ₁₁₆	13.0	0.15	19980328	351.24465	202.04402	0.19490	16.05518	0.0703863	3.2276210	42	1	33 days	0.63	Williams	1998 FJ ₁₁₆

1998 FL ₁₁₆	15.5	0.15	19980328	45.02409	178.00126	320.58316	3.73946	0.0855536	2.1868824	35	1	29 days	0.50	Williams	1998 FL ₁₁₆
1998 FN ₁₁₆	14.5	0.15	19980328	202.50436	123.83183	230.77532	5.02073	0.1399947	2.3860623	20	1	22 days	0.81	Williams	1998 FN ₁₁₆
1998 FP ₁₁₆	16.0	0.15	19980328	305.01040	6.07591	263.69219	3.39950	0.2049398	2.2063749	20	1	22 days	0.85	Williams	1998 FP ₁₁₆
1998 FR ₁₁₆	14.0	0.15	19980328	338.12682	293.45766	289.27924	3.95289	0.1306427	3.1864492	22	1	25 days	1.16	Williams	1998 FR ₁₁₆
1998 FU ₁₁₆	13.5	0.15	19980328	94.90693	208.40189	241.70223	8.66716	0.1332473	3.1426405	12	1	7 days	0.59	Williams	1998 FU ₁₁₆
1998 FB ₁₁₇	15.0	0.15	19980328	89.54389	163.67519	295.57012	3.40752	0.0515879	2.1671914	36	1	31 days	0.67	Williams	1998 FB ₁₁₇
1998 FC ₁₁₇	14.5	0.15	19980328	241.98822	91.69887	234.31089	5.67007	0.1323804	2.2920595	34	1	28 days	1.20	Williams	1998 FC ₁₁₇
1998 FF ₁₁₇	14.5	0.15	19980328	295.54455	61.14691	211.66992	11.71757	0.1258022	2.7364345	36	1	28 days	1.16	Williams	1998 FF ₁₁₇
1998 FG ₁₁₇	13.5	0.15	19980328	245.45045	114.28001	211.50951	12.39241	0.1878019	2.6374892	38	1	29 days	0.65	Williams	1998 FG ₁₁₇
1998 FL ₁₁₇	14.5	0.15	19980328	4.33585	334.39437	217.73218	13.34099	0.0907519	2.5496448	28	1	28 days	1.10	Williams	1998 FL ₁₁₇
1998 FM ₁₁₇	15.0	0.15	19980328	329.39024	240.55693	0.28539	12.76748	0.1710672	2.6844242	12	1	7 days	0.72	Williams	1998 FM ₁₁₇
1998 FT ₁₁₇	15.5	0.15	19980328	38.23957	210.01391	304.87946	2.87383	0.1207187	2.2558467	28	1	29 days	0.69	Williams	1998 FT ₁₁₇
1998 FW ₁₁₇	17.0	0.15	19980328	340.12705	245.63810	342.85885	4.94175	0.2323482	2.2358068	13	1	7 days	0.82	Williams	1998 FW ₁₁₇
1998 FX ₁₁₇	15.0	0.15	19980328	302.80691	354.51911	274.19796	3.77600	0.1210382	2.3915167	28	1	28 days	0.75	Williams	1998 FX ₁₁₇
1998 FZ ₁₁₇	15.5	0.15	19980328	350.11320	280.71508	291.17525	3.59769	0.1369844	2.4772795	23	1	22 days	0.90	Williams	1998 FZ ₁₁₇
1998 FA ₁₁₈	14.0	0.15	19980328	358.11978	304.60840	258.81979	5.18701	0.1191941	3.1705920	24	1	22 days	1.28	Williams	1998 FA ₁₁₈
1998 FB ₁₁₈	15.0	0.15	19980328	277.79932	305.80749	350.56336	6.19157	0.1194908	2.2841523	16	1	21 days	0.85	Williams	1998 FB ₁₁₈
1998 FC ₁₁₈	14.5	0.15	19980328	184.92210	137.46212	240.73904	6.04312	0.1661367	2.2551521	21	1	22 days	1.13	Williams	1998 FC ₁₁₈
1998 FE ₁₁₈	13.0	0.15	19980328	281.43528	86.14302	220.89061	11.34354	0.2197008	2.8241974	18	1	10 days	0.73	E Williams	1998 FE ₁₁₈
1998 FJ ₁₁₈	15.0	0.15	19980328	36.16903	275.26431	233.43049	5.68343	0.1533863	2.4405900	22	1	27 days	0.43	Williams	1998 FJ ₁₁₈
1998 FK ₁₁₈	13.0	0.15	19980328	13.44495	327.32778	217.31625	12.81790	0.0394666	3.1965805	20	1	22 days	0.98	Williams	1998 FK ₁₁₈
1998 FL ₁₁₈	14.0	0.15	19980328	324.56420	253.46305	348.31591	6.93111	0.1021801	2.7572141	22	1	28 days	0.62	Williams	1998 FL ₁₁₈
1998 FN ₁₁₈	14.5	0.15	19980328	213.47208	138.10719	206.24052	21.74664	0.0382641	2.4166603	20	1	22 days	0.69	Williams	1998 FN ₁₁₈
1998 FR ₁₁₈	15.5	0.15	19980328	20.44719	222.97073	303.09547	3.23565	0.1742110	2.3710140	20	1	22 days	0.68	Williams	1998 FR ₁₁₈
1998 FS ₁₁₈	14.0	0.15	19980308	273.49348	312.92996	0.79036	12.55524	0.3000229	2.6914628	18	1	12 days	0.89	Williams	1998 FS ₁₁₈
1998 FT ₁₁₈	15.0	0.15	19980328	42.62421	142.30151	351.27910	6.79890	0.2116053	2.5478336	29	1	33 days	0.92	Williams	1998 FT ₁₁₈
1998 FU ₁₁₈	14.5	0.15	19980328	48.24301	266.34948	229.82348	5.40374	0.1183966	2.5652943	40	1	22 days	0.79	Williams	1998 FU ₁₁₈
1998 FV ₁₁₈	15.0	0.15	19980328	70.98647	229.24542	250.21022	4.04216	0.0605770	2.4393502	22	1	28 days	0.83	Williams	1998 FV ₁₁₈
1998 FW ₁₁₈	14.5	0.15	19980328	246.21899	77.07478	248.08459	4.47751	0.1452712	2.2527070	19	1	22 days	1.44	Williams	1998 FW ₁₁₈
1998 FX ₁₁₈	13.5	0.15	19980328	105.29847	93.34209	350.56020	7.04993	0.0940417	3.1063814	18	1	22 days	1.27	Williams	1998 FX ₁₁₈
1998 FJ ₁₁₉	15.0	0.15	19980328	277.95995	38.60182	260.65103	4.85455	0.1822266	2.2942909	17	1	22 days	1.03	Williams	1998 FJ ₁₁₉
1998 FK ₁₁₉	15.0	0.15	19980328	54.89866	275.31073	213.86255	12.17799	0.1086542	2.5794241	17	1	25 days	0.79	Williams	1998 FK ₁₁₉
1998 FM ₁₁₉	16.0	0.15	19980328	329.62467	21.31751	212.92294	8.75280	0.1726832	2.4274265	20	1	28 days	1.32	Williams	1998 FM ₁₁₉
1998 FO ₁₁₉	15.0	0.15	19980706	17.84413	92.73763	74.00769	1.81178	0.1493497	3.0769899	24	1	138 days	0.76	M-v 4 Williams	1998 FO ₁₁₉
1998 FS ₁₁₉	15.5	0.15	19980328	8.10198	53.76403	105.41678	2.96285	0.1010520	2.7294813	13	1	38 days	0.84	Williams	1998 FS ₁₁₉
1998 FY ₁₁₉	13.0	0.15	19980308	129.80979	48.04958	341.14443	10.88073	0.1489188	2.9806496	20	1	19 days	0.80	Williams	1998 FY ₁₁₉
1998 FU ₁₂₀	15.5	0.15	19980328	221.90521	96.35032	235.84502	1.12799	0.1782690	2.1245688	18	1	30 days	0.94	Williams	1998 FU ₁₂₀
1998 FM ₁₂₁	15.0	0.15	19980328	221.62183	97.79469	243.88356	3.86057	0.2181884	2.3983711	21	1	30 days	1.41	Williams	1998 FM ₁₂₁
1998 FN ₁₂₁	13.5	0.15	19980328	99.41849	260.03832	173.14021	9.23988	0.1464045	2.7682525	20	1	33 days	0.61	Williams	1998 FN ₁₂₁
1998 FR ₁₂₁	15.5	0.15	19980328	84.31534	211.22826	250.35998	2.23283	0.0461259	2.3517721	26	1	33 days	0.92	Williams	1998 FR ₁₂₁
1998 FT ₁₂₁	15.0	0.15	19980328	303.43916	75.88432	185.46173	5.02746	0.1474413	2.2626883	23	1	33 days	0.77	Williams	1998 FT ₁₂₁
1998 FU ₁₂₁	14.5	0.15	19980328	63.88213	54.72617	54.76699	1.56501	0.1540215	3.2061375	16	1	33 days	0.96	Williams	1998 FU ₁₂₁
1998 FV ₁₂₁	14.5	0.15	19980328	356.65135	46.37949	147.94454	1.58534	0.0777746	3.1330264	17	1	33 days	1.16	Williams	1998 FV ₁₂₁
1998 FW ₁₂₁	14.0	0.15	19980328	215.94284	278.47371	62.79107	2.76740	0.1065274	3.0186991	21	1	42 days	1.19	Williams	1998 FW ₁₂₁
1998 FX ₁₂₁	14.5	0.15	19980328	109.78029	277.51497	142.33904	3.45851	0.2068765	2.7919917	18	1	40 days	0.82	Williams	1998 FX ₁₂₁
1998 FZ ₁₂₁	13.5	0.15	19980706	238.00244	170.75202	166.44053	10.29997	0.0927167	2.9920275	32	1	61 days	0.60	M-v 5 Williams	1998 FZ ₁₂₁
1998 FD ₁₂₂	16.5	0.15	19980328	8.27318	50.53216	128.55607	0.87051	0.1503999	2.3165484	16	1	33 days	1.18	Williams	1998 FD ₁₂₂
1998 FE ₁₂₂	15.5	0.15	19980328	300.84861	242.10165	14.32109	6.15813	0.0634435	2.4663749	16	1	33 days	1.17	Williams	1998 FE ₁₂₂
1998 FH ₁₂₂	15.0	0.15	19980328	332.21864	14.77760	209.21418	5.97283	0.0484075	2.4482893	40	1	35 days	0.95	Williams	1998 FH ₁₂₂
1998 FJ ₁₂₂	15.0	0.15	19980328	105.47383	195.19893	241.62974	2.28544	0.1077404	2.3160123	17	1	33 days	0.84	Williams	1998 FJ ₁₂₂
1998 FK ₁₂₂	16.5	0.15	19980328	341.13175	14.09296	201.13530	3.11220	0.0972137	2.2207700	33	1	33 days	1.07	Williams	1998 FK ₁₂₂
1998 FN ₁₂₂	15.5	0.15	19980328	314.00878	56.54225	194.20557	5.11026	0.1295713	2.4419154	19	1	33 days	0.74	Williams	1998 FN ₁₂₂
1998 FO ₁₂₂	13.5	0.15	19980328	32.81463	135.11596	16.05305	5.49644	0.1159965	3.1795669	18	1	33 days	1.12	Williams	1998 FO ₁₂₂

1998 FP ₁₂₂	14.5	0.15	19980328	224.33027	177.11362	156.36276	2.67912	0.0819955	2.4162797	19	1	33 days	0.85	Williams	1998 FP ₁₂₂
1998 FQ ₁₂₂	14.5	0.15	19980328	274.13305	283.46202	24.04126	10.72146	0.2667690	2.6261821	17	1	33 days	0.84	Williams	1998 FQ ₁₂₂
1998 FR ₁₂₂	16.0	0.15	19980328	20.24188	142.01659	18.43117	12.98978	0.1968794	2.5471622	20	1	33 days	0.87	Williams	1998 FR ₁₂₂
1998 FS ₁₂₂	15.5	0.15	19980328	44.97782	67.66970	67.30506	3.58671	0.1239899	2.4087313	19	1	33 days	0.93	Williams	1998 FS ₁₂₂
1998 FT ₁₂₂	13.5	0.15	19980328	136.31335	16.97439	26.78281	13.37637	0.1717534	2.5666065	19	1	33 days	0.65	Williams	1998 FT ₁₂₂
1998 FU ₁₂₂	15.5	0.15	19980328	291.89122	106.90594	179.80169	7.41342	0.2282798	2.4330969	23	1	38 days	0.71	Williams	1998 FU ₁₂₂
1998 FV ₁₂₂	15.0	0.15	19980328	333.99834	34.49326	194.37336	11.79400	0.1422212	2.6172064	21	1	33 days	0.85	Williams	1998 FV ₁₂₂
1998 FY ₁₂₂	14.5	0.15	19980328	324.73378	58.20185	186.69415	15.72510	0.1967089	2.7491919	22	1	33 days	0.75	Williams	1998 FY ₁₂₂
1998 FA ₁₂₃	14.0	0.15	19980328	315.82303	131.77679	120.08083	3.32152	0.1446465	3.1946023	21	1	33 days	1.00	Williams	1998 FA ₁₂₃
1998 FC ₁₂₃	15.5	0.15	19980328	292.32563	212.86448	60.41356	4.89193	0.1152074	2.5532823	17	1	33 days	0.78	Williams	1998 FC ₁₂₃
1998 FD ₁₂₃	15.0	0.15	19980328	316.84991	90.26716	182.78171	13.20807	0.3383284	2.7689715	18	1	33 days	0.93	Williams	1998 FD ₁₂₃
1998 FG ₁₂₃	13.0	0.15	19980328	119.96390	58.04812	5.01353	13.38805	0.1617872	2.5897212	20	1	33 days	0.54	Williams	1998 FG ₁₂₃
1998 FH ₁₂₃	15.5	0.15	19980328	344.98336	297.39599	284.42598	1.81663	0.2606351	2.5912122	22	1	33 days	0.69	Williams	1998 FH ₁₂₃
1998 FR ₁₂₃	14.0	0.15	19980216	222.06518	274.79908	48.59617	2.74589	0.0702540	2.9383953	13	1	50 days	0.81	Williams	1998 FR ₁₂₃
1998 FA ₁₂₅	16.0	0.15	19980328	318.32085	147.29503	104.35825	4.07410	0.2006372	2.3554391	17	1	29 days	1.38	Williams	1998 FA ₁₂₅
1998 FB ₁₂₅	15.5	0.15	19980328	261.28073	171.47883	127.56570	4.05467	0.0744856	2.2615408	19	1	29 days	1.17	Williams	1998 FB ₁₂₅
1998 FC ₁₂₅	15.5	0.15	19980328	325.06295	208.99096	31.26459	13.56180	0.1480845	2.6897849	16	1	29 days	1.05	Williams	1998 FC ₁₂₅
1998 FE ₁₂₅	15.0	0.15	19980328	322.66918	75.18300	169.82808	11.77748	0.1447761	2.6378407	19	1	28 days	0.70	Williams	1998 FE ₁₂₅
1998 FF ₁₂₅	14.0	0.15	19980328	39.52583	65.68736	86.02999	5.63816	0.0615511	2.3902544	19	1	28 days	0.45	Williams	1998 FF ₁₂₅
1998 FG ₁₂₅	15.0	0.15	19980328	342.14655	181.50576	35.57466	13.40070	0.0848818	2.5215580	27	1	29 days	0.94	Williams	1998 FG ₁₂₅
1998 FJ ₁₂₅	15.0	0.15	19980328	14.16733	96.53886	77.40716	4.81182	0.2239556	2.5797881	25	1	29 days	0.49	Williams	1998 FJ ₁₂₅
1998 FX ₁₂₅	14.5	0.15	19980328	29.36815	240.92432	278.67998	5.87056	0.0511852	2.2672565	19	1	19 days	0.60	Williams	1998 FX ₁₂₅
1998 FZ ₁₂₅	13.5	0.15	19980328	268.30079	15.14305	277.63612	6.72063	0.0658842	3.2445979	17	1	19 days	1.17	Williams	1998 FZ ₁₂₅
1998 FA ₁₂₆	15.0	0.15	19980328	350.41934	301.29655	272.93504	6.92429	0.1103782	2.1970776	11	1	29 days	1.82	Williams	1998 FA ₁₂₆
1998 FG ₁₂₆	14.5	0.15	19980308	5.24460	182.87440	343.88032	1.80497	0.0880685	3.0074739	10	1	2 days	0.70	E Williams	1998 FG ₁₂₆
1998 FK ₁₂₆	14.5	0.15	19980328	144.82498	176.75117	231.64458	2.86865	0.1427709	2.1830470	37	1	30 days	0.64	Williams	1998 FK ₁₂₆
1998 FL ₁₂₆	14.0	0.15	19980308	299.78535	67.53711	189.60397	18.71752	0.1644822	3.1203998	15	1	10 days	1.18	Williams	1998 FL ₁₂₆
1998 FN ₁₂₆	15.0	0.15	19980328	278.55943	0.68207	292.77576	2.72444	0.1587072	2.1558166	47	1	33 days	0.56	Williams	1998 FN ₁₂₆
1998 FP ₁₂₆	14.5	0.15	19980328	336.45190	54.37678	160.98617	7.84053	0.1394320	3.1693262	15	1	22 days	0.31	Marsden	1998 FP ₁₂₆
1998 GH	16.0	0.15	19980328	77.16612	56.37341	35.47121	24.68295	0.1486441	1.9399678	14	1	22 days	0.45	Williams	1998 GH
1998 GM	15.5	0.15	19980328	29.52087	131.95811	353.43837	4.84444	0.1871221	2.5304174	20	1	49 days	0.52	Marsden	1998 GM
1998 GY	17.0	0.15	19980328	15.98244	206.56973	327.08168	6.27747	0.1924937	2.2803358	11	1	14 days	0.30	Williams	1998 GY
1998 GA ₁	15.5	0.15	19980328	11.93038	106.88920	68.65629	2.69358	0.0844602	2.5184638	32	1	38 days	0.92	Williams	1998 GA ₁
1998 GC ₁	21.0	0.15	19980328	26.88114	117.08385	19.16754	18.76546	0.2936655	1.4431805	71	1	17 days	0.90	Williams	1998 GC ₁
1998 GE ₁	15.0	0.15	19980328	310.95419	137.05609	93.75357	7.10518	0.0887338	2.2979255	21	1	13 days	0.39	Williams	1998 GE ₁
1998 GG ₁	15.5	0.15	19980328	321.20018	41.01758	216.20932	7.82278	0.1381463	2.7635737	23	1	21 days	0.69	Williams	1998 GG ₁
1998 GH ₁	15.0	0.15	19980417	315.18660	214.53592	41.73294	8.36902	0.1774077	2.7905085	25	1	24 days	0.39	Williams	1998 GH ₁
1998 GJ ₁	15.0	0.15	19980706	216.95779	229.89793	131.81094	4.90859	0.0769033	2.3614418	44	1	145 days	0.54	M-v 4 Williams	1998 GJ ₁
1998 GL ₁	14.0	0.15	19980328	72.18586	102.06995	26.58797	16.10230	0.0619131	2.5613939	13	1	11 days	0.26	Williams	1998 GL ₁
1998 GO ₁	15.0	0.15	19980417	1.48644	72.77625	146.71543	8.77019	0.1420406	2.2981123	21	1	24 days	0.14	Marsden	1998 GO ₁
1998 GP ₅	13.5	0.15	19980328	63.40630	18.30422	95.81759	16.42981	0.0743619	2.6296940	16	1	21 days	0.26	Williams	1998 GP ₅
1998 GS ₆	15.0	0.15	19980328	0.06861	102.19545	84.42236	13.17904	0.2114248	2.5642064	14	1	27 days	0.37	Williams	1998 GS ₆
1998 GD ₇	14.0	0.15	19980328	336.83168	127.32421	92.83060	15.33898	0.1386898	3.0467043	10	1	23 days	0.56	Williams	1998 GD ₇
1998 GH ₉	14.5	0.15	19980328	314.03201	150.25538	101.15760	14.04420	0.0591133	2.6606149	14	1	25 days	0.77	Williams	1998 GH ₉
1998 GK ₁₀	14.0	0.15	19980328	173.69979	174.79476	227.22619	12.25579	0.0245612	3.0678313	5	1	2 days	0.42	E Williams	1998 GK ₁₀
1998 GL ₁₀	18.0	0.15	19980417	13.59922	286.96317	193.49025	8.59873	0.6565038	3.0766239	19	1	6 days	1.16	Williams	1998 GL ₁₀
1998 GM ₁₀	18.5	0.15	19980417	353.02662	17.99329	191.18995	34.75556	0.4125187	2.2242114	19	1	9 days	0.92	Marsden	1998 GM ₁₀
1998 GN ₁₀	15.0	0.15	19980328	312.61976	612.71095	206.55636	8.28291	0.2397256	2.5376204	23	1	19 days	0.61	Williams	1998 GN ₁₀
1998 GO ₁₀	14.0	0.15	19980328	295.49509	317.99509	325.99442	1.44640	0.1884772	2.5755692	23	1	19 days	0.50	Williams	1998 GO ₁₀
1998 HA	15.0	0.15	19980328	357.02720	160.46853	47.81844	15.05761	0.0929334	2.5716514	25	1	38 days	0.63	Williams	1998 HA
1998 HK	16.5	0.15	19980417	42.82283	299.64036	206.04271	22.36542	0.1162001	1.9693691	14	1	2 days	0.78	Williams	1998 HK
1998 HL	15.0	0.15	19980417	62.28000	301.70506	205.36102	1.34751	0.1415681	3.0894044	6	1	2 days	0.27	E Marsden	1998 HL
1998 HN	18.5	0.15	19980417	354.98769	32.89486	180.36417	6.54340	0.1833966	2.2479584	12	1	6 days	0.13	Williams	1998 HN

1998 HP	18.5	0.15	19980417	339.96851	114.31454	120.79326	3.11092	0.1821981	2.2916054	12	1	9 days	0.20	Williams	1998 HP
1998 HR	15.5	0.15	19980328	53.60576	61.66228	71.57128	5.29389	0.1299597	2.3513230	23	1	32 days	0.80	Williams	1998 HR
1998 HT	15.5	0.15	19980417	270.43987	178.73067	139.98668	4.72239	0.2037316	2.6617242	9	1	9 days	0.12	Williams	1998 HT
1998 HU	16.0	0.15	19980417	11.58242	5.98338	182.46001	9.11061	0.2142189	2.7413357	12	1	10 days	0.11	Williams	1998 HU
1998 HW	13.5	0.15	19980417	64.82979	297.70206	188.34582	13.74207	0.1483564	2.7319982	9	1	10 days	0.11	Williams	1998 HW
1998 HX	14.0	0.15	19980328	265.70485	194.12594	113.37098	4.33229	0.1003816	2.3918775	17	1	33 days	0.53	Williams	1998 HX
1998 HY	17.0	0.15	19980417	345.92936	33.31565	190.77916	14.52328	0.0720832	2.5820966	9	1	10 days	0.55	Williams	1998 HY
1998 HH ₁	23.0	0.15	19980417	0.10987	359.34174	203.77398	16.10400	0.5160102	2.1680665	36	1	7 days	0.89	Marsden	1998 HH ₁
1998 HJ ₁	14.5	0.15	19980417	253.78218	123.15000	224.13010	15.00842	0.1514861	2.9752296	7	1	2 days	0.36	E Marsden	1998 HJ ₁
1998 HK ₁	19.5	0.15	19980328	341.10711	24.14567	213.86148	7.94047	0.4264248	2.1577178	80	1	29 days	0.85	Williams	1998 HK ₁
1998 HL ₁	18.5	0.15	19980417	210.26099	148.41935	213.65540	20.01277	0.1869608	1.2457910	44	1	13 days	0.80	Williams	1998 HL ₁
1998 HM ₁	24.5	0.15	19980417	327.47554	69.46080	202.44939	3.28087	0.3646563	1.4172902	44	1	7 days	1.44	Williams	1998 HM ₁
1998 HN ₁	16.0	0.15	19980417	47.03153	301.57661	208.38709	21.42484	0.0623301	1.9598041	18	1	2 days	0.64	Williams	1998 HN ₁
1998 HO ₁	15.5	0.15	19980417	347.90781	90.74310	138.52085	2.32049	0.0748483	2.9966652	23	1	11 days	0.67	Williams	1998 HO ₁
1998 HP ₁	17.0	0.15	19980417	335.73415	189.68004	55.02888	5.27467	0.1249668	2.3419830	20	1	11 days	0.76	Williams	1998 HP ₁
1998 HQ ₁	14.5	0.15	19980417	268.14799	231.60202	58.32278	7.33379	0.0665284	2.2854884	11	1	6 days	0.62	Williams	1998 HQ ₁
1998 HU ₁	16.0	0.15	19980417	197.33567	298.77143	63.46226	3.88477	0.1795482	2.4087663	12	1	12 days	0.43	Williams	1998 HU ₁
1998 HW ₁	17.5	0.15	19980417	332.51782	99.23303	140.18931	3.27633	0.1942446	2.3463421	9	1	11 days	1.38	Williams	1998 HW ₁
1998 HX ₁	18.0	0.15	19980417	107.11265	278.14291	172.82457	6.77270	0.0659672	2.3197241	9	1	8 days	0.36	Williams	1998 HX ₁
1998 HY ₁	17.5	0.15	19980417	314.84129	34.55503	244.46667	3.60739	0.2582270	2.4681537	9	1	6 days	0.24	Williams	1998 HY ₁
1998 HB ₂	18.5	0.15	19980417	248.39602	192.39385	144.51377	4.23745	0.2134212	2.1496534	12	1	8 days	0.25	Williams	1998 HB ₂
1998 HC ₂	16.5	0.15	19980417	26.18958	284.77002	208.17436	9.39583	0.3100277	2.8068504	10	1	6 days	0.52	Marsden	1998 HC ₂
1998 HD ₂	13.0	0.15	19980328	15.23789	335.21890	212.46437	16.43651	0.0716742	3.1830259	27	1	25 days	0.82	Williams	1998 HD ₂
1998 HE ₂	13.5	0.15	19980328	96.17815	47.11869	62.71786	10.48481	0.0553151	3.0630299	24	1	38 days	0.95	Williams	1998 HE ₂
1998 HJ ₂	16.0	0.15	19980417	277.61921	183.77885	122.24465	3.51442	0.1626124	2.2166979	22	1	8 days	0.85	Williams	1998 HJ ₂
1998 HK ₂	18.5	0.15	19980417	331.71202	100.24099	141.24909	3.73706	0.1161673	2.2368030	9	1	3 days	0.17	Williams	1998 HK ₂
1998 HP ₂	15.0	0.15	19980417	321.09598	198.89923	54.59793	6.02191	0.2033843	2.9421498	16	1	2 days	0.64	Williams	1998 HP ₂
1998 HQ ₂	15.5	0.15	19980417	285.80367	239.55114	40.20591	10.51967	0.0872222	3.1680758	9	1	9 days	0.20	Williams	1998 HQ ₂
1998 HR ₂	15.5	0.15	19980417	222.82919	121.03343	237.42698	5.03460	0.2017766	2.3406926	13	1	5 days	0.26	Marsden	1998 HR ₂
1998 HS ₂	16.5	0.15	19980417	61.87547	338.61136	159.98438	4.00011	0.1946348	2.5500657	9	1	9 days	0.20	Williams	1998 HS ₂
1998 HT ₂	17.5	0.15	19980417	324.65444	122.27989	146.52581	3.93083	0.1350262	2.5589245	8	1	9 days	0.25	Williams	1998 HT ₂
1998 HU ₂	16.5	0.15	19980417	253.04898	246.62119	109.84641	4.98353	0.2441179	2.6039394	9	1	8 days	0.27	Williams	1998 HU ₂
1998 HV ₂	16.5	0.15	19980417	18.27144	140.22140	27.73140	34.59137	0.2936854	2.6051732	14	1	2 days	0.78	Williams	1998 HV ₂
1998 HX ₂	15.5	0.15	19980417	112.13900	243.67948	201.99192	21.02072	0.1443458	1.9389422	25	1	3 days	0.45	Williams	1998 HX ₂
1998 HA ₃	16.5	0.15	19980417	279.02046	268.51662	37.33117	22.43676	0.0804004	1.9518335	20	1	10 days	0.68	Williams	1998 HA ₃
1998 HB ₃	16.5	0.15	19980417	38.57633	306.62513	221.74356	23.13826	0.0858002	1.9097334	14	1	10 days	0.56	Williams	1998 HB ₃
1998 HD ₃	14.0	0.15	19980417	36.88242	134.22710	38.75649	6.01483	0.0892414	3.1871277	28	1	10 days	0.61	Marsden	1998 HD ₃
1998 HE ₃	22.0	0.15	19980417	241.07871	308.97887	53.93665	3.40087	0.4409799	0.8783755	79	1	13 days	0.77	Williams	1998 HE ₃
1998 HF ₃	15.0	0.15	19980417	294.22547	112.15002	194.03911	12.96153	0.1585413	3.0484722	15	1	12 days	0.32	Marsden	1998 HF ₃
1998 HG ₃	16.0	0.15	19980417	273.32852	164.30407	168.14907	6.71498	0.2280474	2.2005837	14	1	12 days	0.27	Marsden	1998 HG ₃
1998 HH ₃	16.0	0.15	19980417	55.77905	80.79482	73.06302	0.76602	0.0518829	2.1967179	23	1	12 days	0.59	Marsden	1998 HH ₃
1998 HJ ₃	18.5	0.15	19980417	331.51273	92.76619	224.90656	6.53901	0.7438469	1.9858912	54	1	13 days	0.89	Williams	1998 HJ ₃
1998 HK ₃	17.5	0.15	19980417	296.99513	267.51961	27.25740	24.78372	0.2997974	1.8296329	50	1	12 days	0.91	Williams	1998 HK ₃
1998 HL ₃	20.0	0.15	19980417	250.67206	187.74161	164.19309	2.69383	0.3698472	1.1298701	41	1	7 days	1.01	Williams	1998 HL ₃
1998 HM ₃	18.4	0.15	19980417	228.17472	136.63814	210.87574	39.37532	0.0619573	1.2473922	74	1	12 days	0.58	Nakano	1998 HM ₃
1998 HN ₃	18.5	0.15	19980417	333.58663	250.09945	49.76583	9.21281	0.6135457	3.1376998	21	1	13 days	0.40	Williams	1998 HN ₃
1998 HP ₃	15.5	0.15	19980417	344.26286	77.33432	154.99034	3.85934	0.2531934	2.5429735	19	1	6 days	0.39	Williams	1998 HP ₃
1998 HR ₃	16.5	0.15	19980417	298.11481	94.86203	191.53877	15.67038	0.1665772	2.7824299	9	1	8 days	0.24	Williams	1998 HR ₃
1998 HS ₃	15.5	0.15	19980417	221.23255	304.05633	49.33652	10.95540	0.1406819	2.4262562	24	1	13 days	1.12	Williams	1998 HS ₃
1998 HT ₃	16.5	0.15	19980417	258.68346	220.85332	102.28466	4.21902	0.1493417	2.2898930	9	1	8 days	0.32	Williams	1998 HT ₃
1998 HA ₄	15.0	0.15	19980328	19.39690	92.34811	80.58501	5.17660	0.1651328	2.5448395	21	1	29 days	0.47	Williams	1998 HA ₄
1998 HC ₄	17.5	0.15	19980417	202.98710	203.48773	165.65674	6.92568	0.1229993	2.2841534	9	1	8 days	0.33	Williams	1998 HC ₄
1998 HE ₄	17.0	0.15	19980417	237.98246	183.76410	156.04171	6.55716	0.1084134	2.6559968	9	1	8 days	0.27	Williams	1998 HE ₄

1998 HF ₄	15.5	0.15	19980417	226.33909	275.85385	75.82823	6.94274	0.1418559	2.4126669	18	1	7 days	0.76	Williams	1998 HF ₄
1998 HL ₄	14.5	0.15	19980417	312.88489	135.07440	108.83751	24.39738	0.2326062	2.3363960	15	1	6 days	0.34	Williams	1998 HL ₄
1998 HN ₄	16.0	0.15	19980417	279.62474	266.27216	53.30431	8.26997	0.2991244	2.1831347	34	1	11 days	0.93	Williams	1998 HN ₄
1998 HR ₄	16.5	0.15	19980328	341.97226	193.33421	38.08120	1.78432	0.1333158	2.4175455	28	1	31 days	0.71	Marsden	1998 HR ₄
1998 HS ₄	14.0	0.15	19980417	265.33459	114.61038	214.55634	9.66659	0.1582507	3.1160477	22	1	10 days	1.08	E Williams	1998 HS ₄
1998 HT ₄	15.0	0.15	19980417	260.15203	274.03558	46.27486	7.08873	0.0751698	2.3065942	20	1	3 days	0.53	E Williams	1998 HT ₄
1998 HV ₄	16.0	0.15	19980417	14.02708	162.22333	26.18200	0.96801	0.2436976	2.6446036	19	1	3 days	0.63	E Williams	1998 HV ₄
1998 HE ₅	17.5	0.15	19980417	344.24661	315.49907	262.36034	2.59727	0.1440238	2.3657735	12	1	7 days	0.49	Williams	1998 HE ₅
1998 HF ₅	16.5	0.15	19980417	32.23550	285.70603	227.49291	4.63721	0.1372388	3.1322865	12	1	7 days	0.44	Williams	1998 HF ₅
1998 HG ₅	17.5	0.15	19980417	41.01878	30.00121	125.43701	3.79385	0.1051224	2.4259322	9	1	3 days	0.23	Williams	1998 HG ₅
1998 HH ₅	17.5	0.15	19980417	36.18286	35.33703	105.81634	3.34331	0.3029242	2.4702365	10	1	2 days	0.17	Marsden	1998 HH ₅
1998 HL ₅	15.5	0.15	19980417	85.97044	327.37379	132.40604	4.35978	0.1725029	2.5464025	9	1	3 days	0.22	Williams	1998 HL ₅
1998 HN ₅	15.7	0.15	19980417	62.97098	86.26889	43.96170	13.87673	0.1097871	2.5451437	18	1	34 days	0.85	Nakano	1998 HN ₅
1998 HP ₅	15.5	0.15	19980417	82.34693	1.80962	114.40952	2.76071	0.0589839	2.3824030	15	1	3 days	0.61	E Williams	1998 HP ₅
1998 HT ₅	15.5	0.15	19980417	320.95611	143.23306	122.44202	2.82984	0.2219057	2.4219003	19	1	10 days	0.65	Williams	1998 HT ₅
1998 HU ₅	15.0	0.15	19980417	179.59880	320.42889	67.07540	5.97566	0.1763769	2.1906272	16	1	3 days	0.67	E Williams	1998 HU ₅
1998 HV ₅	17.5	0.15	19980417	320.66573	155.55437	105.12778	3.62157	0.1644876	2.6219117	9	1	9 days	0.21	Williams	1998 HV ₅
1998 HX ₅	14.5	0.15	19980417	245.99555	197.59190	130.09251	4.45294	0.0566980	3.0707297	18	1	10 days	0.57	Williams	1998 HX ₅
1998 HY ₅	17.0	0.15	19980417	193.98928	208.28327	167.89106	5.59988	0.0844003	2.1784778	9	1	9 days	0.20	Williams	1998 HY ₅
1998 HZ ₅	15.0	0.15	19980417	38.11452	358.99392	159.89989	5.54605	0.1372570	3.0928550	19	1	10 days	0.73	Williams	1998 HZ ₅
1998 HA ₆	16.0	0.15	19980328	348.69931	157.82957	57.02787	7.38054	0.1225518	2.2407635	21	1	31 days	0.45	Williams	1998 HA ₆
1998 HB ₆	15.5	0.15	19980417	302.35092	183.16094	94.22323	4.59490	0.1104575	2.6542680	19	1	10 days	0.88	Williams	1998 HB ₆
1998 HC ₆	16.0	0.15	19980417	77.61891	311.33165	156.73703	3.26638	0.1748402	2.2437283	16	1	3 days	0.87	E Williams	1998 HC ₆
1998 HH ₆	16.5	0.15	19980417	345.18867	132.35766	96.14615	2.68355	0.1827656	2.2279728	16	1	3 days	0.94	E Williams	1998 HH ₆
1998 HJ ₆	17.0	0.15	19980417	353.55087	36.14405	179.14783	5.69895	0.1144462	2.3154484	17	1	10 days	0.78	Williams	1998 HJ ₆
1998 HL ₆	14.5	0.15	19980417	268.31740	163.27673	146.97901	4.80648	0.0867987	2.8330081	16	1	3 days	0.64	E Williams	1998 HL ₆
1998 HM ₆	16.5	0.15	19980417	297.77331	122.19840	177.54385	6.52326	0.2527270	2.2695787	12	1	10 days	0.17	Williams	1998 HM ₆
1998 HS ₆	15.0	0.15	19980417	223.05624	280.14769	86.24240	6.87654	0.0140707	2.7165667	9	1	3 days	0.19	E Williams	1998 HS ₆
1998 HV ₆	14.5	0.15	19980417	347.34810	8.85858	221.59706	6.28693	0.1364811	2.6214975	21	1	10 days	0.85	Williams	1998 HV ₆
1998 HY ₆	15.1	0.15	19980417	7.71007	133.29393	52.95413	5.80836	0.1191961	2.3757831	21	1	9 days	0.56	Nakano	1998 HY ₆
1998 HZ ₆	17.0	0.15	19980417	67.86437	87.27132	39.21099	20.62934	0.1066192	1.8794680	12	1	5 days	0.68	Williams	1998 HZ ₆
1998 HA ₇	16.0	0.15	19980417	11.31167	2.55681	184.19269	28.40128	0.2516434	2.5562771	18	1	7 days	0.84	Williams	1998 HA ₇
1998 HC ₇	17.5	0.15	19980417	34.89147	125.34986	41.00186	22.13281	0.0775864	1.8789201	12	1	4 days	0.84	Williams	1998 HC ₇
1998 HJ ₇	15.5	0.15	19980417	260.01807	138.18101	183.20395	20.42385	0.0996242	1.8586497	12	1	2 days	0.33	Williams	1998 HJ ₇
1998 HK ₇	14.5	0.15	19980417	50.79125	74.37868	52.67667	21.63252	0.2873375	2.3077076	13	1	3 days	0.36	Williams	1998 HK ₇
1998 HO ₇	17.5	0.15	19980417	315.12217	213.57861	48.52011	24.77410	0.0416141	1.8395592	20	1	7 days	0.62	Williams	1998 HO ₇
1998 HT ₇	15.5	0.15	19980417	51.77879	307.24200	194.87711	22.90515	0.2649883	2.3974979	10	1	2 days	0.46	Williams	1998 HT ₇
1998 HV ₇	14.0	0.15	19980417	318.82292	11.55430	245.16193	0.78808	0.1196854	3.0124333	21	1	4 days	0.71	E Williams	1998 HV ₇
1998 HX ₇	13.0	0.15	19980417	46.44716	27.68715	100.34741	25.14834	0.0337744	3.0576851	15	1	5 days	0.46	E Williams	1998 HX ₇
1998 HY ₇	14.5	0.15	19980417	335.31298	145.90335	91.11314	17.03374	0.2689027	2.8052415	9	1	5 days	0.15	Williams	1998 HY ₇
1998 HZ ₇	17.0	0.15	19980417	358.05260	358.04024	214.59341	23.21025	0.4383186	3.2503110	46	1	11 days	0.72	Marsden	1998 HZ ₇
1998 HD ₈	15.5	0.15	19980417	19.67291	32.68588	161.85899	4.24091	0.0686401	2.1969844	11	1	10 days	0.49	Williams	1998 HD ₈
1998 HE ₈	14.0	0.15	19980417	329.91417	36.21378	211.14471	7.09890	0.0613737	2.4526122	11	1	10 days	0.62	Williams	1998 HE ₈
1998 HF ₈	18.5	0.15	19980417	294.92328	78.77995	232.43816	5.12159	0.3283236	2.2219944	12	1	6 days	0.20	Williams	1998 HF ₈
1998 HG ₈	18.0	0.15	19980417	284.17252	152.03264	153.81254	5.02122	0.2789962	2.2542318	12	1	11 days	0.30	Williams	1998 HG ₈
1998 HH ₈	16.5	0.15	19980417	350.40022	169.85849	55.00276	5.95136	0.0651223	2.3331238	12	1	6 days	0.81	E Williams	1998 HH ₈
1998 HT ₈	14.5	0.15	19980417	186.59530	320.79436	60.61589	7.68740	0.1165699	2.2689957	9	1	14 days	0.22	Williams	1998 HT ₈
1998 HY ₈	15.0	0.15	19980417	289.26513	189.76651	104.85724	4.58473	0.1440056	2.5639976	9	1	10 days	0.19	Williams	1998 HY ₈
1998 HZ ₈	16.5	0.15	19980417	155.45886	337.88820	66.88896	7.51778	0.1830246	2.3097238	18	1	15 days	0.31	Williams	1998 HZ ₈
1998 HD ₁₀	17.0	0.15	19980417	355.76578	167.02662	43.27683	14.49521	0.1392296	2.7184343	9	1	10 days	0.59	Williams	1998 HD ₁₀
1998 HG ₁₀	17.0	0.15	19980417	278.40243	224.11079	69.06856	2.28983	0.1394106	2.3347802	9	1	10 days	0.25	Williams	1998 HG ₁₀
1998 HM ₁₀	15.5	0.15	19980417	330.21917	179.96430	45.50744	4.77660	0.0193196	2.9783496	15	1	16 days	0.44	Marsden	1998 HM ₁₀
1998 HP ₁₀	17.0	0.15	19980417	49.24726	97.97564	37.79644	7.32406	0.1189600	2.5937258	9	1	14 days	0.13	Williams	1998 HP ₁₀

1998 HR ₁₀	17.0	0.15	19980417	334.17219	165.52924	69.89488	2.69043	0.1763168	2.2459337	17	1	14 days	0.80	Williams	1998 HR ₁₀
1998 HS ₁₀	16.5	0.15	19980328	302.06055	216.60816	52.88732	4.04939	0.1867089	2.2652731	27	1	38 days	0.87	Williams	1998 HS ₁₀
1998 HZ ₁₀	17.0	0.15	19980417	236.12226	276.11019	66.63533	6.83376	0.1422142	2.4212248	11	1	15 days	0.30	Williams	1998 HZ ₁₀
1998 HA ₁₁	18.0	0.15	19980417	356.30746	150.56302	60.58162	7.16352	0.0708223	2.3750444	9	1	15 days	0.21	Williams	1998 HA ₁₁
1998 HC ₁₁	15.5	0.15	19980417	344.02821	150.96318	76.66461	6.44808	0.1092221	3.2126318	9	1	14 days	0.15	Williams	1998 HC ₁₁
1998 HE ₁₁	14.0	0.15	19980417	222.83009	311.46359	44.62704	18.57438	0.1731127	3.1834004	9	1	14 days	0.22	Williams	1998 HE ₁₁
1998 HG ₁₁	16.0	0.15	19980417	322.72777	217.28753	25.75890	18.02644	0.1213547	2.6638653	14	1	6 days	1.01	Williams	1998 HG ₁₁
1998 HS ₁₂	17.0	0.15	19980417	132.69005	309.27779	118.99480	4.15101	0.0866753	2.2720418	12	1	8 days	0.98	Williams	1998 HS ₁₂
1998 HT ₁₂	14.5	0.15	19980417	75.09920	28.98662	71.07410	25.05799	0.2310156	2.3932534	14	1	6 days	0.56	Williams	1998 HT ₁₂
1998 HU ₁₂	15.0	0.15	19980417	340.22579	167.91563	48.91208	24.05686	0.1497920	2.9862030	9	1	6 days	0.15	Williams	1998 HU ₁₂
1998 HS ₁₃	15.0	0.15	19980328	303.97634	320.81211	298.49287	3.86080	0.1085099	2.3210419	23	1	21 days	0.56	Williams	1998 HS ₁₃
1998 HY ₁₃	16.0	0.15	19980417	264.96835	228.61193	91.20574	4.57207	0.1543844	2.1940637	24	1	8 days	1.03	Williams	1998 HY ₁₃
1998 HD ₁₄	21.0	0.15	19980417	87.45531	260.48304	184.12773	7.79250	0.3127323	0.9643309	48	1	7 days	0.59	Williams	1998 HD ₁₄
1998 HE ₁₄	16.5	0.15	19980417	55.91739	321.32085	179.71580	9.93329	0.1085034	2.7672227	9	1	10 days	0.16	Williams	1998 HE ₁₄
1998 HK ₁₄	15.0	0.15	19980417	323.46880	170.10641	67.06790	27.79435	0.1027660	2.7075106	13	1	6 days	0.77	Williams	1998 HK ₁₄
1998 HL ₁₄	13.0	0.15	19980417	51.12239	40.17503	50.93306	22.86690	0.1093295	3.1594420	18	1	10 days	0.92	Williams	1998 HL ₁₄
1998 HT ₁₄	16.0	0.15	19980417	175.16494	232.72706	145.74649	3.35107	0.2111876	2.2962834	9	1	11 days	0.19	Williams	1998 HT ₁₄
1998 HA ₁₅	16.0	0.15	19980417	68.98269	14.72555	95.57472	2.47441	0.1543786	2.3139773	19	1	10 days	0.87	Williams	1998 HA ₁₅
1998 HO ₁₅	15.0	0.15	19980417	296.73792	136.75175	167.18091	16.52042	0.0624786	3.1844631	9	1	8 days	0.10	Williams	1998 HO ₁₅
1998 HS ₁₆	18.5	0.15	19980417	354.89901	79.75017	159.51667	12.51236	0.3666627	3.2025681	8	1	4 days	0.23	Williams	1998 HS ₁₆
1998 HT ₁₆	16.0	0.15	19980417	121.87721	278.42506	151.68105	5.36002	0.1892918	2.4294370	12	1	7 days	0.21	Williams	1998 HT ₁₆
1998 HU ₁₆	17.5	0.15	19980417	322.52459	200.83708	65.58773	7.84478	0.2402018	3.0090054	12	1	6 days	0.62	Williams	1998 HU ₁₆
1998 HZ ₁₆	15.0	0.15	19980417	50.87799	185.71413	305.40688	5.11575	0.1117623	2.5345249	15	1	14 days	0.40	Williams	1998 HZ ₁₆
1998 HV ₁₇	15.5	0.15	19980417	302.67875	294.51794	339.05777	4.87727	0.1612574	2.4615719	16	1	4 days	0.93	E Williams	1998 HV ₁₇
1998 HW ₁₇	14.5	0.15	19980328	179.80582	63.79309	310.37006	3.61120	0.1625024	2.2167550	26	1	29 days	0.78	Williams	1998 HW ₁₇
1998 HB ₁₈	15.5	0.15	19980417	321.98946	288.84072	325.45533	3.50644	0.1860173	2.3073900	19	1	4 days	0.88	Williams	1998 HB ₁₈
1998 HC ₁₈	14.0	0.15	19980417	311.39052	11.47713	265.36800	3.28525	0.2785109	3.0266328	18	1	4 days	1.12	E Williams	1998 HC ₁₈
1998 HD ₁₈	15.5	0.15	19980417	264.51865	88.37356	224.92296	6.80449	0.1788462	2.3481074	17	1	4 days	1.43	Williams	1998 HD ₁₈
1998 HF ₁₈	15.0	0.15	19980417	73.60076	245.12696	225.63113	5.86530	0.1244636	2.5942493	17	1	4 days	1.26	Williams	1998 HF ₁₈
1998 HN ₁₈	16.5	0.15	19980417	321.91196	287.49303	335.14353	3.24210	0.2620766	2.3464549	16	1	4 days	1.21	Williams	1998 HN ₁₈
1998 HO ₁₈	14.5	0.15	19980417	34.16244	285.99482	226.53288	5.07997	0.1693463	2.7174099	24	1	28 days	0.56	Williams	1998 HO ₁₈
1998 HP ₁₈	13.5	0.15	19980417	151.76660	31.64540	9.49136	13.12402	0.0900132	2.9915932	17	1	4 days	1.06	E Williams	1998 HP ₁₈
1998 HX ₁₈	15.5	0.15	19980417	308.46458	248.55107	11.94287	7.10681	0.0934991	2.2476109	20	1	6 days	0.53	Williams	1998 HX ₁₈
1998 HY ₁₈	14.5	0.15	19980706	83.19147	107.26998	3.92297	6.10637	0.1929862	2.6405864	43	1	145 days	0.61	M-v 5 Williams	1998 HY ₁₈
1998 HZ ₁₈	14.0	0.15	19980417	226.61519	60.31982	288.98996	1.38129	0.2884146	2.4527559	17	1	4 days	1.31	E Williams	1998 HZ ₁₈
1998 HA ₁₉	16.0	0.15	19980417	344.72083	349.09849	230.69676	2.52419	0.1406016	2.4285206	18	1	4 days	1.45	E Williams	1998 HA ₁₉
1998 HB ₁₉	15.0	0.15	19980417	292.89739	75.22538	214.94634	4.67975	0.2151694	2.5123278	18	1	4 days	1.11	E Williams	1998 HB ₁₉
1998 HC ₁₉	14.5	0.15	19980417	133.06715	104.93937	301.12771	2.41794	0.2301812	2.7267805	14	1	10 days	0.70	Williams	1998 HC ₁₉
1998 HK ₁₉	14.0	0.15	19980417	129.13666	198.24878	216.60144	9.16877	0.1966406	2.5691954	18	1	4 days	1.00	Williams	1998 HK ₁₉
1998 HL ₁₉	15.0	0.15	19980328	22.16116	325.52659	201.99345	12.19983	0.0753304	2.5762451	20	1	18 days	1.23	Williams	1998 HL ₁₉
1998 HM ₁₉	14.0	0.15	19980417	255.07735	126.01110	199.95960	2.61297	0.2288793	2.4666202	17	1	4 days	1.22	E Williams	1998 HM ₁₉
1998 HQ ₁₉	14.5	0.15	19980308	236.08832	113.82684	210.34556	7.42355	0.1749699	2.2703518	28	1	54 days	0.80	Williams	1998 HQ ₁₉
1998 HU ₁₉	15.5	0.15	19980328	337.10184	21.36422	191.34000	23.59945	0.1321348	2.2938117	18	1	27 days	0.46	Williams	1998 HU ₁₉
1998 HW ₁₉	14.5	0.15	19980417	324.17300	232.09112	14.64926	16.91203	0.1795813	3.2297020	17	1	4 days	1.45	E Williams	1998 HW ₁₉
1998 HX ₁₉	14.5	0.15	19980417	57.77062	100.53137	9.43608	7.34691	0.2611655	2.9076549	17	1	4 days	0.85	E Williams	1998 HX ₁₉
1998 HC ₂₀	15.5	0.15	19980417	225.35818	331.60759	27.55747	2.16288	0.1648155	2.1505433	11	1	8 days	0.34	Marsden	1998 HC ₂₀
1998 HE ₂₀	14.0	0.15	19980417	49.00727	345.72704	174.34051	2.08424	0.2107638	3.1839452	8	1	5 days	0.34	E Marsden	1998 HE ₂₀
1998 HF ₂₀	15.0	0.15	19980417	331.53267	69.46880	192.60497	2.68260	0.0876767	2.5983926	8	1	5 days	0.33	Marsden	1998 HF ₂₀
1998 HH ₂₀	15.5	0.15	19980706	5.58570	16.17325	199.18220	14.88737	0.1269940	2.4586235	21	1	60 days	0.53	M-v 5 Williams	1998 HH ₂₀
1998 HA ₂₂	15.5	0.15	19980417	313.49182	43.10014	221.80859	4.55911	0.2099481	2.5439882	12	1	9 days	1.00	Williams	1998 HA ₂₂
1998 HM ₂₂	16.5	0.15	19980417	333.82587	84.43312	156.59990	2.08308	0.2500890	2.4667129	13	1	11 days	1.25	Williams	1998 HM ₂₂
1998 HF ₂₃	14.0	0.15	19980417	256.80959	283.50622	30.37146	10.90025	0.1523340	3.1622676	14	1	11 days	0.63	Williams	1998 HF ₂₃
1998 HG ₂₃	16.0	0.15	19980417	287.55054	204.48652	77.86969	2.51609	0.1076253	2.1914390	10	1	8 days	0.96	E Williams	1998 HG ₂₃

1998 HH ₂₃	15.0	0.15	19980417	324.82634	95.66772	148.31421	3.19996	0.1633979	3.2454544	11	1	11 days	1.47	Williams	1998 HH ₂₃
1998 HQ ₂₃	15.5	0.15	19980417	318.12065	47.05904	229.78916	21.35163	0.0902337	2.3783901	8	1	4 days	0.14	Marsden	1998 HQ ₂₃
1998 HR ₂₃	16.5	0.15	19980417	17.33427	341.86979	216.61257	1.47975	0.2153328	2.5131874	8	1	4 days	0.26	Marsden	1998 HR ₂₃
1998 HQ ₂₄	14.5	0.15	19980417	13.57389	320.12485	235.87817	4.15219	0.1220456	2.8108355	10	1	9 days	0.32	Williams	1998 HQ ₂₄
1998 HR ₂₄	16.0	0.15	19980417	292.66512	266.45551	47.91977	6.28041	0.2763021	2.2717628	11	1	7 days	0.59	Williams	1998 HR ₂₄
1998 HS ₂₄	14.5	0.15	19980417	78.53095	331.05364	138.31618	12.21816	0.0812918	2.9825227	8	1	7 days	0.58	Marsden	1998 HS ₂₄
1998 HU ₂₄	12.5	0.15	19980417	156.40886	7.86462	27.62690	14.77916	0.2295551	2.6094741	15	1	9 days	0.98	E Williams	1998 HU ₂₄
1998 HY ₂₄	17.0	0.15	19980417	349.21137	148.06033	67.53320	3.05992	0.1958988	2.3250453	18	1	14 days	0.71	Williams	1998 HY ₂₄
1998 HW ₂₅	16.0	0.15	19980417	196.24894	321.26072	41.19651	6.40625	0.1348912	2.2288364	11	1	12 days	0.21	Williams	1998 HW ₂₅
1998 HN ₂₆	16.5	0.15	19980417	35.34303	76.70300	92.34544	4.53446	0.2100359	2.4161394	9	1	8 days	0.13	Williams	1998 HN ₂₆
1998 HQ ₂₇	15.0	0.15	19980417	248.12236	94.03801	234.06749	4.93423	0.2287312	2.2833849	21	1	30 days	0.39	Marsden	1998 HQ ₂₇
1998 HC ₂₉	14.0	0.15	19980417	83.20639	14.69428	47.13629	13.43896	0.1042643	2.8943463	17	1	4 days	0.55	Williams	1998 HC ₂₉
1998 HU ₃₀	17.0	0.15	19980417	51.38314	316.29270	206.87708	12.54845	0.0971373	2.5883581	9	1	12 days	0.21	Williams	1998 HU ₃₀
1998 HM ₃₁	17.5	0.15	19980417	35.15014	95.68191	79.37111	7.22043	0.1510397	2.3415254	9	1	9 days	0.18	Williams	1998 HM ₃₁
1998 HR ₃₁	13.5	0.15	19980417	80.92228	342.02646	101.94838	10.02193	0.2876588	3.1212979	8	1	4 days	0.34	Williams	1998 HR ₃₁
1998 HT ₃₁	20.6	0.15	19980507	348.88855	80.42808	213.90129	6.76262	0.6896928	2.4877746	76	1	4 days	0.59	Nakano	1998 HT ₃₁
1998 HX ₃₁	16.0	0.15	19980417	335.17677	219.12520	22.20294	4.17574	0.2431736	2.3644675	13	1	4 days	0.58	Williams	1998 HX ₃₁
1998 HE ₃₂	15.0	0.15	19980417	303.48825	42.17555	240.48926	1.57855	0.2227336	2.2613067	13	1	4 days	0.41	Williams	1998 HE ₃₂
1998 HZ ₃₃	16.0	0.15	19980417	0.16679	355.98612	206.98788	10.88334	0.1155644	2.2512661	15	1	2 days	0.96	E Williams	1998 HZ ₃₃
1998 HA ₃₄	13.0	0.15	19980417	358.28775	359.33309	205.12016	8.52799	0.1453190	3.2030475	15	1	2 days	0.62	E Williams	1998 HA ₃₄
1998 HF ₃₄	14.0	0.15	19980328	347.07968	185.68218	24.63978	10.44069	0.0221032	2.9765094	15	1	30 days	0.75	Williams	1998 HF ₃₄
1998 HK ₃₄	15.5	0.15	19980417	22.33718	108.81837	61.20575	2.97236	0.1592013	2.4553497	13	1	4 days	0.58	Williams	1998 HK ₃₄
1998 HR ₃₅	14.0	0.15	19980417	359.93839	72.04715	128.86745	2.85731	0.1077296	2.7785791	15	1	2 days	0.77	E Williams	1998 HR ₃₅
1998 HV ₃₅	14.0	0.15	19980417	170.52540	319.48071	68.71660	4.47226	0.1195725	2.6607236	14	1	2 days	1.41	E Williams	1998 HV ₃₅
1998 HY ₃₅	14.0	0.15	19980417	177.33332	323.01464	60.23558	3.56840	0.1023493	2.2503981	15	1	2 days	0.51	E Williams	1998 HY ₃₅
1998 HA ₃₆	15.0	0.15	19980417	358.44215	134.41974	69.10641	3.00583	0.1321884	2.5728395	15	1	2 days	0.83	E Williams	1998 HA ₃₆
1998 HC ₃₆	16.0	0.15	19980417	302.09672	168.88054	110.76691	2.01040	0.1807599	2.1933899	13	1	2 days	1.08	E Williams	1998 HC ₃₆
1998 HD ₃₆	16.5	0.15	19980417	357.53341	63.23723	142.35268	2.33350	0.1361277	2.2988098	14	1	2 days	1.23	E Williams	1998 HD ₃₆
1998 HG ₃₆	14.0	0.15	19980417	1.22725	22.17829	177.60969	5.76133	0.1437279	3.1913735	13	1	2 days	1.33	E Williams	1998 HG ₃₆
1998 HH ₃₆	16.0	0.15	19980417	357.41000	139.70457	66.10580	3.02072	0.1085806	2.2293322	14	1	2 days	1.10	E Williams	1998 HH ₃₆
1998 HJ ₃₆	15.5	0.15	19980417	0.39314	169.50292	32.12887	8.32574	0.1028472	2.4931010	15	1	2 days	0.68	E Williams	1998 HJ ₃₆
1998 HL ₃₆	13.5	0.15	19980417	180.24566	350.87899	30.52389	14.12755	0.1585034	2.3604483	14	1	2 days	1.08	E Williams	1998 HL ₃₆
1998 HQ ₃₆	14.5	0.15	19980417	178.00098	323.33026	59.45698	2.47515	0.1295077	2.4192701	13	1	2 days	1.17	E Williams	1998 HQ ₃₆
1998 HR ₃₆	14.0	0.15	19980417	359.93458	171.59052	29.83711	9.76444	0.1462031	3.2024907	14	1	2 days	0.68	E Williams	1998 HR ₃₆
1998 HT ₃₆	16.0	0.15	19980417	357.67127	177.20148	28.88927	5.63518	0.1032663	2.2203807	14	1	2 days	0.88	E Williams	1998 HT ₃₆
1998 HV ₃₆	15.0	0.15	19980417	359.27585	1.91791	202.26124	8.29987	0.1336460	2.5870109	15	1	2 days	0.71	E Williams	1998 HV ₃₆
1998 HW ₃₆	16.5	0.15	19980417	359.78565	4.22469	199.69520	3.10030	0.0840590	2.1756241	15	1	2 days	1.34	E Williams	1998 HW ₃₆
1998 HX ₃₆	15.0	0.15	19980417	358.13737	358.84301	206.61546	3.72246	0.0986038	2.4863086	14	1	2 days	1.23	E Williams	1998 HX ₃₆
1998 HZ ₃₆	14.5	0.15	19980417	175.99130	0.86750	25.76063	5.33546	0.0776048	2.3115365	15	1	2 days	0.88	E Williams	1998 HZ ₃₆
1998 HB ₃₇	15.5	0.15	19980417	357.90017	331.94561	234.47679	1.22380	0.1145468	2.2510496	15	1	2 days	0.81	E Williams	1998 HB ₃₇
1998 HC ₃₇	14.0	0.15	19980417	179.97098	53.95845	329.57232	1.67452	0.1195188	2.2254950	14	1	2 days	0.58	E Williams	1998 HC ₃₇
1998 HD ₃₇	14.0	0.15	19980417	358.54474	353.20990	211.66564	12.41658	0.0934029	3.0236917	14	1	2 days	0.92	E Williams	1998 HD ₃₇
1998 HE ₃₇	16.0	0.15	19980417	338.22669	0.17656	236.08992	2.86012	0.1889514	2.3214067	17	1	4 days	1.03	Williams	1998 HE ₃₇
1998 HF ₃₇	16.0	0.15	19980417	37.16515	312.79882	207.55846	21.85856	0.0822332	2.2797385	15	1	2 days	1.34	E Williams	1998 HF ₃₇
1998 HG ₃₇	14.5	0.15	19980417	301.08825	273.68205	14.41301	8.84062	0.2268097	2.7699710	13	1	4 days	0.86	E Williams	1998 HG ₃₇
1998 HH ₃₇	15.0	0.15	19980417	359.95206	270.06435	294.21319	1.40505	0.1149566	2.5359407	15	1	2 days	0.72	E Williams	1998 HH ₃₇
1998 HM ₃₇	16.0	0.15	19980417	359.36377	303.49756	261.30870	2.60808	0.1212610	2.2678541	14	1	2 days	0.78	E Williams	1998 HM ₃₇
1998 HN ₃₇	15.0	0.15	19980417	359.57159	194.79645	9.51137	8.19975	0.1152387	2.5334544	13	1	2 days	0.82	E Williams	1998 HN ₃₇
1998 HQ ₃₇	14.0	0.15	19980417	168.36968	27.11738	6.54894	7.12376	0.0818879	2.3026579	15	1	2 days	0.61	E Williams	1998 HQ ₃₇
1998 HR ₃₇	14.0	0.15	19980417	171.02465	57.60095	333.23635	3.42648	0.1235590	2.4397597	14	1	2 days	0.67	E Williams	1998 HR ₃₇
1998 HS ₃₇	14.5	0.15	19980417	358.31563	292.81471	273.49919	1.93903	0.1483078	2.6341893	15	1	2 days	0.89	E Williams	1998 HS ₃₇
1998 HT ₃₇	14.0	0.15	19980417	358.05686	216.18171	350.38643	5.37430	0.2118070	3.1591472	14	1	2 days	0.62	E Williams	1998 HT ₃₇
1998 HX ₃₇	16.0	0.15	19980417	357.82760	206.56538	1.03393	6.54453	0.1368592	2.3099017	14	1	2 days	1.07	E Williams	1998 HX ₃₇

1998 HY ₃₇	15.5	0.15	19980417	296.60451	16.00226	270.96723	2.64927	0.1721963	2.1574201	14	1	2 days	0.59	E Williams	1998 HY ₃₇
1998 HZ ₃₇	14.0	0.15	19980417	175.28162	120.03212	268.10424	3.29467	0.1307191	2.2050021	14	1	2 days	0.71	E Williams	1998 HZ ₃₇
1998 HB ₃₈	15.5	0.15	19980417	357.82910	264.35652	303.60709	2.27326	0.1262156	2.2847896	15	1	2 days	0.81	E Williams	1998 HB ₃₈
1998 HC ₃₈	15.0	0.15	19980417	162.08667	44.45944	351.89982	4.42740	0.2091867	2.1475622	14	1	2 days	1.73	E Williams	1998 HC ₃₈
1998 HE ₃₈	14.0	0.15	19980417	174.39426	159.39544	229.65681	4.74782	0.1113756	2.2447955	15	1	2 days	0.52	E Williams	1998 HE ₃₈
1998 HF ₃₈	14.5	0.15	19980417	177.40985	51.20942	335.54304	1.96824	0.1012179	2.2658351	15	1	2 days	0.82	E Williams	1998 HF ₃₈
1998 HG ₃₈	15.5	0.15	19980417	356.89697	192.69901	16.49208	8.27758	0.1256765	2.2840749	15	1	2 days	0.59	E Williams	1998 HG ₃₈
1998 HH ₃₈	14.0	0.15	19980417	358.64333	197.15241	9.20517	7.16830	0.0916775	3.0221487	15	1	2 days	1.03	E Williams	1998 HH ₃₈
1998 HJ ₃₈	16.5	0.15	19980417	356.30388	233.86212	335.41866	1.11887	0.1000945	2.2184815	14	1	2 days	1.46	E Williams	1998 HJ ₃₈
1998 HK ₃₈	14.0	0.15	19980417	165.23327	26.48547	9.27075	3.74679	0.1205962	2.6751449	13	1	2 days	1.86	E Williams	1998 HK ₃₈
1998 HL ₃₈	15.5	0.15	19980417	0.90799	184.56275	19.04155	7.01738	0.1248507	2.5668612	13	1	2 days	1.01	E Williams	1998 HL ₃₈
1998 HM ₃₈	13.5	0.15	19980417	176.11844	177.41724	210.03666	8.59115	0.1193581	2.4523993	14	1	2 days	0.57	E Williams	1998 HM ₃₈
1998 HN ₃₈	15.5	0.15	19980417	322.40320	245.56642	12.22308	2.60015	0.1789208	2.1908463	18	1	4 days	0.56	Williams	1998 HN ₃₈
1998 HO ₃₈	16.0	0.15	19980417	294.35496	48.68865	239.82565	1.70446	0.1578790	2.1487889	15	1	2 days	0.85	E Williams	1998 HO ₃₈
1998 HP ₃₈	15.0	0.15	19980417	357.79064	185.52396	21.08627	10.35377	0.1433088	2.9097369	14	1	2 days	1.32	E Williams	1998 HP ₃₈
1998 HQ ₃₈	14.0	0.15	19980417	352.84906	3.67857	208.41204	9.57741	0.0968328	3.0362361	15	1	2 days	1.04	E Williams	1998 HQ ₃₈
1998 HT ₃₈	15.0	0.15	19980417	2.44842	351.63334	208.70223	5.19427	0.1392078	2.8961537	14	1	2 days	1.29	E Williams	1998 HT ₃₈
1998 HU ₃₈	16.0	0.15	19980417	334.14169	20.33432	228.67521	1.20975	0.2684511	2.4541932	18	1	4 days	0.84	Williams	1998 HU ₃₈
1998 HV ₃₈	15.0	0.15	19980417	169.00618	17.65574	15.87705	5.51259	0.0799069	2.3093650	14	1	2 days	1.29	E Williams	1998 HV ₃₈
1998 HW ₃₈	14.0	0.15	19980417	359.44399	304.59305	260.06767	0.66122	0.1347868	2.8824958	15	1	2 days	0.75	E Williams	1998 HW ₃₈
1998 HX ₃₈	14.5	0.15	19980417	358.17255	201.66802	4.78434	1.76124	0.1126765	2.8114193	14	1	2 days	0.99	E Williams	1998 HX ₃₈
1998 HY ₃₈	16.0	0.15	19980417	21.04486	161.79468	19.47829	3.16606	0.0468817	2.3067413	13	1	2 days	1.84	E Williams	1998 HY ₃₈
1998 HZ ₃₈	16.0	0.15	19980417	358.73382	355.46255	210.92314	7.27747	0.1213597	2.2726080	15	1	2 days	1.03	E Williams	1998 HZ ₃₈
1998 HB ₃₉	14.0	0.15	19980417	8.81578	185.54283	7.47164	0.84758	0.1069269	3.0728035	14	1	2 days	1.01	E Williams	1998 HB ₃₉
1998 HC ₃₉	14.5	0.15	19980417	166.98824	9.87170	24.18247	9.60777	0.1236122	2.4413872	13	1	2 days	1.71	E Williams	1998 HC ₃₉
1998 HH ₃₉	15.0	0.15	19980417	3.70726	355.07521	204.51259	5.30564	0.1132305	2.5317791	15	1	2 days	1.08	E Williams	1998 HH ₃₉
1998 HJ ₃₉	15.0	0.15	19980417	358.47103	17.22521	189.17027	1.67436	0.1202004	2.2682616	14	1	2 days	0.86	E Williams	1998 HJ ₃₉
1998 HK ₃₉	13.0	0.15	19980417	176.46509	357.55171	28.94725	7.14713	0.1095222	2.6974251	15	1	2 days	0.39	E Williams	1998 HK ₃₉
1998 HM ₃₉	14.0	0.15	19980417	2.61243	156.86289	43.81940	0.94103	0.1396093	3.1902704	15	1	2 days	0.45	E Williams	1998 HM ₃₉
1998 HO ₃₉	14.0	0.15	19980417	0.43963	176.15712	27.54151	11.91280	0.1009678	3.0534186	15	1	2 days	0.90	E Williams	1998 HO ₃₉
1998 HQ ₃₉	14.0	0.15	19980417	2.01269	152.06844	49.65424	1.60283	0.1128674	3.0942874	15	1	2 days	0.67	E Williams	1998 HQ ₃₉
1998 HT ₃₉	14.0	0.15	19980417	357.90088	173.65894	32.19913	7.50847	0.1286452	3.1459874	14	1	2 days	0.74	E Williams	1998 HT ₃₉
1998 HU ₃₉	13.5	0.15	19980417	175.49435	204.46100	182.55290	2.60406	0.1040442	2.7095646	15	1	2 days	0.85	E Williams	1998 HU ₃₉
1998 HV ₃₉	14.5	0.15	19980417	356.20404	150.74334	57.88617	2.24967	0.1323224	2.8728739	15	1	2 days	0.63	E Williams	1998 HV ₃₉
1998 HX ₃₉	16.0	0.15	19980417	1.01570	141.23940	61.00668	2.10785	0.1160181	2.2534747	15	1	2 days	0.91	E Williams	1998 HX ₃₉
1998 HZ ₃₉	14.5	0.15	19980417	181.44786	223.29107	158.45041	2.48163	0.1256697	2.4332523	13	1	2 days	0.98	E Williams	1998 HZ ₃₉
1998 HD ₄₀	14.5	0.15	19980328	355.08973	168.66150	35.25233	9.06419	0.1571424	2.6798539	21	1	30 days	0.36	Williams	1998 HD ₄₀
1998 HE ₄₀	13.5	0.15	19980417	6.14782	157.39630	37.48797	6.62827	0.1358259	3.1715465	14	1	2 days	1.05	E Williams	1998 HE ₄₀
1998 HG ₄₀	14.0	0.15	19980417	176.50761	347.54633	36.77881	9.12617	0.1401700	2.3982631	15	1	2 days	1.03	E Williams	1998 HG ₄₀
1998 HJ ₄₀	14.5	0.15	19980417	171.58301	345.73394	43.31319	6.27549	0.1333802	2.1948124	15	1	2 days	1.05	E Williams	1998 HJ ₄₀
1998 HK ₄₀	15.5	0.15	19980417	359.25088	167.21323	36.41940	9.70095	0.1221130	2.5501724	13	1	2 days	0.77	E Williams	1998 HK ₄₀
1998 HM ₄₀	13.5	0.15	19980417	179.31405	332.87070	49.30400	7.41978	0.1272653	2.6466195	15	1	2 days	0.97	E Williams	1998 HM ₄₀
1998 HO ₄₀	16.5	0.15	19980417	359.33867	117.90662	85.25781	3.13703	0.1374436	2.3013007	13	1	2 days	1.92	E Williams	1998 HO ₄₀
1998 HQ ₄₀	14.0	0.15	19980417	177.61294	189.21982	195.33955	25.55040	0.1461440	2.3844122	15	1	2 days	0.69	E Williams	1998 HQ ₄₀
1998 HR ₄₀	15.5	0.15	19980417	2.99587	136.32843	62.03722	5.05380	0.1142679	2.8058798	13	1	2 days	1.40	E Williams	1998 HR ₄₀
1998 HT ₄₀	13.5	0.15	19980417	176.32050	207.29136	177.26162	9.55968	0.1410511	2.3924126	15	1	2 days	0.60	E Williams	1998 HT ₄₀
1998 HU ₄₀	16.5	0.15	19980417	358.01394	113.58166	91.65661	3.45611	0.1132808	2.2398711	15	1	2 days	0.98	E Williams	1998 HU ₄₀
1998 HX ₄₀	14.0	0.15	19980417	177.39609	240.18819	143.41869	5.16963	0.0812482	2.2916410	15	1	2 days	0.66	E Williams	1998 HX ₄₀
1998 HG ₄₁	15.0	0.15	19980417	173.40705	331.63134	55.53306	8.20948	0.1330387	2.1910395	14	1	2 days	1.85	E Williams	1998 HG ₄₁
1998 HH ₄₁	15.5	0.15	19980417	356.25298	65.53007	142.29284	2.35585	0.1046969	2.5018584	13	1	2 days	1.22	E Williams	1998 HH ₄₁
1998 HJ ₄₁	17.9	0.15	19980507	275.78605	118.01746	212.04080	39.23524	0.1242094	1.3726150	24	1	5 days	0.52	Nakano	1998 HJ ₄₁
1998 HN ₄₁	16.0	0.15	19980417	32.50747	116.46497	50.23289	13.10778	0.1188679	2.7223840	9	1	13 days	0.12	Williams	1998 HN ₄₁
1998 HW ₄₁	16.5	0.15	19980417	243.45176	212.60642	126.75131	3.80169	0.1712331	2.2601619	9	1	8 days	0.23	Williams	1998 HW ₄₁

1998 HB ₄₂	16.5	0.15	19980417	267.65190	165.30856	157.54137	5.58547	0.2010570	2.6039246	9	1	8 days	0.23		Williams	1998 HB ₄₂
1998 HD ₄₂	17.0	0.15	19980417	156.20196	275.65499	132.12201	4.23644	0.1102311	2.1646943	8	1	8 days	0.19		Williams	1998 HD ₄₂
1998 HE ₄₂	15.5	0.15	19980417	51.69567	347.66590	150.55937	4.87038	0.1804954	2.5981028	9	1	8 days	0.12		Williams	1998 HE ₄₂
1998 HG ₄₂	16.5	0.15	19980417	134.85428	294.17253	136.37076	5.09150	0.0443739	2.6141047	9	1	8 days	0.37		Williams	1998 HG ₄₂
1998 HH ₄₂	16.5	0.15	19980417	73.37214	328.79743	149.67026	5.39386	0.1494745	2.5932227	9	1	8 days	0.15		Williams	1998 HH ₄₂
1998 HJ ₄₂	16.0	0.15	19980417	356.79047	58.65572	154.64725	5.83955	0.1457510	3.1545951	9	1	8 days	0.28		Williams	1998 HJ ₄₂
1998 HO ₄₂	14.5	0.15	19980417	79.35331	8.18917	99.41499	9.99959	0.1008594	2.7831758	9	1	9 days	0.29		Williams	1998 HO ₄₂
1998 HH ₄₄	15.5	0.15	19980417	349.48249	185.45599	35.00663	6.91124	0.1867264	2.4209608	18	1	4 days	0.65		Williams	1998 HH ₄₄
1998 HG ₄₉	22.0	0.15	19980417	197.26157	324.27721	45.00543	4.19090	0.1125847	1.2000477	13	1	6 days	0.46		Williams	1998 HG ₄₉
1998 HH ₄₉	21.5	0.15	19980417	310.74610	287.24244	23.80852	8.13159	0.4906660	1.5276171	9	1	5 days	0.63		Williams	1998 HH ₄₉
1998 HJ ₄₉	16.5	0.15	19980417	273.79932	3.27695	311.26624	3.33205	0.3117647	2.6758816	18	1	6 days	0.48		Williams	1998 HJ ₄₉
1998 HK ₄₉	22.5	0.15	19980417	39.05091	81.22958	57.55427	7.45227	0.3253008	1.3701962	12	1	5 days	0.45		Williams	1998 HK ₄₉
1998 HL ₄₉	17.5	0.15	19980417	65.83032	237.50513	207.24302	11.48379	0.6515496	1.7654142	19	1	4 days	0.54		Williams	1998 HL ₄₉
1998 JU	17.0	0.15	19980417	352.41796	223.88663	357.84070	1.58767	0.1142671	2.1869816	8	1	3 days	0.25	E	Williams	1998 JU
1998 JV	15.5	0.15	19980417	280.11437	84.24614	234.11749	1.44765	0.2208707	2.3873834	10	1	7 days	0.35		Williams	1998 JV
1998 JW	14.5	0.15	19980417	154.94134	196.03913	219.32931	15.36982	0.0807932	2.7089731	8	1	3 days	0.23	E	Williams	1998 JW
1998 JH ₂	16.5	0.15	19980417	259.96015	291.58094	50.08990	6.97091	0.4534149	2.1136831	12	1	3 days	0.31		Williams	1998 JH ₂
2043 P-L	15.0	0.15	19980706	322.16533	294.90305	354.00805	5.85937	0.2611829	2.4646346	52	3	1960–1998	0.73	M-v 2	Williams	31607 2043 P-L
2508 P-L	15.5	0.15	19980706	222.91728	350.95151	10.19664	6.37775	0.2500247	2.3317702	20	4	1951–1998	0.67	M-v 2	Williams	31435 2508 P-L
2550 P-L	15.0	0.15	19980706	346.68399	227.44111	57.41666	2.13234	0.2056356	2.3041817	25	6	1960–1998	0.50	M-v 2	Williams	28619 2550 P-L
2559 P-L	14.0	0.15	19980706	176.18226	93.76972	74.59529	2.74248	0.0932025	2.2886926	21	5	1960–1995	0.58	M-v 2	Williams	31607 2559 P-L
2575 P-L	13.5	0.15	19980706	23.66540	145.46823	71.41903	3.39609	0.0820003	2.8969562	37	6	1960–1998	0.65	M-v 1	Williams	28891 2575 P-L
2702 P-L	13.5	0.15	19980706	40.80347	152.08574	38.74239	1.13748	0.1482334	3.1960537	28	5	1960–1998	0.79	M-v 1	Marsden	29141 2702 P-L
2727 P-L	15.5	0.15	19980706	9.51621	188.97846	21.13877	4.93627	0.1457397	2.3327720	39	2	1960–1998	0.56	M-v 4	Williams	31608 2727 P-L
2763 P-L	14.5	0.15	19980706	95.01610	343.89419	98.09853	2.07631	0.0593396	2.9529324	24	3	1960–1998	0.65	M-v 4	Williams	31436 2763 P-L
2771 P-L	12.5	0.15	19980706	160.66303	28.71556	39.42525	4.76431	0.0724555	3.1980070	27	5	1960–1998	0.71	M-v 2	Williams	28619 2771 P-L
4004 P-L	14.0	0.15	19980706	321.40205	327.41154	342.36086	5.33279	0.0232071	2.6509195	35	6	1960–1997	0.68	M-v 2	Williams	31608 4004 P-L
4014 P-L	14.5	0.15	19980706	135.78399	68.29704	344.41226	5.95253	0.1414701	2.2125029	37	4	1960–1998	0.67	M-v 2	Williams	31608 4014 P-L
4035 P-L	13.5	0.15	19980706	301.18291	35.78568	280.11279	3.60011	0.1385212	3.1557761	22	3	1960–1998	0.83	M-v 4	Williams	25435 4035 P-L
4044 P-L	14.0	0.15	19980706	109.56248	37.86345	359.45945	9.29938	0.0743548	2.9724466	18	2	1960–1998	0.65	M-v 5	Williams	31409 4044 P-L
4049 P-L	13.5	0.15	19980706	124.37631	216.56229	194.56063	7.95447	0.1143230	3.2409386	30	4	1960–1998	0.66	M-v 2	Williams	31608 4049 P-L
4053 P-L	14.5	0.15	19980706	316.76078	60.70686	214.87975	6.35133	0.1102293	2.4815172	68	2	1960–1998	0.64	M-v 4	Williams	31572 4053 P-L
4071 P-L	15.0	0.15	19980706	254.59902	109.19646	199.31869	5.42834	0.1006777	2.3375149	25	2	1960–1998	0.61	M-v 5	Williams	31573 4071 P-L
4119 P-L	15.0	0.15	19980706	274.96986	138.71945	191.49613	4.44508	0.2167927	2.1842422	39	4	1951–1998	0.69	M-v 2	Williams	31608 4119 P-L
4134 P-L	17.0	0.15	19980706	78.69039	140.19545	351.08275	5.54229	0.0767028	2.2038062	23	2	1960–1998	0.90	M-v 6	Williams	31573 4134 P-L
4152 P-L	13.0	0.15	19980706	271.20123	99.03104	190.15398	12.76650	0.2267347	2.9101305	32	4	1960–1998	0.58	M-v 1	Williams	31436 4152 P-L
4584 P-L	15.0	0.15	19980706	178.93395	218.73795	166.76939	5.88400	0.2114754	2.3427940	26	2	1960–1998	0.79	M-v 4	Williams	31573 4584 P-L
4588 P-L	15.0	0.15	19980706	295.82085	143.55171	188.13572	5.67040	0.1758203	2.3094384	20	4	1960–1998	0.58	M-v 3	Williams	28892 4588 P-L
4631 P-L	14.5	0.15	19980706	32.27531	180.30164	13.88288	7.21745	0.0475995	2.3292648	47	5	1955–1998	0.67	M-v 2	Williams	31608 4631 P-L
4651 P-L	13.0	0.15	19980706	350.47030	9.37461	204.48300	0.37114	0.1231542	3.2088044	35	3	1960–1998	0.71	M-v 4	Williams	31573 4651 P-L
4730 P-L	15.0	0.15	19980706	286.63272	290.22137	26.41000	4.76171	0.0845266	2.6639781	19	3	1960–1998	0.63	M-v 3	Williams	26414 4730 P-L
4822 P-L	14.0	0.15	19980706	263.13094	186.17967	135.95458	2.74041	0.0286121	2.9075139	21	3	1960–1998	0.58	M-v 4	Williams	20515 4822 P-L
5585 P-L	15.5	0.15	19980706	195.52265	8.40488	20.21058	1.68445	0.0481715	2.9145735	14	3	1960–1998	0.59	M-v 5	Williams	26415 5585 P-L
6044 P-L	13.0	0.15	19980706	323.85478	303.40536	317.55048	1.29495	0.0244102	2.9042766	25	2	1960–1998	0.61	M-v 5	Williams	31573 6044 P-L
6531 P-L	14.5	0.15	19980706	191.44946	19.75398	16.50069	4.71020	0.0686342	2.1949813	52	4	1960–1998	0.73	M-v 2	Williams	31608 6531 P-L
6584 P-L	13.5	0.15	19980706	2.81726	167.13239	29.97236	3.40283	0.0315717	2.6906577	49	3	1960–1998	0.59	M-v 3	Williams	31608 6584 P-L
6792 P-L	13.5	0.15	19980706	250.97863	208.86715	103.00962	3.31119	0.0529948	2.9195051	38	4	1960–1998	0.64	M-v 3	Williams	31608 6792 P-L
6833 P-L	14.5	0.15	19980706	3.23352	216.76898	352.66848	1.87156	0.0832447	2.9106978	23	3	1960–1998	0.65	M-v 5	Williams	31608 6833 P-L
7607 P-L	15.5	0.15	19980706	93.81072	340.56840	99.40723	3.40666	0.061225	2.3616621	27	3	1960–1998	0.82	M-v 4	Marsden	31608 7607 P-L
7643 P-L	15.0	0.15	19980706	164.60091	287.65827	150.60881	4.33845	0.1047501	2.1923053	33	4	1960–1998	0.86	M-v 2	Williams	22274 7643 P-L
9057 P-L	14.5	0.15	19980706	347.17571	270.45722	312.91578	3.27996	0.1085074	2.3319501	47	4	1960–1998	0.65	M-v 3	Williams	31608 9057 P-L
9509 P-L	14.5	0.15	19980706	299.98077	124.80403	187.93481	10.89658	0.2550618	2.6504479	32	3	1960–1998	0.88	M-v 3	Williams	31608 9509 P-L
9511 P-L	13.5	0.15	19980706	344.56341	101.56269	160.64068	0.85293	0.1289739	3.1613253	41	8	1954–1998	0.90	M-v 1	Williams	24764 9511 P-L

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1145 T-1	15.5	0.15	19980706	54.29673	191.80422	316.29723	3.64963	0.1296576	2.4595106	40	2	1971-1998	0.59	M-v	5	Williams	31574	1145 T-1
1162 T-1	14.0	0.15	19980706	356.14307	240.31442	345.73017	10.68238	0.0994547	3.0676090	28	3	1971-1998	0.76	M-v	4	Williams	31608	1162 T-1
1198 T-1	14.0	0.15	19980706	32.16020	197.97967	314.32638	4.05893	0.1138430	3.0917960	45	3	1971-1998	0.82	M-v	4	Williams	31608	1198 T-1
1230 T-1	15.5	0.15	19980706	331.17493	301.79994	329.10460	2.20324	0.1397070	2.2440297	25	3	1971-1998	0.83	M-v	5	Williams	31574	1230 T-1
1274 T-1	14.0	0.15	19980706	238.90579	326.97732	5.53740	5.04396	0.1055206	2.7286022	40	3	1971-1998	0.92	M-v	3	Williams	31574	1274 T-1
1287 T-1	15.5	0.15	19980706	332.15962	51.30926	216.10311	1.76442	0.0192378	2.2383985	43	5	1971-1998	0.95	M-v	3	Williams	25085	1287 T-1
2149 T-1	13.0	0.15	19980706	56.73221	99.81368	4.18794	7.30185	0.1003657	3.1091941	42	3	1971-1998	0.67	M-v	4	Williams	31608	2149 T-1
2258 T-1	13.5	0.15	19980706	211.72812	332.01597	27.41015	8.21259	0.2431275	2.4600147	45	6	1956-1998	0.77	M-v	2	Williams	31608	2258 T-1
2301 T-1	14.0	0.15	19980706	177.89505	357.04738	22.28180	6.17360	0.1828465	2.2556920	26	2	1971-1998	0.68	M-v	5	Williams	31574	2301 T-1
3182 T-1	14.0	0.15	19980706	197.48186	107.22181	260.97671	2.43010	0.0392751	3.0805717	34	3	1971-1998	0.65	M-v	5	Williams	31608	3182 T-1
3216 T-1	14.0	0.15	19980706	256.21115	70.33485	207.24481	2.13080	0.0294133	2.7597936	27	3	1971-1998	0.75	M-v	3	Williams	31608	3216 T-1
3219 T-1	15.5	0.15	19980706	325.02991	272.14964	331.26023	3.63945	0.1279343	2.2609940	21	3	1971-1998	0.86	M-v	2	Marsden	31608	3219 T-1
3243 T-1	15.5	0.15	19980706	238.24253	347.92762	357.79518	3.92122	0.1420277	2.2505679	20	3	1971-1998	0.89	M-v	5	Williams	31608	3243 T-1
3274 T-1	13.5	0.15	19980706	197.97982	189.60206	182.29465	13.22281	0.1771872	2.7258251	39	2	1971-1998	0.76	M-v	5	Williams	31574	3274 T-1
3286 T-1	14.5	0.15	19980706	54.96624	128.77082	6.97305	13.20100	0.1243876	2.7339161	51	3	1971-1998	0.96	M-v	3	Williams	31608	3286 T-1
3287 T-1	14.0	0.15	19980706	80.74472	279.17544	215.45323	0.69610	0.1471021	3.0520637	24	4	1954-1998	0.75	M-v	2	Williams	24120	3287 T-1
4111 T-1	14.5	0.15	19980706	338.15684	185.26929	46.57077	4.55459	0.1006462	3.0827423	18	2	1971-1998	0.83	M-v	5	Williams	31575	4111 T-1
4155 T-1	14.0	0.15	19980706	112.32322	20.24348	72.53079	3.04906	0.0399716	2.7241335	50	4	1971-1998	0.76	M-v	4	Williams	31608	4155 T-1
4265 T-1	15.5	0.15	19980706	101.87803	8.23746	99.85715	2.50606	0.1054018	2.2469863	44	2	1971-1998	0.78	M-v	5	Williams	31575	4265 T-1
4283 T-1	14.0	0.15	19980706	119.98855	46.90565	28.27068	7.80413	0.1074620	2.2547801	32	4	1971-1998	0.93	M-v	2	Williams	31608	4283 T-1
4349 T-1	13.0	0.15	19980706	180.96437	191.11946	158.55419	8.97091	0.3078871	2.7735267	23	5	1971-1998	0.71	M-v	2	Marsden	22087	4349 T-1
4878 T-1	12.5	0.15	19980706	247.31408	173.19822	171.08345	9.72918	0.1066474	3.0608169	24	4	1971-1998	0.65	M-v	2	Marsden	31608	4878 T-1
1050 T-2	13.5	0.15	19980706	107.14974	272.07014	179.13056	10.98858	0.2379094	3.1232989	47	4	1973-1998	0.87	M-v	1	Williams	22432	1050 T-2
1059 T-2	14.0	0.15	19980706	321.37995	51.84726	209.43197	3.85906	0.0430472	2.4091228	47	2	1973-1998	0.73	M-v	5	Williams	31575	1059 T-2
1070 T-2	15.0	0.15	19980706	301.82468	81.54969	187.65454	5.82596	0.0939439	2.4130522	40	3	1973-1998	0.84	M-v	4	Williams	31608	1070 T-2
1152 T-2	14.5	0.15	19980706	277.40446	275.52447	13.48047	4.88721	0.1950614	2.4097882	35	3	1973-1998	1.06	M-v	3	Williams	31436	1152 T-2
1167 T-2	15.0	0.15	19980706	150.80368	199.73353	240.10754	1.35503	0.0420045	2.6884801	22	5	1973-1998	0.79	M-v	2	Williams	21603	1167 T-2
1175 T-2	15.5	0.15	19980706	4.40943	337.04893	226.37666	0.80736	0.1358222	2.4195964	46	3	1973-1998	0.91	M-v	5	Williams	31608	1175 T-2
1218 T-2	14.0	0.15	19980706	162.14593	283.50833	154.27304	0.96028	0.0790282	2.4064056	36	8	1955-1998	0.84	M-v	1	Williams	29668	1218 T-2
1325 T-2	14.0	0.15	19980706	170.32367	357.22837	18.10557	5.19243	0.0662681	2.7278069	39	3	1973-1998	0.72	M-v	4	Williams	31608	1325 T-2
1331 T-2	14.5	0.15	19980706	219.84934	71.25557	267.03291	1.63036	0.0824093	2.7125039	25	4	1951-1998	0.83	M-v	2	Williams	31608	1331 T-2
1355 T-2	13.5	0.15	19980706	58.17284	89.92213	67.50260	0.31252	0.1229008	3.0869742	55	5	1973-1998	0.82	M-v	1	Williams	28892	1355 T-2
1364 T-2	14.5	0.15	19980706	236.72446	132.58080	200.25769	5.88200	0.0462935	2.7030279	36	2	1973-1998	0.88	M-v	5	Williams	31575	1364 T-2
1474 T-2	15.5	0.15	19980706	298.99624	67.62062	224.67392	2.63148	0.1663992	2.1837841	37	2	1973-1998	0.90	M-v	5	Williams	31575	1474 T-2
2115 T-2	15.0	0.15	19980706	81.30615	97.10273	15.27064	2.06992	0.0806039	2.2187885	35	2	1973-1998	0.77	M-v	5	Williams	31575	2115 T-2
2246 T-2	14.5	0.15	19980706	235.17608	126.83589	186.69499	3.72057	0.1999153	2.7119385	28	4	1973-1998	0.67	M-v	2	Williams	28892	2246 T-2
2256 T-2	13.5	0.15	19980706	109.38939	329.76700	136.37272	0.75750	0.1484941	3.1007271	53	4	1973-1998	0.77	M-v	1	Williams	29321	2256 T-2
2272 T-2	13.5	0.15	19980706	341.35639	162.13600	5.28227	6.87980	0.0941231	2.2425473	28	6	1973-1998	0.88	M-v	2	Williams	31161	2272 T-2
2275 T-2	13.5	0.15	19980706	52.71920	327.99581	173.15685	2.95727	0.2298226	3.1378792	57	3	1973-1998	0.80	M-v	4	Williams	31576	2275 T-2
2319 T-2	15.0	0.15	19980706	295.75787	109.47766	217.32345	2.26336	0.1327989	2.1730967	25	5	1973-1998	0.69	M-v	2	Williams	23540	2319 T-2
3089 T-2	14.0	0.15	19980706	13.55676	84.16539	103.23619	2.79356	0.1033435	3.0905974	32	2	1973-1998	0.84	M-v	4	Williams	31576	3089 T-2
3176 T-2	15.0	0.15	19980706	78.41322	104.20904	25.92509	4.16557	0.0587200	2.4257426	51	4	1973-1998	0.86	M-v	3	Williams	31609	3176 T-2
3198 T-2	14.0	0.15	19980706	104.61096	69.06882	34.82262	5.63287	0.1532486	3.1023048	36	3	1973-1998	1.01	M-v	4	Williams	31609	3198 T-2
3237 T-2	14.5	0.15	19980706	68.41095	92.66555	21.86522	9.85767	0.2018434	3.1424671	35	3	1973-1998	1.00	M-v	4	Williams	31410	3237 T-2
3260 T-2	14.0	0.15	19980706	124.27850	328.82763	100.59577	4.34661	0.0503518	2.7223118	29	2	1973-1998	0.80	M-v	6	Williams	31576	3260 T-2
3297 T-2	14.0	0.15	19980706	28.00611	173.98525	40.47602	4.43092	0.1591107	2.3938551	45	8	1954-1998	0.84	M-v	2	Williams	29949	3297 T-2
3305 T-2	15.5	0.15	19980706	337.21369	201.54937	48.77242	3.21845	0.1417285	2.4004080	42	2	1973-1998	0.77	M-v	5	Williams	31576	3305 T-2
4076 T-2	15.0	0.15	19980706	38.23583	159.77575	30.46594	2.84872	0.1292853	2.4095613	47	4	1973-1998	0.79	M-v	2	Williams	29321	4076 T-2
4188 T-2	14.5	0.15	19980706	84.09223	333.38491	125.02812	3.15160	0.0314259	2.7344344	37	3	1973-1998	0.80	M-v	4	Marsden	31609	4188 T-2
4221 T-2	13.0	0.15	19980706	124.07302	343.74519	111.49863	2.09475	0.1487221	3.0931051	41	5	1973-1998	0.83	M-v	1	Williams	29142	4221 T-2
4223 T-2	15.0	0.15	19980706	18.22810	13.45021	171.85335	11.32090	0.1257630	2.4289530	36	2	1973-1998	0.71	M-v	4	Williams	31609	4223 T-2
4272 T-2	15.5	0.15	19980706	110.51720	2.71348	119.06639	2.58372	0.1175150	2.1998180	29	5	1954-1998	0.97	M-v	2	Williams	31609	4272 T-2
4306 T-2	14.5	0.15	19980706	287.94214	296.82716	18.48772	9.60353	0.2170355	2.3892569	48	3	1973-1998	0.80	M-v	4	Williams	31609	4306 T-2

4314 T-2	14.5	0.15	19980706	158.47651	323.49123	96.08002	3.64146	0.1704832	2.4272877	28	6	1962–1998	0.93	M-v	2	Williams	29142	4314 T-2
5061 T-2	14.5	0.15	19980706	218.40261	27.53580	303.88061	6.10020	0.2367412	2.2086512	31	3	1973–1998	0.93	M-v	3	Williams	31436	5061 T-2
5105 T-2	13.5	0.15	19980706	343.86464	252.25339	293.32775	7.74815	0.2055438	2.7460335	42	3	1973–1998	0.56	M-v	3	Williams	31295	5105 T-2
5125 T-2	13.5	0.15	19980706	295.08522	338.61944	296.49084	9.40324	0.2134902	3.0643636	36	3	1973–1998	0.87	M-v	3	Williams	31609	5125 T-2
5184 T-2	14.0	0.15	19980706	167.28083	185.19109	227.88800	9.20423	0.1081513	3.0817092	24	3	1973–1998	0.69	M-v	4	Williams	27928	5184 T-2
1120 T-3	13.5	0.15	19980706	145.97061	108.01680	297.87858	7.44674	0.1558915	2.7864885	33	4	1977–1998	1.02	M-v	2	Williams	31609	1120 T-3
1135 T-3	14.5	0.15	19980706	344.21250	298.29503	320.12557	6.21841	0.0805753	2.3812619	20	4	1958–1998	0.52	M-v	1	Williams	28620	1135 T-3
2390 T-3	14.0	0.15	19980706	0.98834	223.71905	14.52067	7.61437	0.0692430	2.3868450	51	7	1972–1998	0.82	M-v	1	Williams	27732	2390 T-3
3105 T-3	14.5	0.15	19980706	243.10378	172.43957	170.89648	2.71278	0.1808283	2.3921128	36	4	1977–1998	0.85	M-v	2	Williams	31609	3105 T-3
3109 T-3	14.0	0.15	19980706	30.40331	211.52919	356.24464	0.30321	0.1074638	3.2115198	42	7	1977–1998	0.87	M-v	1	Williams	29669	3109 T-3
3224 T-3	15.5	0.15	19980706	140.67275	245.31815	165.00205	3.36997	0.0291832	2.1734006	44	4	1977–1998	0.84	M-v	2	Marsden	31609	3224 T-3
3468 T-3	15.0	0.15	19980706	332.18587	192.95589	49.90273	2.03854	0.1415109	2.3992590	39	3	1977–1998	0.83	M-v	4	Marsden	31577	3468 T-3
3476 T-3	14.5	0.15	19980706	261.04974	258.30202	93.61829	1.42072	0.1277179	2.1298127	41	4	1977–1998	0.70	M-v	2	Williams	28893	3476 T-3
3502 T-3	16.0	0.15	19980706	44.59698	108.73011	45.95303	1.64744	0.0413782	2.1683068	50	4	1977–1998	0.65	M-v	2	Williams	31609	3502 T-3
4039 T-3	15.0	0.15	19980706	314.25204	148.42543	120.17643	2.63068	0.0989223	2.1456184	32	2	1977–1998	0.67	M-v	4	Williams	31577	4039 T-3
4190 T-3	13.5	0.15	19980706	137.38982	21.45983	60.24316	8.84599	0.1992185	2.7664048	33	5	1977–1998	0.84	M-v	2	Williams	30294	4190 T-3
4207 T-3	14.0	0.15	19980706	20.07502	357.20002	135.33076	4.80485	0.1804468	2.8496126	25	3	1977–1998	0.89	M-v	3	Williams	31161	4207 T-3
4250 T-3	15.0	0.15	19980706	148.17533	229.65162	143.53514	3.56590	0.1874783	2.4531176	24	3	1977–1998	0.84	M-v	4	Williams	31609	4250 T-3
4326 T-3	14.5	0.15	19980706	187.91681	309.76173	70.62504	5.71130	0.1568411	2.4157620	26	3	1977–1998	0.81	M-v	4	Williams	31609	4326 T-3
5122 T-3	15.0	0.15	19980706	311.14893	192.62103	112.38647	6.94696	0.2474777	2.3566589	30	3	1977–1998	0.96	M-v	4	Williams	31437	5122 T-3
5175 T-3	15.0	0.15	19980706	41.14321	50.64851	103.04860	11.02499	0.1727976	2.4392551	18	3	1977–1998	0.77	M-v	4	Williams	22702	5175 T-3

1997 RD₈ = 1997 RE₆ (S. Nakano, *MPC* 31437)

EPHEMERIDES

69P/Taylor

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1	m_2	Elements <i>MPC</i> 30739
1998 04 17		08 51.58	+36 05.0	1.827	2.204	98.1	26.8		21.2	
1998 04 27		09 06.62	+35 03.6	1.969	2.242	92.0	26.7		21.4	
1998 05 07		09 22.57	+33 50.0	2.113	2.281	86.2	26.2		21.6	
1998 05 17		09 39.08	+32 26.2	2.259	2.322	80.8	25.5		21.8	
1998 05 27		09 55.89	+30 53.9	2.405	2.364	75.5	24.5		21.9	
1998 06 06		10 12.85	+29 14.6	2.551	2.407	70.3	23.4		22.0	
1998 06 16		10 29.78	+27 30.0	2.695	2.451	65.3	22.1		22.2	
1998 06 26		10 46.63	+25 41.2	2.837	2.495	60.3	20.7		22.3	
1998 07 06		11 03.32	+23 49.6	2.975	2.541	55.5	19.2		22.4	
1998 07 16		11 19.83	+21 56.4	3.109	2.587	50.6	17.7		22.5	
1998 07 26		11 36.14	+20 02.5	3.238	2.633	45.8	16.1		22.5	

P/1998 G1 (LINEAR)

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1	m_2	Elements <i>MPC</i> 31662
1998 05 07		10 01.92	+23 08.1	2.602	2.919	98.0	20.0		18.4	
1998 05 17		09 51.82	+20 49.0	2.720	2.854	87.1	20.7		18.5	
1998 05 27		09 45.06	+18 29.0	2.842	2.790	76.8	20.7		18.5	
1998 06 06		09 41.07	+16 10.0	2.959	2.728	67.1	20.0		18.5	
1998 06 16		09 39.27	+13 52.3	3.066	2.668	57.8	18.8		18.5	
1998 06 26		09 39.23	+11 35.2	3.160	2.609	49.0	17.1		18.5	
1998 07 06		09 40.56	+09 17.5	3.235	2.553	40.7	15.1		18.4	
1998 07 16		09 42.92	+06 57.7	3.290	2.498	32.9	12.8		18.3	

1998 HJ₃

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V	Elements <i>MPC</i> 31819
1998 05 07		10 14.02	+04 44.8	0.395	1.188	107.3	54.2	18.8	
1998 05 12		09 54.87	+07 53.3	0.384	1.124	97.0	63.2	18.9	
1998 05 17		09 35.55	+11 02.4	0.376	1.058	86.6	72.6	19.0	
1998 05 22		09 15.48	+14 12.2	0.368	0.991	76.2	82.7	19.2	
1998 05 27		08 53.80	+17 23.3	0.363	0.924	65.5	93.6	19.5	
1998 06 01		08 29.35	+20 35.1	0.359	0.856	54.3	105.8	19.9	
1998 06 06		08 00.91	+23 42.1	0.359	0.788	42.4	119.7	20.6	
1998 06 11		07 27.87	+26 30.2	0.366	0.722	30.0	135.3	21.9	
1998 06 16		06 51.36	+28 36.7	0.384	0.660	17.5	152.4	24.4	

1998 GL₁₀

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V	Elements <i>MPC</i> 31818
1998 05 07		11 27.60	+06 13.9	0.796	1.595	123.8	31.7	19.9	
1998 05 12		11 37.27	+05 47.9	0.866	1.637	121.3	31.8	20.1	
1998 05 17		11 46.48	+05 18.0	0.940	1.680	118.8	31.8	20.3	
1998 05 22		11 55.33	+04 44.9	1.016	1.722	116.2	31.8	20.6	
1998 05 27		12 03.89	+04 09.2	1.095	1.765	113.6	31.7	20.8	
1998 06 01		12 12.22	+03 31.3	1.177	1.808	111.0	31.6	21.0	
1998 06 06		12 20.36	+02 51.7	1.261	1.850	108.3	31.4	21.2	
1998 06 11		12 28.34	+02 10.8	1.347	1.893	105.7	31.1	21.4	
1998 06 16		12 36.20	+01 28.8	1.435	1.935	103.0	30.8	21.5	
1998 06 21		12 43.94	+00 46.1	1.524	1.977	100.3	30.4	21.7	
1998 06 26		12 51.61	+00 02.9	1.616	2.019	97.6	29.9	21.9	

1998 HH₄₉

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V	Elements <i>MPC</i> 31824
1998 05 07		11 40.38	−07 09.3	0.264	1.200	131.5	39.0	20.6	
1998 05 12		11 17.71	−07 31.7	0.251	1.161	121.5	47.9	20.6	
1998 05 17		10 54.70	−08 00.1	0.241	1.122	111.5	57.0	20.7	
1998 05 22		10 31.44	−08 33.5	0.232	1.083	101.6	66.3	20.8	

1998 MAY 11

M.P.C. 31827

1998 05 27	10 07.76	-09 10.1	0.225	1.044	91.7	75.8	21.0
1998 06 01	09 43.22	-09 46.4	0.219	1.007	81.9	85.7	21.2
1998 06 06	09 17.14	-10 16.6	0.214	0.970	72.0	95.9	21.5
1998 06 11	08 48.91	-10 31.6	0.210	0.935	61.9	106.6	21.9
1998 06 16	08 18.35	-10 20.3	0.209	0.902	51.9	117.6	22.5

1997 GA₄₅ $a, e, i = 43.89, 0.09, 8$ Elements *MPC* 31590

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07	11 52.98	+01 04.5	39.217	39.895	131.7	1.1	24.1	
1998 05 17	11 52.59	+01 07.4	39.352	39.895	121.9	1.2	24.2	
1998 05 27	11 52.32	+01 09.5	39.501	39.895	112.2	1.3	24.2	
1998 06 06	11 52.20	+01 10.5	39.662	39.896	102.6	1.4	24.2	
1998 06 16	11 52.23	+01 10.7	39.829	39.896	93.1	1.5	24.2	
1998 06 26	11 52.41	+01 09.8	39.997	39.896	83.6	1.5	24.2	
1998 07 06	11 52.73	+01 08.0	40.162	39.896	74.1	1.4	24.2	
1998 07 16	11 53.20	+01 05.3	40.320	39.896	64.7	1.3	24.2	
1998 07 26	11 53.80	+01 01.7	40.465	39.896	55.3	1.2	24.2	
1998 08 05	11 54.51	+00 57.3	40.595	39.896	45.9	1.0	24.2	
1998 08 15	11 55.33	+00 52.3	40.705	39.896	36.6	0.9	24.2	

1998 HK₃ $a, e, i = 1.83, 0.30, 25$ Elements *MPC* 31819

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07	12 01.85	+00 55.7	0.787	1.654	133.8	26.1	19.3	
1998 05 12	11 55.54	-00 36.6	0.804	1.634	128.1	29.1	19.4	
1998 05 17	11 50.63	-02 11.6	0.825	1.614	122.7	31.8	19.5	
1998 05 22	11 47.10	-03 48.4	0.848	1.594	117.7	34.2	19.6	
1998 05 27	11 44.93	-05 26.5	0.873	1.575	113.0	36.3	19.7	
1998 06 01	11 44.05	-07 05.8	0.899	1.555	108.6	38.2	19.8	
1998 06 06	11 44.37	-08 45.9	0.925	1.536	104.6	39.8	19.8	
1998 06 11	11 45.80	-10 26.9	0.952	1.517	100.8	41.1	19.9	
1998 06 16	11 48.25	-12 08.7	0.979	1.498	97.3	42.3	20.0	
1998 06 21	11 51.67	-13 51.4	1.005	1.480	94.1	43.2	20.0	
1998 06 26	11 55.99	-15 35.0	1.030	1.462	91.1	44.1	20.1	
1998 07 01	12 01.18	-17 19.7	1.055	1.444	88.4	44.7	20.1	
1998 07 06	12 07.18	-19 05.4	1.078	1.427	85.9	45.3	20.2	
1998 07 11	12 13.96	-20 52.2	1.100	1.411	83.5	45.7	20.2	
1998 07 16	12 21.53	-22 39.9	1.120	1.395	81.4	46.1	20.2	
1998 07 21	12 29.87	-24 28.5	1.140	1.381	79.4	46.3	20.2	
1998 07 26	12 39.02	-26 17.7	1.157	1.366	77.6	46.6	20.3	
1998 07 31	12 48.99	-28 07.5	1.173	1.353	76.0	46.7	20.3	
1998 08 05	12 59.81	-29 57.3	1.188	1.341	74.5	46.8	20.3	
1998 08 10	13 11.52	-31 46.8	1.201	1.330	73.2	46.9	20.3	
1998 08 15	13 24.18	-33 35.2	1.214	1.319	72.0	46.9	20.3	
1998 08 20	13 37.88	-35 21.8	1.225	1.310	71.0	46.9	20.3	
1998 08 25	13 52.68	-37 05.9	1.234	1.302	70.1	46.9	20.3	
1998 08 30	14 08.65	-38 46.3	1.244	1.296	69.3	46.8	20.3	
1998 09 04	14 25.86	-40 21.7	1.252	1.290	68.6	46.7	20.3	
1998 09 09	14 44.38	-41 50.5	1.260	1.286	68.0	46.6	20.3	
1998 09 14	15 04.23	-43 10.9	1.268	1.283	67.5	46.4	20.3	
1998 09 19	15 25.44	-44 21.2	1.276	1.281	67.1	46.3	20.3	
1998 09 24	15 47.94	-45 19.3	1.285	1.281	66.8	46.0	20.3	
1998 09 29	16 11.63	-46 03.2	1.294	1.282	66.5	45.8	20.3	
1998 10 04	16 36.29	-46 31.1	1.305	1.285	66.2	45.4	20.4	
1998 10 09	17 01.68	-46 41.5	1.316	1.289	66.0	45.1	20.4	

1998 10 14	17 27.47	-46 33.2	1.330	1.294	65.8	44.7	20.4
1998 10 19	17 53.33	-46 05.8	1.345	1.300	65.5	44.2	20.4
1998 10 24	18 18.90	-45 19.6	1.362	1.308	65.3	43.7	20.4
1998 10 29	18 43.87	-44 15.4	1.381	1.317	65.0	43.1	20.5
1998 11 03	19 07.99	-42 54.7	1.403	1.327	64.6	42.5	20.5
1998 11 08	19 31.07	-41 19.2	1.428	1.338	64.2	41.8	20.5
1998 11 13	19 53.02	-39 31.0	1.455	1.350	63.7	41.1	20.6
1998 11 18	20 13.80	-37 32.2	1.485	1.363	63.1	40.3	20.6
1998 11 23	20 33.44	-35 25.0	1.518	1.376	62.5	39.5	20.7
1998 11 28	20 51.98	-33 11.4	1.553	1.391	61.7	38.7	20.7
1998 12 03	21 09.48	-30 53.1	1.591	1.407	60.9	37.8	20.8

1998 HJ₄₉ $a, e, i = 2.68, 0.31, 3$ Elements *MPC* 31824

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07	12 06.30	-05 23.8	1.986	2.811	137.1	14.1	21.0	
1998 05 17	12 03.19	-04 55.0	2.055	2.780	126.6	17.0	21.2	
1998 05 27	12 02.53	-04 40.4	2.138	2.748	116.8	19.2	21.3	
1998 06 06	12 04.27	-04 40.9	2.231	2.716	107.7	20.9	21.4	
1998 06 16	12 08.22	-04 55.6	2.328	2.684	99.1	21.9	21.5	
1998 06 26	12 14.20	-05 23.8	2.428	2.651	91.2	22.5	21.6	
1998 07 06	12 21.97	-06 04.0	2.527	2.618	83.7	22.7	21.7	
1998 07 16	12 31.34	-06 54.8	2.622	2.584	76.6	22.5	21.7	
1998 07 26	12 42.14	-07 54.8	2.713	2.550	70.0	22.0	21.8	
1998 08 05	12 54.23	-09 02.7	2.798	2.516	63.6	21.2	21.8	

1998 HL₁ $a, e, i = 1.25, 0.19, 20$ Elements *MPC* 31819

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07	12 28.01	-02 54.2	0.496	1.430	141.3	26.2	18.9	
1998 05 12	12 26.45	-00 00.6	0.515	1.422	134.9	30.2	19.1	
1998 05 17	12 26.26	+02 30.0	0.539	1.413	128.9	33.8	19.3	
1998 05 22	12 27.37	+04 37.8	0.564	1.404	123.4	37.0	19.5	
1998 05 27	12 29.67	+06 23.9	0.591	1.394	118.3	39.8	19.7	
1998 06 01	12 33.09	+07 50.1	0.619	1.384	113.7	42.1	19.8	
1998 06 06	12 37.49	+08 58.5	0.648	1.374	109.4	44.2	19.9	
1998 06 11	12 42.76	+09 51.3	0.677	1.362	105.5	45.9	20.1	
1998 06 16	12 48.81	+10 30.5	0.705	1.351	101.9	47.4	20.2	
1998 06 21	12 55.55	+10 57.7	0.733	1.339	98.6	48.6	20.3	
1998 06 26	13 02.94	+11 14.3	0.759	1.326	95.5	49.7	20.4	
1998 07 01	13 10.90	+11 21.8	0.785	1.313	92.7	50.7	20.4	
1998 07 06	13 19.39	+11 21.4	0.809	1.300	90.1	51.5	20.5	
1998 07 11	13 28.35	+11 14.0	0.832	1.286	87.6	52.1	20.6	
1998 07 16	13 37.76	+11 00.5	0.853	1.273	85.3	52.8	20.6	
1998 07 21	13 47.59	+10 41.5	0.872	1.258	83.2	53.3	20.7	
1998 07 26	13 57.84	+10 17.7	0.889	1.244	81.3	53.8	20.7	
1998 07 31	14 08.50	+09 49.5	0.903	1.230	79.5	54.3	20.7	
1998 08 05	14 19.56	+09 17.6	0.916	1.215	77.8	54.7	20.7	
1998 08 10	14 31.00	+08 42.4	0.927	1.200	76.3	55.1	20.7	
1998 08 15	14 42.83	+08 04.0	0.935	1.186	74.9	55.6	20.7	
1998 08 20	14 55.07	+07 22.8	0.941	1.171	73.6	56.0	20.7	
1998 08 25	15 07.73	+06 39.0	0.945	1.157	72.4	56.4	20.7	
1998 08 30	15 20.83	+05 52.9	0.947	1.142	71.3	56.9	20.7	
1998 09 04	15 34.39	+05 04.7	0.947	1.128	70.4	57.3	20.7	
1998 09 09	15 48.40	+04 14.5	0.945	1.115	69.6	57.8	20.7	
1998 09 14	16 02.92	+03 22.6	0.941	1.102	68.8	58.4	20.7	

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1998 09 19	16 17.96	+02 28.9	0.935	1.089	68.2	58.9	20.7
1998 09 24	16 33.56	+01 33.8	0.928	1.078	67.7	59.5	20.6
1998 09 29	16 49.74	+00 37.3	0.919	1.066	67.3	60.1	20.6
1998 10 04	17 06.54	-00 20.3	0.910	1.056	66.9	60.6	20.6
1998 10 09	17 23.97	-01 18.7	0.899	1.047	66.7	61.2	20.6
1998 10 14	17 42.06	-02 17.7	0.888	1.038	66.5	61.8	20.5
1998 10 19	18 00.84	-03 17.0	0.877	1.031	66.4	62.3	20.5
1998 10 24	18 20.33	-04 15.9	0.866	1.025	66.4	62.8	20.5
1998 10 29	18 40.52	-05 14.0	0.855	1.020	66.5	63.3	20.4
1998 11 03	19 01.40	-06 10.4	0.845	1.016	66.6	63.6	20.4
1998 11 08	19 22.93	-07 04.5	0.837	1.014	66.8	63.9	20.4
1998 11 13	19 45.07	-07 55.2	0.830	1.013	67.0	64.1	20.4

1998 11 23	20 30.89	-09 22.7	0.822	1.015	67.5	64.0	20.4
1998 12 03	21 18.06	-10 25.2	0.823	1.022	68.1	63.5	20.4
1998 12 13	22 05.51	-10 57.0	0.835	1.034	68.8	62.5	20.4
1998 12 23	22 52.20	-10 55.5	0.856	1.051	69.3	61.1	20.5
1999 01 02	23 37.29	-10 22.1	0.888	1.072	69.7	59.4	20.5
1999 01 12	00 20.23	-09 21.3	0.927	1.096	69.9	57.5	20.6
1999 01 22	01 00.91	-07 58.8	0.973	1.122	69.9	55.5	20.7
1999 02 01	01 39.43	-06 21.1	1.024	1.149	69.7	53.5	20.8
1999 02 11	02 16.05	-04 34.2	1.080	1.178	69.3	51.6	20.9
1999 02 21	02 51.12	-02 43.5	1.139	1.208	68.7	49.7	21.0
1999 03 03	03 24.95	-00 53.8	1.201	1.237	67.9	48.0	21.2
1999 03 13	03 57.80	+00 50.6	1.265	1.265	66.9	46.3	21.3
1999 03 23	04 29.93	+02 26.4	1.331	1.293	65.7	44.6	21.4
1999 04 02	05 01.47	+03 50.5	1.398	1.320	64.3	43.0	21.5
1999 04 12	05 32.52	+05 00.6	1.467	1.345	62.7	41.5	21.6
1999 04 22	06 03.14	+05 55.2	1.537	1.368	60.9	39.9	21.7
1999 05 02	06 33.33	+06 33.0	1.608	1.389	59.0	38.4	21.8
1999 05 12	07 03.09	+06 53.8	1.678	1.409	56.9	36.9	21.9
1999 05 22	07 32.41	+06 57.6	1.749	1.426	54.6	35.4	21.9

1998 JH ₂		$a, e, i = 2.11, 0.45, 7$				Elements <i>MPC</i> 31824	
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ
1998 05 07		12 42.12	+00 43.8	1.668	2.546	142.8	13.8
1998 05 17		12 34.68	+00 56.6	1.718	2.505	131.5	17.6
1998 05 27		12 30.02	+00 50.8	1.784	2.463	120.9	20.7
1998 06 06		12 28.29	+00 27.2	1.861	2.420	111.1	23.0
1998 06 16		12 29.35	-00 12.6	1.944	2.375	102.1	24.7
1998 06 26		12 32.98	-01 06.8	2.028	2.328	93.8	25.8
1998 07 06		12 38.94	-02 13.6	2.112	2.280	86.0	26.4
1998 07 16		12 46.97	-03 31.2	2.191	2.230	78.9	26.6
1998 07 26		12 56.86	-04 58.1	2.264	2.179	72.2	26.3
1998 08 05		13 08.47	-06 33.0	2.329	2.126	65.9	25.8

1998 HK ₁		$a, e, i = 2.16, 0.43, 8$				Elements <i>MPC</i> 31819	
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ
1998 05 07		13 12.38	-03 10.0	0.273	1.255	151.3	22.7
1998 05 12		13 20.57	-01 10.4	0.272	1.248	147.3	25.9
1998 05 17		13 29.99	+00 36.3	0.274	1.242	143.6	28.9
1998 05 22		13 40.52	+02 06.8	0.278	1.239	140.3	31.5
1998 05 27		13 52.04	+03 18.8	0.285	1.238	137.3	33.7
1998 06 01		14 04.39	+04 10.8	0.293	1.238	134.8	35.5

1998 06 06	14 17.38	+04 43.1	0.304	1.241	132.7	36.9	18.9
1998 06 11	14 30.81	+04 56.5	0.317	1.246	130.9	38.0	19.0
1998 06 16	14 44.51	+04 52.7	0.332	1.253	129.4	38.8	19.1
1998 06 21	14 58.31	+04 33.3	0.348	1.261	128.1	39.4	19.3
1998 06 26	15 12.13	+04 00.4	0.368	1.272	127.0	39.7	19.4
1998 07 01	15 25.91	+03 16.4	0.389	1.284	126.0	39.8	19.6
1998 07 06	15 39.57	+02 23.7	0.412	1.298	125.1	39.8	19.7
1998 07 11	15 53.05	+01 24.4	0.438	1.314	124.3	39.7	19.9
1998 07 16	16 06.33	+00 20.8	0.466	1.331	123.4	39.6	20.0
1998 07 21	16 19.41	-00 45.6	0.496	1.349	122.5	39.4	20.2
1998 07 26	16 32.29	-01 53.1	0.529	1.369	121.5	39.2	20.4
1998 07 31	16 45.01	-03 00.3	0.565	1.390	120.5	39.0	20.5
1998 08 05	16 57.55	-04 06.0	0.603	1.412	119.4	38.8	20.7
1998 08 10	17 09.93	-05 09.1	0.644	1.435	118.2	38.5	20.9
1998 08 15	17 22.15	-06 09.0	0.687	1.458	116.8	38.3	21.0

1998 HN ₃		$a, e, i = 3.14, 0.61, 9$				Elements <i>MPC</i> 31819	
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ
1998 05 07		13 19.00	-02 35.8	0.939	1.892	152.5	14.3
1998 05 17		13 07.09	-02 49.3	0.919	1.816	140.4	20.8
1998 05 27		12 58.23	-03 28.7	0.915	1.742	129.1	26.8
1998 06 06		12 53.46	-04 35.8	0.922	1.669	118.9	32.1
1998 06 16		12 53.16	-06 09.8	0.934	1.597	109.9	36.7
1998 06 26		12 57.35	-08 08.8	0.948	1.529	102.1	40.6
1998 07 06		13 05.92	-10 31.0	0.961	1.464	95.4	43.8
1998 07 16		13 18.66	-13 13.7	0.970	1.403	89.8	46.4
1998 07 26		13 35.53	-16 14.2	0.975	1.348	85.2	48.6
1998 08 05		13 56.64	-19 28.6	0.977	1.301	81.6	50.5
1998 08 15		14 22.17	-22 51.2	0.975	1.263	78.9	51.9
1998 08 25		14 52.55	-26 13.5	0.972	1.234	77.0	52.9
1998 09 04		15 28.15	-29 23.4	0.970	1.218	75.9	53.5
1998 09 14		16 09.10	-32 04.8	0.972	1.213	75.6	53.5
1998 09 24		16 55.00	-33 58.8	0.982	1.220	75.8	52.9
1998 10 04		17 44.48	-34 48.3	1.003	1.239	76.4	51.7
1998 10 14		18 35.18	-34 23.4	1.038	1.270	77.2	50.0
1998 10 24		19 24.54	-32 46.1	1.089	1.310	77.8	47.9
1998 11 03		20 10.53	-30 09.6	1.157	1.359	78.0	45.6
1998 11 13		20 52.12	-26 52.6	1.243	1.415	77.8	43.1
1998 11 23		21 29.26	-23 13.3	1.345	1.477	76.9	40.6
1998 12 03		22 02.40	-19 26.2	1.462	1.543	75.3	38.2
1998 12 13		22 32.17	-15 40.9	1.593	1.612	73.2	35.8

1998 HD ₁₄		$a, e, i = 0.96, 0.31, 8$				Elements <i>MPC</i> 31821	
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ
1998 05 07		13 23.73	+27 01.6	0.173	1.130	131.0	42.4
1998 05 12		13 22.01	+24 39.0	0.202	1.149	129.2	42.9
1998 05 17		13 21.87	+22 31.4	0.232	1.166	127.2	43.7
1998 05 22		13 22.95	+20 33.4	0.263	1.182	124.8	44.6
1998 05 27		13 25.04	+18 41.9	0.294	1.197	122.4	45.6
1998 06 01		13 28.02	+16 54.9	0.326	1.210	119.9	46.6
1998 06 06		13 31.76	+15 11.6	0.359	1.222	117.4	47.5
1998 06 11		13 36.15	+13 31.2	0.392	1.233	114.9	48.3
1998 06 16		13 41.10	+11 53.4	0.425	1.242	112.5	49.1
1998 06 21		13 46.57	+10 17.6	0.458	1.249	110.0	49.9

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1998 06 26	13 52.53	+08 43.6	0.492	1.256	107.6	50.5	21.8
1998 07 01	13 58.95	+07 11.2	0.525	1.260	105.2	51.1	22.0
1998 07 06	14 05.78	+05 40.5	0.558	1.264	102.8	51.7	22.1

1998 HL ₃		$a, e, i = 1.13, 0.37, 3$				Elements <i>MPC</i> 31819		
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07		13 33.89	+00 26.5	0.305	1.290	153.6	20.3	19.0
1998 05 12		13 18.17	+02 26.5	0.298	1.265	144.7	27.4	19.1
1998 05 17		13 03.04	+04 16.5	0.294	1.239	136.0	34.6	19.2
1998 05 22		12 49.02	+05 52.9	0.292	1.212	127.5	41.5	19.4
1998 05 27		12 36.49	+07 13.8	0.292	1.185	119.4	48.2	19.5
1998 06 01		12 25.60	+08 19.5	0.294	1.156	111.8	54.5	19.6
1998 06 06		12 16.28	+09 11.8	0.295	1.126	104.7	60.7	19.8
1998 06 11		12 08.27	+09 53.6	0.296	1.096	97.9	66.6	19.9
1998 06 16		12 01.26	+10 27.6	0.295	1.065	91.4	72.5	20.0
1998 06 21		11 54.83	+10 56.8	0.293	1.033	85.0	78.5	20.2
1998 06 26		11 48.54	+11 24.4	0.290	1.001	78.7	84.8	20.3
1998 07 01		11 41.79	+11 53.7	0.284	0.969	72.3	91.5	20.4
1998 07 06		11 33.87	+12 28.3	0.277	0.937	65.6	98.8	20.6
1998 07 11		11 23.92	+13 11.6	0.269	0.905	58.4	107.0	20.9
1998 07 16		11 11.03	+14 06.2	0.260	0.874	50.4	116.3	21.4

1998 HM ₃		$a, e, i = 1.25, 0.06, 39$				Elements <i>MPC</i> 31819		
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07		14 10.02	+21 44.2	0.339	1.287	140.0	30.3	17.9
1998 05 12		14 03.16	+28 13.2	0.371	1.283	130.6	36.7	18.3
1998 05 17		13 57.56	+33 12.9	0.408	1.279	122.7	41.7	18.6
1998 05 22		13 53.34	+36 59.0	0.449	1.274	116.0	45.6	18.9
1998 05 27		13 50.54	+39 47.4	0.490	1.270	110.3	48.4	19.2
1998 06 01		13 49.15	+41 51.4	0.533	1.265	105.5	50.5	19.4
1998 06 06		13 49.08	+43 21.8	0.574	1.261	101.4	52.1	19.6
1998 06 11		13 50.23	+44 26.4	0.615	1.256	97.8	53.2	19.8
1998 06 16		13 52.46	+45 11.1	0.654	1.251	94.6	54.0	19.9
1998 06 21		13 55.68	+45 39.9	0.691	1.247	91.8	54.6	20.1
1998 06 26		13 59.82	+45 56.0	0.725	1.242	89.3	54.9	20.2
1998 07 01		14 04.81	+46 01.8	0.757	1.237	87.1	55.2	20.3
1998 07 06		14 10.56	+45 59.1	0.786	1.232	85.2	55.3	20.3
1998 07 11		14 17.02	+45 49.3	0.812	1.228	83.5	55.4	20.4
1998 07 16		14 24.13	+45 33.2	0.834	1.223	82.1	55.4	20.5
1998 07 21		14 31.88	+45 11.3	0.853	1.218	80.8	55.4	20.5
1998 07 26		14 40.25	+44 44.1	0.869	1.214	79.8	55.4	20.5
1998 07 31		14 49.24	+44 12.0	0.882	1.209	78.9	55.4	20.6
1998 08 05		14 58.83	+43 35.0	0.891	1.205	78.2	55.5	20.6
1998 08 10		15 09.03	+42 53.3	0.896	1.201	77.7	55.5	20.6
1998 08 15		15 19.83	+42 06.4	0.899	1.197	77.3	55.6	20.6
1998 08 20		15 31.28	+41 14.0	0.898	1.194	77.1	55.7	20.6
1998 08 25		15 43.39	+40 15.7	0.894	1.190	77.1	55.9	20.6
1998 08 30		15 56.20	+39 11.1	0.887	1.187	77.2	56.0	20.5
1998 09 04		16 09.72	+37 59.6	0.878	1.184	77.4	56.2	20.5
1998 09 09		16 23.97	+36 40.4	0.867	1.181	77.7	56.4	20.5
1998 09 14		16 38.97	+35 12.6	0.855	1.179	78.2	56.6	20.5
1998 09 19		16 54.77	+33 35.2	0.841	1.177	78.7	56.9	20.4
1998 09 24		17 11.37	+31 47.5	0.826	1.175	79.3	57.0	20.4
1998 09 29		17 28.77	+29 48.7	0.811	1.173	79.9	57.2	20.4

1998 10 04	17 46.96	+27 38.4	0.797	1.172	80.5	57.4	20.3
1998 10 09	18 05.87	+25 16.2	0.784	1.171	81.1	57.4	20.3
1998 10 14	18 25.48	+22 42.3	0.773	1.170	81.7	57.5	20.3
1998 10 19	18 45.70	+19 57.8	0.765	1.170	82.2	57.5	20.2
1998 10 24	19 06.44	+17 04.4	0.760	1.170	82.5	57.4	20.2
1998 10 29	19 27.56	+14 05.0	0.758	1.171	82.7	57.3	20.2
1998 11 03	19 48.94	+11 02.6	0.762	1.171	82.7	57.1	20.2
1998 11 08	20 10.40	+08 01.1	0.770	1.172	82.5	56.9	20.2
1998 11 13	20 31.81	+05 04.2	0.782	1.174	82.1	56.6	20.3
1998 11 18	20 53.06	+02 15.5	0.800	1.176	81.5	56.3	20.3
1998 11 23	21 14.01	−00 21.9	0.822	1.178	80.6	55.8	20.4
1998 11 28	21 34.56	−02 45.8	0.848	1.180	79.7	55.4	20.4
1998 12 03	21 54.64	−04 54.9	0.877	1.182	78.6	54.8	20.5
1998 12 08	22 14.19	−06 48.8	0.910	1.185	77.3	54.2	20.5
1998 12 13	22 33.18	−08 27.6	0.945	1.188	76.0	53.5	20.6
1998 12 18	22 51.63	−09 51.7	0.982	1.192	74.6	52.8	20.7
1998 12 23	23 09.54	−11 02.0	1.020	1.195	73.2	52.0	20.7
1998 12 28	23 26.93	−11 59.7	1.059	1.199	71.8	51.2	20.8
1999 01 02	23 43.82	−12 45.8	1.099	1.203	70.4	50.3	20.9
1999 01 07	00 00.27	−13 21.7	1.138	1.207	68.9	49.5	20.9
1999 01 12	00 16.31	−13 48.3	1.176	1.211	67.6	48.6	21.0
1999 01 17	00 32.00	−14 06.6	1.214	1.216	66.2	47.8	21.0
1999 01 22	00 47.39	−14 17.5	1.251	1.220	64.9	46.9	21.1
1999 01 27	01 02.52	−14 21.9	1.286	1.225	63.7	46.1	21.1
1999 02 01	01 17.43	−14 20.6	1.320	1.230	62.5	45.3	21.2
1999 02 06	01 32.17	−14 14.3	1.351	1.234	61.4	44.5	21.2
1999 02 11	01 46.78	−14 03.5	1.381	1.239	60.4	43.8	21.3

C/1998 H1 (Stonehouse)		Elements <i>MPC</i> 31662						
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1 m_2
1998 05 07		14 20.71	+33 25.2	0.667	1.521	129.2	30.9	10.9
1998 05 17		13 27.80	+43 38.9	0.878	1.556	110.7	37.4	11.6
1998 05 27		12 51.85	+48 00.8	1.121	1.603	97.2	38.8	12.3
1998 06 06		12 30.11	+49 49.8	1.369	1.659	86.9	37.6	12.9
1998 06 16		12 18.39	+50 33.1	1.611	1.724	78.4	35.3	13.4
1998 06 26		12 13.53	+50 47.0	1.841	1.795	71.3	32.4	13.9
1998 07 06		12 13.50	+50 48.4	2.053	1.874	65.4	29.6	14.3
1998 07 16		12 16.96	+50 45.9	2.247	1.957	60.5	26.9	14.7
1998 07 26		12 23.09	+50 43.7	2.419	2.044	56.5	24.5	15.0
1998 08 05		12 31.36	+50 45.2	2.571	2.134	53.7	22.5	15.3
1998 08 15		12 41.40	+50 52.5	2.702	2.227	52.0	21.0	15.6
1998 08 25		12 53.03	+51 07.2	2.811	2.321	51.5	19.9	15.9
1998 09 04		13 06.12	+51 31.0	2.901	2.418	52.2	19.2	16.1
1998 09 14		13 20.62	+52 05.2	2.972	2.515	54.0	18.9	16.4
1998 09 24		13 36.57	+52 51.0	3.028	2.614	56.6	18.7	16.6
1998 10 04		13 54.05	+53 49.5	3.069	2.713	60.1	18.6	16.8
1998 10 14		14 13.19	+55 01.4	3.100	2.812	64.2	18.6	16.9
1998 10 24		14 34.21	+56 26.8	3.124	2.912	68.6	18.5	17.1
1998 11 03		14 57.37	+58 05.1	3.145	3.012	73.2	18.4	17.3
1998 11 13		15 23.01	+59 54.6	3.166	3.111	77.8	18.1	17.4
1998 11 23		15 51.56	+61 52.6	3.193	3.211	82.1	17.7	17.6
1998 12 03		16 23.45	+63 54.9	3.230	3.310	86.0	17.3	17.7

M.P.C. 31830

1998 MAY 11

1998 12 13	16 59.10	+65 55.8	3.279	3.409	89.1	16.8	17.9
1998 12 23	17 38.83	+67 49.3	3.344	3.508	91.4	16.3	18.1

1998 HK₄₉

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
$a, e, i = 1.37, 0.33, 7$ Elements MPC 31824								
1998 05 07		15 08.55	-08 34.1	0.201	1.208	171.2	7.3	20.0
1998 05 12		14 57.51	-11 15.9	0.225	1.234	172.1	6.5	20.2
1998 05 17		14 48.77	-13 29.2	0.252	1.259	167.6	9.9	20.7
1998 05 22		14 42.19	-15 19.0	0.282	1.284	162.1	14.0	21.1
1998 05 27		14 37.65	-16 50.3	0.315	1.309	156.7	17.8	21.5
1998 06 01		14 34.98	-18 07.3	0.351	1.334	151.6	21.2	21.9
1998 06 06		14 33.97	-19 13.5	0.390	1.358	146.9	24.1	22.2

1998 HJ₄₁

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
$a, e, i = 1.37, 0.12, 39$ Elements MPC 31823								
1998 05 07		15 56.55	+21 30.5	0.446	1.377	138.9	28.8	18.1
1998 05 12		15 49.03	+27 46.2	0.460	1.367	133.4	32.4	18.3
1998 05 17		15 40.93	+33 11.4	0.480	1.358	127.5	36.2	18.4
1998 05 22		15 32.62	+37 41.8	0.506	1.349	121.8	39.6	18.6
1998 05 27		15 24.50	+41 19.5	0.535	1.340	116.4	42.6	18.8
1998 06 01		15 17.00	+44 09.9	0.567	1.331	111.5	45.2	19.0
1998 06 06		15 10.41	+46 20.2	0.600	1.322	107.1	47.2	19.2
1998 06 11		15 04.96	+47 57.6	0.633	1.313	103.1	48.9	19.3
1998 06 16		15 00.78	+49 08.1	0.665	1.304	99.6	50.2	19.5
1998 06 21		14 57.91	+49 57.0	0.696	1.295	96.5	51.2	19.6
1998 06 26		14 56.41	+50 28.2	0.725	1.287	93.8	52.0	19.7
1998 07 01		14 56.24	+50 45.4	0.752	1.278	91.3	52.7	19.7
1998 07 06		14 57.36	+50 51.3	0.776	1.270	89.2	53.2	19.8
1998 07 11		14 59.68	+50 47.9	0.797	1.263	87.3	53.5	19.9
1998 07 16		15 03.14	+50 36.7	0.816	1.255	85.7	53.9	19.9
1998 07 21		15 07.68	+50 18.6	0.831	1.248	84.4	54.1	20.0
1998 07 26		15 13.26	+49 54.3	0.843	1.242	83.3	54.3	20.0
1998 07 31		15 19.85	+49 24.5	0.852	1.235	82.4	54.5	20.0
1998 08 05		15 27.41	+48 49.4	0.857	1.230	81.7	54.7	20.0
1998 08 10		15 35.91	+48 09.0	0.859	1.224	81.2	54.9	20.0
1998 08 15		15 45.34	+47 23.1	0.857	1.219	80.9	55.1	20.0
1998 08 20		15 55.70	+46 31.2	0.853	1.215	80.8	55.3	20.0
1998 08 25		16 07.02	+45 32.8	0.846	1.212	80.9	55.5	20.0
1998 08 30		16 19.30	+44 27.3	0.836	1.208	81.2	55.7	19.9
1998 09 04		16 32.57	+43 13.8	0.824	1.206	81.6	55.8	19.9
1998 09 09		16 46.82	+41 51.3	0.810	1.204	82.2	56.0	19.9
1998 09 14		17 02.06	+40 18.3	0.794	1.203	82.9	56.1	19.8
1998 09 19		17 18.31	+38 33.4	0.778	1.202	83.8	56.2	19.8
1998 09 29		17 53.78	+34 23.4	0.745	1.203	85.7	56.2	19.7
1998 10 09		18 32.84	+29 14.0	0.717	1.206	87.7	55.9	19.6
1998 10 19		19 14.63	+23 06.4	0.700	1.212	89.4	55.3	19.6
1998 10 29		19 57.95	+16 19.9	0.702	1.220	90.3	54.5	19.6
1998 11 08		20 41.28	+09 30.4	0.725	1.230	90.2	53.7	19.6
1998 11 18		21 23.30	+03 17.5	0.770	1.242	88.9	52.8	19.7
1998 11 28		22 03.13	-01 51.1	0.836	1.255	86.7	51.7	19.9
1998 12 08		22 40.34	-05 46.2	0.917	1.271	83.7	50.4	20.1
1998 12 18		23 14.93	-08 32.6	1.008	1.287	80.5	48.9	20.3
1998 12 28		23 47.19	-10 21.1	1.106	1.304	77.0	47.3	20.5

1999 01 07	00 17.49	-11 23.7	1.205	1.322	73.6	45.5	20.6
1999 01 17	00 46.23	-11 50.9	1.303	1.340	70.2	43.7	20.8
1999 01 27	01 13.84	-11 51.3	1.397	1.359	67.0	41.8	20.9
1999 02 06	01 40.62	-11 32.1	1.486	1.377	64.0	40.1	21.0
1999 02 16	02 06.90	-10 58.5	1.570	1.395	61.2	38.4	21.1

1991 FA

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
$a, e, i = 1.98, 0.45, 3$ Elements MPC 28885								
1998 05 07		20 51.70	-20 34.3	2.177	2.503	96.6	23.6	21.8
1998 05 17		20 59.13	-20 11.1	2.012	2.467	104.5	23.4	21.6
1998 05 27		21 04.53	-19 55.9	1.851	2.430	112.8	22.6	21.3
1998 06 06		21 07.51	-19 50.5	1.697	2.391	121.6	21.2	21.1
1998 06 16		21 07.66	-19 56.9	1.553	2.350	131.2	19.0	20.8
1998 06 26		21 04.53	-20 16.0	1.423	2.307	141.5	15.9	20.4
1998 07 06		20 57.82	-20 47.3	1.311	2.263	152.6	11.9	20.1
1998 07 16		20 47.57	-21 27.5	1.221	2.216	164.4	7.1	19.7
1998 07 26		20 34.31	-22 11.1	1.154	2.169	175.8	2.0	19.2
1998 08 05		20 19.33	-22 50.3	1.115	2.119	168.9	5.3	19.3
1998 08 15		20 04.46	-23 18.6	1.100	2.068	156.2	11.4	19.5
1998 08 25		19 51.61	-23 32.4	1.109	2.015	143.7	17.3	19.7
1998 09 04		19 42.36	-23 31.7	1.137	1.961	132.0	22.5	19.8
1998 09 14		19 37.52	-23 18.7	1.178	1.905	121.3	26.8	20.0
1998 09 24		19 37.28	-22 55.5	1.226	1.848	111.5	30.3	20.1
1998 10 04		19 41.45	-22 23.3	1.279	1.789	102.7	33.1	20.2
1998 10 14		19 49.58	-21 42.0	1.331	1.729	94.8	35.1	20.3
1998 10 24		20 01.20	-20 50.6	1.380	1.669	87.7	36.6	20.3
1998 11 03		20 15.88	-19 47.5	1.424	1.608	81.3	37.6	20.3
1998 11 13		20 33.19	-18 30.8	1.461	1.547	75.6	38.3	20.3
1998 11 23		20 52.82	-16 58.5	1.490	1.486	70.4	38.8	20.3
1998 12 03		21 14.52	-15 09.0	1.512	1.426	65.8	39.1	20.2
1998 12 13		21 38.06	-13 00.9	1.524	1.368	61.7	39.3	20.2

1997 MW₁

Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
$a, e, i = 0.94, 0.35, 13$ Elements MPC 30903								
1998 05 07		21 30.69	-12 26.1	0.796	1.233	85.3	54.6	21.5
1998 05 12		21 39.20	-10 31.7	0.767	1.242	87.5	54.4	21.4
1998 05 17		21 47.30	-08 32.2	0.737	1.249	89.8	54.1	21.3
1998 05 22		21 54.97	-06 27.1	0.705	1.255	92.1	53.7	21.2
1998 05 27		22 02.19	-04 15.9	0.673	1.259	94.4	53.4	21.1
1998 06 01		22 08.94	-01 57.7	0.640	1.261	96.8	53.0	21.0
1998 06 06		22 15.19	+00 28.3	0.607	1.262	99.1	52.5	20.9
1998 06 11		22 20.94	+03 03.2	0.574	1.262	101.4	52.1	20.7
1998 06 16		22 26.12	+05 48.2	0.541	1.259	103.7	51.6	20.6
1998 06 21		22 30.68	+08 44.8	0.508	1.255	106.0	51.1	20.4
1998 06 26		22 34.52	+11 54.4	0.476	1.250	108.2	50.6	20.3
1998 07 01		22 37.54	+15 18.7	0.445	1.243	110.2	50.2	20.1
1998 07 06		22 39.65	+18 59.4	0.415	1.234	112.0	49.8	19.9
1998 07 11		22 40.67	+22 58.6	0.386	1.224	113.6	49.6	19.7
1998 07 16		22 40.39	+27 18.1	0.360	1.212	114.7	49.7	19.5
1998 07 21		22 38.47	+31 59.1	0.335	1.198	115.3	50.1	19.4
1998 07 26		22 34.44	+37 01.8	0.312	1.183	115.2	51.0	19.2
1998 07 31		22 27.66	+42 25.1	0.291	1.166	114.4	52.5	19.1
1998 08 05		22 17.15	+48 06.2	0.274	1.148	112.6	54.7	19.0
1998 08 10		22 01.25	+53 59.5	0.259	1.128	109.7	57.8	18.9

1998 08 15	21 37.03	+59 54.3	0.246	1.106	105.9	61.7	18.9
1998 08 20	20 59.28	+65 31.1	0.237	1.083	101.2	66.4	18.9
1998 08 25	19 59.7	+70 14.4	0.230	1.058	95.6	71.9	18.9
1998 08 30	18 31.4	+73 03.4	0.225	1.032	89.4	78.0	19.1
1998 09 04	16 47.5	+72 52.3	0.223	1.005	82.7	84.5	19.2
1998 09 09	15 19.95	+69 41.4	0.223	0.976	75.7	91.5	19.4
1998 09 14	14 19.91	+64 32.6	0.226	0.946	68.4	98.8	19.7
1998 09 19	13 39.99	+58 19.7	0.231	0.915	61.0	106.2	20.1
1998 09 24	13 12.37	+51 32.5	0.240	0.884	53.9	113.5	20.5
1998 09 29	12 52.49	+44 27.9	0.252	0.851	47.3	120.2	21.0
1998 10 04	12 37.97	+37 18.6	0.269	0.818	41.5	125.9	21.5

1994 XZ ₄		$a, e, i = 2.60, 0.43, 10$				Elements <i>MPC</i> 26191		
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07		21 56.78	−21 15.2	2.381	2.460	82.4	24.0	21.5
1998 05 17		22 10.79	−20 47.4	2.212	2.412	88.7	24.8	21.3
1998 05 27		22 24.04	−20 26.8	2.045	2.363	95.2	25.3	21.1
1998 06 06		22 36.35	−20 15.9	1.882	2.314	101.9	25.4	20.9
1998 06 16		22 47.52	−20 17.1	1.724	2.265	108.7	25.1	20.6
1998 06 26		22 57.27	−20 33.3	1.573	2.215	115.9	24.4	20.3
1998 07 06		23 05.25	−21 07.0	1.431	2.165	123.5	23.1	20.1
1998 07 16		23 11.08	−22 00.0	1.301	2.115	131.4	21.1	19.7
1998 07 26		23 14.26	−23 13.0	1.184	2.065	139.5	18.6	19.4
1998 08 05		23 14.35	−24 43.4	1.084	2.015	147.7	15.6	19.1
1998 08 15		23 11.08	−26 24.5	1.001	1.966	154.9	12.6	18.7
1998 08 25		23 04.53	−28 04.6	0.938	1.917	159.2	10.8	18.5
1998 09 04		22 55.47	−29 27.6	0.897	1.870	157.8	11.7	18.3
1998 09 14		22 45.40	−30 17.9	0.875	1.823	151.5	15.3	18.4
1998 09 24		22 36.25	−30 24.7	0.871	1.778	143.0	19.8	18.4
1998 10 04		22 29.91	−29 45.0	0.883	1.735	134.1	24.5	18.6
1998 10 14		22 27.58	−28 23.0	0.907	1.694	125.5	28.6	18.7
1998 10 24		22 29.70	−26 25.0	0.940	1.656	117.7	32.1	18.8
1998 11 03		22 36.15	−23 57.8	0.980	1.621	110.5	35.0	18.9
1998 11 13		22 46.41	−21 07.1	1.024	1.589	104.2	37.1	19.1
1998 11 23		22 59.89	−17 56.8	1.072	1.562	98.6	38.7	19.2
1998 12 03		23 16.06	−14 30.5	1.122	1.539	93.5	39.7	19.3
1998 12 13		23 34.38	−10 51.4	1.175	1.521	89.0	40.3	19.4
1998 12 23		23 54.50	−07 02.8	1.231	1.508	85.0	40.5	19.4
1999 01 02		00 16.13	−03 08.3	1.290	1.500	81.3	40.4	19.5
1999 01 12		00 39.05	+00 48.1	1.353	1.498	78.0	40.0	19.6
1999 01 22		01 03.14	+04 42.2	1.420	1.501	74.8	39.3	19.7
1999 02 01		01 28.29	+08 29.8	1.491	1.510	71.9	38.3	19.8
1999 02 11		01 54.42	+12 06.7	1.568	1.525	69.0	37.2	19.9
1999 02 21		02 21.47	+15 28.9	1.649	1.544	66.3	35.9	20.0
1999 03 03		02 49.37	+18 33.0	1.735	1.568	63.5	34.5	20.1
1999 03 13		03 17.98	+21 16.0	1.826	1.597	60.8	32.9	20.2

1998 BZ ₇		$a, e, i = 2.04, 0.56, 6$				Elements <i>MPC</i> 31797		
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07		22 09.24	−01 05.8	0.435	0.972	72.6	82.1	18.5
1998 05 12		22 19.07	−01 40.8	0.458	0.997	75.3	78.4	18.5
1998 05 17		22 28.14	−02 11.8	0.479	1.026	78.1	74.7	18.6
1998 05 22		22 36.38	−02 40.8	0.497	1.057	81.1	71.2	18.6
1998 05 27		22 43.73	−03 09.8	0.512	1.090	84.4	67.7	18.6

1998 06 01	22 50.10	-03 40.6	0.525	1.125	87.9	64.3	18.6
1998 06 06	22 55.43	-04 14.6	0.536	1.161	91.6	60.9	18.6
1998 06 11	22 59.67	-04 53.0	0.544	1.199	95.7	57.4	18.6
1998 06 16	23 02.74	-05 37.0	0.551	1.237	100.0	54.0	18.6
1998 06 21	23 04.55	-06 27.5	0.556	1.276	104.7	50.4	18.6
1998 06 26	23 05.01	-07 25.3	0.560	1.316	109.8	46.6	18.6
1998 07 01	23 04.09	-08 30.7	0.564	1.356	115.1	42.7	18.6
1998 07 06	23 01.75	-09 43.5	0.568	1.396	120.9	38.7	18.5
1998 07 11	22 58.01	-11 02.9	0.574	1.436	127.0	34.4	18.5
1998 07 16	22 52.92	-12 27.6	0.581	1.477	133.3	30.1	18.5
1998 07 21	22 46.59	-13 55.7	0.591	1.517	140.0	25.5	18.4
1998 07 26	22 39.18	-15 24.6	0.604	1.556	146.7	21.0	18.4
1998 07 31	22 30.96	-16 51.4	0.621	1.596	153.6	16.4	18.4
1998 08 05	22 22.28	-18 13.2	0.644	1.635	160.3	12.1	18.3
1998 08 10	22 13.46	-19 27.4	0.671	1.674	166.4	8.2	18.3
1998 08 15	22 04.84	-20 32.2	0.704	1.712	170.9	5.4	18.3
1998 08 20	21 56.72	-21 26.5	0.743	1.750	171.1	5.1	18.5
1998 08 25	21 49.37	-22 09.9	0.788	1.787	167.2	7.2	18.8
1998 08 30	21 42.98	-22 42.6	0.837	1.824	161.9	9.9	19.1
1998 09 04	21 37.67	-23 05.5	0.892	1.861	156.4	12.6	19.3
1998 09 09	21 33.48	-23 19.6	0.952	1.897	150.9	15.0	19.6
1998 09 14	21 30.41	-23 26.0	1.017	1.932	145.5	17.1	19.9
1998 09 19	21 28.40	-23 25.7	1.086	1.967	140.4	19.0	20.1
1998 09 24	21 27.41	-23 19.6	1.158	2.001	135.5	20.6	20.3
1998 09 29	21 27.36	-23 08.7	1.235	2.035	130.7	21.9	20.6
1998 10 04	21 28.16	-22 53.6	1.314	2.068	126.2	23.0	20.8
1998 10 09	21 29.72	-22 34.9	1.396	2.101	121.7	23.9	21.0
1998 10 14	21 31.96	-22 13.1	1.481	2.133	117.5	24.5	21.1
1998 10 19	21 34.81	-21 48.6	1.568	2.165	113.3	25.0	21.3
1998 10 24	21 38.19	-21 21.7	1.656	2.196	109.3	25.3	21.5
1998 10 29	21 42.04	-20 52.7	1.747	2.226	105.3	25.5	21.6
1998 11 03	21 46.31	-20 21.7	1.838	2.256	101.5	25.5	21.8
1998 11 08	21 50.94	-19 49.1	1.931	2.286	97.7	25.4	21.9
1998 11 13	21 55.88	-19 14.9	2.024	2.315	94.0	25.2	22.0

1997 RY ₆		$a, e, i = 41.36, 0.00, 12$				Elements <i>MPC</i> 30904		
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07		23 46.36	+07 13.8	42.041	41.360	47.0	1.0	23.9
1998 05 17		23 46.99	+07 19.9	41.911	41.360	56.4	1.2	23.9
1998 05 27		23 47.50	+07 25.5	41.766	41.360	65.7	1.3	23.9
1998 06 06		23 47.87	+07 30.3	41.609	41.360	75.1	1.4	23.9
1998 06 16		23 48.11	+07 34.3	41.446	41.360	84.4	1.4	23.9
1998 06 26		23 48.20	+07 37.5	41.279	41.360	93.9	1.4	23.9
1998 07 06		23 48.14	+07 39.6	41.114	41.360	103.3	1.4	23.8
1998 07 16		23 47.94	+07 40.8	40.956	41.360	112.7	1.3	23.8
1998 07 26		23 47.60	+07 41.0	40.809	41.360	122.2	1.2	23.8
1998 08 05		23 47.15	+07 40.2	40.677	41.360	131.8	1.0	23.8
1998 08 15		23 46.58	+07 38.5	40.565	41.360	141.3	0.9	23.8
1998 08 25		23 45.93	+07 35.9	40.475	41.360	150.7	0.7	23.7
1998 09 04		23 45.22	+07 32.5	40.411	41.360	159.9	0.5	23.7
1998 09 14		23 44.46	+07 28.4	40.375	41.360	168.1	0.3	23.7
1998 09 24		23 43.69	+07 23.9	40.367	41.360	171.5	0.2	23.7
1998 10 04		23 42.93	+07 19.1	40.389	41.360	165.7	0.3	23.7

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1998 10 14	23 42.22	+07 14.2	40.441	41.360	156.9	0.5	23.7
1998 10 24	23 41.58	+07 09.3	40.519	41.360	147.3	0.7	23.7
1998 11 03	23 41.03	+07 04.7	40.624	41.360	137.4	0.9	23.8
1998 11 13	23 40.59	+07 00.6	40.750	41.360	127.5	1.1	23.8
1998 11 23	23 40.28	+06 57.0	40.895	41.360	117.4	1.2	23.8
1998 12 03	23 40.13	+06 54.2	41.054	41.360	107.4	1.3	23.8
1998 12 13	23 40.12	+06 52.4	41.223	41.360	97.3	1.4	23.8
1998 12 23	23 40.27	+06 51.5	41.395	41.360	87.3	1.4	23.9
1999 01 02	23 40.57	+06 51.6	41.565	41.360	77.3	1.3	23.9
1999 01 12	23 41.02	+06 52.8	41.729	41.360	67.3	1.3	23.9

1995 OO		$a, e, i = 2.15, 0.78, 24$				Elements <i>MPC</i> 31277		
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07		00 24.46	−14 44.3	1.077	0.863	48.7	61.5	19.0
1998 05 17		00 33.97	−12 36.1	1.163	1.007	54.7	55.0	19.3
1998 05 27		00 42.37	−10 40.1	1.218	1.147	61.1	50.6	19.6
1998 06 06		00 48.88	−09 02.3	1.247	1.282	68.1	47.3	19.8
1998 06 16		00 53.01	−07 44.5	1.255	1.410	75.9	44.3	19.9
1998 06 26		00 54.26	−06 47.6	1.246	1.532	84.6	41.3	20.0
1998 07 06		00 52.09	−06 12.7	1.225	1.648	94.2	38.0	20.1
1998 07 16		00 45.97	−05 59.9	1.199	1.759	104.9	33.9	20.0
1998 07 26		00 35.49	−06 09.0	1.173	1.866	116.8	29.1	20.0
1998 08 05		00 20.54	−06 37.8	1.156	1.967	129.9	23.3	19.9
1998 08 15		00 01.75	−07 20.9	1.158	2.065	144.0	16.8	19.8
1998 08 25		23 40.47	−08 10.3	1.184	2.158	158.7	9.8	19.7
1998 09 04		23 18.84	−08 56.3	1.243	2.247	172.9	3.2	19.5
1998 09 14		22 59.02	−09 31.2	1.334	2.332	170.9	3.9	19.8
1998 09 24		22 42.58	−09 51.2	1.457	2.415	157.6	9.1	20.3
1998 10 04		22 30.29	−09 56.1	1.607	2.493	145.0	13.3	20.8
1998 10 14		22 22.15	−09 47.5	1.780	2.569	133.3	16.4	21.2
1998 10 24		22 17.75	−09 27.4	1.971	2.642	122.5	18.5	21.5
1998 11 03		22 16.56	−08 57.7	2.174	2.712	112.4	19.8	21.8
1998 11 13		22 17.97	−08 20.0	2.385	2.779	102.9	20.3	22.1

1993 WD		$a, e, i = 1.01, 0.27, 63$				Elements <i>MPC</i> 31276		
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 05 07		00 59.58	−33 30.1	0.463	0.853	57.3	95.5	18.4
1998 05 12		01 46.48	−38 21.3	0.509	0.875	60.1	89.7	18.4
1998 05 17		02 29.68	−41 02.0	0.565	0.899	62.1	84.1	18.5
1998 05 22		03 07.05	−42 10.2	0.628	0.922	63.4	79.0	18.6
1998 05 27		03 38.30	−42 21.2	0.694	0.946	64.1	74.5	18.7
1998 06 01		04 04.12	−41 59.7	0.760	0.970	64.4	70.6	18.8
1998 06 06		04 25.51	−41 21.3	0.826	0.993	64.3	67.1	18.9
1998 06 11		04 43.43	−40 35.0	0.888	1.016	64.1	64.0	19.0
1998 06 16		04 58.69	−39 46.3	0.947	1.038	63.7	61.3	19.2
1998 06 21		05 11.88	−38 58.4	1.002	1.060	63.3	59.0	19.2
1998 06 26		05 23.45	−38 13.1	1.053	1.081	62.9	56.9	19.3
1998 07 01		05 33.73	−37 31.5	1.098	1.101	62.6	55.1	19.4
1998 07 06		05 42.96	−36 53.9	1.138	1.120	62.3	53.5	19.5
1998 07 11		05 51.34	−36 20.7	1.172	1.138	62.2	52.2	19.5
1998 07 16		05 59.01	−35 51.9	1.201	1.155	62.1	51.1	19.6
1998 07 21		06 06.08	−35 27.8	1.223	1.171	62.2	50.2	19.6
1998 07 26		06 12.62	−35 08.3	1.240	1.186	62.5	49.4	19.7
1998 07 31		06 18.66	−34 53.5	1.250	1.200	63.0	48.9	19.7

1998 08 05	06 24.25	-34 43.2	1.255	1.213	63.6	48.5	19.7
1998 08 10	06 29.42	-34 37.4	1.253	1.224	64.4	48.3	19.7
1998 08 15	06 34.17	-34 36.1	1.245	1.235	65.4	48.2	19.7
1998 08 20	06 38.50	-34 39.5	1.232	1.244	66.5	48.3	19.7
1998 08 25	06 42.40	-34 47.6	1.212	1.252	67.9	48.4	19.7
1998 08 30	06 45.81	-35 00.5	1.187	1.259	69.4	48.7	19.7
1998 09 04	06 48.70	-35 18.2	1.157	1.265	71.1	49.0	19.7
1998 09 09	06 51.02	-35 40.9	1.121	1.269	73.0	49.4	19.6
1998 09 14	06 52.67	-36 08.9	1.080	1.272	75.1	49.8	19.5
1998 09 19	06 53.54	-36 42.5	1.035	1.274	77.3	50.3	19.5
1998 09 24	06 53.46	-37 22.0	0.985	1.275	79.8	50.7	19.4
1998 09 29	06 52.21	-38 07.6	0.931	1.275	82.4	51.2	19.3
1998 10 04	06 49.50	-38 59.5	0.873	1.273	85.3	51.6	19.1
1998 10 09	06 44.94	-39 58.1	0.813	1.270	88.4	51.8	19.0
1998 10 14	06 37.94	-41 03.2	0.750	1.266	91.8	51.9	18.8
1998 10 19	06 27.66	-42 13.9	0.685	1.261	95.4	51.9	18.6
1998 10 24	06 12.89	-43 27.3	0.619	1.255	99.4	51.5	18.4
1998 10 29	05 51.97	-44 36.2	0.554	1.247	103.7	50.7	18.1
1998 11 03	05 22.72	-45 25.6	0.492	1.238	108.3	49.5	17.8
1998 11 08	04 42.93	-45 25.0	0.434	1.228	113.2	47.9	17.4
1998 11 13	03 51.97	-43 42.2	0.384	1.217	117.8	46.0	17.1
1998 11 18	02 53.64	-39 13.0	0.347	1.205	121.0	44.7	16.8
1998 11 23	01 56.32	-31 30.6	0.329	1.191	121.1	45.2	16.7
1998 11 28	01 07.56	-21 37.1	0.332	1.177	117.4	48.1	16.8
1998 12 03	00 29.79	-11 30.4	0.355	1.161	110.9	52.5	17.0
1998 12 08	00 01.69	-02 37.0	0.394	1.144	103.6	56.8	17.3
1998 12 13	23 40.94	+04 37.7	0.445	1.126	96.7	60.2	17.7
1998 12 18	23 25.46	+10 24.1	0.502	1.108	90.4	62.7	18.0
1998 12 23	23 13.72	+15 01.9	0.562	1.088	84.8	64.2	18.2
1998 12 28	23 04.59	+18 49.1	0.623	1.067	79.9	65.1	18.4
1999 01 02	22 57.26	+21 58.9	0.682	1.046	75.4	65.5	18.6
1999 01 07	22 51.19	+24 40.9	0.739	1.024	71.3	65.5	18.7
1999 01 12	22 45.96	+27 01.5	0.793	1.001	67.6	65.3	18.8
1999 01 17	22 41.28	+29 05.4	0.842	0.978	64.2	64.9	18.9
1999 01 22	22 36.92	+30 55.4	0.886	0.954	61.1	64.5	18.9
1999 01 27	22 32.67	+32 33.5	0.923	0.931	58.3	64.2	18.9

C/1998 J1 (SOHO)

Date		TT	α_{2000}	δ_{2000}	Δ	r	Elements <i>MPC</i> 31662			
							ϵ	ϕ	m_1	m_2
1998 05 07	02 47.69	+24 06.1	1.137	0.191	7.6	44.3	-0.9			
1998 05 12	03 59.81	+24 22.3	0.980	0.215	12.3	91.9	-0.7			
1998 05 17	04 57.60	+16 47.0	0.878	0.352	19.9	101.9	1.2			
1998 05 22	05 42.48	+07 25.5	0.841	0.495	29.2	94.9	2.6			
1998 05 27	06 20.07	-01 36.8	0.851	0.630	38.2	85.0	3.6			
1998 06 01	06 52.68	-09 31.9	0.891	0.756	46.2	75.5	4.5			
1998 06 06	07 21.54	-16 07.4	0.954	0.875	52.7	67.2	5.3			
1998 06 11	07 47.40	-21 29.0	1.031	0.989	57.8	60.3	6.0			
1998 06 16	08 10.85	-25 49.4	1.118	1.098	61.7	54.6	6.6			
1998 06 21	08 32.30	-29 21.6	1.213	1.202	64.6	49.8	7.2			
1998 06 26	08 52.11	-32 16.6	1.312	1.303	66.6	45.7	7.7			
1998 07 01	09 10.54	-34 43.2	1.415	1.401	68.1	42.3	8.2			
1998 07 06	09 27.79	-36 48.1	1.520	1.495	69.0	39.4	8.7			
1998 07 11	09 44.06	-38 36.2	1.627	1.588	69.5	36.8	9.1			

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1998 07 16	09 59.48	−40 11.3	1.735	1.678	69.6	34.6	9.4
1998 07 21	10 14.19	−41 36.3	1.845	1.765	69.4	32.6	9.8
1998 07 26	10 28.30	−42 53.4	1.954	1.851	69.0	30.8	10.1

110P/Hartley 3						Elements <i>MPC</i> 31663			
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1	m_2
1998 05 27		20 26.08	−17 46.5	4.039	4.643	121.0	10.8		22.5
1998 06 06		20 23.94	−17 38.9	3.904	4.634	131.1	9.5		22.4
1998 06 16		20 20.35	−17 35.6	3.786	4.624	141.4	7.9		22.3
1998 06 26		20 15.44	−17 36.2	3.691	4.614	152.1	5.9		22.1
1998 07 06		20 09.46	−17 40.0	3.622	4.603	162.9	3.7		22.0
1998 07 16		20 02.77	−17 45.8	3.581	4.592	173.6	1.4		21.8
1998 07 26		19 55.80	−17 52.5	3.570	4.581	173.9	1.3		21.7
1998 08 05		19 49.04	−17 59.2	3.589	4.569	163.2	3.7		21.9
1998 08 15		19 42.93	−18 04.9	3.636	4.557	152.2	5.9		22.1
1998 08 25		19 37.88	−18 09.0	3.710	4.544	141.5	8.0		22.2
1998 09 04		19 34.18	−18 11.1	3.806	4.531	131.0	9.7		22.3
1998 09 14		19 32.00	−18 10.8	3.920	4.518	120.8	11.0		22.4
1998 09 24		19 31.41	−18 08.0	4.048	4.504	110.9	12.0		22.5

1991 PM ₅			$a, e, i = 1.72, 0.26, 14$					Elements <i>MPC</i> 28614	
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V	
1998 05 27		00 19.15	−00 45.3	1.547	1.387	61.5	39.9	20.7	
1998 06 06		00 45.97	+00 26.8	1.516	1.415	64.5	40.3	20.7	
1998 06 16		01 11.66	+01 25.7	1.482	1.445	67.7	40.6	20.8	
1998 06 26		01 36.15	+02 09.3	1.445	1.477	71.3	40.7	20.7	
1998 07 06		01 59.28	+02 35.7	1.404	1.510	75.3	40.6	20.7	
1998 07 16		02 20.90	+02 43.5	1.359	1.544	79.6	40.4	20.7	
1998 07 26		02 40.77	+02 31.4	1.311	1.578	84.4	39.8	20.7	
1998 08 05		02 58.59	+01 58.2	1.260	1.613	89.6	39.0	20.6	
1998 08 15		03 14.02	+01 03.7	1.207	1.647	95.4	37.7	20.5	
1998 08 25		03 26.65	−00 12.5	1.153	1.682	101.8	36.0	20.4	
1998 09 04		03 35.96	−01 49.4	1.100	1.716	108.8	33.8	20.3	
1998 09 14		03 41.48	−03 44.4	1.050	1.749	116.5	31.0	20.1	
1998 09 24		03 42.70	−05 52.7	1.007	1.781	124.8	27.6	20.0	
1998 10 04		03 39.33	−08 05.6	0.973	1.813	133.4	23.7	19.8	
1998 10 14		03 31.53	−10 10.3	0.954	1.843	141.6	19.6	19.7	
1998 10 24		03 20.05	−11 51.3	0.953	1.873	148.1	16.3	19.6	
1998 11 03		03 06.46	−12 53.7	0.972	1.901	150.9	14.7	19.7	
1998 11 13		02 52.75	−13 09.5	1.013	1.928	148.6	15.5	19.8	
1998 11 23		02 40.79	−12 38.7	1.075	1.953	142.6	17.9	20.0	
1998 12 03		02 31.97	−11 28.3	1.156	1.978	134.7	20.7	20.3	
1998 12 13		02 26.83	−09 49.1	1.253	2.000	126.4	23.3	20.6	
1998 12 23		02 25.38	−07 50.9	1.363	2.022	118.1	25.4	20.9	
1999 01 02		02 27.31	−05 41.8	1.483	2.042	110.1	26.9	21.1	
1999 01 12		02 32.17	−03 27.7	1.609	2.060	102.6	27.8	21.3	
1999 01 22		02 39.50	−01 12.6	1.740	2.077	95.3	28.2	21.5	
1999 02 01		02 48.92	+01 00.7	1.872	2.092	88.5	28.1	21.7	
1999 02 11		03 00.07	+03 10.1	2.004	2.106	81.9	27.6	21.9	
1999 02 21		03 12.70	+05 14.3	2.135	2.118	75.6	26.9	22.0	

(8035) 1992 TB			$a, e, i = 1.34, 0.46, 28$					Elements <i>MPC</i> 30861		
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1	m_2	
1998 05 27		01 27.1	+72 16.1	0.440	0.851	56.2	98.4	18.7		
1998 06 01		00 30.4	+73 02.1	0.461	0.885	60.7	92.2	18.6		
1998 06 06		23 42.1	+72 46.3	0.482	0.921	65.0	86.7	18.6		
1998 06 11		23 03.6	+71 56.4	0.500	0.959	69.1	81.7	18.6		
1998 06 16		22 32.9	+70 49.0	0.516	0.997	73.1	77.2	18.6		
1998 06 21		22 07.78	+69 31.2	0.530	1.035	77.0	73.1	18.6		
1998 06 26		21 46.26	+68 04.2	0.540	1.074	81.0	69.2	18.5		
1998 07 01		21 27.26	+66 26.2	0.549	1.113	85.0	65.6	18.5		
1998 07 06		21 10.18	+64 34.8	0.555	1.151	89.1	62.0	18.5		
1998 07 11		20 54.78	+62 27.1	0.560	1.189	93.3	58.6	18.5		
1998 07 16		20 40.94	+60 00.8	0.564	1.226	97.6	55.3	18.5		
1998 07 21		20 28.70	+57 13.7	0.567	1.262	102.0	51.9	18.5		
1998 07 26		20 18.13	+54 04.8	0.571	1.298	106.4	48.6	18.5		
1998 07 31		20 09.31	+50 34.6	0.577	1.333	110.7	45.4	18.5		
1998 08 05		20 02.24	+46 45.4	0.585	1.367	114.9	42.3	18.5		
1998 08 10		19 56.86	+42 40.7	0.595	1.401	118.7	39.4	18.5		
1998 08 15		19 53.06	+38 25.4	0.610	1.433	122.0	36.8	18.5		
1998 08 20		19 50.73	+34 04.7	0.629	1.464	124.6	34.7	18.6		
1998 08 25		19 49.76	+29 44.5	0.653	1.494	126.5	33.0	18.6		
1998 08 30		19 50.02	+25 30.6	0.683	1.524	127.4	31.8	18.7		
1998 09 04		19 51.40	+21 27.9	0.717	1.552	127.4	31.1	18.9		
1998 09 09		19 53.74	+17 40.0	0.757	1.580	126.6	30.8	19.0		
1998 09 14		19 56.94	+14 09.3	0.801	1.606	125.0	30.9	19.2		
1998 09 19		20 00.89	+10 57.0	0.851	1.632	122.9	31.1	19.3		
1998 09 24		20 05.51	+08 03.4	0.904	1.656	120.4	31.5	19.5		
1998 09 29		20 10.73	+05 28.5	0.962	1.680	117.6	31.9	19.7		
1998 10 04		20 16.46	+03 11.2	1.023	1.702	114.5	32.3	19.9		
1998 10 09		20 22.64	+01 10.6	1.087	1.724	111.4	32.7	20.0		
1998 10 14		20 29.19	−00 34.7	1.154	1.744	108.1	32.9	20.2		
1998 10 19		20 36.09	−02 05.8	1.223	1.764	104.8	33.1	20.4		
1998 10 24		20 43.29	−03 24.1	1.293	1.783	101.5	33.1	20.5		
1998 10 29		20 50.74	−04 30.7	1.365	1.800	98.3	33.1	20.6		
1998 11 03		20 58.43	−05 26.6	1.439	1.817	95.0	33.0	20.8		
1998 11 08		21 06.29	−06 12.9	1.513	1.833	91.7	32.7	20.9		
1998 11 13		21 14.32	−06 50.6	1.587	1.848	88.5	32.4	21.0		
1998 11 18		21 22.50	−07 20.3	1.661	1.862	85.3	32.0	21.1		
1998 11 23		21 30.81	−07 42.9	1.736	1.875	82.1	31.4	21.2		
1998 11 28		21 39.22	−07 59.0	1.809	1.887	78.9	30.9	21.3		
1998 12 03		21 47.72	−08 09.1	1.882	1.898	75.8	30.2	21.4		
1998 12 08		21 56.30	−08 14.0	1.954	1.908	72.7	29.5	21.4		
1998 12 13		22 04.94	−08 13.9	2.024	1.918	69.6	28.8	21.5		
1998 12 18		22 13.64	−08 09.5	2.093	1.926	66.6	27.9	21.6		
1998 12 23		22 22.40	−08 01.0	2.160	1.934	63.5	27.1	21.6		
1998 12 28		22 31.20	−07 48.8	2.225	1.941	60.5	26.2	21.7		
1999 01 02		22 40.04	−07 33.4	2.288	1.946	57.6	25.2	21.7		

52P/Harrington-Abell			Elements <i>MPC</i> 27081						
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1	m_2
1998 05 27		02 01.58	+18 29.2	3.576	2.761	31.3	11.0		22.2
1998 06 06		02 17.74	+20 09.9	3.449	2.704	36.7	13.0		22.1
1998 06 16		02 34.37	+21 49.3	3.314	2.647	42.0	14.9		22.0

1998 06 26	02 51.49	+23 27.0	3.171	2.591	47.2	16.7		22.0
1998 07 06	03 09.08	+25 02.3	3.023	2.534	52.4	18.5		21.9
1998 07 16	03 27.16	+26 34.7	2.871	2.478	57.5	20.2	21.7	21.8
1998 07 26	03 45.72	+28 03.6	2.715	2.423	62.7	21.9	21.4	21.6
1998 08 05	04 04.72	+29 28.5	2.557	2.368	67.8	23.4	21.2	21.5
1998 08 15	04 24.13	+30 48.9	2.398	2.313	72.9	24.7	20.9	21.4
1998 08 25	04 43.85	+32 04.4	2.241	2.260	78.1	26.0	20.6	21.2
1998 09 04	05 03.77	+33 14.7	2.085	2.208	83.3	27.0	20.3	21.0
1998 09 14	05 23.76	+34 19.8	1.932	2.157	88.7	27.8	19.9	20.8
1998 09 24	05 43.58	+35 19.8	1.783	2.108	94.1	28.3	19.6	20.6
1998 10 04	06 02.94	+36 15.1	1.640	2.061	99.7	28.6	19.3	20.4
1998 10 14	06 21.53	+37 06.3	1.504	2.015	105.6	28.5	19.0	20.2
1998 10 24	06 38.88	+37 54.3	1.375	1.973	111.7	27.9	18.6	19.9
1998 11 03	06 54.43	+38 39.9	1.256	1.933	118.2	26.9	18.3	19.6
1998 11 13	07 07.60	+39 23.4	1.146	1.897	125.1	25.3	18.0	19.3
1998 11 23	07 17.63	+40 04.2	1.049	1.864	132.4	23.0	17.7	19.0
1998 12 03	07 23.88	+40 39.5	0.966	1.834	140.1	20.1	17.4	18.7
1998 12 13	07 25.94	+41 03.8	0.897	1.809	148.1	16.7	17.1	18.4
1998 12 23	07 23.86	+41 08.8	0.846	1.789	155.7	13.1	16.9	18.2
1999 01 02	07 18.65	+40 44.8	0.814	1.773	161.1	10.3	16.8	18.0
1999 01 12	07 12.12	+39 46.0	0.802	1.763	161.5	10.2	16.7	17.9
1999 01 22	07 06.51	+38 12.8	0.810	1.757	156.4	13.0	16.7	18.0
1999 02 01	07 03.79	+36 13.2	0.838	1.756	148.7	16.9	16.8	18.2
1999 02 11	07 04.93	+33 58.4	0.884	1.761	140.5	20.9	16.9	18.5
1999 02 21	07 10.12	+31 38.3	0.946	1.771	132.5	24.3	17.1	18.8
1999 03 03	07 18.97	+29 19.1	1.022	1.786	125.0	27.0	17.3	19.0
1999 03 13	07 30.77	+27 03.8	1.111	1.806	118.1	29.1	17.6	19.3
1999 03 23	07 44.85	+24 52.6	1.210	1.830	111.7	30.4	17.9	19.5
1999 04 02	08 00.60	+22 44.7	1.318	1.858	105.8	31.2	18.1	19.8
1999 04 12	08 17.48	+20 39.1	1.435	1.891	100.2	31.4	18.4	20.0
1999 04 22	08 35.09	+18 34.5	1.559	1.927	95.0	31.3	18.7	20.2
1999 05 02	08 53.12	+16 30.2	1.689	1.966	89.9	30.8	19.0	20.4
1999 05 12	09 11.33	+14 25.7	1.825	2.008	85.0	30.1	19.3	20.6
1999 05 22	09 29.57	+12 20.6	1.965	2.052	80.3	29.1	19.6	20.8
1999 06 01	09 47.73	+10 15.0	2.108	2.099	75.6	27.9	19.9	21.0
1999 06 11	10 05.73	+08 09.0	2.254	2.148	70.9	26.5	20.2	21.1
1999 06 21	10 23.53	+06 02.9	2.401	2.199	66.3	25.0	20.5	21.3
1999 07 01	10 41.11	+03 56.8	2.549	2.251	61.6	23.4	20.8	21.4
1999 07 11	10 58.46	+01 51.3	2.695	2.304	56.9	21.7	21.1	21.5
1999 07 21	11 15.59	-00 13.3	2.840	2.358	52.2	19.9	21.4	21.6
1999 07 31	11 32.51	-02 16.6	2.982	2.413	47.4	18.0	21.6	21.7
1999 08 10	11 49.23	-04 18.3	3.119	2.468	42.5	16.1		21.8
1999 08 20	12 05.78	-06 17.9	3.250	2.525	37.6	14.1		21.9
1999 08 30	12 22.16	-08 15.0	3.374	2.581	32.5	12.2		21.9

C/1995 O1 (Hale-Bopp)				Elements MPC 31204				
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1 m_2
1998 06 06		05 56.46	-49 41.8	5.685	5.485	73.6	10.2	9.2
1998 06 16		06 06.41	-49 57.7	5.780	5.578	73.6	10.1	9.3
1998 06 26		06 16.41	-50 25.7	5.870	5.671	73.8	9.9	9.4
1998 07 06		06 26.33	-51 05.6	5.957	5.764	74.2	9.8	9.5
1998 07 16		06 36.05	-51 56.6	6.041	5.856	74.7	9.6	9.6
1998 07 26		06 45.46	-52 58.3	6.122	5.947	75.4	9.5	9.7

1998 08 05	06 54.43	-54 09.8	6.200	6.038	76.1	9.4	9.8
1998 08 15	07 02.82	-55 30.3	6.277	6.128	76.9	9.3	9.9
1998 08 25	07 10.47	-56 58.7	6.354	6.217	77.7	9.1	10.0
1998 09 04	07 17.18	-58 33.9	6.429	6.306	78.5	9.0	10.0
1998 09 14	07 22.75	-60 14.4	6.505	6.394	79.3	8.9	10.1
1998 09 24	07 26.91	-61 58.9	6.580	6.482	80.0	8.8	10.2
1998 10 04	07 29.34	-63 45.3	6.657	6.570	80.7	8.6	10.3
1998 10 14	07 29.69	-65 31.7	6.735	6.657	81.3	8.5	10.4
1998 10 24	07 27.54	-67 15.5	6.813	6.743	81.8	8.4	10.5
1998 11 03	07 22.44	-68 54.0	6.894	6.829	82.1	8.3	10.5
1998 11 13	07 14.0	-70 23.8	6.975	6.915	82.4	8.2	10.6
1998 11 23	07 02.0	-71 41.4	7.057	7.000	82.6	8.0	10.7
1998 12 03	06 46.5	-72 43.1	7.141	7.084	82.7	7.9	10.8
1998 12 13	06 28.1	-73 25.7	7.225	7.168	82.8	7.8	10.8
1998 12 23	06 08.1	-73 47.1	7.310	7.252	82.8	7.7	10.9
1999 01 02	05 48.1	-73 47.0	7.395	7.335	82.7	7.6	11.0
1999 01 12	05 29.7	-73 26.9	7.479	7.418	82.7	7.6	11.1
1999 01 22	05 14.2	-72 50.1	7.563	7.501	82.6	7.5	11.1
1999 02 01	05 02.1	-72 00.6	7.647	7.583	82.6	7.4	11.2
1999 02 11	04 53.7	-71 02.5	7.729	7.664	82.6	7.3	11.3
1999 02 21	04 48.60	-69 59.6	7.810	7.746	82.7	7.3	11.4
1999 03 03	04 46.47	-68 55.1	7.889	7.827	82.8	7.2	11.4
1999 03 13	04 46.83	-67 51.6	7.967	7.907	83.0	7.2	11.5
1999 03 23	04 49.29	-66 51.2	8.044	7.987	83.2	7.1	11.6
1999 04 02	04 53.45	-65 55.6	8.119	8.067	83.5	7.1	11.6
1999 04 12	04 58.99	-65 06.0	8.193	8.147	83.8	7.0	11.7
1999 04 22	05 05.65	-64 23.4	8.266	8.226	84.2	7.0	11.7
1999 05 02	05 13.20	-63 48.7	8.338	8.305	84.6	6.9	11.8
1999 05 12	05 21.43	-63 22.1	8.409	8.383	85.1	6.9	11.9
1999 05 22	05 30.20	-63 04.2	8.481	8.461	85.5	6.8	11.9
1999 06 01	05 39.33	-62 55.2	8.552	8.539	85.9	6.8	12.0
1999 06 11	05 48.70	-62 55.0	8.624	8.616	86.2	6.8	12.0
1999 06 21	05 58.19	-63 03.7	8.696	8.694	86.5	6.7	12.1
1999 07 01	06 07.67	-63 21.1	8.770	8.770	86.7	6.6	12.1
1999 07 11	06 17.03	-63 46.9	8.845	8.847	86.8	6.6	12.2
1999 07 21	06 26.13	-64 20.6	8.921	8.923	86.9	6.5	12.3
1999 07 31	06 34.86	-65 01.9	8.999	8.999	86.8	6.5	12.3
1999 08 10	06 43.06	-65 50.1	9.079	9.075	86.6	6.4	12.4
1999 08 20	06 50.59	-66 44.6	9.161	9.150	86.2	6.3	12.4
1999 08 30	06 57.24	-67 44.5	9.244	9.225	85.8	6.3	12.5
1999 09 09	07 02.82	-68 48.8	9.329	9.300	85.3	6.2	12.5
1999 09 19	07 07.07	-69 56.5	9.415	9.375	84.7	6.1	12.6
1999 09 29	07 09.7	-71 06.4	9.502	9.449	84.0	6.1	12.6
1999 10 09	07 10.3	-72 16.9	9.589	9.523	83.2	6.0	12.7
1999 10 19	07 08.6	-73 26.4	9.677	9.597	82.4	5.9	12.8
1999 10 29	07 04.2	-74 32.8	9.765	9.670	81.6	5.8	12.8
1999 11 08	06 56.5	-75 34.0	9.851	9.743	80.9	5.8	12.9
1999 11 18	06 45.5	-76 27.5	9.937	9.816	80.2	5.7	12.9

123P/West-Hartley				Elements MPC 25932				
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1 m_2
1998 06 06		20 18.19	-36 33.6	3.963	4.728	134.3	8.8	22.5
1998 06 16		20 13.56	-37 17.3	3.898	4.755	143.7	7.3	22.4

1998 MAY 11

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1998 06 26	20 07.46	−37 58.4	3.857	4.782	152.6	5.6	22.3
1998 07 06	20 00.26	−38 33.8	3.843	4.809	159.6	4.2	22.2
1998 07 16	19 52.44	−39 01.1	3.857	4.835	162.2	3.7	22.2
1998 07 26	19 44.54	−39 18.5	3.900	4.860	158.7	4.3	22.3
1998 08 05	19 37.14	−39 25.4	3.971	4.886	151.4	5.7	22.4
1998 08 15	19 30.74	−39 22.3	4.068	4.910	142.5	7.2	22.5

1987 OA		$a, e, i = 1.50, 0.60, 9$				Elements <i>MPC</i> 30469		
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	V
1998 06 06		20 39.23	−01 07.9	0.894	1.668	121.6	31.2	21.2
1998 06 16		20 43.91	+01 26.1	0.749	1.592	128.2	30.1	20.7
1998 06 26		20 45.44	+04 22.1	0.612	1.511	134.7	28.6	20.1
1998 07 06		20 42.59	+07 49.4	0.487	1.426	140.4	27.0	19.4
1998 07 16		20 33.29	+12 06.8	0.372	1.336	144.1	26.5	18.7
1998 07 26		20 12.71	+17 55.1	0.271	1.241	142.5	29.9	17.9
1998 08 05		19 27.27	+26 48.4	0.184	1.143	130.7	42.3	17.3
1998 08 15		17 23.27	+40 10.9	0.121	1.041	99.9	73.5	17.1
1998 08 25		13 13.88	+37 11.3	0.117	0.937	48.0	126.7	19.6

P/1991 V2 (Shoemaker-Levy 7)					Elements <i>MPC</i> 25183				
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1	m_2
1998 06 06		01 31.44	+16 24.7	2.375	1.860	48.3	24.0	19.9	
1998 06 16		01 56.03	+19 13.0	2.278	1.824	51.3	25.8	19.7	
1998 06 26		02 21.65	+21 55.2	2.185	1.792	54.3	27.4	19.5	
1998 07 06		02 48.33	+24 27.8	2.096	1.764	57.1	28.9	19.3	
1998 07 16		03 16.02	+26 47.6	2.011	1.741	60.0	30.4	19.1	
1998 07 26		03 44.63	+28 51.4	1.931	1.722	62.8	31.6	19.0	
1998 08 05		04 13.90	+30 35.8	1.855	1.709	65.7	32.8	18.8	
1998 08 15		04 43.53	+31 58.8	1.782	1.700	68.7	33.7	18.7	
1998 08 25		05 13.07	+32 59.0	1.713	1.697	71.9	34.5	18.6	
1998 09 04		05 41.98	+33 36.4	1.647	1.700	75.4	35.0	18.5	
1998 09 14		06 09.72	+33 52.3	1.583	1.708	79.1	35.3	18.5	
1998 09 24		06 35.72	+33 49.4	1.520	1.721	83.4	35.4	18.4	
1998 10 04		06 59.42	+33 31.3	1.457	1.740	88.1	35.1	18.4	
1998 10 14		07 20.35	+33 02.1	1.396	1.763	93.4	34.4	18.4	
1998 10 24		07 37.99	+32 26.6	1.336	1.790	99.4	33.2	18.4	
1998 11 03		07 51.90	+31 48.9	1.277	1.822	106.2	31.5	18.4	
1998 11 13		08 01.67	+31 12.3	1.222	1.858	113.9	29.2	18.5	
1998 11 23		08 06.89	+30 39.1	1.173	1.897	122.6	26.0	18.5	
1998 12 03		08 07.37	+30 09.5	1.133	1.939	132.3	22.1	18.6	
1998 12 13		08 03.24	+29 41.3	1.107	1.984	143.0	17.4	18.7	
1998 12 23		07 55.17	+29 10.8	1.098	2.031	154.5	12.0	18.8	
1999 01 02		07 44.51	+28 33.9	1.112	2.080	166.2	6.5	19.0	
1999 01 12		07 33.11	+27 48.5	1.151	2.131	173.9	2.8	19.2	
1999 01 22		07 22.80	+26 55.6	1.215	2.183	166.1	6.2	19.5	
1999 02 01		07 15.02	+25 58.8	1.305	2.237	154.9	10.8	19.8	
1999 02 11		07 10.48	+25 01.7	1.418	2.291	144.0	14.7	20.2	
1999 02 21		07 09.32	+24 06.8	1.550	2.346	133.8	17.7	20.5	
1999 03 03		07 11.31	+23 15.0	1.699	2.402	124.4	19.9	20.9	

65P/Gunn						Elements <i>MPC</i> 29285			
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1	m_2
1998 06 06		02 50.51	+11 30.6	4.905	4.078	31.8	7.5	17.6	21.0
1998 06 16		03 00.10	+12 16.1	4.843	4.101	38.8	8.9	17.6	21.1

1998 06 26	03 09.23	+12 57.0	4.765	4.123	45.9	10.2	17.6	21.1
1998 07 06	03 17.78	+13 33.2	4.672	4.145	53.3	11.3	17.6	21.1
1998 07 16	03 25.63	+14 04.4	4.567	4.167	60.8	12.3	17.6	21.1
1998 07 26	03 32.66	+14 30.9	4.452	4.188	68.5	13.0	17.6	21.1
1998 08 05	03 38.72	+14 52.5	4.327	4.209	76.6	13.6	17.5	21.1
1998 08 15	03 43.66	+15 09.2	4.197	4.229	84.9	13.8	17.5	21.0
1998 08 25	03 47.32	+15 21.2	4.065	4.249	93.6	13.7	17.5	21.0
1998 09 04	03 49.54	+15 28.6	3.933	4.269	102.7	13.3	17.4	20.9
1998 09 14	03 50.22	+15 31.4	3.806	4.288	112.2	12.5	17.4	20.8
1998 09 24	03 49.24	+15 29.9	3.689	4.307	122.1	11.4	17.3	20.7
1998 10 04	03 46.61	+15 24.2	3.586	4.325	132.5	9.8	17.3	20.6
1998 10 14	03 42.40	+15 14.9	3.502	4.343	143.4	7.9	17.3	20.5
1998 10 24	03 36.82	+15 02.5	3.442	4.361	154.6	5.6	17.3	20.3
1998 11 03	03 30.23	+14 48.3	3.409	4.378	165.9	3.2	17.3	20.2
1998 11 13	03 23.09	+14 33.4	3.408	4.395	175.8	1.0	17.3	20.0
1998 11 23	03 15.92	+14 19.5	3.437	4.412	169.3	2.4	17.4	20.2
1998 12 03	03 09.26	+14 08.4	3.499	4.428	157.9	4.8	17.4	20.4
1998 12 13	03 03.58	+14 01.6	3.589	4.443	146.5	7.0	17.5	20.5
1998 12 23	02 59.19	+14 00.3	3.704	4.459	135.4	8.9	17.6	20.7
1999 01 02	02 56.33	+14 05.2	3.841	4.473	124.6	10.4	17.7	20.8
1999 01 12	02 55.07	+14 16.3	3.994	4.488	114.2	11.5	17.8	21.0
1999 01 22	02 55.39	+14 33.6	4.159	4.502	104.2	12.2	17.9	21.1
1999 02 01	02 57.23	+14 56.3	4.329	4.515	94.5	12.6	18.0	21.2
1999 02 11	03 00.44	+15 23.8	4.501	4.528	85.3	12.5	18.1	21.3
1999 02 21	03 04.90	+15 55.2	4.672	4.541	76.4	12.2	18.2	21.4
1999 03 03	03 10.45	+16 29.5	4.836	4.554	67.8	11.6	18.3	21.4
1999 03 13	03 16.96	+17 05.9	4.990	4.565	59.4	10.8	18.4	21.5
1999 03 23	03 24.29	+17 43.6	5.133	4.577	51.3	9.8	18.5	21.5
1999 04 02	03 32.31	+18 21.9	5.262	4.588	43.4	8.6	18.5	21.5
1999 04 12	03 40.91	+19 00.0	5.375	4.599	35.7	7.3	18.6	21.5

30P/Reinmuth 1				Elements <i>MPC</i> 27080					
Date	TT	α_{2000}	δ_{2000}	Δ	r	ϵ	ϕ	m_1	m_2
1998 06 16		20 20.07	−18 56.3	4.586	5.421	141.8	6.7		22.5
1998 06 26		20 15.44	−19 16.7	4.513	5.435	152.5	5.0		22.4
1998 07 06		20 09.97	−19 39.5	4.468	5.450	163.4	3.1		22.2
1998 07 16		20 03.97	−20 03.3	4.451	5.463	174.4	1.0		22.1
1998 07 26		19 57.78	−20 27.0	4.465	5.477	174.6	1.0		22.1
1998 08 05		19 51.78	−20 49.3	4.509	5.489	163.6	3.0		22.3
1998 08 15		19 46.34	−21 09.2	4.582	5.502	152.7	4.8		22.4

OPPOSITION DATA

Planet	Opposition	α_{2000}	δ_{2000}	V	$\dot{\alpha}$	$\dot{\delta}$	ϕ_{MIN}	<i>MPC</i>
1998 FZ ₇₄	1998 04 11.0	13 17.50	−09 28.3	17.1	−0.87	+ 2.2	0.4/11.4	31762
1991 VY ₁₂	1998 04 11.0	13 17.50	−12 13.3	17.9	−0.81	+ 5.6	1.2/12.3	31719
(7662)	1998 04 11.0	13 17.57	−07 34.6	16.0	−0.67	+ 8.5	0.2/10.8	31578
1998 ED ₃	1998 04 11.0	13 17.74	+04 49.6	18.0	−0.90	+ 4.7	5.1/07.1	31803
1993 HJ ₃	1998 04 11.1	13 17.86	−02 58.3	17.4	−0.79	+ 4.7	1.7/09.5	31788
1989 TR ₃	1998 04 11.1	13 17.97	−00 34.0	17.8	−0.69	+ 6.7	2.3/08.5	31783
1998 DO ₂₃	1998 04 11.1	13 18.10	−17 44.0	18.0	−1.66	− 4.4	4.6/12.8	31562
1998 GN ₇	1998 04 11.1	13 18.13	+11 40.8	16.1	−0.81	+ 6.0	5.8/04.3	31771
1998 DG ₂₀	1998 04 11.2	13 18.21	+07 25.8	17.0	−0.91	+ 4.3	6.2/06.3	31802
1978 VA ₅	1998 04 11.2	13 18.41	−04 15.6	19.7	−0.69	+ 4.1	0.9/10.0	31223

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1998 MAY 11

(8693)	1998 04 11.2	13 18.45 +02 44.0 16.6	-0.90 + 6.1	3.6/07.8	31685	1995 WO ₄₂	1998 04 12.8	13 24.01 +03 36.8 18.1	-0.84 + 1.2	3.3/09.3	31729
(8679)	1998 04 11.2	13 18.53 -07 52.4 17.9	-0.74 + 4.6	0.1/11.2	31682	1987 RQ ₂	1998 04 12.8	13 24.39 -05 52.2 18.2	-0.89 + 4.7	0.9/12.0	31782
(8715)	1998 04 11.2	13 18.55 +00 04.5 17.4	-1.01 + 4.7	3.1/08.8	31690	1995 QO	1998 04 12.8	13 24.42 -16 40.4 21.1	-0.85 + 3.5	2.0/15.2	26176
4125 T-3	1998 04 11.2	13 18.55 -04 34.9 19.8	-0.87 + 3.3	1.0/10.2	27124	(8671)	1998 04 12.9	13 24.40 -14 20.4 17.8	-0.95 + 5.8	2.0/14.6	31680
1998 FS ₇₂	1998 04 11.3	13 18.58 +02 12.3 18.3	-0.95 + 2.9	4.3/08.3	31761	1977 RQ ₁₉	1998 04 12.9	13 24.57 -05 03.1 18.2	-0.91 + 6.4	1.4/11.7	31779
1994 RN	1998 04 11.3	13 18.65 -00 29.7 18.3	-0.69 + 6.7	2.3/08.6	31727	1998 FC ₇₅	1998 04 12.9	13 24.59 -07 40.4 17.2	-0.77 + 8.5	0.4/12.5	31762
1998 FF ₇₅	1998 04 11.3	13 18.75 -07 14.4 16.6	-1.03 + 3.2	0.4/11.1	31762	(8747)	1998 04 12.9	13 24.79 -06 18.2 16.7	-0.70 + 7.1	0.7/12.1	31698
1990 RD	1998 04 11.4	13 18.89 -03 40.5 17.9	-0.74 + 5.9	1.2/09.9	31784	(8407)	1998 04 13.0	13 24.74 +04 47.2 16.4	-0.88 + 7.0	6.1/08.4	31367
1998 FH ₁₁₈	1998 04 11.4	13 19.28 -14 13.7 17.6	-0.98 + 4.0	2.0/13.2	31768	(8633)	1998 04 13.0	13 24.93 -15 25.7 16.9	-0.87 + 2.1	2.2/14.9	31671
1997 XD ₉	1998 04 11.5	13 19.29 +07 25.6 17.2	-0.71 + 7.4	6.5/05.8	31738	1997 AL ₆	1998 04 13.0	13 24.99 -43 17.4 19.2	-1.06 + 3.8	11.2/25.3	30786
1989 TO ₁₅	1998 04 11.5	13 19.30 -08 13.3 18.6	-0.96 + 6.7	0.0/11.5	25080	1993 FR ₅₈	1998 04 13.0	13 25.10 -09 51.1 17.5	-0.81 + 5.0	0.3/13.4	31788
1998 DA ₃₃	1998 04 11.5	13 19.37 -10 41.5 17.5	-0.92 + 3.2	0.9/12.2	31742	1981 EQ ₃₀	1998 04 13.1	13 25.17 -17 39.5 18.1	-1.08 + 1.3	3.1/15.3	27304
4245 T-3	1998 04 11.5	13 19.44 +00 38.7 17.9	-0.98 + 3.4	3.3/09.0	31777	(8757)	1998 04 13.1	13 25.18 -06 11.4 16.7	-1.00 + 4.8	1.3/12.3	31700
(8690)	1998 04 11.5	13 19.61 -07 06.1 18.6	-0.96 + 5.1	0.4/11.2	31684	1998 FO ₇₈	1998 04 13.1	13 25.27 -02 07.5 17.2	-0.88 + 3.5	2.5/11.1	31763
1986 AT ₂	1998 04 11.6	13 19.76 +13 39.2 16.5	-0.69 + 6.3	5.9/03.7	31782	1996 XX ₂	1998 04 13.1	13 25.40 -08 58.2 17.6	-0.91 + 4.6	0.0/13.2	31734
(8692)	1998 04 11.6	13 19.77 -13 27.8 16.8	-0.93 + 7.4	1.9/13.3	31685	1995 UP ₁₁	1998 04 13.2	13 25.63 -08 39.9 19.7	-0.78 + 6.4	0.1/13.1	30784
1998 FG ₁₁₈	1998 04 11.6	13 20.02 -14 58.3 16.4	-0.79 + 4.4	2.1/13.8	31768	1996 PA ₇	1998 04 13.2	13 25.84 +29 07.2 18.9	-1.08 + 1.3	11.1/01.5	31791
1998 FS ₅	1998 04 11.7	13 20.06 -05 05.4 18.6	-0.97 + 4.7	1.2/10.7	31746	1994 EG ₇	1998 04 13.4	13 26.23 +03 30.8 18.2	-0.91 + 5.5	4.8/09.5	31789
(7409)	1998 04 11.7	13 20.11 -05 05.1 16.8	-0.95 + 4.9	1.1/10.7	30250	1994 PV	1998 04 13.4	13 26.30 -01 30.9 17.8	-0.72 + 5.2	2.1/10.9	31789
1990 HP	1998 04 11.7	13 20.18 +03 03.1 16.5	-1.73 - 9.7	6.1/10.4	31784	1991 TE ₄	1998 04 13.4	13 26.31 -08 58.7 18.3	-0.95 + 1.9	0.0/13.4	31786
1996 TF ₁₈	1998 04 11.7	13 20.24 -07 29.8 18.4	-1.05 + 2.0	0.4/11.5	31731	1990 SS ₇	1998 04 13.4	13 26.45 -04 15.2 17.2	-0.79 + 4.3	1.5/12.0	31716
1991 VZ ₈	1998 04 11.7	13 20.33 -01 26.6 18.8	-0.86 + 3.7	2.1/09.7	31719	1998 FO ₇₅	1998 04 13.4	13 26.50 -05 10.2 17.4	-0.68 + 6.9	1.0/12.1	31762
1994 AG	1998 04 11.8	13 20.42 -08 03.7 17.7	-0.98 + 6.6	0.2/11.7	31788	1993 FS ₂₉	1998 04 13.4	13 26.64 -15 18.7 17.8	-0.83 + 4.7	2.1/15.4	31787
1996 RO ₄	1998 04 11.8	13 20.50 -05 25.0 17.7	-0.98 + 5.8	1.2/10.9	31729	1996 VC ₉	1998 04 13.5	13 26.60 +00 44.8 17.6	-1.01 + 4.4	3.4/10.7	31733
2395 T-3	1998 04 11.8	13 20.75 -12 41.4 18.1	-0.73 + 4.4	1.2/13.2	31776	(7624)	1998 04 13.5	13 26.88 -17 17.0 17.5	-0.83 + 2.8	2.3/16.0	29606
1991 NA	1998 04 11.8	13 20.78 -28 48.8 18.3	-1.10 + 4.9	7.7/17.8	30781	(8466)	1998 04 13.5	13 27.01 -06 14.5 18.7	-0.87 + 5.8	0.9/12.7	31488
1993 FL ₈₂	1998 04 11.9	13 20.90 -03 11.0 17.4	-0.77 + 6.1	1.9/10.2	31724	(8663)	1998 04 13.6	13 27.25 +02 28.6 16.3	-0.97 + 4.4	5.2/10.3	31678
1994 AC ₁₃	1998 04 11.9	13 21.12 -06 11.2 18.0	-0.89 + 3.0	1.2/11.3	23529	1991 RP ₁	1998 04 13.6	13 27.31 -25 28.7 17.2	-1.12 + 0.4	5.8/17.7	31583
1991 LR	1998 04 12.0	13 21.12 +17 54.3 17.5	-0.96 + 6.3	9.6/02.4	31717	1998 EG ₂	1998 04 13.6	13 27.36 -07 19.3 16.9	-0.89 + 4.3	0.7/13.1	31743
1994 JB	1998 04 12.0	13 21.17 -04 28.1 17.9	-0.93 + 4.6	1.6/10.8	31726	1995 UZ ₃	1998 04 13.7	13 27.39 -02 11.6 17.9	-0.95 - 0.5	2.1/12.0	31729
1998 FY ₁₁₇	1998 04 12.1	13 21.68 -15 12.1 17.8	-0.99 + 6.1	2.6/14.1	31768	1997 AS ₁₆	1998 04 13.7	13 27.47 -07 30.8 17.5	-0.79 + 3.9	0.5/13.2	31794
1993 FB ₄₄	1998 04 12.1	13 21.71 -09 04.6 17.4	-0.79 + 5.2	0.1/12.3	31724	1998 FG ₁₁	1998 04 13.7	13 27.47 -03 35.4 16.9	-1.06 + 0.4	2.0/12.4	31747
1992 UT ₂	1998 04 12.1	13 21.86 +01 03.9 17.3	-1.03 + 4.6	3.6/09.4	31721	(8714)	1998 04 13.7	13 27.75 -07 48.8 16.6	-1.07 + 4.0	0.6/13.4	31690
1995 VT ₁	1998 04 12.2	13 21.89 -16 54.0 17.5	-0.72 + 5.5	2.2/15.0	31790	1991 RA	1998 04 13.8	13 27.78 -35 03.5 16.4	-1.95 - 9.2	13.4/17.0	29943
(8707)	1998 04 12.2	13 22.00 -08 18.9 16.6	-0.95 + 5.4	0.1/12.1	31689	4631 P-L	1998 04 13.8	13 27.93 -11 46.5 16.8	-1.07 + 1.8	1.1/14.5	31824
1995 UF ₆	1998 04 12.2	13 22.23 +01 32.3 17.5	-0.95 + 2.3	3.3/09.4	31790	(8704)	1998 04 13.8	13 28.03 -15 22.3 18.0	-1.05 + 5.8	2.2/15.7	31688
1991 RD ₇	1998 04 12.2	13 22.24 -18 14.7 17.6	-1.06 + 1.2	3.1/14.8	31785	1989 TO	1998 04 13.9	13 28.11 -38 02.0 17.0	-1.40 + 0.8	9.8/22.1	28613
1993 FK ₃₇	1998 04 12.3	13 22.29 -07 14.8 17.7	-0.81 + 4.2	0.4/11.9	31723	1998 EF ₂	1998 04 13.9	13 28.25 -06 47.3 18.0	-0.78 + 5.3	0.8/13.2	31743
1982 UX ₅	1998 04 12.3	13 22.58 -14 56.7 17.4	-0.85 + 5.3	2.0/14.4	31712	1998 FV ₈	1998 04 13.9	13 28.34 -05 12.5 17.3	-0.94 + 4.9	1.7/12.8	31746
1230 T-1	1998 04 12.4	13 22.55 -12 22.4 17.5	-1.01 + 4.8	1.7/13.5	31825	(8651)	1998 04 13.9	13 28.37 -12 20.2 18.4	-0.97 + 5.8	1.0/14.9	31675
1992 QS ₁	1998 04 12.4	13 22.63 +04 47.2 16.6	-0.97 + 3.9	4.7/08.5	31786	1996 XS ₅	1998 04 14.0	13 28.44 +00 16.2 17.6	-0.77 + 3.9	3.0/11.1	31735
1998 FR ₁₂₄	1998 04 12.4	13 22.73 -05 28.0 17.6	-0.79 + 5.3	1.0/11.4	31769	1986 QJ ₁	1998 04 14.1	13 28.89 +07 09.9 18.3	-0.81 + 6.9	5.1/08.4	23236
1996 XU ₁₈	1998 04 12.4	13 22.81 -04 59.4 17.4	-0.74 + 4.6	1.1/11.3	31793	6531 P-L	1998 04 14.1	13 29.03 -10 31.5 17.1	-1.08 + 3.9	0.5/14.5	31824
1996 XV ₁	1998 04 12.5	13 23.09 -18 59.4 17.2	-0.99 + 5.5	3.8/15.6	31793	5491 T-2	1998 04 14.2	13 29.39 -26 09.0 17.8	-0.89 + 2.0	5.3/19.1	25652
6602 P-L	1998 04 12.6	13 23.39 -11 06.7 19.5	-1.10 + 3.6	0.9/13.3	22701	1996 VD ₂	1998 04 14.2	13 29.52 +00 50.2 17.7	-0.96 + 2.5	3.5/11.5	31732
1988 XQ	1998 04 12.6	13 23.41 -21 01.4 18.3	-0.91 + 6.6	3.7/16.6	31582	1981 ED ₄₀	1998 04 14.4	13 30.10 -02 16.7 18.4	-0.72 + 6.9	2.1/12.0	31781
1982 SO ₅	1998 04 12.6	13 23.41 -09 44.3 19.4	-0.87 + 4.7	0.3/12.9	28883	1991 RV ₄	1998 04 14.4	13 30.33 -11 29.3 18.8	-0.85 + 5.7	0.7/15.1	28846
(8652)	1998 04 12.6	13 23.46 -12 09.1 16.8	-0.95 + 5.2	1.3/13.6	31676	1996 VR ₇	1998 04 14.5	13 30.36 -02 51.6 18.0	-0.95 + 4.2	2.3/12.6	31792
(8731)	1998 04 12.6	13 23.72 -00 05.2 17.8	-1.01 + 3.8	3.2/10.2	31694	(7503)	1998 04 14.5	13 30.53 -12 40.8 16.8	-1.02 + 5.3	1.3/15.5	29091
(8627)	1998 04 12.7	13 23.66 -10 31.1 17.7	-0.89 + 5.1	0.6/13.2	31670	(8583)	1998 04 14.6	13 30.76 -07 45.6 17.4	-0.76 + 4.0	0.6/14.1	31516
1998 FD ₇₈	1998 04 12.7	13 23.71 +02 53.8 18.1	-0.91 +10.9	5.1/08.5	31763	1997 AU ₁₉	1998 04 14.7	13 31.12 -15 06.8 20.5	-0.75 + 4.4	1.5/16.5	30786

1996 UD	1998 04 14.7	13 31.27	-05 05.7	17.4	-1.02	+	3.7	1.6/13.5	31792	1997 AQ ₁₂	1998 04 17.0	13 39.73	+08 30.3	17.6	-0.73	+	3.8	5.1/11.0	31794
1992 EH ₁₁	1998 04 14.8	13 31.81	-07 01.9	17.3	-0.75	+	4.8	0.8/14.1	31786	1978 RQ ₁	1998 04 17.0	13 39.87	-05 14.8	17.4	-0.93	+	8.0	2.0/15.4	31706
4221 T-1	1998 04 14.9	13 31.92	-05 02.7	17.7	-0.73	+	5.8	1.5/13.5	31775	(8769)	1998 04 17.0	13 39.95	-08 43.1	16.8	-0.83	+	6.0	0.6/16.6	31703
(8591)	1998 04 14.9	13 31.96	-06 55.2	17.6	-0.74	+	4.1	0.7/14.1	31517	1994 EO ₆	1998 04 17.1	13 40.07	-03 43.0	17.9	-0.97	+	4.2	2.4/15.3	31725
1990 SO ₇	1998 04 14.9	13 32.04	-00 34.8	18.8	-0.77	+	6.0	2.7/12.0	31784	1982 SC ₈	1998 04 17.1	13 40.25	-14 54.1	16.9	-1.08	+	4.3	1.9/18.4	31711
1994 PZ ₂₈	1998 04 15.0	13 32.47	-01 53.4	18.1	-0.78	+	4.7	2.4/12.6	31727	1992 UM ₂	1998 04 17.1	13 40.29	-04 40.9	18.1	-0.98	+	4.5	2.0/15.6	31787
1995 UL	1998 04 15.0	13 32.49	-13 21.9	16.8	-0.88	+	3.6	1.2/16.0	31790	1991 GF ₉	1998 04 17.1	13 40.33	-05 24.7	17.6	-0.89	+	7.9	2.2/15.6	31717
1998 FP ₁₁₁	1998 04 15.1	13 32.74	-15 55.6	16.2	-0.75	+	22.7	2.6/17.8	31767	(7395)	1998 04 17.2	13 40.42	-03 57.2	16.8	-0.93	+	8.5	2.7/15.1	28824
1998 EQ ₂	1998 04 15.2	13 32.99	-13 09.6	18.0	-1.07	+	1.5	1.6/16.1	31743	(7588)	1998 04 17.2	13 40.61	-43 43.4	15.3	-1.06	-	0.4	11.3/27.3	29598
1996 XD ₂₀	1998 04 15.2	13 33.01	+01 18.1	19.2	-0.92	+	4.7	3.8/12.0	31793	1997 CQ ₁	1998 04 17.3	13 40.67	+13 35.0	19.0	-0.68	+	5.0	6.0/09.0	31794
(8758)	1998 04 15.2	13 33.12	-02 37.6	17.7	-0.72	+	5.2	2.2/13.0	31700	1995 SW ₂₉	1998 04 17.3	13 40.78	-47 01.3	18.7	-1.05	+	1.4	8.9/29.6	29946
1105 T-1	1998 04 15.2	13 33.24	-06 19.1	17.0	-0.80	+	7.2	1.2/14.2	31774	(8766)	1998 04 17.3	13 41.02	-11 03.8	17.7	-0.75	+	4.5	0.2/17.6	31702
(7378)	1998 04 15.3	13 33.38	-10 09.4	15.7	-0.76	+	4.8	0.1/15.5	28820	1997 AC ₈	1998 04 17.3	13 41.07	-23 09.2	19.1	-0.83	+	4.3	3.7/21.3	30786
1996 VA ₆	1998 04 15.3	13 33.50	+11 42.1	17.7	-0.93	+	2.5	7.0/09.1	31792	1995 QB ₁₀	1998 04 17.3	13 41.10	-33 59.3	18.2	-1.06	+	2.1	8.5/24.3	27719
1996 VA ₃₁	1998 04 15.3	13 33.52	-08 13.6	18.3	-0.96	+	3.2	0.5/14.9	31733	1995 WM ₂	1998 04 17.4	13 41.07	-18 11.2	18.6	-0.75	+	6.8	2.0/20.0	31791
1996 VM ₁	1998 04 15.3	13 33.56	-03 06.5	15.9	-0.99	+	2.6	2.6/13.6	31732	1997 AY ₅	1998 04 17.4	13 41.07	-19 54.3	18.0	-0.92	+	5.8	3.3/20.3	30786
(7597)	1998 04 15.4	13 33.64	-04 41.3	16.8	-0.78	+	4.8	1.6/13.8	29600	1981 EF ₅	1998 04 17.4	13 41.23	-15 30.1	17.7	-0.86	+	8.4	1.7/19.1	31780
1992 DO ₆	1998 04 15.4	13 34.00	-05 04.3	18.0	-0.75	+	4.5	1.4/14.0	31786	1989 YX ₆	1998 04 17.4	13 41.31	-01 28.7	17.4	-0.96	+	5.1	3.3/14.9	31784
(8645)	1998 04 15.7	13 34.91	-12 02.2	16.3	-0.99	+	3.5	0.8/16.3	31674	1992 SC ₄	1998 04 17.4	13 41.38	-09 15.0	20.4	-0.97	+	4.8	0.4/17.1	29300
1996 VW	1998 04 15.7	13 34.92	-11 30.5	17.9	-0.97	+	7.1	0.6/16.2	31548	1097 T-3	1998 04 17.5	13 41.69	-18 05.2	18.1	-0.82	+	6.2	2.2/20.0	24405
1998 FZ ₈	1998 04 15.7	13 34.94	-04 56.5	18.0	-0.79	+	4.8	1.6/14.2	31746	1987 BW ₁	1998 04 17.5	13 41.79	-14 48.3	17.9	-0.97	+	7.1	1.6/18.9	31713
1981 EA ₁₀	1998 04 15.7	13 35.05	-27 58.6	18.6	-0.95	+	0.8	5.5/20.7	26916	1995 QP	1998 04 17.6	13 41.83	-17 58.0	18.8	-0.87	+	3.4	2.1/19.7	29664
1981 EO ₁₃	1998 04 15.7	13 35.18	-18 56.5	17.7	-1.04	+	3.9	4.0/18.3	31709	(8738)	1998 04 17.6	13 41.94	-10 00.1	18.3	-1.01	+	5.7	0.2/17.5	31696
1989 SD ₃	1998 04 15.9	13 35.64	-07 28.0	17.7	-1.03	+	4.2	0.9/15.3	31783	1994 JN	1998 04 17.6	13 41.95	-08 13.5	16.3	-0.80	+	11.5	0.9/16.8	31789
1981 DL	1998 04 16.0	13 35.95	-16 29.7	18.7	-0.73	+	6.6	2.0/18.2	26914	1996 VK ₃₀	1998 04 17.6	13 41.98	-02 35.5	18.2	-0.86	+	5.0	2.5/15.3	31793
9509 P-L	1998 04 16.1	13 36.22	-04 34.9	18.0	-0.83	+	9.0	1.8/14.3	31824	4822 P-L	1998 04 17.6	13 42.13	-06 23.0	18.0	-0.79	+	4.8	1.3/16.4	31824
1987 XC	1998 04 16.1	13 36.31	+04 49.9	17.8	-1.00	+	1.9	4.7/12.0	28315	(7389)	1998 04 17.6	13 42.14	-04 23.1	17.5	-0.99	+	5.0	2.1/15.9	28823
6044 P-L	1998 04 16.1	13 36.38	-12 02.0	16.8	-0.81	+	4.5	0.7/16.7	31824	1996 RG ₁	1998 04 17.7	13 42.20	-13 56.2	17.6	-1.10	+	3.9	1.2/18.6	31791
(8669)	1998 04 16.1	13 36.52	-03 38.5	16.8	-0.88	+	8.2	2.5/14.1	31679	1998 HE ₁	1998 04 17.7	13 42.21	-13 59.0	17.6	-0.83	+	2.2	1.1/18.7	31771
1985 TZ ₃	1998 04 16.1	13 36.63	-20 35.2	16.4	-1.05	+	4.2	4.6/19.1	31581	(8754)	1998 04 17.7	13 42.24	-12 12.8	17.1	-0.81	+	4.3	0.5/18.2	31699
1997 AP ₁₇	1998 04 16.2	13 36.62	+06 32.1	17.8	-0.80	+	3.3	5.2/11.1	31794	(7339)	1998 04 17.7	13 42.35	-02 45.2	16.9	-0.85	+	4.8	2.7/15.4	28572
1981 EU ₃₈	1998 04 16.2	13 37.00	-09 53.0	16.6	-0.89	+	7.7	0.1/16.2	31710	(8654)	1998 04 17.7	13 42.38	+15 46.1	16.7	-0.87	+	3.1	10.2/09.4	31676
1978 NS	1998 04 16.3	13 37.06	-09 37.1	19.2	-0.77	+	4.4	0.1/16.2	31779	(8733)	1998 04 17.7	13 42.39	-14 07.7	17.3	-0.85	+	4.2	1.1/18.8	31695
1998 FC ₉	1998 04 16.4	13 37.46	-03 45.5	17.7	-0.95	+	7.7	2.5/14.4	31746	1995 SO ₂₆	1998 04 17.8	13 42.71	-07 53.3	17.5	-0.73	+	7.3	0.8/16.9	31790
1981 EB ₄₀	1998 04 16.4	13 37.59	-10 00.3	18.6	-0.77	+	4.2	0.0/16.4	28611	1981 EW ₃₉	1998 04 17.8	13 42.88	-19 11.6	19.6	-0.88	+	1.5	2.8/20.2	21967
1996 XX ₃₁	1998 04 16.4	13 37.61	-25 27.2	15.8	-1.19	-	0.6	6.5/19.9	31736	1998 FF ₉	1998 04 17.8	13 42.92	-04 56.5	17.6	-0.96	+	4.7	2.1/16.2	31747
1988 RC ₇	1998 04 16.5	13 37.91	-01 59.9	17.1	-0.86	+	7.8	2.6/13.9	31783	1981 EG ₄₇	1998 04 17.9	13 43.00	-13 44.2	18.1	-0.85	+	5.9	1.2/18.9	31711
1992 UW ₂	1998 04 16.5	13 37.93	-05 07.4	17.7	-1.05	+	4.1	1.9/15.2	31721	1989 TT ₂	1998 04 17.9	13 43.30	-01 29.8	18.1	-0.72	+	4.4	2.4/15.1	31783
4096 T-2	1998 04 16.6	13 38.14	-01 37.5	18.8	-0.71	+	6.1	2.3/13.8	31609	1976 UN ₁₄	1998 04 18.0	13 43.26	-06 07.4	17.1	-1.06	+	3.4	1.9/16.8	31779
(7423)	1998 04 16.6	13 38.28	-13 50.3	17.3	-0.96	+	6.7	1.3/17.8	28832	1994 PL ₉	1998 04 18.0	13 43.50	-23 50.1	17.5	-0.82	+	2.7	3.6/21.9	31789
1998 FJ ₁₂₆	1998 04 16.6	13 38.39	-13 12.4	17.2	-0.88	+	4.2	1.0/17.5	31770	(8313)	1998 04 18.0	13 43.56	+12 33.0	17.4	-0.86	+	4.2	7.0/10.6	31221
1998 FR ₇₉	1998 04 16.6	13 38.48	-02 40.6	17.5	-0.86	+	4.0	2.7/14.5	31764	1995 VJ ₁₆	1998 04 18.2	13 43.99	-13 44.0	19.4	-0.83	+	5.7	0.9/19.1	30784
1991 UQ ₂	1998 04 16.7	13 38.62	-05 39.7	19.4	-0.96	+	2.6	1.4/15.5	31533	1996 XB ₂₅	1998 04 18.2	13 44.26	-04 00.7	19.3	-0.88	+	4.2	2.0/16.3	31735
1989 UP ₄	1998 04 16.7	13 38.81	-11 12.0	17.8	-0.73	+	3.9	0.2/17.1	26560	1981 EZ ₁₅	1998 04 18.2	13 44.38	-20 04.7	18.7	-1.05	+	5.3	3.6/21.0	25078
1991 SR	1998 04 16.8	13 38.89	+12 31.7	17.3	-0.82	+	5.7	7.2/09.2	31718	1985 VG	1998 04 18.3	13 44.46	-04 09.2	16.6	-0.96	+	4.8	2.5/16.4	31782
1990 QR ₁	1998 04 16.8	13 38.93	-08 27.6	17.2	-0.83	+	4.9	0.6/16.3	31784	(7491)	1998 04 18.3	13 44.63	-17 17.6	17.3	-0.84	+	5.0	2.0/20.3	29088
1995 PQ	1998 04 16.8	13 39.10	+10 58.5	19.6	-0.77	+	4.4	5.2/09.9	29318	(8670)	1998 04 18.3	13 44.81	-14 00.2	15.5	-0.94	+	5.1	1.4/19.3	31680
1992 PQ ₂	1998 04 16.9	13 39.40	-19 06.2	17.8	-1.00	+	6.3	3.2/19.6	28848	(8642)	1998 04 18.4	13 44.96	-13 44.8	18.0	-0.78	+	3.4	0.7/19.3	31673
(8698)	1998 04 16.9	13 39.40	-11 28.7	16.8	-0.83	+	4.2	0.4/17.3	31686	1996 XC ₁	1998 04 18.4	13 45.02	-10 09.9	16.9	-0.95	+	6.5	0.3/18.3	31734
(7425)	1998 04 16.9	13 39.48	-05 02.1	17.8	-0.95	+	4.8	1.9/15.4	28832	1989 SN ₃	1998 04 18.4	13 45.06	-06 25.6	18.4	-0.72	+	5.1	1.2/17.1	31783
1981 EP ₁₂	1998 04 17.0	13 39.71	-17 42.3	17.4	-0.99	+	6.9	2.9/19.3	31580	(8749)	1998 04 18.5	13 45.12	-15 45.2	17.4	-1.07	+	4.9	1.9/19.9	31698

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(8622)	1998 04 18.5	13 45.33	-15 02.1	17.7	-0.75	+	4.7	1.1/19.8	31669
1979 MN ₇	1998 04 18.6	13 45.57	-02 21.4	19.3	-0.85	+	5.7	2.6/16.0	30779
5585 P-L	1998 04 18.7	13 46.12	-11 21.2	19.5	-0.81	+	4.0	0.1/18.9	31824
(8610)	1998 04 18.7	13 46.29	-06 58.0	17.1	-0.97	+	4.1	1.5/17.7	31666
1978 VD ₉	1998 04 18.8	13 46.34	-10 44.7	17.5	-0.98	+	4.9	0.1/18.8	31780
1978 TL ₄	1998 04 18.8	13 46.44	-05 20.3	17.6	-0.78	+	2.4	1.5/17.3	31780
1996 YU	1998 04 19.0	13 47.20	-03 59.5	18.2	-0.81	+	4.8	2.2/16.9	31736
(8686)	1998 04 19.0	13 47.33	+01 50.0	17.3	-0.94	+	6.3	4.8/15.2	31683
1981 EA ₃₅	1998 04 19.1	13 47.70	-25 23.7	19.0	-0.86	+	2.0	3.5/23.2	26921
1981 EN ₃₀	1998 04 19.2	13 47.73	-09 36.5	17.6	-0.77	+	3.9	0.4/18.8	26920
(7781)	1998 04 19.2	13 48.23	-42 43.7	16.2	-1.72	-	5.0	15.1/25.1	30265
1996 TS ₅	1998 04 19.3	13 48.16	-56 59.9	16.9	-1.44	+	2.9	19.0/10.7	29631
(8623)	1998 04 19.3	13 48.18	-11 10.8	17.4	-0.73	+	5.9	0.0/19.3	31669
1998 CA ₂	1998 04 19.3	13 48.19	+07 04.3	17.0	-1.05	-	1.8	7.6/15.3	31799
5122 T-3	1998 04 19.3	13 48.39	+01 55.7	17.8	-0.99	+	5.8	5.3/15.4	31826
1994 AG ₁	1998 04 19.4	13 48.56	-03 02.1	16.9	-0.83	+	7.2	3.7/16.8	31724
(7650)	1998 04 19.4	13 48.59	-10 09.7	16.3	-0.74	+	7.7	0.3/19.1	29899
1991 NG ₅	1998 04 19.4	13 48.59	-19 41.3	17.4	-1.01	+	4.9	3.7/21.8	31717
1989 SY ₁	1998 04 19.5	13 48.97	-07 18.6	19.0	-0.72	+	4.0	1.0/18.3	26167
1981 EM ₆	1998 04 19.6	13 49.55	-13 10.5	18.6	-0.83	+	9.0	0.6/20.3	26915
(8761)	1998 04 19.7	13 49.57	-15 29.1	15.9	-0.96	+	6.8	1.9/21.0	31701
(8619)	1998 04 19.7	13 49.65	-01 52.1	16.3	-0.73	+	5.4	3.1/16.8	31668
(8718)	1998 04 19.7	13 49.80	-10 31.0	18.0	-0.72	+	5.5	0.2/19.5	31691
(7569)	1998 04 19.7	13 49.81	+01 10.5	17.9	-0.88	+	3.9	3.6/16.2	31779
1995 CG	1998 04 19.7	13 50.00	+33 23.3	16.3	-0.99	+	7.8	18.7/01.0	31789
1997 CB ₅	1998 04 19.8	13 50.06	-07 40.7	20.1	-0.85	+	4.1	1.1/18.8	29927
(8716)	1998 04 19.8	13 50.34	-12 31.7	17.1	-0.71	+	7.9	0.4/20.3	31691
1995 UR ₂	1998 04 20.0	13 50.74	-17 43.6	18.7	-0.85	+	4.9	1.8/21.9	29665
1996 WE ₃	1998 04 20.0	13 50.80	-16 33.2	17.1	-0.91	+	8.0	2.3/21.7	31733
1996 WF	1998 04 20.0	13 50.91	-11 31.5	18.9	-1.05	+	5.1	0.0/20.1	28604
1990 OF	1998 04 20.0	13 51.14	-23 46.0	17.6	-0.91	+	6.8	3.9/23.9	26579
(8615)	1998 04 20.1	13 51.17	-02 43.7	17.3	-0.90	+	5.5	2.9/17.6	31667
1981 EX ₉	1998 04 20.1	13 51.24	-23 55.2	18.8	-0.82	+	3.2	3.5/23.8	24557
1992 SG ₁₃	1998 04 20.1	13 51.51	-13 22.0	18.3	-1.01	+	3.9	0.6/20.7	22085
1981 EX ₃₂	1998 04 20.2	13 51.50	-14 15.5	18.4	-0.86	+	7.8	1.1/21.0	26921
(7392)	1998 04 20.2	13 51.75	-17 47.0	15.3	-0.91	+	2.8	2.5/22.0	31578
1990 VQ ₆	1998 04 20.3	13 52.12	+04 55.4	17.7	-0.76	+	4.1	4.8/15.3	31784
1996 TQ	1998 04 20.3	13 52.13	-06 55.2	19.2	-0.99	+	4.7	1.7/19.1	31730
1996 XE ₂	1998 04 20.4	13 52.21	-01 29.0	16.9	-0.99	+	2.7	4.0/17.8	31793
1992 SJ ₁	1998 04 20.4	13 52.28	-03 42.8	18.2	-0.98	+	4.6	2.7/18.2	31721
1995 UU ₄	1998 04 20.4	13 52.61	-16 25.6	17.1	-0.75	+	6.2	1.4/22.0	31790
(8776)	1998 04 20.4	13 52.63	-17 53.3	16.8	-0.90	+	4.4	2.5/22.3	31705
1996 YM	1998 04 20.5	13 52.62	-06 38.1	17.9	-0.94	+	4.7	1.6/19.1	31793
1994 FP	1998 04 20.5	13 52.62	-30 56.6	18.6	-1.42	-	1.1	7.2/24.9	29944
4878 T-1	1998 04 20.5	13 52.89	-02 31.6	17.2	-0.72	+	6.0	2.6/17.6	31825
1995 UD ₄₅	1998 04 20.5	13 52.95	-05 10.0	17.4	-0.83	+	2.0	1.8/18.8	31790
1990 TP ₇	1998 04 20.6	13 53.10	-12 23.2	17.8	-0.79	+	4.0	0.2/20.9	31784
1981 EE ₁₃	1998 04 20.7	13 53.36	-24 16.7	17.5	-1.01	+	2.6	5.0/24.0	31709
1998 DN ₂₃	1998 04 20.7	13 53.54	-09 02.4	18.0	-0.76	+	6.9	1.3/19.9	31802
4314 T-2	1998 04 20.8	13 53.72	-06 03.1	18.2	-0.94	+	4.7	1.9/19.2	31826
1991 RA ₁	1998 04 20.8	13 53.96	-29 30.8	18.4	-1.02	+	3.1	5.5/25.8	31785

(8638)	1998 04 20.8	13 53.98	-14 01.2	16.9	-0.89	+	3.4	0.7/21.5	31672
1988 TQ ₁	1998 04 20.9	13 54.05	-18 50.5	17.6	-1.00	+	3.7	2.5/22.9	31714
1981 EL ₃₇	1998 04 20.9	13 54.15	-10 58.2	19.3	-0.72	+	6.9	0.2/20.7	26922
1995 UF ₄₅	1998 04 20.9	13 54.16	-09 19.4	17.5	-0.75	+	3.8	0.6/20.2	31790
5184 T-2	1998 04 20.9	13 54.25	-15 39.0	18.7	-0.73	+	6.0	1.1/22.2	31826
1988 SN ₁	1998 04 20.9	13 54.34	+01 47.4	17.8	-0.96	+	5.3	5.1/16.9	31783
1995 SX ₂	1998 04 20.9	13 54.47	-10 28.2	17.5	-1.00	+	4.0	0.5/20.7	31790
1996 XF ₆	1998 04 21.0	13 54.72	-11 04.2	17.4	-0.79	+	3.6	0.2/20.9	31793
1222 T-1	1998 04 21.1	13 54.81	-25 47.9	18.2	-1.12	+	1.9	5.0/24.5	29668
1991 GG ₆	1998 04 21.3	13 55.58	-12 20.1	16.8	-1.03	+	4.1	0.2/21.4	31785
1995 WV ₅	1998 04 21.3	13 55.70	-18 51.9	17.3	-0.75	+	6.4	2.1/23.6	31791
1990 EM ₁	1998 04 21.3	13 55.73	-15 30.1	17.7	-0.93	+	7.0	1.3/22.4	31784
1998 CZ ₁	1998 04 21.3	13 55.89	+11 14.2	17.2	-0.92	+	1.6	9.2/14.7	31799
1996 XX ₁₉	1998 04 21.3	13 55.90	-05 02.3	18.2	-1.01	+	5.2	2.6/19.5	31793
(7526)	1998 04 21.4	13 55.94	-14 16.4	17.9	-0.90	+	5.8	0.7/22.1	29292
1992 YU ₂	1998 04 21.7	13 57.03	-13 44.8	18.6	-0.89	+	5.8	0.5/22.2	31787
(8609)	1998 04 21.7	13 57.14	+02 18.3	17.7	-0.90	+	5.0	4.4/17.6	31665
1983 BD	1998 04 21.7	13 57.24	+11 27.5	16.8	-0.81	+	3.7	6.8/14.4	31782
(8650)	1998 04 21.7	13 57.41	-20 16.9	17.4	-1.06	+	4.6	3.1/24.1	31675
(7618)	1998 04 21.8	13 57.57	-13 06.3	17.2	-0.84	+	5.0	0.3/22.2	29605
1981 EL ₃₅	1998 04 21.8	13 57.63	-19 06.3	18.9	-0.74	+	7.0	2.3/24.2	26921
(8617)	1998 04 21.8	13 57.86	-18 35.8	17.9	-0.98	+	4.7	2.2/23.7	31667
1991 UL ₄	1998 04 21.9	13 57.85	-06 40.6	19.1	-0.85	+	3.9	1.5/20.4	29135
1997 AQ ₂	1998 04 21.9	13 57.89	-26 14.4	17.8	-0.95	+	3.7	4.4/26.0	30786
1978 UN ₄	1998 04 22.0	13 58.19	-12 43.0	16.7	-0.70	+	8.9	0.2/22.2	31780
1991 UV ₂	1998 04 22.0	13 58.23	-01 56.6	17.8	-0.90	+	2.5	2.8/19.3	31786
1995 QQ ₃	1998 04 22.0	13 58.31	-03 11.6	18.5	-0.87	+	5.2	2.9/19.4	31790
1989 XD ₁	1998 04 22.0	13 58.33	-04 43.2	18.4	-0.97	+	6.3	2.7/19.9	31784
1981 EN ₁₈	1998 04 22.0	13 58.57	-10 16.2	18.9	-0.74	+	5.8	0.6/21.5	26918
1981 EZ ₃₇	1998 04 22.1	13 58.55	-08 09.9	18.5	-0.72	+	5.7	1.1/20.9	31781
(7394)	1998 04 22.2	13 59.11	-05 12.3	16.8	-0.59	+	4.5	1.6/20.0	28824
(8723)	1998 04 22.2	13 59.23	-13 45.9	17.5	-1.09	+	2.8	0.6/22.7	31693
(7449)	1998 04 22.3	13 59.38	-21 29.9	17.2	-1.11	+	3.9	3.5/24.7	29076
1990 QZ ₅	1998 04 22.3	13 59.46	+02 46.7	17.8	-0.75	+	5.9	4.2/17.6	31784
1038 T-2	1998 04 22.3	13 59.60	-12 08.5	20.3	-1.02	+	6.2	0.0/22.4	16242
1142 T-2	1998 04 22.3	13 59.71	-14 39.5	16.4	-0.90	+	5.3	1.1/23.1	31775
1996 YH ₁	1998 04 22.4	13 59.96	+00 54.8	18.1	-0.87	+	5.4	5.1/18.5	31793
1991 PQ ₁₁	1998 04 22.4	13 59.97	-21 11.0	17.0	-0.96	+	4.4	3.2/25.0	31583
1996 XJ ₁₉	1998 04 22.4	14 00.02	-12 13.1	16.6	-0.84	+	5.8	0.0/22.5	31793
1995 SH ₄	1998 04 22.4	14 00.13	-42 59.1	21.2	-1.07	+	2.2	7.5/01.6	26746
1994 TX ₁₂	1998 04 22.5	14 00.17	-13 01.3	17.8	-0.78	+	4.0	0.2/22.8	31789
1981 ET ₁₄	1998 04 22.5	14 00.39	-15 26.1	18.8	-0.78	+	4.5	0.9/23.5	31780
1998 DS ₉	1998 04 22.6	14 00.64	+20 54.2	15.8	-0.85	+	11.5	12.1/08.6	31801
1996 XY ₁₁	1998 04 22.6	14 00.68	-08 47.0	18.7	-0.84	+	3.7	1.2/21.7	31793
1981 UH ₂₈	1998 04 22.6	14 00.70	-16 09.6	17.6	-0.89	+	3.3	1.3/23.7	31782
1978 QE	1998 04 22.6	14 00.78	-33 22.6	16.3	-0.86	+	4.5	6.0/29.2	31779
1991 PL ₁₃	1998 04 22.6	14 00.84	-14 42.5	17.4	-0.96	+	5.4	0.9/23.4	31785
1992 EE ₁₁	1998 04 22.7	14 00.84	-09 27.6	17.0	-0.78	+	3.9	1.0/21.9	31786
1990 QE ₆	1998 04 22.7	14 00.95	-35 39.7	18.0	-1.27	-	2.1	8.7/27.4	17963
(8641)	1998 04 22.7	14 00.96	+09 24.6	16.9	-0.83	+	1.5	7.2/16.7	31673
3198 T-2	1998 04 22.7	14 01.00	-11 56.3	18.2	-0.82	+	2.8	0.1/22.6	31825

1998 MAY 11

M.P.C. 31839

(7581) 1998 04 22.7 14 01.15 -09 36.4 16.3 -0.78 + 3.4 0.8/22.0 29596
 1050 T-2 1998 04 22.8 14 01.29 -03 35.5 18.2 -0.72 + 6.0 2.4/20.1 31825
 (8565) 1998 04 22.8 14 01.29 -07 02.4 17.0 -0.79 + 7.1 1.7/21.1 31511
 1993 FF₇₆ 1998 04 22.8 14 01.47 -13 07.2 17.7 -0.82 + 4.8 0.2/23.1 31788
 4094 T-2 1998 04 22.9 14 01.67 -09 44.0 19.9 -0.75 + 4.2 0.7/22.2 29130
 1989 TW 1998 04 22.9 14 01.89 -20 06.3 17.8 -1.05 + 5.7 2.9/25.1 31783
 1995 SL₃ 1998 04 22.9 14 01.96 -13 04.7 18.5 -0.96 + 5.4 0.3/23.2 31790
 1990 QM₉ 1998 04 23.0 14 02.13 -14 53.7 18.0 -0.90 + 3.1 0.9/23.7 31784
 1996 SG₄ 1998 04 23.0 14 02.29 -16 51.9 18.8 -0.92 + 5.3 1.5/24.4 31791
 1989 AG₇ 1998 04 23.1 14 02.62 +09 51.6 16.7 -0.81 + 5.8 8.7/15.7 31714
 (8649) 1998 04 23.2 14 02.86 -01 32.1 17.4 -0.95 + 7.0 4.9/19.9 31675
 6035 P-L 1998 04 23.3 14 03.04 -24 20.5 17.2 -1.08 + 0.3 4.6/26.0 22495
 1988 TG 1998 04 23.3 14 03.32 -07 05.8 18.3 -0.86 +10.7 1.6/21.5 31783
 1988 CG₇ 1998 04 23.3 14 03.37 -14 53.7 18.4 -0.80 + 6.3 0.7/24.1 23513
 1988 PD₁ 1998 04 23.3 14 03.45 +13 03.6 18.5 -0.88 +11.2 8.4/13.8 31783
 1996 VV₄ 1998 04 23.4 14 03.70 -14 49.1 18.9 -0.98 + 5.4 0.8/24.1 28601
 1990 QN₅ 1998 04 23.6 14 04.18 -22 48.7 18.2 -0.91 + 2.9 3.0/26.4 29657
 (8445) 1998 04 23.6 14 04.22 -11 33.6 18.2 -0.77 + 3.6 0.3/23.3 31483
 1988 RS₃ 1998 04 23.6 14 04.28 -09 10.5 18.6 -0.96 + 5.7 1.2/22.6 31783
 (8639) 1998 04 23.6 14 04.38 -19 06.7 18.1 -1.02 + 6.7 2.4/25.5 31673
 1998 FD₃ 1998 04 23.7 14 04.63 -04 50.6 18.3 -0.95 + 6.0 2.9/21.5 31746
 1355 T-2 1998 04 23.7 14 04.83 -12 22.3 17.1 -0.79 + 4.1 0.1/23.7 31825
 1995 UH₄ 1998 04 23.7 14 04.90 -25 50.7 18.4 -0.83 + 3.8 3.6/27.7 29319
 1981 EA₄₁ 1998 04 23.7 14 04.94 -07 50.0 18.2 -0.73 + 5.6 1.5/22.3 31711
 1981 EL₃₀ 1998 04 23.8 14 05.02 -30 05.2 19.2 -0.86 + 3.2 6.1/28.9 30779
 (8606) 1998 04 23.8 14 05.17 -13 46.8 15.6 -0.77 + 7.7 0.3/24.2 31665
 1990 QU₇ 1998 04 24.0 14 05.66 -09 19.0 17.6 -0.81 + 4.6 1.1/23.0 25974
 1981 EQ₂₉ 1998 04 24.1 14 06.12 -16 02.0 17.5 -0.76 + 4.8 0.9/25.1 31781
 (8711) 1998 04 24.1 14 06.37 +26 02.0 17.5 -0.78 + 6.7 13.0/08.7 31690
 1987 BB₂ 1998 04 24.1 14 06.47 -14 03.1 17.7 -1.00 + 6.2 0.5/24.5 31782
 1998 FC₃ 1998 04 24.2 14 06.50 -07 29.5 17.6 -0.97 + 1.2 2.6/22.9 31746
 1995 UG₈ 1998 04 24.2 14 06.63 -14 33.8 17.4 -0.83 + 4.2 0.6/24.7 31729
 1997 AR₅ 1998 04 24.3 14 06.89 +08 17.0 17.7 -0.78 + 3.2 5.7/18.1 31737
 (8732) 1998 04 24.3 14 06.93 -04 44.2 17.2 -0.96 + 5.5 3.1/22.0 31694
 1998 FB₃ 1998 04 24.3 14 07.05 -05 55.3 17.7 -0.90 + 4.4 2.6/22.4 31805
 1981 EM₇ 1998 04 24.5 14 07.74 -14 19.3 16.7 -0.88 + 7.4 0.5/25.0 27303
 1996 VG₃₀ 1998 04 24.5 14 07.93 -19 46.2 17.1 -0.88 + 7.0 2.4/26.7 31793
 1981 EG₁₇ 1998 04 24.6 14 08.02 +04 06.7 17.8 -0.70 + 9.0 5.2/18.7 26918
 1995 SL₅ 1998 04 24.6 14 08.23 -10 15.5 17.9 -0.94 + 6.3 1.0/23.9 31790
 1998 HK₈ 1998 04 24.7 14 08.41 -13 27.6 19.3 -0.80 + 4.0 0.1/24.9 31771
 1994 PC₃₄ 1998 04 24.8 14 08.87 +00 49.6 17.2 -0.74 + 5.8 4.4/20.5 31789
 1995 VR₁₂ 1998 04 24.8 14 08.98 -08 29.6 20.4 -0.79 + 4.4 1.4/23.6 28860
 1990 KD 1998 04 24.9 14 09.51 +13 06.2 17.1 -0.94 + 2.0 11.5/16.8 31715
 1994 OC 1998 04 25.0 14 09.80 -30 27.1 16.6 -0.88 + 2.8 4.7/30.0 31789
 1996 XA₃₂ 1998 04 25.0 14 09.84 -15 36.3 16.6 -0.96 + 5.4 1.1/25.8 31793
 (7506) 1998 04 25.1 14 09.94 -13 22.9 17.5 -0.77 + 3.9 0.1/25.2 29091
 1996 TD₇ 1998 04 25.1 14 10.11 -13 25.6 17.2 -1.09 + 0.8 0.1/25.2 31730
 1998 HW₇ 1998 04 25.1 14 10.20 -14 46.9 17.8 -0.98 + 8.0 0.7/25.7 31771
 1989 SO 1998 04 25.2 14 10.27 -17 33.2 17.2 -0.73 + 4.4 1.1/26.5 31783
 (7469) 1998 04 25.2 14 10.28 -04 01.1 16.3 -0.80 + 2.7 2.8/22.8 30892
 1984 DR 1998 04 25.2 14 10.46 -03 20.3 17.2 -0.98 + 5.7 3.7/22.5 31782

(8666) 1998 04 25.2 14 10.56 -05 46.1 17.6 -1.00 + 4.8 3.0/23.3 31679
 1984 EU₁ 1998 04 25.2 14 10.63 -19 28.6 16.8 -1.05 + 4.2 2.8/27.0 31782
 2514 P-L 1998 04 25.2 14 10.65 -22 30.9 20.0 -1.05 + 1.0 3.2/27.5 22700
 1995 SX₂₉ 1998 04 25.3 14 10.62 +02 40.7 18.0 -0.85 + 2.9 4.4/20.9 31587
 1989 SZ₁ 1998 04 25.3 14 10.80 -05 37.2 16.6 -0.91 + 7.3 3.7/23.1 31783
 1997 CA₁₇ 1998 04 25.3 14 10.80 -23 53.2 18.5 -0.78 + 4.3 2.9/28.5 31794
 1997 CR₁ 1998 04 25.3 14 10.87 -08 14.2 18.3 -0.79 + 4.4 1.5/24.0 31737
 4206 P-L 1998 04 25.3 14 10.90 -29 34.2 17.5 -1.24 + 0.1 6.8/28.9 29141
 (8768) 1998 04 25.4 14 11.16 -13 30.7 16.0 -0.91 + 7.1 0.1/25.5 31703
 1991 GN₁₀ 1998 04 25.5 14 11.42 -05 23.0 17.7 -1.02 + 4.8 3.0/23.4 31785
 (7420) 1998 04 25.5 14 11.45 -10 45.8 17.7 -0.95 + 5.0 0.9/24.8 28831
 1979 MO₂ 1998 04 25.5 14 11.59 -14 52.7 18.2 -0.99 + 8.0 0.8/26.0 30778
 1993 FF₈₂ 1998 04 25.6 14 11.85 -14 15.8 17.0 -0.89 + 2.8 0.3/25.9 31788
 1985 VF₁ 1998 04 25.6 14 12.06 -14 59.1 18.1 -0.98 + 5.3 0.6/26.1 31782
 1997 BL₂ 1998 04 25.7 14 12.19 +02 20.8 16.3 -0.70 + 4.5 4.4/20.9 31794
 1981 EB₂₂ 1998 04 25.7 14 12.26 -09 50.2 17.9 -0.78 + 3.9 1.1/24.8 26919
 1988 VE₇ 1998 04 25.8 14 12.57 -02 53.7 18.1 -0.89 + 5.0 3.4/22.9 31783
 4076 T-2 1998 04 25.8 14 12.61 -13 50.7 16.9 -0.97 + 3.0 11.0/16.0 31825
 1995 UD₂ 1998 04 26.0 14 13.27 -17 30.2 16.9 -0.89 + 7.6 1.4/27.3 31790
 1135 T-3 1998 04 26.0 14 13.41 -25 05.8 17.1 -1.03 + 3.5 5.0/29.1 31826
 (7520) 1998 04 26.0 14 13.42 +02 35.5 17.2 -0.97 + 3.3 5.4/21.9 29291
 1995 WL 1998 04 26.1 14 13.62 -08 20.4 17.8 -0.80 + 3.9 1.6/24.7 31791
 2151 T-2 1998 04 26.1 14 13.66 -17 14.6 19.7 -0.76 + 3.4 0.9/27.2 15082
 (7338) 1998 04 26.1 14 13.77 -23 17.8 16.5 -0.80 + 5.3 2.9/29.1 29587
 1981 EL₈ 1998 04 26.2 14 13.95 -34 07.3 20.7 -0.94 + 1.9 5.5/01.9 26916
 (7434) 1998 04 26.2 14 14.30 +02 04.8 16.5 -0.99 + 4.3 5.9/22.1 28834
 1992 UD₂ 1998 04 26.3 14 14.69 -04 10.0 18.1 -1.18 - 0.8 3.1/24.5 31787
 (8640) 1998 04 26.4 14 14.89 -05 05.9 17.5 -0.83 + 4.0 2.6/24.1 31673
 2612 P-L 1998 04 26.4 14 14.98 -12 41.6 19.8 -0.72 + 4.1 0.2/26.2 26761
 1996 VW₂ 1998 04 26.4 14 15.02 -16 01.5 17.3 -1.08 + 3.3 1.0/27.1 31792
 1981 EP₁₈ 1998 04 26.5 14 15.36 -06 38.2 18.2 -0.71 + 6.7 2.4/24.4 31781
 1996 VU₈ 1998 04 26.6 14 15.79 -12 04.6 17.9 -0.97 + 7.6 0.6/26.2 31792
 (8604) 1998 04 26.8 14 16.32 -07 03.0 17.7 -0.99 + 5.9 2.3/25.0 31664
 1989 YV₄ 1998 04 26.8 14 16.43 -13 47.4 17.8 -0.99 + 4.3 0.0/26.9 31784
 1992 WJ₂ 1998 04 26.9 14 16.66 -10 08.7 17.3 -1.07 + 2.2 1.4/26.1 31787
 1989 SA₃ 1998 04 26.9 14 16.72 -08 28.7 17.4 -0.77 + 2.4 1.4/25.5 31783
 1996 XG₃₂ 1998 04 27.0 14 17.02 -15 02.6 15.5 -0.93 + 6.2 0.6/27.4 31793
 1995 SE₄ 1998 04 27.0 14 17.10 -30 36.2 17.3 -0.93 + 6.1 5.3/02.1 29139
 2247 T-3 1998 04 27.0 14 17.28 -22 33.7 15.8 -0.97 + 3.9 4.3/29.4 25085
 1981 EJ₄ 1998 04 27.1 14 17.39 -13 27.3 18.3 -0.73 + 6.4 0.1/27.0 26915
 2390 T-3 1998 04 27.1 14 17.44 -19 33.7 16.5 -1.09 + 0.9 2.5/28.4 31826
 1995 PV 1998 04 27.1 14 17.72 -26 25.3 16.1 -1.16 + 1.6 5.6/30.0 31790
 1997 AD₈ 1998 04 27.1 14 17.80 -16 01.8 19.3 -0.89 + 4.9 0.7/27.8 29123
 1981 ET₂ 1998 04 27.1 14 17.81 -21 07.4 19.5 -0.78 + 6.4 2.4/29.5 30779
 1991 RB₁₉ 1998 04 27.3 14 18.14 -29 37.1 18.0 -1.05 + 2.6 5.4/01.3 29135
 1982 QY₁ 1998 04 27.3 14 18.25 -18 49.6 16.5 -0.87 + 6.1 1.6/28.8 31782
 1991 LH₁ 1998 04 27.3 14 18.56 -09 28.2 17.5 -0.97 + 4.6 1.8/26.2 31785
 1997 CN 1998 04 27.4 14 18.53 -24 16.6 16.7 -1.03 + 4.7 3.6/30.2 31114
 1997 EO₇ 1998 04 27.4 14 18.67 -27 47.9 17.1 -0.89 + 2.3 4.6/31.0 31794
 1991 PA₇ 1998 04 27.4 14 18.71 -17 10.8 17.0 -1.00 + 4.0 1.4/28.3 31785
 1990 QR₂ 1998 04 27.4 14 18.75 -20 28.6 16.1 -0.91 + 3.4 2.3/29.2 31784

1994 PJ ₁₃	1998 04 27.5	14 19.03	-12 18.7	18.1	-0.73	+	3.8	0.4/27.1	31726	1981 TK	1998 04 29.8	14 28.08	-38 28.2	17.9	-1.39	-	1.1	7.8/04.7	29609
(7545)	1998 04 27.5	14 19.06	-01 32.8	17.3	-1.03	+	5.2	5.2/24.1	29588	1997 CH ₉	1998 04 29.9	14 28.01	-21 48.5	18.9	-0.89	+	3.4	2.1/01.8	29927
1981 EV ₂₃	1998 04 27.6	14 19.30	-21 36.1	18.1	-1.01	+	2.8	2.7/29.6	31781	1987 KF ₁	1998 04 29.9	14 28.10	+05 07.3	17.2	-0.73	+	12.0	9.4/22.2	31713
1996 RR ₂	1998 04 27.6	14 19.36	-63 22.7	16.8	-1.86	-	0.6	24.2/18.4	30785	4074 T-3	1998 04 29.9	14 28.27	-09 15.0	17.4	-0.95	+	3.6	2.3/28.6	22088
3770 T-1	1998 04 27.6	14 19.47	-08 08.8	17.6	-0.84	+	9.2	2.7/25.8	31774	3287 T-1	1998 04 30.1	14 28.77	-14 36.3	17.8	-0.81	+	4.1	0.0/30.1	31825
1981 EW ₃₁	1998 04 27.6	14 19.48	-03 22.2	18.5	-0.71	+	5.2	2.9/24.5	31781	1990 TG ₈	1998 04 30.2	14 29.27	-15 21.2	17.5	-0.93	+	0.3	0.2/30.4	31784
1995 WJ	1998 04 27.9	14 20.73	-08 50.9	18.1	-0.93	+	3.5	1.7/26.6	31791	1979 QX	1998 04 30.2	14 29.29	-18 20.1	17.2	-0.94	+	4.7	1.2/01.2	31780
4730 P-L	1998 04 28.0	14 21.09	-15 40.2	18.4	-0.94	+	2.8	0.6/28.5	31824	1981 EO ₄₇	1998 04 30.2	14 29.58	-08 19.3	17.9	-0.90	+	6.1	2.6/28.5	30780
1287 T-1	1998 04 28.0	14 21.22	-13 58.6	17.6	-0.99	+	6.0	0.0/28.1	31825	3092 P-L	1998 04 30.3	14 29.52	-27 39.9	18.0	-0.98	+	4.3	5.2/03.7	17974
1989 UU ₃	1998 04 28.1	14 21.36	-11 28.5	18.4	-0.98	+	6.1	0.9/27.4	31784	(7533)	1998 04 30.3	14 29.90	-09 14.4	17.5	-0.78	+	3.8	1.6/28.9	29294
1994 EP	1998 04 28.2	14 21.79	-09 41.5	16.9	-0.98	+	2.2	1.9/27.2	31789	1981 EF ₁₉	1998 04 30.5	14 30.31	-19 35.1	19.4	-0.96	+	4.3	1.6/01.8	22429
1988 RD	1998 04 28.2	14 21.93	-38 34.2	16.8	-1.38	-	1.2	8.0/03.3	23536	1084 T-2	1998 04 30.5	14 30.33	-14 54.7	19.6	-1.01	+	5.5	0.0/30.5	25970
1980 FV ₂	1998 04 28.3	14 22.34	-29 27.4	16.7	-1.11	-	0.4	6.1/01.6	21965	1997 CF ₁₇	1998 04 30.5	14 30.51	-20 08.9	18.7	-0.78	+	4.1	1.5/02.0	31794
1981 EG ₃₁	1998 04 28.4	14 22.76	-19 45.9	19.5	-0.96	+	3.9	2.0/29.9	26921	2256 T-2	1998 04 30.5	14 30.60	-13 40.8	17.9	-0.79	+	3.8	0.3/30.3	31825
1994 AC	1998 04 28.5	14 22.98	-17 40.3	17.2	-1.05	+	6.3	1.4/29.5	31788	1996 XY ₂₈	1998 04 30.6	14 30.70	-13 21.5	17.5	-0.96	+	3.7	0.6/30.2	30786
1996 YJ	1998 04 28.5	14 23.07	-23 40.8	17.4	-1.03	+	5.6	3.5/31.0	29140	2191 T-3	1998 04 30.6	14 30.71	-20 15.0	19.9	-0.91	+	3.5	1.8/02.0	31436
1991 GC ₁₀	1998 04 28.6	14 23.12	-12 40.7	17.6	-1.08	+	2.6	0.6/28.3	31785	1995 SO	1998 04 30.6	14 30.74	-07 12.9	19.2	-0.75	+	6.3	2.4/28.4	31728
1994 BX	1998 04 28.6	14 23.35	-04 43.1	17.3	-1.02	+	0.9	4.3/26.5	31788	1997 AO ₂	1998 04 30.6	14 30.82	+00 32.2	17.9	-0.82	+	1.8	4.8/26.8	29320
1982 UY ₆	1998 04 28.7	14 23.79	-15 10.2	16.9	-1.00	+	2.5	0.3/29.0	31782	1981 ER ₄₁	1998 04 30.7	14 31.10	-48 39.3	18.9	-1.44	-	5.6	12.5/06.4	26922
1997 AP ₁₄	1998 04 28.7	14 23.88	-12 50.4	18.7	-0.86	+	4.4	0.4/28.4	31422	1981 ET ₃₃	1998 04 30.7	14 31.22	-19 42.0	18.9	-0.82	+	3.9	1.6/02.0	30779
1989 DK	1998 04 28.8	14 24.23	-33 46.0	16.3	-1.01	+	4.7	6.8/04.6	22080	1995 SW ₂₅	1998 04 30.8	14 31.70	-17 48.6	19.6	-0.93	+	3.8	0.9/01.6	26178
1995 SX	1998 04 28.9	14 24.38	-10 17.6	17.6	-0.93	+	7.1	1.5/27.8	31790	1975 LT	1998 04 30.8	14 31.76	-22 45.5	16.9	-1.07	+	4.5	3.7/02.8	31779
1997 CP ₂₈	1998 04 28.9	14 24.41	-29 35.8	17.2	-0.89	+	3.1	4.5/03.1	29667	1992 PC	1998 04 30.9	14 31.86	-11 37.5	18.0	-1.03	+	7.0	1.3/30.0	31786
(7558)	1998 04 28.9	14 24.45	-19 56.6	16.5	-1.01	+	6.2	2.1/30.5	29591	(7465)	1998 04 30.9	14 32.01	-12 52.5	18.7	-1.01	+	5.7	0.8/30.4	29080
1167 T-2	1998 04 29.0	14 24.57	-15 09.9	18.5	-0.87	+	4.7	0.3/29.2	31825	1985 JU ₁	1998 05 01.0	14 32.26	-06 32.2	16.4	-1.03	+	2.8	4.1/29.0	31782
1996 VT ₅	1998 04 29.0	14 24.61	-03 38.8	17.3	-1.01	+	3.0	4.1/26.4	31792	1990 VZ ₆	1998 05 01.0	14 32.42	-18 43.6	17.2	-0.85	+	2.1	1.1/02.0	31784
1994 PV ₅	1998 04 29.0	14 24.63	-14 56.7	18.4	-0.78	+	4.1	0.2/29.2	29620	1990 VZ ₄	1998 05 01.2	14 33.14	-06 35.2	16.8	-0.76	+	6.9	2.9/28.7	31784
1996 XX ₃₀	1998 04 29.0	14 24.77	-16 32.3	18.1	-0.89	+	5.2	0.7/29.6	29667	1996 XS ₂₃	1998 05 01.2	14 33.19	-12 53.3	18.2	-1.26	-	1.7	0.7/30.9	30473
1996 TN ₁₂	1998 04 29.0	14 24.82	-15 22.4	17.7	-1.00	+	5.6	0.4/29.3	31792	1989 SP ₃	1998 05 01.2	14 33.23	+04 25.3	17.0	-0.88	+	14.7	8.3/24.5	31714
1991 GJ ₈	1998 04 29.0	14 24.99	-20 00.3	18.0	-1.14	+	0.9	2.4/30.3	31717	1978 VH ₁₁	1998 05 01.2	14 33.26	-11 13.4	18.4	-0.90	+	3.1	1.3/30.3	31780
1990 VK ₁	1998 04 29.1	14 25.00	-15 35.4	17.4	-0.84	+	3.4	0.4/29.4	31784	1998 HW ₆	1998 05 01.2	14 33.38	-02 05.6	17.1	-0.92	+	0.4	4.3/28.4	31771
1996 XQ ₁₁	1998 04 29.1	14 25.01	-11 07.5	18.8	-0.86	+	3.5	1.0/28.3	31793	1988 ST ₂	1998 05 01.3	14 33.50	-12 48.0	17.7	-0.78	+	3.3	0.7/30.7	31714
1995 UJ ₈	1998 04 29.1	14 25.22	-17 02.8	18.5	-0.72	+	5.7	0.7/30.0	31790	1995 UB ₁	1998 05 01.3	14 33.77	-19 56.9	17.5	-0.79	+	6.2	1.6/02.8	31790
1996 XH ₁₈	1998 04 29.1	14 25.27	+01 28.0	18.1	-0.82	+	3.7	4.8/24.8	29119	1997 AH	1998 05 01.4	14 33.72	-06 55.8	18.0	-0.94	+	3.4	2.7/29.4	31794
1979 SG ₂	1998 04 29.1	14 25.37	-23 58.7	18.8	-1.11	+	5.0	3.6/01.6	31780	3476 T-3	1998 05 01.4	14 33.76	-12 56.9	17.0	-1.09	+	4.8	0.9/30.9	31826
1996 VF ₃	1998 04 29.2	14 25.33	-12 41.3	17.5	-1.06	+	2.1	0.6/28.8	29308	1992 WU ₃	1998 05 01.4	14 33.81	-17 42.7	17.8	-0.98	+	4.3	0.9/02.1	31787
1992 RL ₇	1998 04 29.2	14 25.38	-09 58.4	18.6	-0.97	+	4.5	1.6/28.1	31786	1981 EH ₃₇	1998 05 01.5	14 34.35	-13 19.7	20.9	-0.88	+	5.5	0.5/01.1	26922
1992 UX	1998 04 29.2	14 25.40	-07 54.6	17.4	-1.03	+	2.6	2.4/27.7	31787	1993 FU ₅₂	1998 05 01.5	14 34.47	-07 33.9	18.7	-0.83	+	4.2	2.4/29.6	28588
1997 AF ₂₁	1998 04 29.2	14 25.58	-17 13.9	17.1	-1.14	+	4.3	1.2/29.9	31794	1991 VU ₄	1998 05 01.6	14 34.74	-09 21.5	18.4	-0.87	+	4.2	1.7/30.1	31786
(8712)	1998 04 29.3	14 26.12	-10 44.7	16.1	-0.78	+	3.6	1.2/28.4	31690	1996 XY ₁₈	1998 05 01.7	14 35.01	-16 01.6	17.4	-0.95	+	5.5	0.3/02.0	30786
1991 GE ₈	1998 04 29.4	14 26.13	-18 41.6	17.2	-1.10	+	2.6	1.7/30.4	31785	(8677)	1998 05 01.8	14 35.27	+00 49.2	17.7	-0.76	+	4.0	4.7/27.3	31681
1987 SC ₁	1998 04 29.4	14 26.28	-06 29.7	18.6	-0.86	+	4.5	2.3/27.3	31782	1990 ES ₁	1998 05 01.8	14 35.41	-26 32.8	17.8	-0.99	+	5.3	4.7/04.9	31715
4535 P-L	1998 04 29.4	14 26.37	-14 28.0	19.0	-0.74	+	3.6	0.0/29.5	30681	1997 AU ₆	1998 05 01.8	14 35.44	-10 31.0	17.7	-0.82	+	3.8	1.5/30.6	31794
1997 BA ₂	1998 04 29.4	14 26.48	-09 58.9	17.0	-0.81	+	3.7	1.5/28.3	31794	1997 BF ₇	1998 05 01.8	14 35.47	-16 13.9	17.7	-0.81	+	3.7	0.3/02.1	31144
1981 DS ₂	1998 04 29.5	14 26.75	-31 01.2	18.6	-0.98	+	4.9	6.0/04.2	26914	1992 UP ₁₀	1998 05 01.9	14 35.75	-10 44.8	18.6	-1.02	+	4.0	1.6/30.8	31787
3102 T-3	1998 04 29.6	14 27.26	-10 48.9	19.6	-0.97	+	4.6	1.3/28.7	29130	1997 CA ₃	1998 05 01.9	14 35.85	-10 44.3	18.6	-0.75	+	3.2	1.2/30.8	31794
1981 EN ₃₃	1998 04 29.6	14 27.30	-22 18.6	19.8	-1.08	+	4.7	3.4/01.7	26921	1988 PZ ₁	1998 05 01.9	14 36.06	-15 28.9	17.6	-0.78	+	3.5	0.1/02.1	31783
1997 AV ₁	1998 04 29.7	14 27.51	-26 11.3	18.2	-1.03	+	4.0	4.1/02.8	29667	1997 CO	1998 05 01.9	14 36.08	-13 01.0	17.3	-0.81	+	4.2	0.7/01.4	31794
1993 FZ ₂₄	1998 04 29.7	14 27.58	-19 56.8	17.5	-0.89	+	3.5	1.8/01.2	29944	2771 P-L	1998 05 02.0	14 36.08	-15 31.6	17.1	-0.79	+	2.6	0.1/02.1	31824
1996 VY ₁	1998 04 29.8	14 27.65	-28 53.1	17.9	-0.93	+	7.2	5.2/04.2	29140	1994 JG ₉	1998 05 02.0	14 36.17	+00 12.1	17.5	-0.96	+	4.8	5.7/27.7	29318
1997 AK ₄	1998 04 29.8	14 27.76	-17 51.9	17.6	-0.81	+	4.2	0.9/30.7	31794	3560 P-L	1998 05 02.0	14 36.20	-33 07.7	17.1	-0.93	+	1.1	5.0/06.3	29948

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1981 EP₃ 1998 05 02.0 14 36.21 -17 11.9 19.0 -0.75 + 7.1 0.7/02.6 26915
 1992 SK₁₃ 1998 05 02.0 14 36.28 -23 07.3 17.9 -1.08 + 4.6 2.9/04.0 29136
 1981 EH₂₅ 1998 05 02.0 14 36.30 -09 21.2 18.8 -0.85 + 5.8 2.4/30.4 31781
 1996 UN 1998 05 02.0 14 36.40 -11 45.6 17.1 -0.96 + 7.5 1.6/01.1 31792
 1964 VZ₂ 1998 05 02.1 14 36.43 -13 13.5 18.8 -0.80 + 3.3 0.6/01.6 31779
 (7496) 1998 05 02.1 14 36.58 +02 35.0 18.1 -0.73 + 2.2 4.1/27.4 29089
 1979 KO₁ 1998 05 02.2 14 36.78 -26 01.4 16.5 -0.90 + 7.0 5.0/05.3 31780
 1981 EB₁₆ 1998 05 02.2 14 37.07 -21 01.3 18.4 -1.03 + 6.1 2.4/03.8 26918
 1981 EU₂₈ 1998 05 02.2 14 37.14 -23 06.0 16.4 -1.09 + 4.9 3.4/04.2 27304
 (8648) 1998 05 02.2 14 37.16 -13 46.9 17.5 -1.00 + 5.9 0.5/01.9 31675
 1996 XK₆ 1998 05 02.3 14 37.22 -14 49.6 18.5 -0.96 + 5.0 0.2/02.2 28606
 1997 AO₄ 1998 05 02.3 14 37.29 -05 35.0 17.2 -0.85 + 4.0 3.4/29.7 31794
 1995 WH₁₇ 1998 05 02.3 14 37.47 -06 46.8 18.8 -0.88 + 2.3 2.5/30.3 30784
 1981 EF₂₉ 1998 05 02.3 14 37.50 -21 58.1 18.5 -0.84 + 3.2 2.2/04.1 26920
 1995 YY₂ 1998 05 02.3 14 37.57 -01 44.6 17.9 -0.75 + 2.6 3.5/28.8 31791
 1981 ER₂₅ 1998 05 02.4 14 37.74 -10 25.5 18.4 -0.88 + 5.1 1.6/01.1 31781
 1996 XU₃₀ 1998 05 02.4 14 37.87 -20 59.1 17.7 -0.97 + 8.0 2.1/04.1 31793
 (7523) 1998 05 02.5 14 38.11 -19 21.2 17.5 -0.92 + 5.1 1.3/03.6 29292
 1995 SS₅ 1998 05 02.5 14 38.38 -09 48.0 17.9 -0.83 +10.7 2.2/30.8 30783
 1995 DB₃ 1998 05 02.6 14 38.38 -16 30.0 17.6 -1.03 +19.4 0.5/03.0 25433
 1988 VR₃ 1998 05 02.6 14 38.42 -13 11.0 17.7 -0.95 + 5.1 0.8/02.0 31783
 1989 CO₅ 1998 05 02.6 14 38.68 -10 16.6 17.4 -0.91 + 4.7 1.9/01.3 31783
 (7428) 1998 05 02.6 14 38.69 +07 38.6 17.0 -0.92 + 1.5 8.1/27.1 28833
 1978 TT₈ 1998 05 02.6 14 38.72 -13 18.3 16.8 -1.00 + 2.9 0.8/02.2 31780
 1995 WQ₂ 1998 05 02.8 14 39.10 -01 23.6 18.9 -0.84 + 0.3 4.1/29.6 30784
 (8557) 1998 05 02.8 14 39.19 -02 53.7 18.3 -0.98 + 4.6 5.1/29.5 31509
 1997 BE₇ 1998 05 02.8 14 39.35 -14 11.6 18.3 -0.86 + 5.3 0.4/02.5 31392
 (7385) 1998 05 02.8 14 39.41 -11 44.2 17.3 -0.99 + 3.5 1.4/02.0 31779
 (7536) 1998 05 02.9 14 39.66 -36 08.9 15.6 -0.98 + 3.5 7.3/08.3 29295
 1995 QE₃ 1998 05 02.9 14 39.85 -18 35.7 17.5 -1.05 + 4.4 1.2/03.7 26582
 1995 DA₃ 1998 05 03.0 14 39.91 -19 16.3 16.8 -0.98 +22.3 1.7/04.4 25433
 1996 YN₂ 1998 05 03.0 14 40.15 -17 31.8 18.8 -1.00 + 5.4 0.7/03.6 29119
 1995 UX₄₄ 1998 05 03.1 14 40.33 -16 35.2 17.3 -0.83 + 3.3 0.3/03.4 31790
 1978 SH₇ 1998 05 03.1 14 40.38 -22 54.1 18.4 -0.96 + 3.2 2.2/04.9 30778
 (7674) 1998 05 03.1 14 40.38 -11 22.6 16.7 -0.81 + 3.9 1.3/02.0 31779
 1994 EJ₇ 1998 05 03.1 14 40.55 -07 50.5 17.4 -1.02 + 3.3 2.9/01.3 31789
 1979 UC₄ 1998 05 03.3 14 41.19 -18 34.1 18.2 -0.94 + 3.5 0.9/04.1 31780
 1981 EM₁₄ 1998 05 03.3 14 41.38 -15 13.0 18.1 -0.86 + 7.1 0.2/03.3 26917
 2134 T-3 1998 05 03.4 14 41.45 -25 42.1 17.9 -0.94 + 3.1 3.1/06.0 23534
 1992 DC₃ 1998 05 03.4 14 41.54 -12 21.6 17.4 -0.79 + 4.0 1.0/02.6 31786
 1997 CW₂₇ 1998 05 03.4 14 41.60 -18 07.1 17.7 -0.98 + 4.6 0.8/04.1 31794
 1996 VC 1998 05 03.4 14 41.81 -40 03.6 18.6 -1.36 + 0.7 7.6/09.0 29666
 4221 T-2 1998 05 03.6 14 42.17 -12 47.5 17.6 -0.78 + 3.4 0.9/02.9 31825
 1981 EB₄ 1998 05 03.6 14 42.17 -29 18.1 19.5 -0.86 + 3.7 4.6/07.2 30779
 4190 T-3 1998 05 03.6 14 42.34 -11 28.4 17.8 -0.90 + 2.0 1.3/02.7 31826
 1995 OF 1998 05 03.7 14 42.72 -22 57.1 18.8 -1.02 + 6.4 2.9/05.6 25731
 1978 VG₁₁ 1998 05 03.8 14 42.98 -11 52.9 18.3 -0.91 + 2.7 1.2/02.9 31780
 (7561) 1998 05 03.8 14 43.00 -09 33.8 17.5 -0.86 + 2.1 1.8/02.4 29591
 1995 SL₂ 1998 05 03.8 14 43.33 +01 28.5 17.6 -0.81 + 5.3 5.2/29.0 31790
 1990 OH 1998 05 03.9 14 43.31 -13 41.7 17.9 -0.88 + 7.9 0.7/03.3 31784
 (7629) 1998 05 03.9 14 43.65 -18 30.9 17.6 -1.02 + 4.2 0.9/04.6 29894

1993 GL 1998 05 04.0 14 43.69 -15 24.9 16.0 -0.86 + 2.9 0.2/03.9 31788
 1981 EA₁₂ 1998 05 04.0 14 43.85 -15 47.4 17.9 -1.02 + 5.8 0.0/04.0 31780
 1993 FF₂₁ 1998 05 04.0 14 43.97 -19 34.7 17.9 -0.89 + 3.3 1.2/05.0 31787
 1991 VJ₁ 1998 05 04.0 14 43.97 -12 32.6 19.5 -0.90 + 4.0 1.0/03.2 31418
 1990 WM₁ 1998 05 04.0 14 44.03 -05 43.1 19.3 -0.77 + 3.7 2.9/01.4 23860
 1994 CL₁₄ 1998 05 04.0 14 44.06 -07 26.2 17.1 -1.00 + 3.8 3.2/02.0 28852
 1978 VN₂ 1998 05 04.0 14 44.10 -17 12.5 18.2 -0.79 + 3.3 0.4/04.4 31780
 1981 ET₅ 1998 05 04.1 14 44.25 -12 48.3 18.4 -0.85 + 8.1 1.1/03.2 26915
 1995 YN₁ 1998 05 04.2 14 44.78 -14 08.5 17.9 -0.76 + 3.8 0.5/03.8 31791
 1981 EE₁₀ 1998 05 04.2 14 44.86 -21 33.2 19.2 -1.05 + 4.8 2.5/05.7 26916
 2041 P-L 1998 05 04.3 14 44.95 -34 24.2 18.1 -1.15 - 0.7 6.9/08.0 22432
 1988 RW₃ 1998 05 04.3 14 45.19 -16 56.5 18.2 -0.80 + 3.1 0.3/04.6 21972
 1996 XD₁ 1998 05 04.3 14 45.23 -10 46.5 16.5 -1.09 + 3.9 2.4/03.2 31793
 (8637) 1998 05 04.4 14 45.25 -11 46.7 18.5 -0.95 + 5.0 1.5/03.3 31672
 1992 UE₄ 1998 05 04.4 14 45.39 -11 33.4 18.5 -0.97 + 3.8 1.4/03.4 29661
 1997 AD₁₀ 1998 05 04.4 14 45.45 -08 57.4 18.2 -0.97 + 5.1 2.7/02.6 31794
 1994 JU₈ 1998 05 04.4 14 45.51 -19 32.1 17.2 -0.86 +11.9 1.4/05.6 31726
 1997 EE₇ 1998 05 04.4 14 45.56 -01 27.6 19.3 -0.72 + 6.0 4.1/30.2 29313
 1992 EA₂₂ 1998 05 04.4 14 45.62 +03 00.9 16.9 -0.75 + 4.0 6.0/29.2 31786
 2806 P-L 1998 05 04.5 14 45.73 -23 18.3 20.4 -1.08 + 1.8 2.7/06.0 25969
 1981 EC₄ 1998 05 04.5 14 45.97 -17 57.6 18.6 -0.88 + 7.4 0.7/05.1 26915
 1995 TF 1998 05 04.5 14 45.97 -31 42.6 17.7 -1.18 - 0.8 5.8/07.5 31587
 1994 BS₄ 1998 05 04.5 14 46.03 -13 43.2 17.1 -1.03 + 3.6 1.0/04.1 31789
 (7731) 1998 05 04.5 14 46.07 -15 36.7 17.1 -0.90 + 2.7 0.1/04.5 30252
 1988 XB₂ 1998 05 04.6 14 46.03 -20 02.9 17.6 -1.03 + 3.7 1.4/05.6 29610
 1992 EE₇ 1998 05 04.6 14 46.14 +03 11.7 17.3 -0.77 + 3.3 6.2/29.4 31786
 (8751) 1998 05 04.8 14 46.97 -12 11.6 18.4 -0.82 + 4.0 1.3/03.8 31699
 1992 UN₂ 1998 05 04.8 14 46.98 -15 34.1 18.2 -1.00 + 3.5 0.2/04.7 31787
 1979 YQ 1998 05 04.8 14 47.03 -06 51.8 18.1 -0.90 + 2.5 2.8/02.7 31780
 1988 RJ₆ 1998 05 04.9 14 47.34 -22 42.1 19.0 -1.02 + 4.0 2.2/06.5 31136
 1997 AP₁₂ 1998 05 05.0 14 47.69 -33 31.9 17.2 -0.95 + 5.0 6.0/09.9 29124
 1989 SM₄ 1998 05 05.0 14 47.74 -12 42.3 18.5 -0.79 + 3.4 1.0/04.2 31783
 1992 YM₂ 1998 05 05.0 14 47.90 -06 52.1 17.5 -0.98 + 2.3 3.4/03.0 31787
 1981 EK₁₅ 1998 05 05.0 14 47.95 -30 45.0 18.8 -0.90 + 2.2 4.2/08.7 29297
 1995 SM₁ 1998 05 05.1 14 48.23 -14 58.3 19.5 -0.91 + 3.8 0.4/04.9 30783
 1989 SC₄ 1998 05 05.1 14 48.26 +00 40.1 17.5 -0.70 + 8.3 5.1/29.8 26739
 1991 WB 1998 05 05.1 14 48.39 +21 26.2 18.2 -0.97 - 1.2 9.4/26.4 31786
 1993 FS₂₃ 1998 05 05.2 14 48.52 -19 48.3 17.9 -0.89 + 3.6 1.2/06.0 31787
 1993 FT₁₁ 1998 05 05.3 14 48.79 -25 12.9 16.7 -1.02 + 0.9 2.8/07.2 26564
 1997 AZ₆ 1998 05 05.3 14 48.81 -11 08.6 17.9 -0.90 + 4.6 1.7/04.0 29667
 1981 EA₄ 1998 05 05.3 14 48.88 -17 00.3 18.7 -0.97 + 8.0 0.3/05.6 26915
 1995 UB₃₂ 1998 05 05.3 14 49.13 -10 57.8 19.7 -0.93 + 3.8 1.8/04.1 26570
 1997 CZ₁₄ 1998 05 05.4 14 49.28 -16 57.3 19.3 -1.07 + 3.7 0.2/05.6 29321
 1988 TM₁ 1998 05 05.4 14 49.34 -15 42.7 17.7 -0.95 + 4.8 0.2/05.3 31783
 1996 XE₉ 1998 05 05.5 14 49.46 -21 45.9 19.1 -1.00 + 5.7 1.9/06.9 30786
 1996 YT 1998 05 05.6 14 50.12 -17 11.1 16.0 -1.02 + 2.1 10.6/16.0 31793
 1997 BY₁ 1998 05 05.6 14 50.24 +04 10.3 17.3 -0.88 + 3.8 6.6/30.2 29636
 1981 EW₈ 1998 05 05.7 14 50.44 -15 25.9 19.7 -0.91 + 5.2 0.3/05.5 21966
 1128 T-3 1998 05 05.7 14 50.59 -34 36.3 18.1 -0.97 + 0.9 5.6/09.8 29669
 1995 WF₂ 1998 05 05.8 14 50.65 -14 27.1 17.8 -0.74 + 3.3 0.5/05.3 31791
 1996 CC 1998 05 05.9 14 51.10 -06 34.0 17.3 -1.00 - 0.7 3.2/04.0 31278

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1993 FD ₅₁	1998 05 05.9	14 51.12 -17 02.5	17.8 -0.89 + 4.0	7.2/16.0	26421	1981 DR ₃	1998 05 08.2	14 59.99 -27 46.5	19.3 -0.97 + 4.7	3.4/10.9	26914
1993 FT ₃₃	1998 05 05.9	14 51.22 -16 12.2	16.9 -0.91 + 2.3	8.3/16.0	31788	1994 CA ₁₇	1998 05 08.2	15 00.16 -12 57.6	18.0 -1.00 + 3.3	1.7/07.3	24112
1990 TT ₁₀	1998 05 05.9	14 51.32 -21 41.1	18.6 -0.93 + 3.0	1.8/07.2	24389	7569 P-L	1998 05 08.2	15 00.35 -18 09.9	18.6 -1.06 + 2.7	0.4/08.5	23986
1995 QG ₂	1998 05 06.1	14 51.95 -09 06.3	16.3 -1.03 + 0.6	3.3/04.7	31790	1995 WM ₅	1998 05 08.3	15 00.74 -19 03.3	17.5 -0.83 + 3.2	0.6/08.9	31791
1994 PA ₁₀	1998 05 06.1	14 52.08 -02 48.6	18.2 -0.80 + 5.3	5.3/02.3	29318	1991 TV ₁	1998 05 08.4	15 00.80 -16 00.1	18.3 -0.97 + 2.2	0.3/08.2	31786
1981 EU ₄₂	1998 05 06.2	14 52.54 -16 08.0	19.1 -0.79 + 3.6	0.1/06.2	30780	1978 VN ₉	1998 05 08.4	15 00.88 -12 56.7	18.2 -0.91 + 3.0	1.5/07.5	31780
1992 EQ ₁₁	1998 05 06.2	14 52.56 -16 50.3	16.8 -0.84 + 3.1	0.1/06.4	31786	1981 EZ ₃₁	1998 05 08.5	15 01.31 -28 14.1	19.7 -0.84 + 5.4	3.9/11.6	26921
(7387)	1998 05 06.3	14 52.62 -05 18.9	17.1 -0.92 + 4.6	4.0/03.5	29587	(7539)	1998 05 08.5	15 01.34 -08 33.0	17.6 -0.90 + 4.3	2.9/06.5	29296
1997 AK ₁₈	1998 05 06.3	14 52.71 -17 52.1	19.8 -0.98 + 3.6	0.4/06.6	29125	1993 BN	1998 05 08.5	15 01.40 -33 37.6	16.4 -1.03 + 3.5	6.3/12.6	29136
1979 OV ₄	1998 05 06.3	14 52.86 -17 55.0	17.1 -0.85 + 3.7	0.5/06.7	27553	1996 XH ₃₁	1998 05 08.5	15 01.44 -18 57.0	18.2 -0.99 + 4.4	0.6/09.0	29667
1988 SN	1998 05 06.3	14 52.93 -24 48.5	17.0 -1.08 + 2.4	3.0/08.2	31783	1991 FT ₂	1998 05 08.5	15 01.52 -21 51.3	18.2 -1.12 + 2.9	2.0/09.6	31785
4078 T-1	1998 05 06.4	14 52.96 -08 56.4	19.0 -1.02 + 5.2	2.9/04.5	24115	1978 VZ ₇	1998 05 08.6	15 01.53 -17 49.8	18.1 -0.84 + 3.2	0.2/08.8	31780
1984 YN ₁	1998 05 06.4	14 53.06 -18 14.3	17.8 -0.99 + 3.3	0.6/06.8	29654	1993 FZ ₅₇	1998 05 08.6	15 01.61 -16 28.3	18.3 -0.87 + 4.3	0.2/08.5	29137
(7762)	1998 05 06.4	14 53.12 -12 06.9	16.7 -0.84 + 3.3	1.4/05.4	30261	1993 CA ₁	1998 05 08.6	15 01.76 -40 13.6	16.7 -1.12 + 3.0	8.4/14.5	30658
1992 AF	1998 05 06.4	14 53.16 -17 08.4	16.8 -0.82 + 6.1	0.2/06.6	31786	1995 UP ₂	1998 05 08.6	15 01.87 -23 57.1	17.7 -0.94 + 0.7	2.2/10.1	31790
1995 UG	1998 05 06.4	14 53.32 -18 07.7	19.0 -0.90 + 4.6	0.5/06.9	30784	1996 XX ₂₉	1998 05 08.7	15 02.28 -15 25.5	19.6 -1.00 + 3.2	0.7/08.4	30786
1996 XE ₃₂	1998 05 06.5	14 53.33 -22 04.1	18.0 -0.89 + 1.7	1.8/07.8	29308	1996 XB ₂	1998 05 08.8	15 02.52 -38 39.2	18.3 -1.15 + 8.9	6.9/15.2	29320
1981 EL ₁₂	1998 05 06.5	14 53.74 -23 09.8	19.1 -1.07 + 5.1	2.8/08.2	22270	1995 SH	1998 05 08.9	15 02.66 -02 35.2	17.1 -0.79 + 8.5	5.7/04.6	31790
1996 VH ₄	1998 05 06.6	14 53.81 -02 56.0	16.7 -0.98 - 1.5	5.4/04.1	30785	2221 P-L	1998 05 08.9	15 02.67 -18 17.3	18.9 -1.03 + 6.6	0.5/09.2	22274
1992 EG ₁₆	1998 05 06.6	14 53.85 -14 41.3	17.3 -0.81 + 3.8	0.6/06.2	28847	1994 PS ₃₇	1998 05 08.9	15 02.71 -16 00.2	17.5 -0.80 + 3.4	0.4/08.6	31789
1994 CM ₂	1998 05 06.6	14 53.85 -27 30.0	16.4 -1.08 + 5.2	4.4/09.3	29662	1977 EK ₁	1998 05 08.9	15 02.92 -11 06.6	16.2 -0.87 + 7.2	3.0/07.3	31779
1997 BU ₁	1998 05 06.6	14 53.86 -17 54.3	17.6 -0.85 + 3.2	0.4/06.9	29947	1993 FS ₂₇	1998 05 08.9	15 02.98 -14 34.1	17.8 -0.84 + 5.5	0.9/08.3	31787
1981 ES ₂₃	1998 05 06.6	14 53.88 -14 19.9	18.7 -0.91 + 4.2	0.8/06.1	31781	1997 AR ₄	1998 05 09.0	15 03.06 -16 51.7	16.8 -0.83 + 3.9	0.1/08.9	31794
1981 UL ₂₉	1998 05 06.7	14 54.11 -12 21.3	18.4 -0.84 + 8.1	1.4/05.5	23970	1996 WX	1998 05 09.0	15 03.16 -17 40.6	18.7 -1.13 + 1.4	0.2/09.1	31733
(7391)	1998 05 06.7	14 54.19 -20 42.8	18.2 -0.98 + 2.8	1.4/07.7	28823	1991 XD	1998 05 09.1	15 03.41 -01 29.9	16.4 -1.52 - 7.3	7.5/07.7	31719
1989 WT	1998 05 06.7	14 54.37 -13 33.3	16.5 -1.06 + 2.3	1.3/06.1	31784	1985 TS	1998 05 09.1	15 03.50 -21 52.9	17.5 -1.09 + 3.0	1.8/10.1	31782
1993 MK	1998 05 06.7	14 54.39 +28 30.0	17.0 -1.24 - 1.8	19.7/23.9	31788	1981 EB ₂₁	1998 05 09.1	15 03.85 -20 24.8	19.1 -0.81 + 3.5	0.9/09.9	29653
1997 AR ₂	1998 05 06.7	14 54.39 -13 14.4	17.4 -0.78 + 3.2	1.0/05.9	31794	1997 AK ₁₉	1998 05 09.2	15 03.84 -11 49.0	15.9 -1.00 + 5.3	2.4/07.9	31794
(8661)	1998 05 06.7	14 54.41 -18 56.9	16.7 -0.91 + 0.7	0.7/07.3	31678	1978 RU	1998 05 09.2	15 04.27 -22 20.2	16.1 -1.00 + 1.1	2.3/10.3	31779
1981 EE ₄₇	1998 05 06.8	14 54.54 -08 16.4	18.2 -0.88 + 4.8	2.7/04.7	31781	1995 RA	1998 05 09.3	15 04.49 -52 51.2	17.5 -1.47 + 3.5	12.7/18.0	29664
1997 CC ₇	1998 05 06.8	14 54.60 -01 05.5	17.4 -0.77 + 2.8	4.9/02.9	29927	1995 YP ₂	1998 05 09.4	15 04.74 -06 31.3	17.2 -0.83 + 1.4	3.2/07.1	31588
1971 UH ₁	1998 05 06.9	14 55.08 -14 02.8	17.6 -0.79 + 2.9	0.8/06.3	31779	1995 VL	1998 05 09.4	15 04.80 -12 45.1	18.2 -1.01 + 0.1	1.6/08.6	31790
1995 SX ₅₃	1998 05 07.0	14 55.52 -49 06.1	20.4 -1.17 + 2.5	8.6/15.6	29923	1977 QD ₃	1998 05 09.4	15 05.01 -29 32.1	16.9 -1.12 0.0	4.7/11.7	31779
1988 VT ₂	1998 05 07.0	14 55.67 -18 46.0	17.6 -0.99 + 4.5	0.7/07.6	29656	1981 WE ₁	1998 05 09.5	15 05.09 -10 37.1	17.9 -0.80 + 5.3	1.9/07.8	31782
(7426)	1998 05 07.2	14 56.04 -18 43.4	17.0 -0.98 + 4.4	0.7/07.7	28832	1996 TQ ₁₂	1998 05 09.6	15 05.49 +15 33.2	17.2 -1.01 +18.6	14.9/26.4	31792
1991 FJ ₂	1998 05 07.2	14 56.17 -12 58.2	17.0 -0.96 + 5.8	1.8/06.3	31785	1992 US ₁	1998 05 09.6	15 05.80 -17 56.3	16.9 -1.12 + 1.1	0.2/09.8	21589
3163 T-3	1998 05 07.2	14 56.24 -27 38.0	17.7 -1.02 - 1.9	3.6/09.2	25437	4272 T-2	1998 05 09.7	15 05.93 -12 50.6	18.0 -1.06 + 3.8	2.0/08.7	31825
1992 UD ₃	1998 05 07.2	14 56.32 -17 39.2	17.0 -0.96 + 6.9	0.3/07.5	31787	1997 AN ₂₁	1998 05 09.7	15 05.94 -37 56.9	17.7 -1.09 + 3.7	6.8/14.8	29320
1989 SJ ₃	1998 05 07.2	14 56.46 -13 52.0	18.7 -0.75 + 3.1	0.8/06.6	30447	2799 P-L	1998 05 09.7	15 05.96 +10 18.2	20.2 -0.73 + 7.6	7.4/30.7	29948
1994 EO ₂	1998 05 07.2	14 56.53 -44 36.5	18.3 -1.51 - 0.5	9.3/13.0	29944	1988 CO ₇	1998 05 09.8	15 06.14 -16 10.7	17.7 -1.10 + 4.1	0.6/09.5	29095
1981 EZ ₁₆	1998 05 07.4	14 56.90 -27 43.7	19.6 -1.02 + 2.7	3.6/09.9	26918	(7712)	1998 05 09.8	15 06.51 -10 03.3	17.8 -0.89 + 3.7	2.3/08.2	30072
1997 AX ₃	1998 05 07.4	14 57.12 -22 52.6	17.0 -1.10 + 5.3	2.4/08.9	31794	1981 UU ₁₁	1998 05 09.9	15 06.52 -11 04.5	17.9 -0.80 + 5.3	1.9/08.3	31781
1981 ER ₃₂	1998 05 07.5	14 57.28 -04 24.0	21.0 -0.73 + 4.0	3.1/04.3	26921	1993 FO ₃₆	1998 05 09.9	15 06.59 -05 35.8	16.6 -0.80 + 6.2	4.3/06.7	27936
1003 T-2	1998 05 07.7	14 58.12 -16 45.0	17.6 -0.81 + 3.6	0.1/07.7	29130	1997 AD ₁	1998 05 09.9	15 06.92 -11 30.9	18.9 -0.94 + 3.5	2.0/08.6	31736
1981 EA ₃₆	1998 05 07.8	14 58.49 -22 23.2	18.9 -0.96 + 3.8	1.8/09.1	31415	1994 UD ₁	1998 05 10.0	15 06.94 -17 36.6	18.8 -0.75 + 2.7	0.0/10.0	29663
1995 YK ₃	1998 05 07.8	14 58.54 -18 36.5	17.1 -0.66 + 3.5	0.4/08.3	31791	1981 ED ₄₂	1998 05 10.0	15 07.13 -10 44.7	19.1 -0.76 + 4.1	2.4/08.4	26922
1978 UL ₄	1998 05 07.8	14 58.75 -13 31.3	18.2 -0.85 + 7.0	1.1/06.9	31780	1981 EM ₄₁	1998 05 10.0	15 07.37 -25 43.0	18.4 -0.85 + 2.6	2.3/11.9	27102
1995 VY	1998 05 07.9	14 58.75 -14 15.4	17.4 -0.96 + 3.2	0.9/07.3	31790	1996 OR ₁	1998 05 10.1	15 07.37 -25 56.3	16.4 -1.12 + 1.7	3.7/11.8	31791
1995 RK	1998 05 07.9	14 58.76 -20 27.0	17.6 -0.97 + 6.6	1.5/08.8	31790	(7453)	1998 05 10.1	15 07.38 -15 41.6	16.7 -1.04 + 4.3	0.9/09.7	29077
1983 WF ₁	1998 05 07.9	14 59.03 +07 10.0	17.8 -0.76 + 1.2	5.8/02.0	29940	1992 WD ₁	1998 05 10.1	15 07.57 -13 33.8	18.2 -0.99 + 3.5	1.4/09.3	28887
1981 EA ₁₅	1998 05 08.1	14 59.76 -32 03.1	18.8 -0.91 + 2.2	4.8/11.7	26917	1978 SC ₇	1998 05 10.2	15 07.79 -32 32.3	18.0 -1.07 + 1.2	4.7/13.3	31414

(7464)	1998 05 10.2	15 08.11	-22 10.1	19.3	-0.97	+	2.6	1.4/11.3	29080
1981 EB ₁₄	1998 05 10.2	15 08.15	-20 29.6	18.9	-0.78	+	4.2	0.8/11.0	31224
1993 FN ₂₀	1998 05 10.3	15 08.25	-19 37.7	17.9	-0.89	+	3.9	0.7/10.8	29662
1981 EJ ₂₈	1998 05 10.3	15 08.43	-14 43.8	17.8	-1.06	+	4.9	1.2/09.7	31224
1981 EQ ₂₃	1998 05 10.3	15 08.43	-09 30.3	17.9	-0.76	+	4.4	2.7/08.3	24226
1996 VH ₃₀	1998 05 10.4	15 08.65	-16 53.3	15.9	-1.07	+	0.6	0.3/10.3	31793
1997 CU ₂₈	1998 05 10.5	15 08.99	-21 48.3	18.3	-0.92	+	3.7	1.3/11.5	29642
1981 EP ₃₀	1998 05 10.5	15 09.03	+06 41.8	17.8	-0.71	+	5.8	7.2/03.5	31781
9511 P-L	1998 05 10.5	15 09.11	-16 22.6	17.1	-0.79	+	3.3	0.4/10.3	31824
1991 PT ₇	1998 05 10.5	15 09.12	-20 31.1	16.8	-0.99	+	2.4	1.4/11.0	31785
1997 CH ₂₆	1998 05 10.5	15 09.30	-05 24.0	18.2	-0.84	+	2.7	3.6/07.8	31590
1992 PH ₁	1998 05 10.5	15 09.30	-26 08.8	17.3	-1.07	+	4.4	4.1/12.5	31786
2114 T-1	1998 05 10.6	15 09.58	+00 33.6	18.0	-0.79	+	6.7	6.8/05.6	31774
1218 T-2	1998 05 10.6	15 09.58	-16 06.6	17.1	-0.98	+	4.1	0.6/10.3	31825
1989 EC ₃	1998 05 10.6	15 09.64	-07 55.4	17.7	-0.87	+	5.7	3.4/08.3	31783
1992 BF ₄	1998 05 10.7	15 09.64	-18 24.2	17.8	-0.87	+	2.7	0.2/10.9	31786
1981 EN ₂	1998 05 10.7	15 09.65	-23 53.6	19.6	-0.81	+	5.0	1.8/12.3	22429
1994 PN ₁₃	1998 05 10.7	15 09.68	-19 08.7	18.8	-0.76	+	3.0	0.4/11.0	29302
(7532)	1998 05 10.7	15 09.88	-26 22.1	17.2	-1.13	-	1.3	3.1/12.2	29294
1997 BR ₂	1998 05 10.7	15 09.91	-10 59.3	17.5	-0.85	+	3.9	2.2/09.2	31794
1991 VU	1998 05 10.8	15 10.25	-20 20.6	17.0	-0.91	+	5.5	0.8/11.5	31786
(7595)	1998 05 10.9	15 10.59	-21 15.4	16.1	-0.89	+	4.4	1.3/11.8	29599
1995 UC	1998 05 10.9	15 10.63	-34 07.4	19.0	-1.13	-	0.4	5.7/13.9	26422
1992 SF	1998 05 10.9	15 10.72	-25 09.7	17.9	-1.14	+	2.5	2.8/12.4	31786
2319 T-2	1998 05 11.0	15 11.30	-16 50.5	17.1	-1.06	+	5.6	0.4/10.9	31825
1995 WC ₇	1998 05 11.1	15 11.35	-19 32.5	18.8	-0.82	+	2.0	0.5/11.5	31791
1993 FO ₈	1998 05 11.1	15 11.68	-13 11.8	17.3	-0.89	+	2.4	1.6/10.2	31787
1996 AG ₇	1998 05 11.2	15 11.81	-13 55.7	19.0	-0.83	+	2.6	1.2/10.4	29139
2725 P-L	1998 05 11.2	15 11.92	-16 21.1	19.5	-0.89	+	3.8	0.5/10.9	29668
1981 EK ₂₇	1998 05 11.2	15 12.01	-25 59.5	18.0	-1.15	+	2.7	3.3/12.9	26920
1981 EM ₂₈	1998 05 11.2	15 12.12	-54 59.8	18.7	-1.50	-	5.7	14.4/16.0	26920
1992 WT ₃	1998 05 11.3	15 12.34	-09 28.9	18.6	-0.97	+	2.3	2.8/09.7	29661
1995 WT	1998 05 11.3	15 12.34	-22 17.7	17.8	-0.77	+	4.1	1.1/12.4	31791
1993 FB ₄₇	1998 05 11.4	15 12.42	-19 55.5	18.7	-0.92	+	2.9	0.7/11.9	26402
1985 RW ₂	1998 05 11.4	15 12.46	-15 50.4	17.3	-0.88	+	3.1	0.7/11.0	29133
1978 TP ₂	1998 05 11.4	15 12.77	-11 11.5	18.0	-0.98	+	4.5	2.4/10.0	31780
1992 EK ₇	1998 05 11.5	15 12.90	-19 22.8	17.6	-0.88	+	1.0	0.5/11.8	31786
1991 TE ₅	1998 05 11.5	15 13.18	-33 01.5	15.8	-1.20	-	1.7	6.0/13.9	30896
1993 XQ ₁	1998 05 11.7	15 13.69	-16 12.0	16.9	-1.06	+	5.2	0.8/11.3	31788
1997 BG ₉	1998 05 11.7	15 13.73	-19 35.9	18.0	-0.87	+	3.3	0.5/12.1	31794
(7744)	1998 05 11.7	15 13.76	-17 54.0	16.6	-0.94	+	2.3	0.0/11.7	30256
1995 WM ₇	1998 05 11.8	15 14.37	-10 50.9	19.1	-0.84	+	1.2	2.1/10.4	31791
1978 VP ₂	1998 05 11.8	15 14.43	-20 50.0	16.9	-1.03	+	4.7	1.2/12.5	31780
1992 UY ₃	1998 05 11.9	15 14.66	-21 37.7	16.6	-1.15	+	1.7	1.5/12.6	31787
1996 EU ₂	1998 05 12.0	15 14.72	-29 25.8	16.9	-0.76	+	5.1	2.9/15.0	31791
1996 WQ ₁	1998 05 12.0	15 14.78	-16 42.0	16.2	-0.95	+	4.6	0.6/11.7	31793
(7492)	1998 05 12.0	15 14.80	-15 48.5	18.5	-0.99	+	4.4	0.8/11.5	29088
1997 AV ₁₃	1998 05 12.0	15 14.81	-12 27.1	18.2	-1.02	+	5.1	2.1/10.8	31794
4035 P-L	1998 05 12.0	15 15.05	-22 13.0	17.7	-0.82	+	3.7	1.3/13.0	31824
1989 TP ₁₆	1998 05 12.0	15 15.07	-17 59.2	17.5	-0.79	+	2.6	0.0/12.1	26167
(7555)	1998 05 12.0	15 15.11	-16 47.2	18.0	-1.02	+	3.4	0.5/11.8	29590

1990 KF	1998 05 12.1	15 15.27	+00 10.1	16.9	-0.91	+	4.1	6.3/07.6	31784
1994 PO ₂₅	1998 05 12.1	15 15.31	-18 03.6	17.0	-0.87	+	2.4	0.0/12.1	31240
1995 YB ₂	1998 05 12.1	15 15.31	-20 43.5	17.4	-0.69	+	2.7	0.7/12.8	31791
1982 UA ₆	1998 05 12.1	15 15.41	-23 43.5	18.9	-0.97	+	3.1	1.7/13.4	26395
1996 YQ ₂	1998 05 12.2	15 15.71	-11 34.7	18.0	-1.02	+	2.5	2.4/10.9	31794
1990 WB ₄	1998 05 12.3	15 15.99	-27 08.9	16.4	-0.85	+	5.1	2.8/14.6	29134
1988 PC ₁	1998 05 12.3	15 16.08	-23 36.7	18.1	-0.79	+	6.4	1.5/13.8	31581
1981 EA ₆	1998 05 12.3	15 16.09	-22 23.6	18.3	-0.81	+	4.5	1.3/13.4	26915
1997 CV ₁₅	1998 05 12.3	15 16.31	-23 53.4	19.3	-0.93	+	3.1	1.9/13.6	29927
1990 XB	1998 05 12.4	15 16.40	-12 57.0	16.4	-0.85	+	0.7	1.6/11.4	31785
1990 RK ₇	1998 05 12.4	15 16.46	-15 31.2	18.1	-0.86	+	3.0	0.8/11.9	31784
1982 JM ₁	1998 05 12.4	15 16.62	-15 35.1	16.5	-0.85	+	2.1	0.9/11.9	31782
2069 P-L	1998 05 12.5	15 16.74	-19 19.0	19.7	-0.89	+	4.0	0.4/12.8	23680
1996 UM	1998 05 12.6	15 17.39	+08 36.1	17.2	-1.02	+	13.4	11.5/03.8	31792
1997 AT ₄	1998 05 12.6	15 17.48	-26 08.2	17.5	-1.04	+	4.3	2.9/14.4	29141
1997 CY ₁₆	1998 05 12.6	15 17.49	-05 46.8	18.1	-0.72	+	4.0	3.4/09.7	29928
1989 UB ₈	1998 05 12.7	15 17.57	-15 59.2	18.0	-0.76	+	3.9	0.6/12.2	31784
1995 WL ₇	1998 05 12.7	15 17.63	-13 04.4	16.4	-0.90	+	1.8	1.7/11.7	31791
1992 YY	1998 05 12.7	15 17.73	-30 18.6	15.3	-0.95	+	8.1	5.0/16.0	31787
1990 RD ₆	1998 05 12.7	15 17.78	-38 53.7	16.8	-1.16	+	0.2	8.3/16.5	29658
(7631)	1998 05 12.8	15 17.89	-12 00.6	18.4	-0.97	+	3.7	2.0/11.5	29894
1982 DU	1998 05 12.8	15 18.10	-44 30.1	17.2	-1.15	+	1.4	8.1/18.9	28883
1990 KN ₁	1998 05 12.8	15 18.22	-23 57.7	18.1	-1.12	+	19.5	2.7/14.8	28614
1981 EB ₃	1998 05 12.9	15 18.66	-17 40.3	18.7	-0.79	+	6.0	0.2/12.8	30779
(7497)	1998 05 13.0	15 18.90	-21 36.0	17.0	-1.03	+	2.9	1.2/13.7	29089
1981 EK ₄₂	1998 05 13.0	15 18.91	-13 56.6	19.2	-0.78	+	4.2	1.4/12.0	26922
1991 RE ₂₅	1998 05 13.0	15 18.93	-07 19.6	18.9	-0.89	+	3.5	3.5/10.6	29614
1997 BZ ₁	1998 05 13.0	15 19.12	-17 40.0	17.8	-0.95	+	3.0	0.2/13.0	31794
1994 EL ₃	1998 05 13.1	15 19.24	+02 29.2	17.2	-0.89	+	6.2	8.4/07.6	31789
1981 EV ₂₄	1998 05 13.1	15 19.42	-22 33.9	19.6	-0.98	+	3.0	1.5/14.1	21967
1994 CK ₁₀	1998 05 13.2	15 19.47	-14 06.4	18.0	-1.05	+	2.7	1.7/12.4	28852
(7578)	1998 05 13.2	15 19.52	-17 32.0	15.8	-0.90	+	2.0	0.3/13.1	29596
1995 QW ₃	1998 05 13.2	15 19.70	-26 42.7	17.8	-1.05	+	13.6	3.3/15.7	29108
1997 AC ₄	1998 05 13.3	15 19.87	-22 29.7	16.2	-1.07	+	3.1	1.9/14.1	31794
1992 RD ₃	1998 05 13.3	15 19.88	-26 47.6	18.5	-1.12	+	3.7	3.1/15.1	31534
4134 T-3	1998 05 13.3	15 20.15	-16 34.2	18.7	-0.89	+	2.6	0.5/13.0	12802
1991 RO ₂	1998 05 13.4	15 20.33	-14 02.5	17.4	-1.00	+	6.5	1.7/12.4	31785
1994 RC ₁	1998 05 13.4	15 20.33	-10 07.0	17.8	-0.73	+	4.2	2.1/11.4	31789
1981 EY ₃₉	1998 05 13.4	15 20.38	-17 06.1	18.9	-1.02	+	4.3	0.6/13.2	28882
2575 P-L	1998 05 13.4	15 20.47	-16 32.3	16.8	-0.87	+	2.0	0.7/13.1	31824
1978 NC	1998 05 13.4	15 20.60	+25 38.9	17.3	-1.03	-	1.7	16.5/30.9	26187
1985 RR ₄	1998 05 13.4	15 20.68	-06 43.2	18.0	-0.83	+	5.3	3.9/10.6	23788
1997 AF ₅	1998 05 13.4	15 20.70	-08 19.8	17.2	-1.07	+	1.7	4.3/11.6	30786
1992 UY	1998 05 13.5	15 20.62	-09 56.7	18.1	-0.98	+	5.3	3.1/11.6	31787
1991 UZ	1998 05 13.5	15 21.02	-10 42.3	17.2	-0.90	+	4.3	2.5/11.8	31786
1997 AV ₇	1998 05 13.5	15 21.06	-21 56.8	20.3	-0.90	+	4.0	1.2/14.4	30786
1980 RL ₂	1998 05 13.6	15 21.41	-21 37.9	16.9	-1.04	+	3.8	1.4/14.3	31780
4300 T-1	1998 05 13.7	15 21.43	-12 46.6	19.6	-0.91	+	3.0	2.7/12.5	31775
1995 UZ ₈	1998 05 13.7	15 21.45	-27 18.2	18.0	-0.88	+	1.6	2.5/15.5	29319
(8720)	1998 05 13.7	15 21.72	-17 09.6	16.7	-0.85	+	1.4	0.5/13.5	31692
1978 VX ₈	1998 05 13.7	15 21.76	-18 15.5	19.5	-0.77	+	2.6	0.1/13.7	29315

(8424)	1998 05 13.8	15 21.90	-12 27.5	17.1	-0.99	+	4.3	2.2/12.5	31370
2702 P-L	1998 05 13.8	15 21.98	-18 56.7	17.1	-0.81	+	2.6	0.2/13.9	31824
1987 DP ₆	1998 05 13.8	15 22.05	-09 09.5	17.9	-0.80	+	3.1	2.9/11.8	31581
1995 QS	1998 05 13.8	15 22.19	-17 15.2	15.0	-1.07	-	0.3	0.6/13.7	30783
1989 TF ₄	1998 05 13.9	15 22.38	-07 34.8	16.8	-0.91	+	4.9	5.4/11.4	22081
1994 UN ₁	1998 05 13.9	15 22.41	-14 57.4	17.0	-0.71	+	4.7	1.0/13.1	31789
1994 PP ₃₉	1998 05 13.9	15 22.54	-32 05.1	17.8	-0.90	+	2.7	4.0/16.9	31240
1978 RR ₁	1998 05 14.0	15 22.62	-11 55.9	16.7	-1.01	+	4.5	3.0/12.6	31779
1995 WO ₁₅	1998 05 14.0	15 22.81	-20 15.9	17.5	-0.92	+	2.5	0.6/14.4	29319
1981 ET ₄₃	1998 05 14.2	15 23.41	+08 56.5	19.4	-0.72	+	8.4	8.7/05.8	22271
1981 EM ₁₇	1998 05 14.2	15 23.70	-12 10.1	17.7	-0.92	+	5.9	2.3/12.7	31780
1990 TO ₃	1998 05 14.2	15 23.70	-18 01.8	17.0	-0.86	+	3.6	0.2/14.1	31784
4588 P-L	1998 05 14.3	15 24.11	-11 20.9	17.7	-0.99	+	6.2	3.1/12.6	31824
1993 FB ₅	1998 05 14.3	15 24.15	-24 06.1	16.8	-0.96	+	1.5	2.1/15.4	23521
1981 EV ₁₁	1998 05 14.3	15 24.21	-14 00.7	18.9	-0.98	+	7.8	2.0/13.2	26917
(7628)	1998 05 14.5	15 24.73	-37 55.2	16.7	-1.11	+	1.5	6.4/18.2	29893
1985 RP	1998 05 14.5	15 24.74	-06 55.3	18.3	-0.98	+	4.8	4.1/11.9	21970
1981 DH ₁	1998 05 14.6	15 25.05	-26 06.0	18.1	-0.83	+	3.7	2.0/16.3	26394
7643 P-L	1998 05 14.6	15 25.07	-11 01.4	17.9	-1.04	+	4.1	3.1/13.0	31824
1981 ER ₄₂	1998 05 14.6	15 25.30	-20 13.3	19.6	-0.82	+	2.7	0.4/15.0	21968
1997 AQ ₁₁	1998 05 14.6	15 25.37	-23 19.7	19.3	-0.90	+	4.1	1.6/15.7	30786
3297 T-2	1998 05 14.7	15 25.37	-20 50.2	15.7	-1.01	+	0.3	1.0/15.1	31825
1997 CP ₁	1998 05 14.7	15 25.60	-10 44.7	19.9	-0.96	+	3.7	2.7/13.1	31737
(7573)	1998 05 14.7	15 25.62	-16 25.0	17.7	-0.79	+	2.5	0.6/14.3	29595
1980 PJ ₁	1998 05 14.8	15 25.97	-24 01.7	17.9	-1.13	+	5.0	1.9/16.0	29653
1992 AM ₃	1998 05 14.8	15 26.07	-37 05.0	18.5	-0.98	+	4.3	5.2/19.2	28886
1981 DN ₁	1998 05 14.8	15 26.22	-33 56.3	17.4	-1.08	+	3.7	5.3/18.1	26914
1995 YA	1998 05 14.9	15 26.25	-14 26.0	16.3	-0.87	+	0.8	1.5/14.1	31791
(7504)	1998 05 15.0	15 26.60	-18 52.0	17.2	-0.83	+	2.6	0.0/15.0	29091
1991 VW ₅	1998 05 15.0	15 26.78	-05 17.3	16.2	-0.95	+	0.4	5.9/12.5	28615
1997 AK ₂	1998 05 15.2	15 27.45	-18 51.8	18.3	-0.85	+	2.7	0.0/15.2	29667
1993 OW ₁	1998 05 15.3	15 27.81	+32 16.0	17.5	-1.19	-	1.5	22.3/28.9	31788
1997 CE ₁	1998 05 15.3	15 27.87	-27 11.9	16.6	-1.15	+	1.7	3.1/16.8	29947
1995 UK ₄	1998 05 15.3	15 27.91	-21 55.1	17.2	-0.91	+	0.4	1.0/15.9	28618
1990 TL ₇	1998 05 15.4	15 28.18	-18 15.3	18.9	-0.84	+	3.3	0.2/15.3	26560
3109 T-3	1998 05 15.4	15 28.37	-19 17.6	17.7	-0.80	+	2.8	0.1/15.5	31826
1995 OD	1998 05 15.4	15 28.47	-21 18.6	17.4	-1.05	+	3.6	1.1/16.0	29138
1981 DS ₁	1998 05 15.6	15 28.92	-30 47.0	18.2	-1.02	+	4.4	4.1/18.2	24580
1996 YR	1998 05 15.6	15 29.22	-10 13.6	17.9	-1.06	+	2.1	3.3/14.1	29141
1996 XP ₁₃	1998 05 15.6	15 29.26	-16 00.7	19.4	-0.95	+	1.9	0.9/15.1	30690
1981 JB ₂	1998 05 15.6	15 29.35	-22 48.7	15.6	-0.92	-	0.7	1.3/16.3	31580
1988 RV ₁₀	1998 05 15.8	15 30.01	-14 29.0	17.5	-0.79	+	2.9	1.5/14.9	31783
1994 PY ₁₇	1998 05 15.8	15 30.08	-17 49.1	17.8	-0.84	+	3.5	0.4/15.6	29945
2091 P-L	1998 05 15.9	15 30.35	-20 25.2	18.5	-1.03	+	5.0	0.5/16.3	28891
1990 QB ₈	1998 05 15.9	15 30.50	-08 35.1	17.4	-0.85	+	3.3	3.6/13.8	23515
4388 T-3	1998 05 16.0	15 30.49	-09 04.5	18.8	-0.88	+	3.2	3.5/13.9	29315
1995 WW ₃	1998 05 16.0	15 30.55	-37 00.8	17.8	-0.98	+	4.8	5.3/20.2	29319
1990 UD ₃	1998 05 16.0	15 30.71	-17 39.4	17.8	-0.89	+	5.1	0.4/15.7	26925
1995 WH	1998 05 16.0	15 30.95	-15 02.1	16.9	-0.86	+	2.4	1.4/15.3	31790
1993 FN ₁₆	1998 05 16.1	15 31.09	-10 51.8	16.6	-0.87	+	2.8	3.0/14.5	30092
1995 CV	1998 05 16.2	15 31.68	-10 06.6	19.2	-0.52	+	2.0	1.8/14.3	31789

1995 JG	1998 05 16.3	15 31.77	-35 57.2	16.8	-1.79	-	8.2	8.1/17.3	29138
1994 NR ₁	1998 05 16.3	15 31.87	-02 47.3	17.1	-0.77	+	2.2	4.5/13.0	29663
1994 PB ₂₆	1998 05 16.3	15 31.89	-14 28.7	18.4	-0.78	+	2.3	1.3/15.4	25219
1990 VU ₃	1998 05 16.4	15 32.08	-17 09.8	17.5	-0.82	+	2.9	0.6/16.0	29658
1991 SO	1998 05 16.4	15 32.14	-19 18.6	19.5	-0.96	+	1.8	0.1/16.5	31418
(7718)	1998 05 16.4	15 32.51	-09 26.6	15.4	-0.88	-	0.5	3.3/14.9	30073
1981 EV ₆	1998 05 16.5	15 32.53	-27 11.0	17.1	-0.85	+	3.9	2.4/18.3	26558
(7562)	1998 05 16.5	15 32.56	-15 42.9	16.5	-0.86	+	3.9	1.2/15.8	29592
1988 MF	1998 05 16.5	15 32.86	+26 15.1	16.6	-1.34	-	7.6	22.2/11.6	31783
(7566)	1998 05 16.7	15 33.25	-18 03.9	17.9	-1.01	+	3.1	0.4/16.5	29593
1996 XT ₁₆	1998 05 16.7	15 33.32	-19 52.9	19.0	-1.03	+	4.2	0.3/16.9	28872
1996 WA	1998 05 16.7	15 33.45	-21 59.2	18.0	-1.14	+	2.3	1.1/17.2	28891
1991 GC ₇	1998 05 16.7	15 33.48	-23 52.3	17.2	-1.13	+	0.9	2.1/17.5	27934
1981 EY ₂	1998 05 16.7	15 33.51	-16 13.9	18.3	-0.78	+	5.3	0.9/16.1	26915
1996 VQ ₃₀	1998 05 16.8	15 33.67	-22 56.2	16.8	-1.12	+	1.7	1.5/17.5	29666
1996 VT ₄	1998 05 16.8	15 33.77	-23 53.7	16.6	-1.06	+	5.5	2.0/17.8	30670
1996 VZ ₂₉	1998 05 16.8	15 34.01	-15 13.9	17.5	-1.04	+	2.4	1.6/16.2	28867
1981 EK ₂₈	1998 05 16.9	15 34.17	-41 50.1	20.6	-1.24	+	0.5	8.6/21.1	26920
6104 P-L	1998 05 16.9	15 34.23	-16 07.1	19.2	-0.77	+	3.4	0.9/16.3	24241
1988 XR	1998 05 17.0	15 34.53	-19 15.6	18.3	-0.99	+	3.7	0.0/17.0	23684
1981 EH ₄₈	1998 05 17.0	15 34.62	-17 46.6	17.6	-0.92	+	5.3	0.5/16.7	26923
1997 CL ₂₈	1998 05 17.0	15 34.69	-15 44.5	18.8	-0.92	+	3.5	1.2/16.3	29928
1997 CW ₁₁	1998 05 17.0	15 34.76	-21 55.9	19.9	-1.06	+	2.3	1.1/17.5	31423
(7517)	1998 05 17.1	15 34.84	-27 00.8	17.4	-1.05	+	2.4	2.5/18.5	29290
1992 SX ₁	1998 05 17.1	15 34.94	-19 10.6	18.3	-1.06	+	3.1	0.0/17.1	24108
1997 AM ₂₁	1998 05 17.1	15 35.05	-05 27.7	18.2	-0.87	+	1.4	4.6/14.6	29635
1976 UG ₂	1998 05 17.1	15 35.19	-23 04.2	17.7	-1.05	+	3.3	1.5/17.9	29939
3535 T-3	1998 05 17.2	15 35.62	-21 21.6	18.2	-1.03	+	2.8	0.7/17.7	24915
1981 EQ ₄	1998 05 17.3	15 36.02	-17 38.2	18.1	-0.79	+	5.2	0.5/17.0	26915
(7470)	1998 05 17.4	15 36.09	-18 38.0	15.9	-1.12	-	1.3	0.3/17.3	29081
1989 TP ₇	1998 05 17.4	15 36.20	-09 04.2	18.0	-1.01	+	3.0	4.6/15.5	25062
2164 T-3	1998 05 17.4	15 36.27	-14 34.7	18.9	-0.85	+	4.7	1.5/16.4	25971
1997 BP ₁	1998 05 17.4	15 36.28	-20 41.4	18.4	-1.05	+	3.0	0.5/17.7	29636
1997 AM ₂₂	1998 05 17.4	15 36.35	-14 13.6	17.7	-0.96	+	3.1	1.7/16.5	30094
(7403)	1998 05 17.4	15 36.47	-08 50.5	19.0	-0.88	+	1.8	3.2/15.6	28827
1996 YG ₁	1998 05 17.4	15 36.50	-10 09.6	17.5	-1.07	-	3.3	4.1/16.4	31793
1997 CM ₂₈	1998 05 17.5	15 36.45	-14 51.7	17.3	-0.91	+	3.6	1.7/16.6	31279
1997 FL ₂	1998 05 17.5	15 36.59	-14 28.7	18.4	-0.96	+	3.2	1.7/16.6	31145
1981 EA ₃	1998 05 17.6	15 36.83	-26 38.1	18.0	-1.04	+	6.3	3.4/19.2	26915
1995 UJ ₄	1998 05 17.6	15 36.86	-21 48.8	15.3	-0.94	-	0.7	0.8/18.0	31790
1997 BX	1998 05 17.8	15 37.64	-14 33.7	18.1	-0.99	+	2.8	1.7/16.9	29127
1998 HS ₂₃	1998 05 17.8	15 38.03	-18 28.7	17.8	-1.05	+	3.4	0.4/17.7	31772
1997 AS ₁₇	1998 05 18.0	15 38.73	-14 04.9	16.9	-1.08	+	2.7	2.4/17.1	29320
1993 FO ₂₁	1998 05 18.0	15 38.79	-25 37.2	17.9	-0.96	+	2.0	2.1/19.2	29317
1977 DL ₄	1998 05 18.1	15 39.17	-27 36.7	16.4	-0.95	+	1.3	4.0/19.6	27908
1995 PA	1998 05 18.1	15 39.21	-19 12.8	19.7	-1.07	+	2.3	0.1/18.1	25964
1991 RQ ₁₉	1998 05 18.2	15 39.21	-25 11.2	18.8	-1.09	+	3.7	2.4/19.3	26399
1991 PG ₁₅	1998 05 18.4	15 40.23	-17 31.5	17.6	-1.03	+	3.0	0.8/18.1	29943
1990 EC ₁	1998 05 18.5	15 40.42	-09 38.4	17.4	-0.86	+	8.1	4.4/16.0	23514
1981 EW ₅	1998 05 18.6	15 40.93	-15 05.7	18.0	-0.90	+	6.7	1.5/17.6	31708
1981 ES ₁₄	1998 05 18.6	15 41.03	-26 30.9	17.1	-0.95	+	4.0	3.0/20.0	29132

(7330)	1998 05 18.6	15 41.13 +03 43.7 18.0	-0.93 + 6.5	7.6/13.2	28569	1994 EG ₆	1998 05 20.7	15 49.38 -09 51.9 16.4	-1.07 + 2.1	4.6/19.0	29663
1983 XG	1998 05 18.6	15 41.23 -16 19.2 17.3	-0.77 + 3.5	0.9/18.0	31782	9073 P-L	1998 05 20.8	15 49.89 -27 02.1 17.3	-0.86 + 2.1	2.0/22.1	29142
1996 YQ ₁	1998 05 18.7	15 41.23 -08 10.5 18.0	-0.92 + 2.2	3.6/16.6	29633	1993 OC ₂	1998 05 20.8	15 49.94 -58 55.5 16.2	-1.90 + 0.3	19.6/29.2	25228
1997 FH ₁	1998 05 18.7	15 41.57 -40 38.1 16.8	-1.21 - 0.5	8.6/21.8	30094	1991 TG ₂	1998 05 20.8	15 49.97 -22 16.4 18.6	-0.97 + 1.7	0.7/21.2	23518
1995 TP ₂	1998 05 18.8	15 41.68 -28 09.7 18.7	-0.98 + 0.3	2.6/20.2	30784	1981 EN ₄₃	1998 05 20.8	15 50.07 -33 13.1 20.2	-0.95 + 0.9	4.0/23.0	26923
1991 NU ₃	1998 05 18.8	15 41.72 -26 32.5 17.8	-1.04 + 4.3	2.5/20.2	25730	(7522)	1998 05 20.9	15 50.02 -07 51.8 17.1	-0.78 + 1.0	3.5/18.9	29291
1996 AY ₁	1998 05 18.8	15 41.79 +02 39.3 19.6	-0.74 + 1.1	5.7/14.4	31791	1990 WU ₁	1998 05 20.9	15 50.42 -09 45.6 19.1	-0.84 + 4.0	3.2/18.9	25649
1997 CM	1998 05 18.8	15 41.81 -37 32.2 17.6	-0.96 + 2.6	5.5/22.5	31794	1989 UW ₂	1998 05 21.0	15 50.44 -10 59.7 15.9	-0.76 + 5.0	2.8/19.0	31783
1992 UP ₈	1998 05 18.9	15 42.14 -22 28.2 18.8	-1.04 + 3.6	1.0/19.5	29136	1992 GA ₄	1998 05 21.0	15 50.55 -17 54.3 16.8	-0.80 + 2.6	0.8/20.6	30290
1996 XP ₁	1998 05 18.9	15 42.25 -20 50.8 18.5	-1.01 + 5.2	0.4/19.2	31112	1994 RC ₁₁	1998 05 21.0	15 50.64 -20 22.2 17.8	-0.82 + 2.3	0.1/21.1	31789
6791 P-L	1998 05 19.0	15 42.46 -35 46.7 17.4	-1.17 - 2.5	6.9/21.1	26185	1991 CX	1998 05 21.0	15 50.77 -19 03.1 16.5	-1.05 + 5.0	0.5/20.9	28885
1990 OB ₄	1998 05 19.0	15 42.61 -29 36.9 17.9	-1.01 + 5.7	3.4/21.0	22082	1997 BM ₃	1998 05 21.1	15 51.01 -30 31.0 17.6	-0.98 + 2.3	3.2/23.0	29667
(7438)	1998 05 19.0	15 42.64 -18 08.4 17.3	-1.08 + 0.7	0.6/18.8	28835	1989 RW	1998 05 21.1	15 51.08 -13 19.6 15.7	-0.80 + 6.6	2.6/19.6	29657
1995 UB ₇	1998 05 19.1	15 42.95 -07 16.7 17.4	-0.87 + 6.7	4.3/16.2	29625	1981 UM ₁₁	1998 05 21.2	15 51.53 -16 20.3 17.7	-1.02 + 3.9	1.5/20.6	29654
1981 DT	1998 05 19.1	15 42.96 -42 11.6 18.1	-1.02 + 2.2	7.1/23.7	29653	1981 DT ₃	1998 05 21.2	15 51.63 -30 41.2 18.2	-0.88 + 3.7	3.1/23.4	26914
1997 BH ₃	1998 05 19.2	15 43.28 -08 34.9 18.8	-0.84 + 3.5	3.6/17.0	31794	(7417)	1998 05 21.3	15 52.03 -18 39.3 17.6	-0.81 + 2.1	0.4/21.1	28830
1981 UD ₂₃	1998 05 19.2	15 43.38 -17 49.0 17.5	-1.04 + 2.1	0.8/18.9	31781	1993 FQ ₂	1998 05 21.4	15 52.08 -30 02.1 15.9	-1.07 - 0.4	3.8/22.8	27730
1996 XL ₁₉	1998 05 19.3	15 43.96 -20 48.1 18.9	-1.03 + 3.4	0.4/19.6	30786	1996 VN ₆	1998 05 21.4	15 52.27 -45 20.8 17.2	-1.31 0.0	9.6/25.0	29666
1992 YJ ₂	1998 05 19.3	15 44.00 -12 51.5 17.4	-1.03 + 1.1	2.6/18.3	25975	1988 VZ	1998 05 21.4	15 52.27 -26 00.4 16.1	-0.91 + 0.3	1.8/22.3	24912
3357 T-2	1998 05 19.4	15 44.21 -20 13.0 17.6	-1.12 + 3.1	0.2/19.5	29142	1991 RN ₂₇	1998 05 21.4	15 52.44 -43 49.6 16.7	-1.22 + 1.5	8.9/25.7	29659
1997 EU ₁₆	1998 05 19.4	15 44.23 -20 35.8 19.9	-0.85 + 2.6	0.2/19.6	29644	1995 WZ ₆	1998 05 21.5	15 52.75 -17 57.8 17.5	-0.88 0.0	0.7/21.2	29305
1996 VO ₄	1998 05 19.4	15 44.25 -25 28.0 16.2	-1.80 -12.6	3.0/19.4	29117	(7407)	1998 05 21.5	15 52.78 -22 15.6 17.1	-1.02 + 3.3	0.7/21.9	29587
1981 EM ₅	1998 05 19.4	15 44.32 -26 29.2 19.0	-0.84 + 4.3	2.0/20.9	22429	1977 QF ₁	1998 05 21.5	15 52.81 -40 31.3 16.3	-1.20 - 0.2	7.6/24.4	29939
1989 SX ₂	1998 05 19.4	15 44.38 -12 17.3 18.3	-0.79 + 1.5	2.2/18.1	31527	(7386)	1998 05 21.6	15 53.22 -17 36.0 16.7	-1.04 + 1.2	1.0/21.3	28822
1942 TB	1998 05 19.5	15 44.72 -05 13.9 17.2	-0.92 + 3.5	4.8/16.6	30777	1251 T-2	1998 05 21.7	15 53.47 -18 27.1 18.1	-0.82 + 2.5	0.5/21.4	22701
1992 RK ₂	1998 05 19.5	15 44.74 -21 48.7 18.2	-1.07 + 3.8	0.8/19.9	23340	1997 EL	1998 05 21.7	15 53.49 -03 55.1 16.7	-0.79 + 2.5	5.0/18.6	30786
1981 EE ₁₁	1998 05 19.6	15 44.81 -25 58.7 17.6	-1.04 + 3.2	3.1/20.7	22270	1993 FU ₃₃	1998 05 21.8	15 53.74 -21 00.2 16.5	-0.95 + 1.2	0.3/21.9	29662
(7318)	1998 05 19.6	15 44.81 +02 09.6 15.9	-0.90 + 2.2	7.8/15.1	28566	1976 DB ₁	1998 05 21.8	15 53.91 -54 28.9 18.4	-1.83 + 3.1	15.2/28.5	28293
1988 VM ₉	1998 05 19.6	15 44.82 -25 48.0 17.7	-1.09 + 1.3	2.1/20.6	29134	1996 VT ₂	1998 05 22.0	15 54.41 -19 27.0 17.8	-1.06 + 3.8	0.3/21.9	28599
1981 EE ₄₆	1998 05 19.6	15 44.91 -26 59.3 19.0	-0.88 + 2.9	2.4/21.0	22430	1212 T-2	1998 05 22.0	15 54.46 -10 33.0 16.8	-0.79 + 4.7	3.1/20.0	29949
1988 RE ₆	1998 05 19.6	15 44.98 -18 43.3 17.7	-1.02 + 2.8	0.4/19.4	29656	5174 T-3	1998 05 22.0	15 54.59 -11 17.9 15.4	-0.89 - 2.6	3.5/21.0	26583
1995 SC ₂	1998 05 19.6	15 45.19 -09 02.4 18.1	-0.96 + 3.9	4.0/17.6	29664	1997 AY ₁	1998 05 22.0	15 54.68 -21 07.0 16.1	-1.04 + 0.8	0.3/22.2	29667
1989 SV ₂	1998 05 19.6	15 45.23 -24 02.0 17.1	-0.93 - 0.3	1.4/20.3	26419	1995 QH ₂	1998 05 22.0	15 54.72 -23 51.7 16.2	-1.17 - 0.9	1.6/22.5	29946
1978 PV ₃	1998 05 19.6	15 45.27 -25 23.3 16.2	-1.05 + 5.2	2.7/20.8	28881	1988 RT ₄	1998 05 22.1	15 55.17 -17 54.5 18.7	-0.78 + 2.4	0.6/21.7	29656
1994 EW ₇	1998 05 19.7	15 45.26 +25 12.0 16.7	-0.96 - 4.1	19.6/14.9	30783	1993 BA	1998 05 22.2	15 55.20 +00 37.7 15.9	-0.95 - 0.9	8.3/19.1	31787
1996 XG ₂	1998 05 19.7	15 45.53 -17 26.0 17.9	-1.05 + 2.6	1.1/19.4	28870	1993 FW ₃₆	1998 05 22.2	15 55.46 -12 52.3 16.8	-0.87 + 3.2	2.6/20.9	29944
1997 AT ₁₇	1998 05 19.7	15 45.60 -19 59.4 19.7	-0.86 + 2.2	0.0/19.8	31144	1975 TE	1998 05 22.3	15 55.60 -25 09.9 16.6	-1.20 + 1.3	2.1/23.0	22270
1991 XH	1998 05 19.8	15 45.96 +01 24.7 17.2	-0.89 + 2.1	7.1/15.7	31584	1993 FE ₂₆	1998 05 22.3	15 55.77 -13 25.2 18.6	-0.87 + 4.4	2.3/21.0	23525
1981 QE ₂	1998 05 19.9	15 46.10 -05 32.1 17.0	-1.01 + 4.5	6.4/16.9	29132	4886 T-1	1998 05 22.3	15 55.87 -26 41.0 16.7	-1.12 - 0.3	2.7/23.2	29668
4603 P-L	1998 05 20.0	15 46.51 -18 12.9 18.2	-0.78 + 2.0	0.4/19.7	29141	1981 ET ₁₁	1998 05 22.4	15 56.31 -37 56.9 21.5	-1.14 + 2.5	5.6/25.6	26917
1981 EB ₁₅	1998 05 20.0	15 46.85 -21 15.5 19.0	-0.96 + 3.9	0.5/20.4	22697	1992 RM	1998 05 22.5	15 56.80 -24 14.2 17.1	-1.18 + 2.4	1.6/23.2	29136
1995 XE ₁	1998 05 20.2	15 47.43 -17 51.8 15.9	-0.83 + 0.9	0.6/19.9	29665	(7430)	1998 05 22.6	15 56.94 -24 38.5 16.7	-0.99 + 3.8	1.4/23.4	28833
(7535)	1998 05 20.2	15 47.56 -23 17.6 16.8	-0.88 + 1.0	1.0/20.8	29295	1993 FU ₂₄	1998 05 22.6	15 57.18 -23 14.9 17.8	-0.94 + 2.5	1.1/23.2	31139
1991 YT	1998 05 20.4	15 48.08 -27 43.5 17.9	-0.94 + 5.2	2.4/22.1	27445	1993 OM ₁₀	1998 05 22.6	15 57.22 -18 11.3 18.8	-0.80 + 2.4	0.6/22.3	29944
1988 PG ₂	1998 05 20.4	15 48.10 -15 14.9 19.1	-1.02 + 3.1	1.7/19.6	29133	1989 VM ₁	1998 05 22.7	15 57.29 -10 24.0 20.1	-1.07 + 3.1	4.1/21.0	28843
1995 WY ₆	1998 05 20.4	15 48.13 -20 08.2 15.4	-0.93 - 0.7	0.1/20.5	29112	1985 RQ ₃	1998 05 22.7	15 57.36 -00 34.7 16.1	-0.79 + 4.4	8.9/18.2	29910
1992 SY ₁₄	1998 05 20.4	15 48.28 -20 03.5 16.4	-1.04 + 6.5	0.0/20.5	28887	1993 HR	1998 05 22.7	15 57.38 -29 12.5 15.5	-1.02 + 0.1	3.3/23.9	30451
(8205)	1998 05 20.4	15 48.29 -17 14.6 16.8	-0.81 + 2.5	0.8/20.0	31088	1994 CM ₁₁	1998 05 22.9	15 58.05 -22 09.0 15.5	-0.93 + 0.8	0.9/23.2	25218
1993 BR ₃	1998 05 20.4	15 48.43 -00 39.3 17.3	-0.92 + 0.3	7.1/17.4	31787	1990 SH ₁	1998 05 22.9	15 58.43 -13 03.7 17.6	-0.87 + 4.4	2.2/21.5	29658
(7621)	1998 05 20.6	15 49.14 -19 58.1 19.2	-0.82 + 2.6	0.0/20.7	29605	2581 P-L	1998 05 23.0	15 58.43 -17 43.2 18.5	-0.88 + 1.8	0.9/22.5	26414
1310 T-2	1998 05 20.6	15 49.20 -20 50.8 18.5	-1.04 + 2.5	0.3/20.8	29321	4261 T-2	1998 05 23.0	15 58.75 -22 11.0 17.7	-0.97 + 1.1	0.6/23.3	24120

1993 OV	1998 05 23.0	15 58.78	-24 32.6	16.1	-1.28	+14.9	1.8/24.1	28888	1995 SL ₃₅	1998 05 25.0	16 06.66	-48 02.0	18.6	-1.43	- 2.9	9.6/27.8	29664
1995 VA ₁	1998 05 23.1	15 59.16	-22 33.7	19.3	-0.87	+ 2.6	0.6/23.5	26423	1981 WF ₉	1998 05 25.0	16 06.81	-14 18.7	17.4	-1.00	+ 5.4	2.7/23.8	27726
1997 EJ ₆	1998 05 23.2	15 59.46	-23 44.2	17.2	-0.93	- 1.4	1.1/23.6	31794	2560 P-L	1998 05 25.0	16 06.85	-19 24.3	17.7	-0.87	+ 2.6	0.5/24.8	29321
3024 T-2	1998 05 23.2	15 59.69	-50 40.7	19.2	-1.45	- 2.3	10.6/27.1	29142	1982 RR	1998 05 25.0	16 06.86	+00 05.3	17.5	-0.92	+ 4.9	7.3/20.6	30685
1992 PJ	1998 05 23.3	15 59.69	-23 23.5	16.7	-1.06	+ 4.9	1.4/23.8	29660	(7772)	1998 05 25.1	16 07.05	-15 15.1	16.2	-0.87	+ 3.0	1.9/24.2	30263
1976 GA ₂	1998 05 23.4	16 00.10	-16 11.7	16.5	-0.98	+ 2.9	2.1/22.7	28313	1987 WS ₃	1998 05 25.2	16 07.59	-20 53.9	16.7	-0.94	+ 5.8	0.0/25.3	29655
1990 UH ₄	1998 05 23.4	16 00.32	-23 19.4	18.7	-0.98	- 1.0	0.8/23.8	26397	1991 TH ₃	1998 05 25.3	16 07.73	-15 19.0	20.5	-0.92	+ 4.1	1.7/24.3	30091
1978 RA ₁₀	1998 05 23.4	16 00.47	-22 50.9	18.8	-1.08	+ 2.8	0.8/23.8	22073	1988 VN ₅	1998 05 25.3	16 07.80	-16 54.9	18.2	-0.99	+ 2.8	1.4/24.7	29912
3285 T-2	1998 05 23.5	16 00.50	-21 14.9	17.3	-1.08	+ 1.7	0.2/23.6	27732	1981 EK ₉	1998 05 25.3	16 08.07	-24 03.7	18.1	-0.86	+ 2.8	1.0/25.9	26916
1992 EV ₁₃	1998 05 23.5	16 00.82	-20 13.4	16.4	-0.85	+ 2.7	0.1/23.5	26580	(7437)	1998 05 25.3	16 08.14	-11 18.7	17.5	-1.01	+ 1.7	3.8/24.0	28835
1969 TT ₁	1998 05 23.6	16 00.86	-22 53.7	17.4	-1.06	+ 2.2	0.8/24.0	30089	1981 EP ₄₇	1998 05 25.4	16 08.18	-06 49.2	19.4	-0.77	+ 3.6	4.1/22.8	31225
1981 ES ₃₃	1998 05 23.6	16 01.10	-31 28.5	18.2	-1.07	+ 2.9	4.3/25.4	22697	1992 HD ₅	1998 05 25.4	16 08.37	-33 00.8	16.5	-1.05	- 2.5	3.9/26.6	24393
1995 PG	1998 05 23.6	16 01.24	-43 26.0	19.7	-1.22	+ 2.4	7.8/27.8	29318	1997 AJ ₁₃	1998 05 25.4	16 08.55	-34 09.3	18.1	-1.16	+ 1.7	5.0/27.4	29634
1997 CD ₂₆	1998 05 23.6	16 01.30	-03 45.4	18.5	-0.81	+ 1.3	5.9/20.9	29312	1981 EB ₃₂	1998 05 25.5	16 08.84	-22 48.7	19.1	-0.83	+ 4.5	0.6/25.9	26921
1995 DX ₂	1998 05 23.7	16 01.25	-18 52.6	17.7	-1.14	+20.2	0.9/23.2	25433	1984 HM ₁	1998 05 25.6	16 09.41	-24 08.0	16.1	-1.09	+ 1.6	1.5/26.1	30287
1993 FF ₁₆	1998 05 23.7	16 01.31	-21 43.8	15.9	-0.97	+ 0.2	0.4/23.9	26173	1982 VC ₃	1998 05 25.7	16 09.63	-18 56.7	17.3	-1.05	+ 0.2	0.9/25.5	22075
1994 PG ₂₇	1998 05 23.7	16 01.52	-18 36.4	16.3	-0.85	+ 2.2	0.7/23.4	26905	1995 UH ₅	1998 05 25.7	16 09.76	-24 08.8	16.3	-1.08	+ 0.1	1.3/26.0	26192
1997 EQ ₂₅	1998 05 23.7	16 01.60	-04 03.4	18.0	-0.72	+ 3.7	5.2/20.4	29948	1985 UG ₅	1998 05 25.7	16 09.78	-18 27.0	17.9	-1.10	- 0.2	1.0/25.5	22077
3487 T-3	1998 05 23.7	16 01.61	-24 57.7	18.0	-0.96	+ 1.9	1.5/24.5	26186	1992 YP ₂	1998 05 25.8	16 09.79	-15 46.1	18.6	-1.03	- 0.1	1.9/25.2	28616
1997 AG	1998 05 23.7	16 01.65	-27 10.4	17.1	-1.10	+ 3.3	2.6/24.9	29141	1981 EH ₁₉	1998 05 25.8	16 09.94	-27 06.1	16.4	-1.12	+ 1.7	2.9/26.7	23347
1058 T-2	1998 05 23.8	16 01.69	-15 44.3	17.6	-0.81	+ 3.6	1.6/22.9	26761	1981 EH ₅	1998 05 25.8	16 09.96	-19 49.1	18.7	-0.82	+ 4.6	0.4/25.6	26915
1995 XJ ₁	1998 05 23.8	16 02.11	-26 38.0	15.8	-0.86	+ 4.2	1.8/25.0	26572	1997 AB ₅	1998 05 25.8	16 10.12	-26 58.0	18.2	-1.10	+ 0.9	2.1/26.7	29320
1996 AY ₃	1998 05 23.9	16 02.06	+02 59.8	17.3	-0.72	+ 1.5	5.8/19.5	29666	1995 UM ₁₆	1998 05 25.8	16 10.20	-14 59.6	20.6	-0.87	+ 2.9	2.0/24.9	29305
1992 WC ₃	1998 05 23.9	16 02.46	-17 21.8	16.2	-1.13	+ 0.7	1.4/23.5	27730	5141 T-2	1998 05 25.9	16 10.29	-33 13.2	16.6	-0.94	+ 3.6	4.1/28.0	28620
(7472)	1998 05 24.0	16 02.61	-14 47.5	15.9	-0.89	- 0.5	2.0/23.3	29082	1988 PO ₂	1998 05 25.9	16 10.51	-11 28.7	17.8	-1.02	+ 2.9	4.1/24.4	29133
1992 HA ₅	1998 05 24.0	16 02.65	-19 17.0	16.0	-0.83	+ 1.8	0.5/23.8	29660	1995 QK	1998 05 26.0	16 10.55	-19 44.6	18.3	-1.06	+ 4.3	0.5/25.8	28856
1995 UH ₆	1998 05 24.0	16 02.78	-25 49.6	17.2	-0.99	+ 0.5	1.8/24.8	29946	1981 EJ ₆	1998 05 26.0	16 10.63	-08 01.9	19.7	-0.75	+ 4.4	3.5/23.5	26915
1996 XU ₁₄	1998 05 24.0	16 02.94	-50 38.6	17.8	-1.67	+ 3.2	13.6/29.3	29632	1996 XN ₃₂	1998 05 26.0	16 10.66	-19 01.8	19.1	-1.07	- 0.1	0.8/25.8	29926
1981 EU ₂	1998 05 24.1	16 03.06	-36 51.8	18.9	-0.96	+ 2.9	5.3/27.0	26915	5161 T-2	1998 05 26.0	16 10.75	-39 23.0	18.4	-1.10	+ 1.9	5.7/28.9	16038
1981 EP ₂₃	1998 05 24.1	16 03.07	-44 32.2	18.9	-1.11	- 0.3	8.6/27.8	26919	1981 EA ₂₇	1998 05 26.0	16 10.77	-20 08.8	19.7	-0.84	+ 1.8	0.3/25.9	26920
1995 SG	1998 05 24.1	16 03.11	-20 29.3	19.1	-0.97	+ 3.1	0.1/24.1	29946	1978 VF ₆	1998 05 26.0	16 10.98	-22 47.7	18.6	-1.04	+ 5.2	0.7/26.4	16422
1995 UN ₂	1998 05 24.1	16 03.15	-17 37.7	19.4	-0.81	+ 2.2	0.9/23.6	30472	1991 TF ₇	1998 05 26.1	16 11.40	-12 23.4	15.8	-0.90	+ 7.3	3.7/24.4	31786
1993 DV	1998 05 24.2	16 03.26	-22 03.1	17.4	-0.96	+ 3.3	0.4/24.4	29136	(7708)	1998 05 26.2	16 11.36	-24 27.0	15.6	-1.01	+ 1.0	1.6/26.7	30071
1341 T-2	1998 05 24.2	16 03.57	-24 38.2	18.7	-0.97	+ 2.1	1.4/24.9	26185	1993 FT ₁₀	1998 05 26.2	16 11.73	-13 52.0	19.1	-0.89	+ 2.6	2.7/25.2	26564
1989 SR	1998 05 24.3	16 03.77	-20 07.0	16.2	-0.83	+ 4.7	0.2/24.2	23973	1996 XQ ₃₂	1998 05 26.2	16 11.73	-18 21.6	17.3	-1.06	+ 4.5	1.1/25.8	31590
(7770)	1998 05 24.3	16 03.85	-18 16.5	16.4	-0.88	+ 1.6	0.8/24.0	30263	1994 UH ₂	1998 05 26.2	16 11.77	-21 08.2	17.2	-0.83	+ 1.5	0.0/26.3	30663
1979 QP	1998 05 24.3	16 03.86	-22 19.4	16.6	-0.88	+ 2.6	0.6/24.6	26755	1978 UJ ₅	1998 05 26.2	16 11.80	-23 31.8	18.7	-1.09	+ 3.1	0.9/26.7	20806
1981 ER ₂₃	1998 05 24.3	16 04.04	-19 27.6	19.5	-0.97	+ 2.2	0.5/24.2	22074	1997 AY ₇	1998 05 26.3	16 12.20	-30 29.0	17.2	-1.11	+ 4.2	4.1/27.9	30786
7609 P-L	1998 05 24.3	16 04.09	-24 41.5	16.3	-1.11	- 1.8	1.9/24.8	24120	1981 EH ₃₃	1998 05 26.4	16 12.15	-09 18.9	18.7	-0.78	+ 3.9	3.9/24.2	26921
1158 T-2	1998 05 24.3	16 04.14	-19 55.1	19.7	-1.01	+ 3.3	0.3/24.3	20831	1991 YO	1998 05 26.4	16 12.27	-06 10.7	16.9	-0.97	- 0.7	5.3/24.6	26563
1978 SF ₅	1998 05 24.4	16 04.36	-27 04.8	18.0	-1.21	- 0.4	2.8/25.2	30778	1993 OH ₅	1998 05 26.4	16 12.27	-19 46.3	17.5	-0.83	+ 2.1	0.5/26.2	29301
1997 AB ₂	1998 05 24.5	16 04.93	-02 38.6	17.0	-0.98	- 2.1	7.1/22.6	29947	1992 YA ₁	1998 05 26.4	16 12.28	-17 49.2	17.7	-1.01	+ 2.9	1.2/25.9	29661
6074 P-L	1998 05 24.6	16 05.00	-22 07.4	18.3	-1.12	+ 2.9	0.6/24.8	28892	(7694)	1998 05 26.4	16 12.51	-32 35.2	16.5	-0.93	+ 3.9	3.7/28.5	30068
1997 CN ₅	1998 05 24.7	16 05.26	-16 08.7	17.0	-0.86	+ 4.1	1.7/23.8	29948	1991 BX	1998 05 26.5	16 12.67	-21 16.5	17.2	-0.81	+ 2.9	0.0/26.5	29658
(7622)	1998 05 24.7	16 05.64	-21 15.4	18.5	-1.09	+ 1.6	0.2/24.8	29606	1981 EW ₂₆	1998 05 26.5	16 12.68	-03 31.0	19.0	-0.76	+ 3.3	5.6/23.3	26920
1994 QQ	1998 05 24.8	16 06.05	-37 13.8	16.6	-1.03	+ 1.4	6.2/27.4	29945	1995 VC ₁	1998 05 26.6	16 13.30	-30 52.2	18.1	-1.06	- 0.3	3.0/27.8	30666
1992 YS	1998 05 24.9	16 06.19	-14 11.3	17.1	-1.06	+ 1.9	2.7/23.9	29661	(7591)	1998 05 26.6	16 13.32	-19 43.0	18.0	-1.01	+ 3.0	0.5/26.4	29598
1996 XD ₃₂	1998 05 24.9	16 06.33	-16 17.0	16.4	-1.05	- 3.0	1.8/24.5	29308	1987 SG ₂	1998 05 26.8	16 13.96	-10 58.3	17.7	-0.91	+ 2.7	3.4/25.3	25339
1995 SQ ₅₄	1998 05 24.9	16 06.34	-19 20.2	17.8	-1.10	+ 0.8	0.7/24.7	29946	1995 UY ₄₄	1998 05 26.8	16 14.03	-29 48.9	18.0	-1.16	- 0.8	3.2/27.7	29665
1994 GW ₁₀	1998 05 24.9	16 06.37	-21 15.6	16.4	-1.11	- 1.1	0.2/25.0	29663	1981 EU ₁₈	1998 05 26.9	16 14.28	-21 04.7	17.3	-0.85	+ 2.1	0.1/26.9	31580
1981 UW ₂₁	1998 05 24.9	16 06.53	-13 34.7	16.1	-0.88	+ 1.7	2.4/23.9	30287	1981 EW ₃₇	1998 05 26.9	16 14.43	-27 41.3	19.4	-1.00	+ 3.4	2.7/28.0	26922

2315 T-3	1998 05 27.0	16 14.61 -19 57.1 18.9	-1.02 + 3.2	0.5/26.8	29669	1994 PF ₉	1998 05 29.1	16 23.54 -19 29.3 18.1	-0.80 + 1.8	0.6/28.9	27448
1991 GP ₇	1998 05 27.0	16 14.69 -25 22.0 17.9	-1.13 + 2.8	1.7/27.6	22083	(7892)	1998 05 29.1	16 23.54 -19 35.8 17.6	-0.81 + 2.0	0.6/28.9	30643
1978 VZ ₆	1998 05 27.0	16 14.88 -21 05.7 18.4	-0.83 + 2.6	0.0/27.0	23968	1981 EO ₂₃	1998 05 29.2	16 23.58 -21 40.9 18.7	-1.11 + 3.0	0.0/29.2	26919
1994 RB ₁₇	1998 05 27.0	16 14.93 -17 07.0 17.3	-0.87 + 2.2	1.4/26.4	29945	1992 EQ ₂₇	1998 05 29.4	16 24.52 -18 40.3 17.6	-0.87 + 2.1	1.1/29.0	29317
1981 EV ₄	1998 05 27.0	16 14.97 -28 44.5 18.9	-1.07 + 5.2	3.7/28.4	26915	1994 DS	1998 05 29.4	16 24.58 -23 42.7 17.5	-1.14 + 0.7	0.8/29.7	30291
1985 TN	1998 05 27.1	16 15.10 -26 41.3 17.7	-1.16 + 1.1	2.1/27.8	29655	1981 EM ₁₆	1998 05 29.4	16 24.62 -36 23.8 19.4	-0.96 + 2.1	4.8/31.6	26918
1980 TK ₆	1998 05 27.1	16 15.12 -17 26.8 16.7	-0.99 + 5.0	1.5/26.5	21966	1982 VD ₅	1998 05 29.4	16 24.76 -19 50.9 18.2	-1.06 + 3.6	0.7/29.2	29940
1995 WX ₁	1998 05 27.1	16 15.34 -18 52.3 15.6	-0.81 + 7.4	0.8/26.7	29139	6193 P-L	1998 05 29.5	16 24.79 -04 46.2 19.5	-0.86 + 5.2	6.4/26.4	29321
1931 TD ₃	1998 05 27.1	16 15.39 -28 49.5 15.1	-1.22 - 5.1	4.0/27.5	31779	1981 ES ₂₇	1998 05 29.5	16 24.95 -35 09.9 18.9	-1.20 - 0.1	6.9/31.1	23132
1995 WU ₄	1998 05 27.2	16 15.41 -33 54.1 17.9	-1.03 + 3.7	4.0/29.3	29319	1993 FX ₃₁	1998 05 29.5	16 25.19 -17 09.7 16.6	-0.93 + 1.3	1.6/29.0	26173
(7575)	1998 05 27.2	16 15.51 -19 07.8 16.7	-1.07 + 3.6	0.8/26.9	29595	1978 TO ₈	1998 05 29.6	16 25.47 -20 57.7 17.6	-0.84 + 2.1	0.2/29.6	30684
1991 CR ₁	1998 05 27.2	16 15.71 -13 02.7 17.4	-0.79 + 0.8	2.4/26.1	29658	1995 UY ₄₀	1998 05 29.6	16 25.60 -18 15.2 19.9	-1.02 + 4.0	1.3/29.2	27110
1997 AM ₄	1998 05 27.2	16 15.75 +01 40.7 17.1	-0.87 - 0.3	9.6/24.0	31736	1992 FZ	1998 05 29.6	16 25.61 -34 47.9 16.0	-0.96 + 1.1	4.2/31.4	29317
1994 GD ₉	1998 05 27.4	16 16.58 +06 45.5 17.9	-0.97 + 7.1	11.3/22.1	29944	1993 LE	1998 05 29.6	16 25.61 -04 30.2 15.9	-0.82 + 0.2	6.1/27.5	29103
1995 YT ₂₀	1998 05 27.6	16 17.26 -16 35.3 21.0	-0.82 + 2.0	1.3/26.9	31545	(7623)	1998 05 29.7	16 25.85 -19 55.1 16.5	-0.84 + 1.2	0.6/29.5	29606
1042 T-2	1998 05 27.6	16 17.42 -19 45.5 17.9	-0.94 + 3.0	0.6/27.4	29668	(7774)	1998 05 29.7	16 26.00 -20 37.2 16.6	-1.13 + 0.2	0.4/29.7	30263
(7599)	1998 05 27.7	16 17.77 -19 01.2 17.7	-0.80 + 3.3	0.6/27.4	29600	1982 UD ₆	1998 05 29.8	16 26.09 -26 25.3 17.6	-1.14 + 3.0	1.9/30.5	29654
1981 ER ₁₈	1998 05 27.8	16 18.21 -29 21.1 18.8	-1.06 + 2.2	2.8/29.0	22429	1995 UZ	1998 05 29.8	16 26.10 -04 23.5 16.1	-0.87 + 1.5	6.3/27.6	29592
1991 YU	1998 05 27.9	16 18.69 -11 52.6 17.9	-0.86 + 1.6	3.1/26.7	26741	1993 FQ ₄₃	1998 05 29.9	16 26.69 -25 43.7 18.3	-1.00 + 1.6	1.3/30.5	30659
2113 P-L	1998 05 28.0	16 18.92 -19 09.6 18.7	-0.92 + 3.3	0.8/27.7	23539	1995 TS	1998 05 29.9	16 26.77 -22 41.4 16.9	-1.06 + 2.2	0.4/30.1	29664
1994 PB ₂	1998 05 28.0	16 19.09 -23 35.1 16.7	-0.91 + 2.1	0.8/28.4	26581	1995 QN	1998 05 29.9	16 26.83 -13 23.6 15.7	-0.97 + 2.7	4.3/28.8	29664
2053 T-3	1998 05 28.0	16 19.11 -24 04.8 18.1	-0.85 + 3.0	0.9/28.5	22491	1995 UE ₈	1998 05 30.0	16 27.14 -29 13.0 16.5	-1.01 - 0.7	2.8/30.8	29923
1981 EW ₂₂	1998 05 28.1	16 19.19 -17 47.9 20.5	-0.82 + 2.3	1.0/27.6	26919	1989 WS ₂	1998 05 30.0	16 27.20 -13 49.6 16.3	-1.08 + 0.3	3.1/29.2	29134
1989 SU ₃	1998 05 28.1	16 19.26 -08 25.6 16.7	-0.78 + 3.4	4.3/26.0	27933	1988 RM ₇	1998 05 30.0	16 27.21 -23 23.9 17.8	-0.88 + 2.2	0.6/30.3	22969
3434 T-3	1998 05 28.1	16 19.48 -18 49.6 20.3	-0.90 + 2.8	0.8/27.8	29669	(7554)	1998 05 30.1	16 27.31 -39 51.0 16.8	-1.11 - 0.4	6.4/01.4	29590
1991 TF ₁₄	1998 05 28.2	16 19.57 -27 13.3 17.8	-1.04 + 1.0	2.0/29.0	25639	1991 HC	1998 05 30.1	16 27.43 -18 18.4 16.1	-1.03 - 1.2	1.8/29.8	31785
1993 PK ₇	1998 05 28.3	16 20.21 -21 20.5 17.2	-0.84 + 1.9	0.0/28.4	28616	1995 UK ₃	1998 05 30.2	16 27.62 -21 44.3 16.5	-0.88 + 5.8	0.0/30.2	29319
1993 CR ₁	1998 05 28.4	16 20.52 +01 06.5 16.6	-0.87 + 1.0	8.7/25.4	28850	1975 SC ₂	1998 05 30.2	16 27.80 -10 38.1 17.7	-0.71 + 2.7	3.0/28.5	30648
1975 SZ ₁	1998 05 28.4	16 20.66 -16 52.8 19.4	-1.05 + 2.9	1.7/27.8	29131	1995 SD ₅₃	1998 05 30.2	16 27.83 -13 29.4 19.0	-0.98 + 3.1	3.1/29.1	30093
1997 CA ₂₀	1998 05 28.5	16 20.68 -06 41.2 16.6	-0.77 + 1.3	4.5/26.4	29641	1987 WO ₁	1998 05 30.2	16 27.92 -19 08.2 16.8	-0.94 + 4.6	1.0/29.8	29133
1981 EL ₆	1998 05 28.5	16 20.73 -18 52.9 18.7	-0.81 + 5.4	0.9/28.0	26915	1997 AR ₂₂	1998 05 30.2	16 28.04 -27 14.3 17.7	-1.16 + 0.5	2.2/30.9	31794
1995 WM ₃	1998 05 28.5	16 20.79 -21 24.3 18.5	-0.99 + 1.7	0.0/28.5	29319	2293 T-3	1998 05 30.3	16 28.09 -37 26.7 19.1	-0.97 + 0.4	4.6/01.2	31411
1993 GR	1998 05 28.5	16 21.13 -24 52.4 16.1	-0.95 + 0.4	1.3/29.0	29944	1981 UA	1998 05 30.3	16 28.12 -56 28.8 19.9	-1.89 - 3.6	11.8/31.7	25972
1988 DF ₂	1998 05 28.5	16 21.14 -26 01.5 16.8	-0.98 + 2.0	1.6/29.2	29133	2740 P-L	1998 05 30.3	16 28.41 -13 24.5 19.6	-0.90 + 2.3	2.8/29.2	22700
(7661)	1998 05 28.5	16 21.15 -17 37.2 18.1	-0.87 + 2.1	1.4/28.0	29902	1986 EP ₅	1998 05 30.6	16 29.28 -18 24.8 15.6	-0.81 + 1.9	1.2/30.2	29655
1989 TY	1998 05 28.6	16 21.11 -36 42.3 17.5	-0.99 + 2.0	5.8/30.9	31005	2550 P-L	1998 05 30.6	16 29.34 -22 44.8 16.2	-0.99 + 0.1	0.5/30.7	31824
1995 YK	1998 05 28.6	16 21.37 -12 18.6 18.4	-0.84 + 0.2	2.7/27.5	29628	1992 WJ	1998 05 30.6	16 29.37 -24 40.7 17.4	-1.07 + 1.6	1.1/31.0	29917
1981 EB ₁₈	1998 05 28.6	16 21.55 -14 21.9 18.4	-0.89 + 2.9	3.2/27.6	26918	1994 LK ₁	1998 05 30.6	16 29.65 +02 35.2 15.8	-0.93 - 1.2	10.0/27.9	31789
1991 PL ₁₇	1998 05 28.7	16 21.56 -32 55.4 18.1	-1.15 + 3.4	4.2/30.4	27455	1996 YV ₁	1998 05 30.6	16 29.69 -24 09.8 18.6	-0.97 + 2.1	0.8/31.0	31422
1285 T-1	1998 05 28.7	16 21.81 -22 42.4 18.8	-1.03 + 2.9	0.4/28.9	29321	1993 DE ₁	1998 05 30.9	16 30.47 -36 02.8 15.7	-1.04 + 5.3	5.9/02.4	29102
(7541)	1998 05 28.8	16 21.92 -13 45.5 17.5	-0.91 + 2.6	2.9/27.6	29296	2029 T-3	1998 05 30.9	16 30.86 -35 33.3 18.6	-1.07 + 1.2	4.7/01.7	31609
1977 TQ ₆	1998 05 28.8	16 22.23 -26 54.4 17.0	-1.11 - 2.4	2.0/29.3	21926	1997 CY ₂	1998 05 31.1	16 31.27 -17 36.1 18.2	-0.83 + 1.2	1.3/30.6	29947
1995 YO	1998 05 28.8	16 22.36 -11 18.0 17.4	-0.79 + 0.3	3.0/27.6	27731	1995 XX	1998 05 31.1	16 31.43 -31 07.3 17.7	-0.95 - 0.5	3.1/01.1	29319
1992 GZ ₄	1998 05 28.9	16 22.29 -21 08.9 17.8	-0.83 + 1.3	0.1/28.8	29317	1987 BR ₁	1998 05 31.1	16 31.45 -24 24.2 16.9	-1.11 + 3.8	1.0/31.5	28583
1990 QO ₆	1998 05 28.9	16 22.63 +00 55.1 18.2	-0.88 + 2.6	8.4/25.1	22273	1990 BF	1998 05 31.1	16 31.58 -29 14.4 16.6	-1.13 + 2.8	3.0/01.1	27933
1981 EY ₁₃	1998 05 28.9	16 22.69 -14 04.3 19.4	-0.80 + 3.8	2.4/27.7	20328	1995 VK	1998 05 31.2	16 32.08 -17 42.3 16.3	-1.00 + 2.9	1.9/30.7	31588
1990 RT ₂	1998 05 28.9	16 22.71 -39 22.4 17.2	-1.14 + 0.4	6.1/31.0	29611	1995 SA ₃	1998 05 31.2	16 32.12 -22 40.2 16.0	-1.13 + 5.5	0.3/31.4	26192
(7851)	1998 05 29.0	16 22.95 -29 43.9 14.7	-1.07 + 4.6	4.2/30.4	30444	1988 RB ₁₁	1998 05 31.3	16 32.46 -20 36.6 19.2	-0.79 + 1.7	0.3/31.2	29656
1992 UJ ₆	1998 05 29.0	16 23.10 -14 24.1 17.9	-1.04 + 4.4	2.7/27.9	29943	1991 RQ ₂₇	1998 05 31.4	16 32.84 -16 06.6 16.8	-1.03 + 0.4	2.7/30.8	29317
1995 UL ₉	1998 05 29.0	16 23.10 -28 54.5 21.4	-1.03 + 1.7	2.3/30.0	27919	1997 BF ₉	1998 05 31.4	16 32.86 -20 50.9 17.2	-0.84 + 1.9	0.4/31.3	29947
1990 VF ₈	1998 05 29.1	16 23.41 -30 45.7 16.8	-1.06 - 0.2	3.3/30.1	31530	(7359)	1998 05 31.4	16 32.97 -17 57.9 17.1	-0.81 + 1.3	1.1/31.0	28578

1995 SP ₂	1998 05 31.5	16 33.17	-19 03.3	17.8	-1.09	-	1.3	1.2/31.3	29318	1992 UU ₅	1998 06 02.9	16 42.96	-22 20.2	18.1	-1.09	+	1.0	0.0/03.0	29661
1995 UL ₆	1998 05 31.6	16 33.58	-25 58.3	17.6	-1.08	+	1.9	1.8/01.1	29139	1994 EB ₂	1998 06 02.9	16 43.06	+16 50.1	16.4	-1.00	-	7.5	17.9/05.0	27313
6079 P-L	1998 05 31.6	16 33.64	-49 51.0	18.1	-1.14	+	0.1	7.3/04.1	30285	1995 SM ₂₁	1998 06 03.0	16 43.16	-34 42.2	18.4	-1.22	+	1.0	5.3/04.2	29664
3045 P-L	1998 05 31.7	16 33.92	-43 48.3	16.2	-1.18	+	1.7	9.0/03.4	29321	1978 VP ₁	1998 06 03.0	16 43.21	-21 10.6	18.3	-0.81	+	2.7	0.3/02.9	29652
(7398)	1998 05 31.9	16 34.68	-24 43.5	16.8	-1.11	+	5.0	1.2/01.3	28826	1995 UM ₅₀	1998 06 03.0	16 43.34	-28 29.7	20.4	-1.01	+	1.0	2.5/03.7	31107
4304 T-3	1998 05 31.9	16 34.88	-16 37.6	17.6	-0.92	+	0.8	2.0/31.4	29669	(7320)	1998 06 03.1	16 43.65	-28 27.9	17.7	-0.86	+	1.6	1.7/03.8	28567
1994 PT ₃₂	1998 06 01.0	16 34.97	-06 49.5	19.2	-0.79	+	2.7	4.6/29.8	31386	9099 P-L	1998 06 03.2	16 44.25	-04 27.2	18.1	-0.76	+	3.2	6.0/31.7	16036
1981 EL ₄₁	1998 06 01.0	16 35.42	-36 21.9	19.4	-0.99	+	0.4	4.7/02.7	24239	1991 JL	1998 06 03.3	16 44.73	-12 02.3	15.7	-0.90	+	3.8	5.3/02.0	31785
(7401)	1998 06 01.2	16 35.83	-20 37.6	17.4	-1.04	+	2.9	0.5/01.0	28826	1997 AG ₇	1998 06 03.3	16 44.81	-18 45.2	20.4	-1.01	+	2.3	1.2/03.0	30690
(7481)	1998 06 01.3	16 36.20	-03 16.9	16.1	-0.80	+	2.5	6.2/29.7	29085	3166 T-3	1998 06 03.4	16 44.94	-18 26.0	18.8	-1.03	+	2.1	1.5/03.0	22702
1993 FZ ₄₆	1998 06 01.4	16 36.59	-27 19.0	19.2	-1.00	+	1.4	1.9/02.0	28887	1992 WC ₁	1998 06 03.4	16 45.23	-24 16.6	16.7	-1.13	+	4.6	0.9/03.7	30290
1994 BY	1998 06 01.4	16 36.68	-27 29.8	16.6	-1.19	+	0.1	2.4/01.9	28888	1995 QG	1998 06 03.5	16 45.46	-41 01.1	20.0	-1.14	+	2.5	6.0/05.8	29107
1994 EO ₁	1998 06 01.4	16 36.75	-33 58.2	16.1	-1.26	-	1.8	5.2/02.4	23345	2527 P-L	1998 06 03.7	16 46.27	-03 28.5	19.1	-0.74	+	2.5	4.9/01.2	27123
1997 FU	1998 06 01.4	16 36.76	-30 45.4	16.6	-1.12	-	1.8	3.0/02.1	31423	1996 AD ₂	1998 06 03.7	16 46.35	-15 37.2	17.9	-0.88	-	1.2	2.2/03.3	31588
1987 SE ₃	1998 06 01.4	16 36.78	-19 13.9	17.2	-0.99	+	0.6	1.0/01.1	29655	1995 YN ₄	1998 06 03.8	16 46.54	-36 02.6	17.3	-0.98	+	1.3	4.1/05.3	29665
1982 UQ ₁₀	1998 06 01.4	16 36.89	-25 32.1	18.7	-0.95	+	1.4	1.0/01.9	31415	(7377)	1998 06 03.9	16 46.91	-31 32.9	17.1	-1.10	+	2.7	4.8/04.9	28820
1981 EG ₄₄	1998 06 01.4	16 36.91	-34 18.4	18.1	-0.96	+	0.3	3.8/02.8	21968	1993 FF ₂₀	1998 06 03.9	16 46.98	-18 01.8	17.8	-0.94	+	0.1	1.5/03.6	29103
1995 SK	1998 06 01.5	16 37.11	-64 13.3	19.7	-2.11	-	3.1	18.2/02.7	30783	(7556)	1998 06 04.0	16 47.48	-25 41.8	17.2	-0.91	+	1.1	1.1/04.4	29590
4266 T-1	1998 06 01.5	16 37.18	-17 18.0	18.1	-0.93	+	1.4	2.3/32.0	27927	1997 CK ₁₂	1998 06 04.0	16 47.48	-25 20.1	20.3	-1.04	+	1.8	1.0/04.3	29128
1997 AX ₅	1998 06 01.5	16 37.37	-28 34.1	18.9	-1.16	+	3.3	2.5/02.4	30786	(7797)	1998 06 04.0	16 47.53	-03 46.4	16.1	-0.77	+	1.0	5.7/01.9	30269
1997 AW ₁₃	1998 06 01.6	16 37.52	-43 03.4	16.8	-1.13	+	2.2	8.5/04.5	29634	1981 EK ₄₇	1998 06 04.0	16 47.60	-21 39.7	19.3	-0.70	+	1.6	0.2/04.0	26923
1981 EM ₂₀	1998 06 01.6	16 37.73	-32 41.9	20.5	-0.78	+	0.7	2.8/02.9	29910	2168 T-1	1998 06 04.1	16 47.71	-03 43.2	17.9	-0.94	+	3.8	7.5/01.4	21951
1992 GQ	1998 06 01.6	16 37.77	-14 57.3	16.5	-0.86	-	0.9	2.4/01.1	29299	1994 PP ₃₄	1998 06 04.1	16 47.82	-24 02.9	18.0	-0.90	+	1.9	0.5/04.3	24570
1989 WU ₂	1998 06 01.6	16 37.87	-21 08.2	17.9	-0.83	+	1.1	0.3/01.6	29657	1997 CE ₂₀	1998 06 04.1	16 47.84	-17 48.7	16.8	-0.99	+	0.1	1.8/03.7	29641
1994 TP	1998 06 01.7	16 37.95	-14 19.9	17.9	-0.78	+	2.7	2.3/31.7	30092	1992 EH ₁₈	1998 06 04.1	16 47.95	-11 34.2	18.6	-0.83	+	2.5	3.4/02.9	30782
1993 BF ₃	1998 06 01.8	16 38.24	-29 47.6	17.7	-1.06	+	2.2	2.8/02.7	29136	1979 QR ₁	1998 06 04.1	16 48.01	-24 55.6	17.4	-0.91	+	1.5	0.9/04.4	29132
1996 XJ ₁₈	1998 06 01.8	16 38.29	-05 19.1	19.9	-0.89	-	1.6	6.7/31.5	30786	1986 PX	1998 06 04.2	16 48.08	-17 50.6	17.5	-1.14	+	3.3	2.2/03.7	29316
1996 XW ₁₈	1998 06 01.8	16 38.51	-11 25.2	16.3	-1.03	-	1.2	5.1/32.0	31793	4055 P-L	1998 06 04.2	16 48.12	-28 01.0	16.6	-1.08	+	2.5	2.7/05.0	28319
(7669)	1998 06 01.8	16 38.61	-11 06.5	18.2	-0.85	+	2.7	3.5/31.4	29904	1994 PZ ₂₇	1998 06 04.2	16 48.26	-18 54.3	18.0	-0.84	+	1.0	1.1/03.9	26422
1987 DD ₆	1998 06 01.8	16 38.72	-14 18.1	16.9	-1.01	+	1.6	3.6/01.0	18811	3067 T-2	1998 06 04.3	16 48.93	-18 44.1	16.5	-1.09	+	1.1	1.8/04.1	29949
1994 PN ₂₁	1998 06 01.9	16 38.72	-19 01.5	18.0	-0.81	+	1.5	0.9/01.5	30689	1993 FZ ₂₀	1998 06 04.4	16 49.23	-19 31.8	19.1	-0.93	+	1.8	1.0/04.2	30291
4180 T-2	1998 06 01.9	16 39.04	-20 29.5	17.5	-1.09	+	1.6	0.7/01.8	26193	1973 QO ₁	1998 06 04.4	16 49.33	-34 13.4	16.8	-1.15	+	2.4	4.7/05.0	30089
1981 EE ₂₂	1998 06 01.9	16 39.08	-28 39.9	18.5	-0.91	+	0.8	2.2/02.7	22271	1989 WK ₄	1998 06 04.5	16 49.52	-17 12.4	17.1	-1.08	-	0.5	2.3/04.2	28613
1979 MV ₃	1998 06 02.0	16 39.43	-15 44.6	19.2	-1.03	+	3.3	2.7/01.2	30778	1995 SL	1998 06 04.6	16 50.14	-30 23.2	18.1	-1.09	+	2.6	2.9/05.5	30093
1992 ER ₄	1998 06 02.0	16 39.48	-22 20.1	16.5	-0.91	+	0.6	0.1/02.1	29099	1981 EH ₁₇	1998 06 04.6	16 50.17	-09 56.3	17.9	-0.79	+	2.8	4.5/03.1	26918
1990 QR	1998 06 02.1	16 39.48	+01 53.2	15.5	-0.84	+	3.2	10.4/29.1	29657	1981 EF ₁₅	1998 06 04.8	16 50.71	-35 37.0	18.7	-0.96	+	2.1	4.5/06.3	30779
1996 XH ₂₆	1998 06 02.1	16 39.49	-21 24.7	18.6	-1.06	+	2.2	0.3/02.0	29320	1997 AK ₇	1998 06 04.9	16 51.06	+00 23.3	15.8	-0.90	-	2.3	10.2/03.3	29634
1995 WA	1998 06 02.2	16 39.95	-13 11.2	16.1	-0.90	+	8.2	3.6/31.5	26582	1981 EA ₄₂	1998 06 04.9	16 51.43	-09 26.5	19.0	-1.04	+	2.6	5.5/03.5	23347
1991 PQ ₂	1998 06 02.2	16 40.14	-25 20.3	17.1	-1.05	+	1.1	1.5/02.6	30655	1993 BN ₄	1998 06 05.0	16 51.55	-18 53.0	17.9	-1.07	+	1.1	1.4/04.7	29136
1996 YF	1998 06 02.3	16 40.46	-21 06.0	17.0	-1.13	-	0.1	0.4/02.2	29667	1994 ER	1998 06 05.1	16 51.88	-15 20.9	17.7	-1.07	-	0.2	2.8/04.6	28888
1994 AM ₃	1998 06 02.3	16 40.57	-34 06.2	16.5	-1.24	+	0.7	5.5/03.6	29318	4661 P-L	1998 06 05.1	16 51.92	-23 55.9	18.0	-0.91	+	0.7	0.5/05.3	30474
1997 BD ₂	1998 06 02.4	16 40.90	-07 52.7	16.9	-1.04	+	0.1	5.6/01.1	29667	(7332)	1998 06 05.1	16 51.98	-17 54.3	16.6	-1.06	+	4.7	2.1/04.6	28570
1997 HC ₃	1998 06 02.4	16 40.98	-16 58.5	18.3	-0.68	+	1.8	1.4/01.8	30691	1995 ST ₄	1998 06 05.2	16 52.35	-10 55.3	16.5	-1.01	+	1.5	4.7/04.1	25966
1990 RD ₅	1998 06 02.5	16 41.16	-21 05.2	16.7	-0.92	+	3.1	0.4/02.4	23974	1981 EG ₁₁	1998 06 05.2	16 52.50	-16 27.1	20.2	-0.97	+	2.8	2.1/04.6	23535
1994 PE ₂	1998 06 02.6	16 41.87	-31 00.3	17.8	-1.09	+	1.6	3.4/03.6	26744	1997 CF ₂₂	1998 06 05.2	16 52.66	-13 31.8	17.8	-0.88	+	1.3	3.3/04.4	31738
(7473)	1998 06 02.7	16 42.03	-18 33.2	16.6	-0.89	+	1.1	1.3/02.3	29082	1994 JE ₉	1998 06 05.3	16 52.79	-13 35.2	15.9	-0.97	-	1.3	4.1/04.8	29301
1991 RN ₁₁	1998 06 02.7	16 42.11	-19 15.3	18.2	-1.02	+	1.1	1.1/02.4	29659	1995 UG ₆	1998 06 05.3	16 52.81	-26 33.6	18.1	-1.05	+	1.2	1.5/05.7	30472
5565 P-L	1998 06 02.7	16 42.11	-28 43.2	17.7	-1.25	-	0.2	2.7/03.2	24585	(7435)	1998 06 05.3	16 52.82	-17 54.0	16.0	-1.04	+	3.2	2.1/04.8	28835
1993 OX ₁₁	1998 06 02.8	16 42.56	-25 08.8	18.0	-0.83	+	1.9	0.8/03.2	30782	1995 UN ₄	1998 06 05.4	16 53.04	-20 04.8	16.1	-1.00	+	4.4	1.1/05.1	26760
4821 P-L	1998 06 02.8	16 42.67	-17 27.9	19.8	-0.93	+	1.4	1.7/02.3	26423	1981 EO ₃₈	1998 06 05.4	16 53.16	-03 41.3	18.8	-0.89	+	4.1	7.6/02.7	26922
1991 RG ₄	1998 06 02.9	16 42.78	-23 31.6	18.3	-1.07	+	2.6	0.6/03.1	29659	1997 AE ₄	1998 06 05.4	16 53.20	-14 21.8	17.2	-0.89	+	0.2	2.7/04.8	29121

7590 P-L	1998 06 05.4	16 53.24	-29 05.7	21.1	-1.02	+	0.2	2.0/06.0	22701	1994 NT ₁	1998 06 08.3	17 05.08	-05 35.0	17.2	-0.91	-	2.5	6.5/07.8	31789
1997 BA ₃	1998 06 05.4	16 53.30	-25 04.7	18.7	-1.06	+	1.7	0.9/05.7	29637	1997 CS	1998 06 08.4	17 05.44	-38 42.1	16.0	-1.02	+	1.0	5.7/09.7	29639
1992 CP ₂	1998 06 05.5	16 53.47	-14 47.5	17.2	-0.87	+	2.6	2.8/04.6	29943	1981 EC ₃₀	1998 06 08.4	17 05.57	-48 15.2	19.6	-1.15	+	2.7	8.1/11.3	26920
1981 EU ₁₀	1998 06 05.6	16 53.92	-30 30.1	18.6	-1.05	+	3.8	4.2/06.6	26916	1995 SJ ₁	1998 06 08.5	17 05.93	-29 06.8	19.5	-1.08	+	1.1	2.2/09.0	29623
1995 UU ₆	1998 06 05.6	16 53.93	-32 16.9	20.3	-1.14	+	1.7	3.9/06.5	30456	1981 EZ ₄	1998 06 08.5	17 06.09	-36 14.1	18.6	-1.10	+	3.7	5.5/10.0	26915
1997 GD ₂₀	1998 06 05.7	16 54.69	-22 01.9	17.0	-0.91	+	1.2	0.2/05.7	31010	1981 ER ₂	1998 06 08.6	17 06.68	+06 19.0	18.5	-0.79	+	2.8	9.6/05.9	26915
1991 PY ₁₈	1998 06 05.7	16 54.71	-28 32.1	18.2	-1.13	+	2.0	2.6/06.3	29614	1995 PK	1998 06 08.7	17 06.67	-15 11.8	17.2	-1.09	+	0.1	3.4/08.2	29664
1997 CV ₁	1998 06 05.9	16 55.23	-19 17.7	15.8	-1.08		0.0	1.8/05.7	31794	1981 EJ ₉	1998 06 08.8	17 07.23	-28 16.0	19.3	-1.04	+	2.2	2.1/09.3	28611
1997 AH ₇	1998 06 06.0	16 55.66	-10 56.7	16.9	-1.01	+	1.0	4.6/05.0	29667	1997 GV ₁₈	1998 06 08.9	17 07.53	-18 36.7	18.6	-0.78	+	1.5	1.2/08.5	30788
1991 GY ₄	1998 06 06.1	16 56.03	-23 45.7	16.9	-1.09	+	0.3	0.5/06.2	29135	1992 WO ₅	1998 06 08.9	17 07.60	-20 22.0	16.2	-1.07	-	0.5	1.1/08.8	29661
1981 EN ₄	1998 06 06.1	16 56.10	-21 53.4	17.8	-0.84	+	3.8	0.2/06.0	26418	1995 SS ₅₂	1998 06 09.0	17 08.05	-28 13.4	18.9	-1.04	+	0.6	2.1/09.4	31107
1979 QR ₂	1998 06 06.2	16 56.42	-24 10.3	18.3	-0.89	+	1.4	0.5/06.4	29653	1991 VO ₇	1998 06 09.0	17 08.06	-20 17.3	19.7	-0.96	+	0.8	0.9/08.9	29943
1993 BT ₂	1998 06 06.2	16 56.71	-31 21.2	16.3	-1.07	+	2.4	3.5/07.2	29661	1991 PE ₃	1998 06 09.0	17 08.07	-20 04.0	17.7	-1.04	+	0.5	1.0/08.9	31417
2280 T-2	1998 06 06.3	16 56.91	-16 56.5	16.9	-1.08	+	2.0	2.6/05.8	27939	4195 T-3	1998 06 09.1	17 08.28	+02 06.8	16.6	-0.89	+	3.6	11.6/06.0	27732
6703 P-L	1998 06 06.3	16 57.11	-16 04.5	18.6	-0.92	+	1.5	2.5/05.8	29141	3247 T-3	1998 06 09.1	17 08.30	-16 50.1	18.5	-0.99	+	1.7	3.0/08.6	29131
1997 CB	1998 06 06.4	16 57.14	-02 00.2	17.3	-1.02	+	2.1	9.2/03.8	31590	1994 PO ₁₈	1998 06 09.2	17 08.72	-19 29.3	18.1	-0.87	+	1.0	1.1/08.9	31239
1995 SZ ₃	1998 06 06.5	16 57.88	-14 25.7	17.2	-1.05	+	3.5	3.3/05.6	30093	1990 RA ₃	1998 06 09.3	17 09.56	-22 11.9	17.6	-0.95	+	1.5	0.3/09.3	29658
1997 AM ₁₉	1998 06 06.5	16 57.96	-17 10.3	16.0	-1.03	+	1.0	2.5/06.1	29947	1989 GM	1998 06 09.3	17 09.59	-02 23.2	15.4	-0.94	-	7.0	9.2/09.9	26189
1996 XW ₃₀	1998 06 06.5	16 57.97	-23 28.7	14.9	-1.06	+	4.7	0.4/06.7	29140	1995 SG ₄	1998 06 09.4	17 09.59	-54 19.7	18.1	-1.70	+	5.4	13.7/12.8	29623
1996 XW ₁₉	1998 06 06.6	16 58.08	-23 12.9	16.7	-1.07	+	4.1	0.2/06.7	29320	1975 YD	1998 06 09.6	17 10.46	-11 16.6	17.5	-0.92	+	3.4	3.7/08.4	29652
4024 P-L	1998 06 06.6	16 58.30	-25 11.8	16.6	-0.99	+	2.4	1.0/06.9	23531	1992 UH ₆	1998 06 09.6	17 10.62	-25 46.2	15.8	-1.21	-	2.3	1.3/09.7	29661
1981 ER ₁₂	1998 06 06.6	16 58.43	-39 50.3	18.6	-1.01	+	1.6	6.0/08.4	26917	1994 PC ₁₄	1998 06 09.6	17 10.81	-23 57.8	17.2	-0.91	+	1.3	0.4/09.8	25651
1964 YJ	1998 06 06.6	16 58.45	-10 58.8	15.7	-0.85	-	1.3	3.9/06.0	29652	1988 CW ₂	1998 06 09.7	17 11.20	-22 27.3	17.9	-0.96	+	0.8	0.2/09.8	26924
(7610)	1998 06 06.7	16 58.66	-23 12.4	17.1	-0.90	+	0.5	0.2/06.8	29603	1993 FV ₁₁	1998 06 09.7	17 11.22	-20 52.5	17.0	-0.97	+	0.2	0.7/09.7	29103
1992 DL ₇	1998 06 06.7	16 58.68	-20 40.0	17.2	-0.89	+	0.7	0.7/06.6	23861	1984 SE ₆	1998 06 09.8	17 11.52	-29 07.2	15.5	-1.11	+	0.1	3.0/10.0	26188
2174 T-3	1998 06 06.7	16 58.71	-40 11.0	18.6	-1.13	-	0.1	5.6/08.1	26193	1988 RF ₄	1998 06 09.8	17 11.60	-32 22.3	17.0	-1.15	+	1.0	4.7/10.0	29656
1994 PA ₁₄	1998 06 06.8	16 59.09	-20 48.9	18.1	-0.89	+	1.6	0.6/06.7	27448	1991 RM ₁₅	1998 06 09.9	17 11.67	-26 15.5	16.2	-1.03	+	2.0	1.7/10.0	29659
1995 SB ₁	1998 06 06.9	16 59.19	-06 56.3	18.5	-1.02	+	8.4	5.5/04.2	30783	1985 RA ₄	1998 06 09.9	17 12.05	-35 08.6	16.8	-1.04	+	0.8	4.9/10.8	29940
1991 RD ₂₄	1998 06 06.9	16 59.34	-15 05.5	16.3	-0.98	-	1.0	3.6/06.5	31417	(7691)	1998 06 09.9	17 12.08	-25 06.1	17.7	-1.09	+	0.2	0.8/10.0	29909
1992 UM ₆	1998 06 07.0	16 59.68	-27 02.3	17.6	-1.10	+	2.3	1.6/07.4	29136	1991 RJ ₂₀	1998 06 09.9	17 12.08	-18 43.7	18.3	-1.07	+	0.6	1.8/09.7	26758
(7557)	1998 06 07.0	16 59.80	-16 08.0	17.4	-1.00	+	1.9	2.4/06.5	29591	1997 CC ₆	1998 06 10.0	17 12.41	-14 32.0	20.9	-0.85	-	0.2	2.5/09.6	30786
1981 EE ₃₉	1998 06 07.1	17 00.02	-12 29.4	20.5	-0.81	+	1.3	3.3/06.1	26922	1994 WH ₃	1998 06 10.1	17 12.79	-21 28.1	17.0	-0.84	+	0.6	0.5/10.1	29945
6636 P-L	1998 06 07.1	17 00.26	-18 56.2	17.8	-0.89	+	0.4	1.3/06.9	29321	1994 FY	1998 06 10.2	17 12.85	-36 25.6	16.4	-1.27	-	3.5	5.9/10.4	29619
1986 CB	1998 06 07.1	17 00.34	+05 25.5	18.3	-0.98	-	1.1	8.7/05.2	30288	1995 XT	1998 06 10.2	17 13.01	-21 04.5	17.2	-0.83	+	0.5	0.6/10.1	30292
1988 RN ₃	1998 06 07.2	17 00.47	-15 46.1	18.7	-1.04	+	2.2	3.0/06.5	31416	1994 UZ ₁₂	1998 06 10.2	17 13.16	-16 21.8	17.7	-0.81	+	0.1	2.0/09.8	27731
1995 UW ₈	1998 06 07.2	17 00.76	-26 32.1	16.6	-1.02	-	2.4	1.3/07.4	30292	1992 ED ₈	1998 06 10.2	17 13.17	-25 15.9	17.3	-0.91	+	1.1	0.8/10.4	25650
1990 UG ₅	1998 06 07.2	17 00.86	-10 19.6	19.8	-0.86	+	2.2	4.1/06.0	30091	1995 UB ₁₃	1998 06 10.2	17 13.29	-39 02.7	17.4	-1.12	-	3.3	8.3/10.6	26760
1995 SA ₂	1998 06 07.4	17 01.37	-14 52.2	20.2	-0.88	+	1.9	2.4/06.7	29664	1994 PP	1998 06 10.3	17 13.40	-65 39.6	17.1	-2.07	+	3.8	13.8/13.7	27937
1991 GC ₆	1998 06 07.4	17 01.43	-32 17.2	17.6	-1.25	-	0.5	3.9/08.0	28614	1991 GW ₁	1998 06 10.3	17 13.45	+07 40.5	16.5	-1.00	+	11.7	14.5/04.3	30781
1997 CT ₁₉	1998 06 07.5	17 01.76	-22 10.4	18.5	-1.05	+	1.9	0.2/07.5	30473	1988 RT ₁₂	1998 06 10.3	17 13.57	-15 48.3	19.1	-0.55	+	1.1	1.5/09.8	30090
1997 BP ₅	1998 06 07.5	17 01.79	-18 52.3	19.7	-1.03	+	1.1	1.4/07.2	29667	1990 AD	1998 06 10.3	17 13.61	-14 25.3	16.7	-0.82	-	1.7	2.4/10.0	29941
1981 EF ₁₆	1998 06 07.9	17 03.34	-08 40.6	18.9	-0.92	+	2.9	4.7/06.4	29093	1981 EF ₄₄	1998 06 10.4	17 14.10	-29 39.1	18.0	-0.90	+	1.4	2.5/11.0	26923
1996 AG ₂	1998 06 07.9	17 03.43	-37 40.7	16.5	-0.95	+	2.6	4.3/09.5	26928	1995 YZ ₁	1998 06 10.5	17 14.12	-32 33.9	18.9	-0.96	+	0.3	2.8/11.1	30784
(7844)	1998 06 07.9	17 03.69	-22 11.8	16.8	-1.04	+	2.5	0.2/07.9	30442	1980 DN	1998 06 10.7	17 15.04	-13 32.1	16.3	-0.82	-	0.7	3.2/10.3	29092
1997 BU ₃	1998 06 07.9	17 03.74	-21 00.3	15.9	-0.85	+	0.2	0.7/07.9	29638	1988 VL ₂	1998 06 10.8	17 15.49	-16 18.2	16.4	-1.00	+	4.6	2.6/10.1	30652
1996 YH ₂	1998 06 08.0	17 04.13	-25 49.1	17.3	-1.09	-	0.2	1.2/08.3	31422	1991 TX	1998 06 10.8	17 15.50	-25 19.0	17.0	-1.39	-	10.3	1.0/10.7	26399
1978 SX ₇	1998 06 08.1	17 04.41	-29 22.4	19.2	-1.01	+	1.3	2.0/08.7	29652	1991 UB ₄	1998 06 10.8	17 15.79	-17 24.0	16.2	-0.94	+	1.4	2.1/10.5	29099
1997 BD ₉	1998 06 08.2	17 04.79	-20 33.3	17.5	-0.83	+	0.4	0.8/08.1	29638	1989 UC ₅	1998 06 10.9	17 15.74	-14 33.0	20.4	-0.52	+	1.2	1.6/10.2	18118
1995 UL ₇	1998 06 08.2	17 04.82	-26 04.1	17.5	-1.12	+	0.6	1.3/08.5	26423	1981 ED ₉	1998 06 10.9	17 15.89	-22 34.3	18.8	-1.13	+	3.1	0.2/10.9	26916
1101 T-1	1998 06 08.2	17 04.92	-24 56.1	17.4	-0.97	+	2.5	0.8/08.5	23533	1981 EL ₅	1998 06 10.9	17 15.93	-19 50.7	18.6	-0.84	+	3.1	1.0/10.6	25078
1990 OO ₂	1998 06 08.2	17 04.96	-47 15.4	15.9	-1.27	+	2.3	10.0/10.5	29316	4764 P-L	1998 06 11.0	17 16.18	-19 42.8	17.7	-0.89	+	0.7	1.2/10.8	29668

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1991 UY ₃	1998 06 11.0	17 16.32	-18 58.0	18.7	-1.02	+	2.0	1.5/10.7	26420
1981 EF ₂₁	1998 06 11.0	17 16.56	-07 21.8	19.3	-0.91	+	0.8	6.3/10.1	25972
1993 FO ₄	1998 06 11.1	17 16.89	-04 43.8	17.7	-0.88	+	0.9	6.4/10.0	23521
1995 OA	1998 06 11.1	17 17.01	-25 43.7	17.6	-1.10	+	3.5	1.1/11.4	29664
1997 AA ₂	1998 06 11.2	17 17.14	-26 38.8	16.9	-1.01	+	0.4	1.3/11.4	29141
4240 T-2	1998 06 11.2	17 17.25	-22 33.5	17.9	-1.08	-	0.1	0.2/11.2	30095
(7701)	1998 06 11.3	17 17.50	-27 33.4	18.2	-1.03	+	0.4	1.6/11.6	30069
1993 FX ₃₇	1998 06 11.3	17 17.71	-25 56.4	15.6	-0.99	-	0.1	1.1/11.5	23527
1996 AH ₁	1998 06 11.3	17 17.71	-34 22.1	19.3	-0.90	+	2.4	3.1/12.3	30784
1990 OY ₁	1998 06 11.4	17 17.84	-24 29.3	15.1	-0.98	-	2.8	0.7/11.4	30652
1981 DA ₃	1998 06 11.4	17 17.99	-26 10.6	19.8	-0.73	+	2.0	0.8/11.7	26914
(7552)	1998 06 11.4	17 18.09	-17 32.5	19.1	-0.96	+	0.7	2.1/11.1	29589
1995 WE ₆	1998 06 11.4	17 18.12	-26 10.3	18.5	-1.10	+	0.6	1.2/11.6	29665
(7670)	1998 06 11.4	17 18.19	-18 56.2	19.4	-1.03	+	0.8	1.5/11.2	29904
4090 P-L	1998 06 11.5	17 18.23	-29 38.1	18.8	-0.88	+	1.0	1.9/11.9	30774
1986 GD	1998 06 11.5	17 18.57	-30 23.7	17.1	-1.16	-	1.4	3.0/11.8	22271
1988 VA ₅	1998 06 11.5	17 18.59	-25 34.7	17.0	-1.15	+	0.3	1.1/11.7	26579
(7682)	1998 06 11.6	17 19.05	-31 43.2	18.5	-1.03	+	0.6	2.8/12.2	29907
1981 EC ₁₀	1998 06 11.6	17 19.05	-14 37.7	18.1	-0.81	+	2.6	3.2/11.0	29315
1997 GO ₂₄	1998 06 11.7	17 19.42	-12 39.4	17.5	-0.55	+	2.2	2.2/10.8	31114
1990 QX ₅	1998 06 11.8	17 19.61	-39 43.9	18.6	-1.15	+	1.4	5.3/12.8	25649
1988 RH ₁₁	1998 06 11.8	17 19.71	-20 46.2	19.8	-0.56	+	0.6	0.5/11.7	15713
1993 DD ₂	1998 06 11.9	17 19.94	-44 41.9	16.5	-1.27	-	1.2	7.8/12.6	30291
1981 EA ₁₉	1998 06 11.9	17 20.02	-27 00.8	18.8	-1.05	+	0.7	1.4/12.1	26188
4193 T-1	1998 06 11.9	17 20.28	-20 19.7	18.7	-1.04	+	0.3	1.0/11.8	22432
4573 P-L	1998 06 11.9	17 20.29	-34 57.3	18.9	-0.93	-	0.3	3.5/12.5	30681
1995 YB ₃	1998 06 12.0	17 20.37	-22 06.8	18.0	-0.83	+	0.3	0.3/12.0	29946
1997 BR ₆	1998 06 12.0	17 20.55	-30 46.0	17.5	-1.16	+	1.4	2.9/12.5	30786
1991 VP ₁₂	1998 06 12.1	17 20.73	-24 24.2	17.5	-1.02	-	2.0	0.6/12.1	29615
1996 XD ₁₉	1998 06 12.1	17 21.01	-18 40.9	16.0	-1.01	+	2.4	1.8/11.8	29632
1986 RP ₂	1998 06 12.2	17 21.36	-04 31.0	16.5	-0.94	-	0.7	7.4/11.3	31416
1995 UJ ₂	1998 06 12.2	17 21.36	-28 28.0	17.5	-1.16	+	0.3	2.2/12.5	29665
1979 MM ₃	1998 06 12.3	17 21.91	-05 46.5	18.3	-0.88	-	2.9	5.8/12.1	30867
3040 P-L	1998 06 12.3	17 22.04	-29 22.5	16.5	-1.06	+	3.9	2.5/12.9	26582
5191 T-3	1998 06 12.4	17 22.00	-08 57.3	17.1	-0.54	-	0.3	3.0/11.6	25443
1981 EN ₁₃	1998 06 12.4	17 22.10	-23 09.0	16.1	-1.11	+	3.6	0.0/12.4	27303
1987 RG ₁	1998 06 12.4	17 22.23	-25 24.2	15.9	-1.07	+	0.9	1.0/12.6	30446
(7479)	1998 06 12.5	17 22.58	-14 37.4	16.6	-1.06	+	0.2	3.6/12.2	29084
1995 UW ₂	1998 06 12.5	17 22.61	-23 08.9	18.3	-1.06	+	1.5	0.0/12.5	29304
1981 EV ₁₂	1998 06 12.7	17 23.37	-35 23.2	18.1	-0.97	+	1.3	3.8/13.5	28838
1981 EP ₃₈	1998 06 12.7	17 23.55	-08 44.4	19.4	-0.80	+	1.9	4.7/11.7	30287
4037 P-L	1998 06 12.8	17 23.95	-34 35.9	17.3	-1.21	+	0.6	4.6/13.4	28892
1997 BM ₈	1998 06 13.0	17 24.54	-29 14.4	16.6	-1.17	+	2.7	2.9/13.4	31113
1981 EF ₄₈	1998 06 13.0	17 24.76	-21 47.8	18.3	-0.70	+	0.8	0.4/13.0	21968
1991 VV ₁	1998 06 13.1	17 24.94	-10 28.4	16.3	-1.01	+	7.1	5.4/11.4	28299
1990 SY ₃	1998 06 13.2	17 25.29	-27 19.8	16.4	-1.04	+	4.8	1.6/13.6	26560
1991 PZ ₁₂	1998 06 13.2	17 25.33	-31 00.6	17.5	-1.12	+	1.7	3.0/13.7	29942
1990 QR ₉	1998 06 13.2	17 25.41	-17 37.0	17.7	-0.96	+	0.3	2.2/13.0	26757
1996 AB	1998 06 13.2	17 25.47	-25 19.6	17.5	-0.83	+	1.1	0.6/13.4	26761
1987 QF ₃	1998 06 13.2	17 25.49	-15 16.4	16.6	-0.98	-	0.8	3.6/13.0	29655
1991 VD ₁	1998 06 13.2	17 25.66	-43 08.4	17.3	-1.30	-	3.2	7.4/13.2	31584

1994 PJ ₂₀	1998 06 13.3	17 25.86	-23 20.6	17.4	-0.92	+	1.1	0.0/13.3	29663
1997 AQ ₂₂	1998 06 13.3	17 26.08	-14 02.9	16.1	-0.91	-	2.5	3.7/13.3	29126
1978 ST ₇	1998 06 13.3	17 26.09	-31 16.2	16.9	-1.17	+	2.0	3.2/13.9	29652
9565 P-L	1998 06 13.4	17 26.10	-16 26.1	17.0	-1.05	-	0.2	3.1/13.1	29668
1997 CK ₂₂	1998 06 13.4	17 26.14	-03 54.8	18.7	-0.88	-	1.0	6.6/12.9	31738
(8328)	1998 06 13.4	17 26.15	-14 32.5	17.4	-1.04	-	0.6	4.0/13.1	31349
1992 UY ₂	1998 06 13.4	17 26.43	-16 06.7	17.5	-1.04	+	2.1	2.9/13.0	30290
(7441)	1998 06 13.5	17 26.54	-14 42.5	17.7	-1.01	+	1.7	3.9/13.0	28836
1995 VN	1998 06 13.5	17 26.60	-19 40.2	18.2	-1.05	+	1.1	1.4/13.3	29319
1990 QW ₉	1998 06 13.5	17 26.65	+00 51.7	15.4	-0.70	+	1.0	12.7/11.6	24895
1981 EG ₃	1998 06 13.5	17 26.70	-25 23.0	17.9	-0.89	+	3.4	0.7/13.7	26915
1997 CB ₁₃	1998 06 13.5	17 26.84	-17 03.6	16.7	-1.06	-	1.0	3.2/13.4	29128
4210 T-2	1998 06 13.6	17 27.06	-15 46.6	16.8	-0.93	-	0.3	2.9/13.4	29669
1994 PX	1998 06 13.7	17 27.72	-03 06.7	17.4	-0.86	-	0.2	7.4/12.8	30092
1991 VL ₆	1998 06 13.7	17 27.78	-06 12.4	18.2	-0.91	+	3.1	5.9/12.4	28316
1981 EL ₂₀	1998 06 13.8	17 27.99	-37 30.0	17.9	-1.00	+	1.0	5.2/14.6	29132
1993 FE ₅₉	1998 06 13.8	17 28.11	-41 40.8	16.4	-1.31	-	1.5	8.1/13.8	29662
1978 VB ₃	1998 06 13.8	17 28.12	-31 37.3	16.6	-0.97	-	2.8	2.8/13.9	27302
2664 T-3	1998 06 13.9	17 28.24	-27 10.8	19.0	-1.10	+	0.7	1.5/14.1	29949
1992 RH ₇	1998 06 13.9	17 28.32	-29 21.0	17.4	-1.19	-	0.6	2.6/14.1	30290
1981 EC ₃₂	1998 06 13.9	17 28.36	-22 52.0	18.0	-0.87	+	3.1	0.1/13.9	26921
1981 EG ₁₂	1998 06 13.9	17 28.67	-14 21.4	17.1	-0.91	+	3.7	4.0/13.3	26394
1994 PQ ₁	1998 06 14.0	17 29.05	-25 31.6	17.4	-1.41	-14.2		1.0/13.8	25083
1995 UK ₆	1998 06 14.1	17 29.24	-26 25.4	17.4	-1.12	+	0.8	1.3/14.3	30093
1991 VE ₃	1998 06 14.1	17 29.31	-19 19.9	18.5	-0.98	-	0.1	1.3/14.0	25959
1989 CQ ₂	1998 06 14.1	17 29.32	-09 15.0	18.5	-0.69	+	1.1	3.7/13.3	24912
1995 UU ₃	1998 06 14.3	17 29.87	-28 02.5	18.5	-0.98	+	0.1	1.5/14.5	30665
1993 NS ₁	1998 06 14.3	17 30.28	-16 13.2	18.2	-0.85	-	0.8	2.1/14.2	24232
1995 YN	1998 06 14.3	17 30.29	-15 46.5	16.6	-0.87	-	3.0	2.3/14.4	26907
4087 P-L	1998 06 14.4	17 30.25	-26 37.0	18.1	-1.06	+	0.6	1.3/14.5	31436
1994 PL ₂₂	1998 06 14.4	17 30.41	-19 47.9	17.9	-0.87	+	0.5	1.1/14.3	30453
1981 EC ₇	1998 06 14.4	17 30.62	-30 39.3	19.1	-0.75	+	1.5	1.9/15.0	26916
1981 EU ₁₂	1998 06 14.4	17 30.69	-20 38.7	19.1	-0.99	+	1.7	1.0/14.3	26917
1220 T-1	1998 06 14.6	17 31.10	-24 21.3	17.0	-1.07	+	1.3	0.4/14.7	28892
1994 FB	1998 06 14.6	17 31.14	-19 30.8	17.2	-1.09	+	1.2	1.6/14.4	30291
2610 T-3	1998 06 14.6	17 31.49	-25 48.0	17.8	-1.09	+	1.3	1.1/15.0	22088
1988 UP	1998 06 14.6	17 31.49	-22 56.3	15.8	-0.87	-	0.2	0.1/14.7	22080
1981 EZ ₅	1998 06 14.7	17 31.63	-20 30.4	20.0	-0.70	+	1.8	0.7/14.6	26915
1990 TZ ₁	1998 06 14.7	17 32.00	-24 15.5	16.6	-0.96	+	1.4	0.4/14.8	26757
2166 T-1	1998 06 14.8	17 32.13	-31 36.4	17.3	-1.25	-	0.9	3.6/15.0	25436
1981 EV ₁₄	1998 06 14.9	17 32.66	-27 38.7	18.2	-0.90	+	1.9	1.6/15.2	29608
1995 QA ₃	1998 06 15.0	17 33.12	-37 04.2	15.9	-1.21	+	1.3	6.5/15.7	26176
1994 WO ₄	1998 06 15.1	17 33.32	-14 30.7	19.2	-0.83	-	0.4	3.0/14.9	26567
(7606)	1998 06 15.1	17 33.33	-26 01.0	17.9	-1.06		0.0	1.0/15.2	29602
1988 RW ₁₀	1998 06 15.1	17 33.65	-23 57.1	18.7	-0.88	+	0.6	0.2/15.2	22825
1979 XJ	1998 06 15.2	17 33.64	-18 34.3	15.9	-1.16	-	2.7	2.3/15.2	29653
1987 DM ₆	1998 06 15.3	17 34.45	-17 13.3	17.7	-1.07	+	1.1	2.4/15.1	29940
6772 P-L	1998 06 15.4	17 34.45	-19 16.6	18.6	-1.01	+	0.5	1.6/15.3	30095
(7513)	1998 06 15.5	17 34.93	-27 36.8	17.3	-1.18		0.0	1.8/15.6	29289
1981 ER ₂₄	1998 06 15.5	17 35.05	-20 18.5	17.8	-1.05	+	1.4	1.5/15.4	22697
6303 P-L	1998 06 15.6	17 35.48	-19 52.8	17.4	-0.89	+	0.6	1.2/15.5	24764