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Minor Planet Center
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TWX 710-320-6842 ASTROGRAM CAM EASYLINK 62794505
MARSDEN@CFA.BITNET or .SPAN BRIAN@CFAPS1.SPAN GARETH@CFAPS1.SPAN
Brian G. Marsden, Director Gareth V. Williams, Associate Director

ERRATA.

MPC	Line	
14633	-27	For 12 novae read 11 novae
17525	-27	For D. H. Levy (2, S) read D. H. Levy (3, S)
17563	3	For 1.0-m read 1.1-m
17795	27	The orbit for 1991 AX should be deleted.

* * * * *

CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Mag.	N Obs.
1990 SQ	1990 11	07.78195	21 23 04.72	+15 23 26.8	MPC17329		1 479
1990 SQ	1990 11	07.79862	21 23 05.30	+15 24 15.7	MPC17329		1 479
1990 VH7	1989 11	03.21962	00 40 55.47	+20 03 50.9	MPC17713	17.5	675
1991 CC1	1991 02	16.44306	12 11 28.46	+02 38 31.0	MPC17715		675
951	1989 10	19.47932	08 37 10.83	+16 37 19.9	MPC17716		675
951	1989 10	19.48406	08 37 11.25	+16 37 17.7	MPC17716		675
951	1989 10	19.49244	08 37 11.94	+16 37 14.1	MPC17716		675
951	1989 10	19.49829	08 37 12.45	+16 37 11.5	MPC17716		675
951	1989 10	19.50233	08 37 12.81	+16 37 09.7	MPC17716		675
951	1989 10	19.50608	08 37 13.13	+16 37 08.0	MPC17716		675
951	1989 11	10.46766	09 04 33.62	+13 57 00.2	MPC17716		675
951	1989 11	10.47106	09 04 33.82	+13 56 58.8	MPC17716		675
951	1989 11	10.47618	09 04 34.12	+13 56 56.6	MPC17716		675
951	1989 12	10.40024	09 22 37.55	+11 09 58.6	MPC17716		675
951	1989 12	10.40463	09 22 37.59	+11 09 57.6	MPC17716		675
951	1989 12	10.41330	09 22 37.65	+11 09 55.7	MPC17716		675
951	1990 01	07.29284	09 13 28.59	+10 25 55.1	MPC17716		675
951	1990 01	07.29676	09 13 28.40	+10 25 55.4	MPC17716		675
951	1990 01	07.30000	09 13 28.24	+10 25 55.5	MPC17717		675
951	1990 01	07.30877	09 13 27.81	+10 25 55.8	MPC17717		675

Note 1: these two mid-trail positions replace earlier trail-end positions.

* * * * *

DELETED OBSERVATION.

The following observation is to be deleted.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Obs.
1990 RD3 *	1990 09	14.33976	23 49 32.84	+01 35 40.1	MPC17534	675

IDENTIFICATION CHANGES.

Continuation to MPC 17682.

Object	Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
1990 QZ9 *	1990 08	26.20347	23 21 18.10	-05 36 46.8	1990 QX6	19.5	809
1990 QZ9	1990 08	26.21667	23 21 17.35	-05 36 50.8	1990 QX6		809
1990 QZ9	1990 08	26.22986	23 21 16.61	-05 36 53.3	1990 QX6		809
1990 RV8 *	1990 09	15.33698	23 48 43.33	+01 32 06.5	1990 RD3	16.8	675
1990 RV8	1990 09	15.37274	23 48 41.33	+01 31 58.7	1990 RD3		675

* * * * *

OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

046 Klet. Observer A. Mrkos.
071 Rhozen. Observers V. G. Shkodrov, V. G. Ivanova, Ch. Dinev and V. I. Umlenski.
095 Crimean Astrophysical Observatory. 0.4-m f/4 double astrograph. Observer S. Zhuiko.
101 Kharkov. 0.16-m f/4.5 astrograph. Observer P. P. Pavlenko. From Kiev Komet. Tsirk.
364 JCPM Kagoshima Station. 0.25-m f/4.2 Wright-Schmidt telescope. Observers M. Mukai and M. Takeishi. Measured by M. Takeishi.
372 Geisei. 0.60-m reflector. Observer T. Seki.
413 Siding Spring. Uppsala Southern Schmidt and 1.0-m reflector + CCD. Observers R. H. McNaught and S. D. Ryder.
480 Cockfield. Observer M. Mobberley. Communicated by G. M. Hurst.
540 Linz. Observers E. Meyer, E. Obermair and H. Raab.
553 Chorzow. 0.2-m f/5 astrograph. Observers M. Szczepanski, J. Kuczynski and B. Pawicka. Measured by I. Wlodarczyk and T. Piwek.
595 Farra d'Isonzo. 0.4-m f/4.5 reflector. Observers G. Lombardi and E. Pettarin. Measured by L. Bittesini and F. Piani.
657 Victoria. 0.25-m Schmidt and 0.5-m reflector + CCD. Observers J. B. Tatum, D. D. Balam and R. M. Robb.
675 Palomar. 0.46-m Schmidt. Observers E. Helin, K. Lawrence, D. H. Levy, P. Rose, C. S. Shoemaker and E. M. Shoemaker.
691 Kitt Peak. Spacewatch telescope. Observer J. V. Scotti.
801 Oak Ridge Observatory. 1.5-m reflector + CCD. Observers R. E. McCrosky, C.-Y. Shao and O. C. Dahl.
887 Ojima. 0.30-m f/5.8 reflector. Observers T. Niijima and T. Urata. Measured by T. Urata.
900 Kiryuu Observatory, Ohtsu. 0.16-m f/2.5 Schmidt. Observer Y. Ikari.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
		Periodic Comet Schwassmann-Wachmann 1				
/1989 XV	1991 02	09.97654	01 26 26.77	+18 35 30.0		801
/1989 XV	1991 02	16.97733	01 30 24.64	+18 49 19.6		801
		Comet Okazaki-Levy-Rudenko (1989 XIX)				
/1989 XIX	1989 09	14.74252	14 57 26.61	+32 16 35.1		101
/1989 XIX	1989 09	20.76009	14 50 45.73	+31 42 44.3		101
/1989 XIX	1989 09	22.72340	14 48 41.50	+31 31 54.8		101

Comet Helin-Roman-Alu (1989 XXI)

/1989 XXI	1989	12	30.72674	18	43	46.50	+49	45	14.1		595
/1989 XXI	1990	01	04.72674	18	31	30.66	+51	25	01.1		595
/1989 XXI	1990	01	24.12917	17	31	00.80	+58	19	13.2	1	071
/1989 XXI	1990	01	25.13542	17	26	50.30	+58	41	58.0	1	071
/1989 XXI	1990	01	25.15833	17	26	44.30	+58	42	31.0		071

Periodic Comet Wild 2

/1989t	1991	02	23.79896	16	44	05.28	-18	42	00.0		900
/1989t	1991	02	23.80868	16	44	06.01	-18	41	59.5		900

Periodic Comet Kearns-Kwee

/1989u	1991	02	09.06949	06	39	40.38	+28	03	16.6		801
/1989u	1991	02	10.09846	06	39	40.67	+27	56	46.3		801
/1989u	1991	02	12.06308	06	39	46.72	+27	44	27.0		801
/1989u	1991	02	12.08225	06	39	47.10	+27	44	16.1		801
/1989u	1991	02	17.80412	06	40	47.52	+27	08	34.4		046
/1989u	1991	02	17.81280	06	40	47.66	+27	08	32.2		046
/1989u	1991	02	18.81186	06	41	04.38	+27	02	23.7		046
/1989u	1991	02	18.82049	06	41	04.65	+27	02	20.8		046

Periodic Comet Wild 4

/1990a	1990	04	13.85700	09	05	06.87	+20	13	26.4		595
/1990a	1990	04	19.85625	09	10	08.08	+19	34	45.4		595
/1990a	1990	04	29.92153	09	20	38.39	+18	20	29.2		595

Comet Cernis-Kiuchi-Nakamura (1990b)

/1990b	1990	04	13.82917	04	44	47.94	+51	22	21.5		595

Comet Levy (1990c)

/1990c	1990	08	27.84863	19	32	11.05	-09	22	37.8		553
/1990c	1990	08	27.87016	19	31	53.38	-09	25	56.7		553
/1990c	1990	08	27.88891	19	31	38.01	-09	28	46.1		553
/1990c	1991	02	09.23354	10	35	45.71	-26	14	19.9		801
/1990c	1991	02	11.24183	10	26	03.44	-24	36	05.8		801
/1990c	1991	02	22.68646	09	36	42.70	-14	31	10.5		900
/1990c	1991	02	22.69514	09	36	40.67	-14	30	40.4		900
/1990c	1991	02	24.31597	09	30	43.97	-13	05	14.4		657
/1990c	1991	02	25.24132	09	27	27.86	-12	17	02.2		657
/1990c	1991	03	12.59248	08	46	04.99	-00	45	16.3	10 T	887
/1990c	1991	03	12.59711	08	46	04.40	-00	45	04.4		887

Periodic Comet Wolf-Harrington

/1990e	1991	01	05.11544	23	43	02.85	+12	03	46.1		657

Comet McNaught-Hughes (1990g)

/1990g	1991	02	09.45380	16	18	43.84	-12	29	00.2		801
/1990g	1991	02	11.41046	16	18	27.03	-11	53	40.0		801

Comet Tsuchiya-Kiuchi (1990i)

/1990i	1990	11	16.09340	09	46	53.13	-22	02	57.8		095
/1990i	1990	11	17.14063	09	42	33.83	-23	03	05.6		095
/1990i	1990	11	17.14549	09	42	32.58	-23	03	20.8		095

Periodic Comet Mueller 2

/1990j	1991	02	09.98273	02	11	02.51	+10	27	40.7		801
/1990j	1991	02	09.99205	02	11	03.42	+10	27	45.2		801

Periodic Comet Taylor

/1990n	1991	02	13.07353	07	08	20.29	+32	08	21.0		801
/1990n	1991	02	13.08995	07	08	20.23	+32	08	31.6		801
/1990n	1991	02	17.04691	07	08	47.46	+32	51	39.1		801
/1990n	1991	02	17.07019	07	08	47.68	+32	51	53.5		801

Periodic Comet Metcalf-Brewington

/1991a	1991	01	15.46250	00	28	26.97	-04	41	57.1		364
/1991a	1991	01	15.46875	00	28	27.96	-04	41	51.9		364
/1991a	1991	01	17.45000	00	33	47.78	-04	18	15.5		364
/1991a	1991	01	17.45486	00	33	48.60	-04	18	10.6		364
/1991a	1991	01	22.45347	00	47	19.01	-03	16	57.0		364
/1991a	1991	01	22.45590	00	47	19.50	-03	16	56.6		364
/1991a	1991	02	01.74147	01	15	18.28	-01	06	16.6		046
/1991a	1991	02	01.74459	01	15	18.81	-01	06	13.1		046
/1991a	1991	02	02.75171	01	18	03.45	-00	53	13.8		046
/1991a	1991	02	02.75478	01	18	03.98	-00	53	10.3		046
/1991a	1991	02	09.96613	01	37	46.12	+00	40	21.5		801
/1991a	1991	02	11.99220	01	43	18.53	+01	06	36.7		801
/1991a	1991	02	16.97331	01	56	55.82	+02	10	46.5		801
/1991a	1991	02	17.75985	01	59	04.80	+02	20	49.5		046
/1991a	1991	02	17.76436	01	59	05.48	+02	20	54.2		046
/1991a	1991	02	18.76916	02	01	50.33	+02	33	41.9		046
/1991a	1991	02	18.77361	02	01	51.17	+02	33	46.5		046

Comet Arai (1991b)

/1991b	1991	01	31.72743	07	22	09.81	+57	40	50.0		540
/1991b	1991	01	31.74549	07	22	05.05	+57	41	50.2		540
/1991b	1991	02	01.74063	07	17	53.99	+58	34	02.3		540
/1991b	1991	02	01.75868	07	17	49.56	+58	34	59.1		540
/1991b	1991	02	01.77098	07	17	46.78	+58	35	38.7		046
/1991b	1991	02	02.79512	07	13	30.71	+59	25	41.3		046
/1991b	1991	02	02.80119	07	13	28.57	+59	26	06.0		046
/1991b	1991	02	09.82639	06	46	10.75	+63	49	02.8		540
/1991b	1991	02	09.84479	06	46	06.50	+63	49	36.3		540

Comet Shoemaker-Levy (1991d)

/1991d	1991	02	07.38836	09	26	11.68	+01	04	47.0	15 T	675
/1991d	1991	02	08.37725	09	25	20.55	+01	17	51.6		675
/1991d	1991	02	16.89766	09	17	49.52	+03	16	33.1		480
/1991d	1991	02	17.94943	09	16	52.69	+03	31	49.7		046
/1991d	1991	02	17.96367	09	16	51.95	+03	32	01.3		046
/1991d	1991	02	18.94479	09	15	59.53	+03	46	24.0		046
/1991d	1991	02	18.95758	09	15	58.72	+03	46	36.1		046
/1991d	1991	02	09.20624	09	24	37.35	+01	28	57.2		801
/1991d	1991	02	09.21350	09	24	36.96	+01	29	02.9		801
/1991d	1991	02	16.21689	09	18	25.42	+03	06	42.7		801
/1991d	1991	02	16.21689	09	18	25.64	+03	06	42.4		801
/1991d	1991	02	16.22971	09	18	24.95	+03	06	53.1		801

Periodic Comet Shoemaker-Levy 3

/1991e	1991	02	11.31944	09	17	05.79	+13	35	12.4		675

Periodic Comet Shoemaker-Levy 4

/1991f	1991	02	16.42465	12	06	52.98	+03	17	37.8	17.0T	675
/1991f	1991	02	16.44306	12	06	52.45	+03	17	46.9		675
/1991f	1991	02	20.39201	12	05	00.69	+03	47	02.8		675
/1991f	1991	02	20.42205	12	04	59.57	+03	47	17.0		675
/1991f	1991	02	25.76720	12	01	59.17	+04	29	25.2		413

Comet McNaught-Russell (1991g)

/1991g	1991	02	19.66424	11	02	55.61	-21	31	37.5	17.5T 372
/1991g	1991	02	19.67535	11	02	55.12	-21	31	28.8	372
/1991g	1991	02	19.69758	11	02	53.80	-21	31	11.6	413
/1991g	1991	02	20.40451	11	02	12.37	-21	22	23.4	16.5T 675
/1991g	1991	02	20.42795	11	02	10.85	-21	22	05.2	675
/1991g	1991	02	20.67604	11	01	56.63	-21	18	56.1	17.5T 372
/1991g	1991	02	23.74984	10	58	55.50	-20	39	08.6	413
/1991g	1991	03	13.65253	10	41	24.58	-16	17	16.3	413
/1991g	1991	03	13.65940	10	41	24.21	-16	17	09.2	413
/1991g	1991	03	14.56007	10	40	33.46	-16	03	01.6	18 T 372

Periodic Comet Takamizawa

/1991h	1991	02	12.84340	14	03	35.11	-00	43	52.8	20 T 2 372
/1991h	1991	02	17.48591	14	07	23.86	-00	33	03.8	3 691
/1991h	1991	02	17.50666	14	07	24.79	-00	33	01.5	19.9T 3 691
/1991h	1991	02	17.52752	14	07	25.76	-00	32	57.4	19.6T 3 691
/1991h	1991	02	19.45043	14	08	54.13	-00	27	22.5	19.6T 3 691
/1991h	1991	02	19.46490	14	08	54.78	-00	27	20.5	3 691
/1991h	1991	02	19.47934	14	08	55.37	-00	27	17.7	3 691
/1991h	1991	02	22.85278	14	11	20.37	-00	15	54.8	20 T 372

Periodic Comet Kowal 1

/1991i	1991	02	20.71801	11	11	19.36	+09	28	52.8	18 T 4 413
/1991i	1991	02	21.40778	11	11	00.11	+09	30	42.7	18.4T 4 691
/1991i	1991	02	21.42844	11	10	59.51	+09	30	46.4	21.1N 4 691
/1991i	1991	02	21.45072	11	10	58.88	+09	30	50.0	4 691
/1991i	1991	02	22.29616	11	10	35.45	+09	33	09.5	5 691
/1991i	1991	02	22.37032	11	10	33.34	+09	33	21.7	18.4T 5 691
/1991i	1991	02	22.39080	11	10	32.74	+09	33	25.0	20.7N 5 691
/1991i	1991	02	22.41787	11	10	31.99	+09	33	29.2	5 691

Note 1: poor seeing. 2: prerecovery observation. 3: tail 30" long in p.a. 285-290 . 4: tail 29" long in p.a. 297 . 5: tail 40" long in p.a. 295 .

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OBSERVATIONS OF MINOR PLANETS.

The observations are listed separately for each observatory code. Alphabetic note codes shown with some of the observations are defined according to the scheme below. Numerical codes are defined in the headings for the individual observatories.

A earlier approximate position inferior
a sense of motion ambiguous
B black or dark plate
b bad seeing
C correction to earlier position
c crowded star field
D declination uncertain
d diffuse image
E at or near edge of plate
F faint image
f involved with emulsion or plate flaw
G poor guiding
g no guiding
I involved with star

i inkdot measured
M measurement difficult
N near edge of plate, measurement uncertain
O image out of focus
o plate measured in one direction only
P position uncertain
p poor image
R right ascension uncertain
r poor distribution of reference stars
S poor sky
s streaked image
T time uncertain
t trailed image
U uncertain image
u unconfirmed image
V very faint image
W weak image
w weak solution

Object		Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
033 Tautenburg								
F. Borngen, Karl Schwarzschild Observatorium, O-6901 Tautenburg, Federal Republic of Germany								
Observer F. Borngen								
1.3-m Schmidt telescope								
1986 TJ2		1991 01	17.05139	10 04 51.70	+14 15 30.5	17.9		033
1986 TJ2		1991 01	17.13472	10 04 49.04	+14 16 08.9			033
1986 TJ2		1991 01	18.04306	10 04 21.70	+14 23 05.3			033
1989 SU1		1991 01	17.05139	10 04 25.10	+16 04 12.0	18.4		033
1989 SU1		1991 01	17.13472	10 04 22.16	+16 04 40.5			033
1989 SU1		1991 01	18.04306	10 03 51.28	+16 09 53.4			033
1989 UF7		1991 01	17.05139	10 08 00.16	+15 31 48.4	18.8		033
1989 UF7		1991 01	17.13472	10 07 57.16	+15 32 09.3			033
1989 UF7		1991 01	18.04306	10 07 26.17	+15 35 57.6			033
1989 YT		1991 01	17.05139	10 12 51.40	+16 27 36.0	19.5		033
1989 YT		1991 01	17.13472	10 12 48.30	+16 27 59.3			033
1989 YT		1991 01	18.04306	10 12 14.76	+16 31 48.7			033
1990 TQ12		1991 01	14.78333	03 42 48.18	+18 34 17.3	17.7		033
1990 TQ12		1991 01	14.83194	03 42 50.00	+18 34 14.4			033
1990 TT12		1991 01	14.75694	03 23 25.15	+20 29 56.8	18.2		033
1990 TT12		1991 01	15.89861	03 23 31.85	+20 29 49.8			033
1990 TT12		1991 01	16.75278	03 23 38.42	+20 29 49.3			033
1990 TT12		1991 01	18.75069	03 23 57.65	+20 30 03.5			033
1990 TW12		1991 01	14.80833	03 18 09.53	+31 07 42.1	18.2		033
1990 TW12		1991 01	14.85417	03 18 10.34	+31 07 45.0			033
1990 YE		1991 01	09.89722	06 41 55.14	+23 37 40.0			033
1990 YE		1991 01	15.92361	06 36 47.08	+23 46 59.2	17.3		033
1990 YE		1991 01	15.96806	06 36 44.83	+23 47 03.0			033
1990 YE		1991 01	16.92361	06 35 58.85	+23 48 23.8			033
1991 AF3		1991 01	09.89722	06 37 45.43	+24 29 03.7			033
1991 AF3	*	1991 01	15.92361	06 31 34.20	+24 46 36.9	17.9		033
1991 AF3		1991 01	15.96806	06 31 31.48	+24 46 44.1			033
1991 AF3		1991 01	16.92361	06 30 35.79	+24 49 19.3			033
1991 AG3	*	1991 01	15.92361	06 32 54.00	+24 20 26.9	18.8		033
1991 AG3		1991 01	15.96806	06 32 51.92	+24 20 26.7			033
1991 AG3		1991 01	16.92361	06 32 07.21	+24 20 53.7		V	033
1991 AH3		1991 01	09.89722	06 40 49.72	+25 34 24.8			033
1991 AH3	*	1991 01	15.92361	06 34 17.33	+25 59 42.5	18.5		033

1991	AH3		1991	01	15.96806	06	34	14.47	+25	59	53.8		033
1991	AH3		1991	01	16.92361	06	33	16.21	+26	03	34.4		033
1991	AJ3		1991	01	09.89722	06	41	11.66	+25	28	47.5		033
1991	AJ3	*	1991	01	15.92361	06	35	50.63	+25	12	30.1	17.8	033
1991	AJ3		1991	01	15.96806	06	35	48.35	+25	12	23.6		033
1991	AJ3		1991	01	16.92361	06	34	59.71	+25	09	41.4		033
1991	AK3		1991	01	09.89722	06	42	38.50	+24	16	16.3		033
1991	AK3	*	1991	01	15.92361	06	36	52.14	+24	12	47.2	17.2	033
1991	AK3		1991	01	15.96806	06	36	49.65	+24	12	45.8		033
1991	AK3		1991	01	16.92361	06	35	57.82	+24	12	05.1		033
1991	AL3		1991	01	09.89722	06	43	46.03	+25	02	41.0		033
1991	AL3	*	1991	01	15.92361	06	37	26.61	+25	03	58.0	18.0	033
1991	AL3		1991	01	15.96806	06	37	23.86	+25	03	57.7		033
1991	AL3		1991	01	16.92361	06	36	26.58	+25	03	59.6		033
1991	AM3		1991	01	09.89722	06	45	44.26	+23	36	46.9		033
1991	AM3	*	1991	01	15.92361	06	39	44.23	+23	37	37.2	17.5	033
1991	AM3		1991	01	15.96806	06	39	41.64	+23	37	37.1		033
1991	AM3		1991	01	16.92361	06	38	48.47	+23	37	37.5		033
1991	AN3	*	1991	01	15.92361	06	42	25.07	+26	27	04.3	18.3	033
1991	AN3		1991	01	15.96806	06	42	22.53	+26	26	59.9		033
1991	AN3		1991	01	16.92361	06	41	31.62	+26	25	23.1		033
1991	AO3		1991	01	09.89722	06	49	24.16	+26	06	23.1		033
1991	AO3	*	1991	01	15.92361	06	42	51.30	+26	28	02.7	17.8	033
1991	AO3		1991	01	15.96806	06	42	48.45	+26	28	10.9		033
1991	AO3		1991	01	16.92361	06	41	49.25	+26	31	18.3		033
1991	AP3		1991	01	09.89722	06	49	55.01	+24	14	55.8		033
1991	AP3	*	1991	01	15.92361	06	44	07.35	+24	15	59.5	17.7	033
1991	AP3		1991	01	15.96806	06	44	04.80	+24	15	59.5		033
1991	AP3		1991	01	16.92361	06	43	13.06	+24	15	59.4		033
1991	AQ3		1991	01	09.89722	06	51	06.01	+23	18	00.0		033
1991	AQ3	*	1991	01	15.92361	06	44	46.58	+23	46	50.7	17.9	033
1991	AQ3		1991	01	15.96806	06	44	43.85	+23	47	02.2		033
1991	BR2	*	1991	01	17.05139	10	01	51.31	+15	17	34.2	18.9	033
1991	BR2		1991	01	17.13472	10	01	48.59	+15	17	52.9		033
1991	BR2		1991	01	18.04306	10	01	20.39	+15	21	12.8		033
1991	BS2	*	1991	01	17.05139	10	02	41.10	+15	51	47.5	18.9	033
1991	BS2		1991	01	17.13472	10	02	37.97	+15	52	19.0		033
1991	BS2		1991	01	18.04306	10	02	05.54	+15	58	10.2		033
1991	BT2	*	1991	01	17.05139	10	06	43.88	+17	01	38.1	19.0	033
1991	BT2		1991	01	17.13472	10	06	40.64	+17	02	10.5		033
1991	BT2		1991	01	18.04306	10	06	06.34	+17	08	16.0		033
1991	BU2	*	1991	01	17.05139	10	07	32.07	+16	55	44.2	18.4	033
1991	BU2		1991	01	17.13472	10	07	29.32	+16	56	03.8		033
1991	BU2		1991	01	18.04306	10	07	00.37	+16	59	44.3		033
1991	BV2	*	1991	01	17.05139	10	08	42.46	+15	30	56.5	19.3	033
1991	BV2		1991	01	17.13472	10	08	39.32	+15	31	14.3		033
1991	BV2		1991	01	18.04306	10	08	06.04	+15	34	24.1		033
1991	BW2	*	1991	01	17.05139	10	09	10.05	+15	55	42.8	19.4	033
1991	BW2		1991	01	17.13472	10	09	07.27	+15	55	44.0		033
1991	BW2		1991	01	18.04306	10	08	38.06	+15	56	00.8		033
1991	BX2	*	1991	01	17.05139	10	12	53.58	+14	32	54.1	19.1	033
1991	BX2		1991	01	17.13472	10	12	49.86	+14	33	07.7		033
1991	BX2		1991	01	18.04306	10	12	10.11	+14	35	36.4		033
1991	CK		1991	01	17.05139	10	13	01.96	+16	17	04.7	18.7	033
1991	CK		1991	01	17.13472	10	12	58.25	+16	17	22.3		033
1991	CK		1991	01	18.04306	10	12	19.67	+16	20	40.0		033
1991	CL		1991	01	17.05139	10	07	47.81	+14	47	09.2	18.2	033
1991	CL		1991	01	17.13472	10	07	46.14	+14	47	56.3		033
1991	CL		1991	01	18.04306	10	07	28.69	+14	56	29.6		033

1991	CM		1991	01	17.05139	10	08	42.58	+16	25	15.4	18.5	033
1991	CM		1991	01	17.13472	10	08	40.42	+16	25	53.4		033
1991	CM		1991	01	18.04306	10	08	17.58	+16	32	56.6		033
1991	CN		1991	01	17.05139	10	12	58.22	+16	20	39.5	18.1	033
1991	CN		1991	01	17.13472	10	12	55.58	+16	20	52.7		033
1991	CN		1991	01	18.04306	10	12	28.17	+16	23	21.3		033
1991	CG1		1991	01	17.05139	10	06	23.91	+16	26	17.6	18.3	033
1991	CG1		1991	01	17.13472	10	06	21.29	+16	26	23.6		033
1991	CG1		1991	01	18.04306	10	05	54.38	+16	27	34.1		033
1991	CP1		1991	01	17.05139	10	08	50.52	+15	00	08.5	18.8	033
1991	CP1		1991	01	17.13472	10	08	48.39	+15	00	39.7		033
1991	CP1		1991	01	18.04306	10	08	26.76	+15	06	24.5		033
1991	CQ1		1991	01	17.05139	10	13	26.22	+16	39	17.6	18.6	033
1991	CQ1		1991	01	17.13472	10	13	24.08	+16	39	53.1		033
1991	CQ1		1991	01	18.04306	10	13	01.87	+16	46	23.4		033
1204			1991	01	17.05139	10	03	13.30	+14	07	33.3	17.7	033
1204			1991	01	17.13472	10	03	09.67	+14	07	53.4		033
1204			1991	01	18.04306	10	02	31.02	+14	11	31.4		033
1282			1991	01	17.05139	10	04	02.91	+14	41	25.4	15.8	033
1282			1991	01	17.13472	10	03	59.33	+14	41	22.0		033
1282			1991	01	18.04306	10	03	21.34	+14	40	42.2		033
3249			1991	01	09.89722	06	46	56.75	+26	00	44.8		033
3249			1991	01	15.92361	06	40	28.93	+26	15	01.1	17.0	033
3249			1991	01	15.96806	06	40	26.15	+26	15	06.5		033
3249			1991	01	16.92361	06	39	29.47	+26	17	00.4		033

046 Klet
A. Mrkos, Dept. of Astronomy and Astrophysics, Charles University,
Svedska 8, C-15000 Prague 5, Czechoslovakia
Observers A. Mrkos, Z. Vavrova
0.6-m Maksutov reflector

1984	FM		1991	02	17.83554	09	52	14.56	+61	03	48.1		046
1984	FM		1991	02	17.84978	09	52	17.59	+61	03	43.1		046
1984	FM		1991	02	18.84057	09	50	20.19	+60	57	56.4		046
1984	SG1		1991	02	17.91361	09	54	00.19	+09	18	52.9		046
1984	SG1		1991	02	17.92796	09	53	59.18	+09	18	57.6		046
1984	SG1		1991	02	19.93177	09	52	13.86	+09	26	49.5		046
1984	SG1		1991	02	19.94450	09	52	13.20	+09	26	53.7		046
1986	PT4		1990	03	24.90752	12	03	32.16	+10	09	51.0	16.6	046
1986	PT4		1990	03	24.92164	12	03	31.23	+10	09	58.1		046
1990	SQ		1991	02	02.77365	03	28	13.03	+56	39	11.1		046
1990	SQ		1991	02	02.78088	03	28	15.91	+56	39	05.4		046
1990	SQ		1991	02	17.78172	04	56	23.03	+52	02	47.2		046
1990	SQ		1991	02	17.78763	04	56	24.82	+52	02	39.9		046
1990	SQ		1991	02	18.78791	05	01	24.15	+51	39	57.1		046
1990	SQ		1991	02	18.79375	05	01	25.91	+51	39	48.1		046
1990	SU8		1990	09	24.93472	00	12	38.42	-05	16	30.5	16.5	046
1990	SU8		1990	09	24.94896	00	12	37.60	-05	16	42.5		046
1990	SA15		1990	09	24.89792	23	07	37.48	+03	26	59.0	16.6	046
1990	SA15		1990	09	24.91215	23	07	36.66	+03	26	52.1		046
1991	CH		1991	02	17.87148	09	25	16.77	+19	12	08.8	16.8	046
1991	CH		1991	02	17.88572	09	25	15.81	+19	12	07.0		046
1991	DA1	*	1991	02	17.91361	09	52	31.30	+10	32	27.1	16.7	046
1991	DA1		1991	02	17.92796	09	52	30.68	+10	32	31.0		046
1991	DA1		1991	02	19.93177	09	50	19.40	+10	49	44.2		046
1991	DA1		1991	02	19.94450	09	50	18.83	+10	49	49.7		046
1991	DB1	*	1991	02	17.91361	09	56	26.67	+09	01	42.7	16.8	046
1991	DB1		1991	02	17.92796	09	56	26.11	+09	01	45.5		046
1991	DB1		1991	02	19.93177	09	54	35.14	+09	17	45.3	16.9	046

1991	DB1	1991	02	19.94450	09	54	34.67	+09	17	55.5	046
135		1991	02	17.87148	09	24	15.72	+16	35	52.5	046
135		1991	02	17.88572	09	24	14.90	+16	35	55.7	046
135		1991	02	18.87361	09	23	17.37	+16	39	41.8	046
135		1991	02	18.88640	09	23	16.69	+16	39	44.3	046
251		1991	02	17.91361	09	55	41.41	+10	12	36.2	046
251		1991	02	17.92796	09	55	40.69	+10	12	42.2	046
251		1991	02	18.90885	09	54	56.77	+10	20	08.8	046
251		1991	02	18.92292	09	54	56.03	+10	20	16.2	046
251		1991	02	19.93177	09	54	11.23	+10	27	54.2	046
251		1991	02	19.94450	09	54	10.61	+10	28	00.2	046
301		1991	02	17.87148	09	19	26.27	+15	29	58.3	046
301		1991	02	17.88572	09	19	25.58	+15	30	04.1	046
570		1991	02	17.91361	09	58	10.73	+09	54	49.3	046
570		1991	02	17.92796	09	58	10.10	+09	54	51.7	046
570		1991	02	18.90885	09	57	28.20	+09	58	44.1	046
570		1991	02	18.92292	09	57	27.54	+09	58	47.4	046
570		1991	02	19.93177	09	56	44.68	+10	02	45.9	046
570		1991	02	19.94450	09	56	44.15	+10	02	49.1	046
594		1991	02	17.94943	09	12	31.75	+03	13	36.2	046
594		1991	02	17.96367	09	12	30.83	+03	13	55.8	046
594		1991	02	18.94479	09	11	33.66	+03	34	15.3	046
594		1991	02	18.95758	09	11	33.02	+03	34	32.2	046
1331		1991	02	17.87148	09	24	31.81	+16	43	40.6	16.6 046
1331		1991	02	17.88572	09	24	31.24	+16	43	43.6	046
1331		1991	02	18.87361	09	23	46.40	+16	47	42.4	046
1331		1991	02	18.88640	09	23	45.83	+16	47	44.3	046
1625		1991	02	18.87361	09	15	21.58	+17	07	44.9	046
1625		1991	02	18.88640	09	15	20.97	+17	07	44.1	046
1856		1991	02	17.91361	09	53	29.38	+07	19	10.0	046
1856		1991	02	17.92796	09	53	28.64	+07	19	14.3	046
1856		1991	02	18.90885	09	52	30.18	+07	26	33.8	046
1856		1991	02	18.92292	09	52	29.28	+07	26	39.8	046
1856		1991	02	19.93177	09	51	29.37	+07	34	20.4	046
1856		1991	02	19.94450	09	51	28.64	+07	34	24.7	046
2217		1991	02	17.87148	09	15	20.55	+16	35	31.3	046
2217		1991	02	17.88572	09	15	19.96	+16	35	36.8	046
2217		1991	02	18.87361	09	14	35.93	+16	39	16.2	046
2217		1991	02	18.88640	09	14	34.92	+16	39	18.1	046
2270		1991	02	17.87148	09	19	46.34	+18	27	17.6	046
2270		1991	02	17.88572	09	19	45.64	+18	27	20.3	046
2270		1991	02	18.87361	09	18	59.18	+18	30	56.3	046
2270		1991	02	18.88640	09	18	58.68	+18	30	58.6	046
2367		1991	02	19.93177	09	43	05.49	+11	01	35.0	046
2367		1991	02	19.94450	09	43	04.70	+11	01	38.6	046
2927		1991	02	17.91361	09	57	33.27	+11	22	14.9	046
2927		1991	02	17.92796	09	57	32.59	+11	22	19.7	046
2927		1991	02	18.90885	09	56	41.84	+11	31	49.3	046
2927		1991	02	18.92292	09	56	41.21	+11	31	54.7	046
4750		1991	01	17.85451	07	45	58.17	+21	01	46.5	16.7 046
4750		1991	01	17.86748	07	45	57.34	+21	01	45.4	046
4750		1991	01	18.86076	07	44	45.52	+21	01	17.0	046
4750		1991	01	18.87361	07	44	44.52	+21	01	16.5	046

071 Bulgarian National Observatory
V. G. Shkodrov, Department of Astronomy, Bulgarian Academy of Sciences,
72 Lenin Boulevard, BG-1784 Sofia, Bulgaria
Observers V. G. Shkodrov, V. G. Ivanova, Ch. Dinev, V. I. Umlenski,
Measurer V. I. Umlenski

1989	RM2		1989	09	03.92731	23	52	40.10	+07	21	00.5	071
1989	RL5	*	1989	09	03.92731	23	51	58.40	+07	55	10.7	b 071
1990	VP2		1990	11	22.90102	02	42	32.54	+15	19	53.1	071
1990	VP2		1990	11	22.92341	02	42	31.42	+15	19	56.7	071
1990	XV		1991	01	13.93187	07	10	09.69	+24	32	10.6	071
1990	XV		1991	01	13.98049	07	10	06.45	+24	31	58.8	071
24			1991	01	13.83743	04	55	59.27	+23	28	49.9	B 071
24			1991	01	13.90925	04	55	57.81	+23	28	47.7	071
80			1990	11	22.90102	02	39	39.80	+11	49	05.2	071
80			1990	11	22.92341	02	39	38.77	+11	48	51.9	071
179			1991	01	13.86307	05	25	58.66	+19	25	09.1	071
179			1991	01	13.90925	05	25	56.86	+19	25	06.0	071
184			1991	01	13.95618	07	28	10.69	+23	01	05.6	071
184			1991	01	14.00768	07	28	07.79	+23	01	10.9	071
184			1991	01	16.97914	07	25	29.37	+23	05	47.2	071
184			1991	01	17.00368	07	25	28.06	+23	05	49.3	071
251			1991	01	14.05549	10	16	22.20	+06	34	25.2	071
251			1991	01	14.09785	10	16	21.30	+06	34	35.1	071
370			1991	01	14.05549	10	22	37.60	+03	54	43.4	071
370			1991	01	14.09785	10	22	36.40	+03	54	38.8	071
378			1990	11	22.90102	02	30	21.95	+15	43	26.0	071
378			1990	11	22.92341	02	30	21.07	+15	43	17.0	071
496			1990	11	22.90102	02	38	14.21	+12	36	24.1	071
496			1990	11	22.92341	02	38	12.96	+12	36	15.9	071
514			1991	01	14.05549	10	22	15.60	+05	37	20.3	071
514			1991	01	14.09785	10	22	14.60	+05	37	21.1	071
570			1991	01	14.05549	10	18	53.20	+08	06	43.5	D 071
570			1991	01	14.09785	10	18	52.20	+08	06	46.9	D 071
877			1991	01	13.83743	05	09	12.38	+20	07	37.9	B 071
877			1991	01	13.90925	05	09	10.68	+20	07	47.6	071
1084			1990	11	22.90102	02	33	56.62	+11	06	18.0	071
1084			1990	11	22.92341	02	33	55.49	+11	06	10.3	071
1103			1991	01	13.86307	05	15	42.45	+18	18	14.2	071
1103			1991	01	13.90925	05	15	40.44	+18	17	43.1	071
1251			1991	01	13.86307	05	17	16.92	+16	15	04.4	071
1251			1991	01	13.90925	05	17	15.19	+16	15	11.3	071
1313			1991	01	16.97914	07	12	34.21	+25	22	48.1	071
1313			1991	01	17.00368	07	12	32.58	+25	22	42.9	071
1382			1991	01	13.93187	06	55	33.52	+25	15	05.8	071
1382			1991	01	13.98049	06	55	29.93	+25	15	08.8	071
1406			1989	09	03.92721	23	55	22.80	+07	21	18.9	071
1535			1989	09	03.92731	23	45	45.90	+08	54	00.8	D 071
2177			1991	01	16.97914	07	13	22.15	+24	11	31.5	b 071
2177			1991	01	17.00368	07	13	20.90	+24	11	35.6	b 071
3442			1991	01	16.97914	07	25	12.10	+25	42	15.5	071
3442			1991	01	17.00368	07	25	10.67	+25	42	24.7	071
4263			1991	01	16.97914	07	28	21.41	+22	46	53.8	071
4263			1991	01	17.00368	07	28	19.78	+22	46	51.8	071

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T. Seki, Kamimachi 2-9-35, Kochi, Japan
0.60-m reflector

1978	TV8		1991	02	17.60364	09	14	03.15	+18	28	19.4	17 372
1978	TV8		1991	02	17.61250	09	14	02.47	+18	28	23.2	372
1980	TP		1990	12	27.75868	08	16	33.20	+17	40	14.7	18 372
1980	TP		1990	12	27.77118	08	16	32.35	+17	40	15.9	372
1982	SA4		1991	03	06.70625	11	11	48.20	+11	34	24.1	17 372
1982	SA4		1991	03	06.71667	11	11	47.82	+11	34	29.8	372
1989	FG1	*	1989	03	29.62986	11	15	45.1	+11	30	16	17 372

1989	FG1		1989	03	29.64201	11	15	44.3	+11	30	17	372
1989	JV	*	1989	05	01.72535	14	59	18.76	-21	47	53.3	18 372
1989	JV		1989	05	01.73785	14	59	18.08	-21	47	50.3	372
1989	LM1	*	1989	06	02.68854	19	16	58.56	-28	14	27.1	18 372
1989	LM1		1989	06	02.70069	19	16	57.80	-28	14	27.9	372
1989	RM5	*	1989	09	08.72396	23	42	50.81	-06	09	04.9	18 372
1989	RM5		1989	09	08.73507	23	42	50.41	-06	09	06.1	372
1990	BJ2		1990	02	20.60208	08	50	35.76	+18	06	43.2	17 372
1990	BJ2		1990	02	20.61181	08	50	35.41	+18	06	46.2	372
1990	BJ3	*	1990	01	21.62604	08	29	06.27	+22	09	25.2	19 372
1990	BJ3		1990	01	21.63924	08	29	05.51	+22	09	28.2	372
1990	BJ3		1990	01	25.60799	08	24	19.06	+22	23	40.4	19.5 372
1990	BJ3		1990	01	25.61910	08	24	18.44	+22	23	44.7	372
1990	VL8	*	1990	11	14.65035	02	21	53.48	+10	09	09.4	18 372
1990	VL8		1990	11	14.66042	02	21	53.03	+10	09	04.7	372
1990	VL8		1990	11	17.65417	02	19	46.24	+10	01	05.2	18 372
1990	VL8		1990	11	17.66493	02	19	45.56	+10	01	04.4	372
1990	WN2		1991	01	09.51875	03	42	25.08	+19	03	45.7	18 372
1990	WN2		1991	01	09.53333	03	42	25.16	+19	03	50.9	372
1990	XU		1991	01	09.59792	07	34	52.90	+15	49	14.5	17.5 372
1990	XU		1991	01	09.60938	07	34	52.36	+15	49	20.5	372
1990	YU		1990	12	12.62743	03	28	08.10	+14	47	59.0	18 372
1990	YU		1990	12	12.64097	03	28	07.69	+14	47	57.0	372
1990	YX		1991	01	07.73125	06	50	14.64	+32	19	28.0	18 372
1990	YX		1991	01	23.63993	06	34	35.63	+32	04	29.6	18.5 372
1990	YX		1991	01	23.64965	06	34	34.90	+32	04	27.7	372
1991	BD		1990	12	27.75868	08	18	39.68	+18	05	28.3	18 372
1991	BD		1990	12	27.77118	08	18	39.00	+18	05	27.5	372
1991	CS		1991	02	20.53229	07	17	08.60	-22	44	14.6	17.5 372
1991	CH1	*	1991	02	07.57882	09	27	38.24	+18	57	54.8	18 372
1991	CH1		1991	02	07.59236	09	27	37.13	+18	57	53.7	372
1991	CH1		1991	02	10.72431	09	23	51.52	+18	42	11.2	18 372
1991	CH1		1991	02	10.73472	09	23	50.46	+18	42	12.8	372
1991	CJ1	*	1991	02	07.57882	09	28	49.57	+18	54	15.3	18.5 372
1991	CJ1		1991	02	07.59236	09	28	48.85	+18	54	21.2	372
1991	CJ1		1991	02	10.72431	09	25	56.97	+19	21	50.4	18 372
1991	CJ1		1991	02	10.73472	09	25	56.45	+19	21	57.4	372
1991	CJ1		1991	02	20.51181	09	17	16.01	+20	41	29.5	18 372
1991	CJ1		1991	02	20.52292	09	17	15.48	+20	41	35.2	372
1991	CK1	*	1991	02	07.63125	10	19	10.16	+07	47	44.5	18 372
1991	CK1		1991	02	07.64583	10	19	09.60	+07	47	43.5	372
1991	CK1		1991	02	12.67413	10	15	13.38	+07	54	35.1	18 372
1991	CK1		1991	02	12.68472	10	15	12.98	+07	54	38.0	372
1991	CL1	*	1991	02	07.68715	10	29	45.22	+06	16	15.1	17 372
1991	CL1		1991	02	07.70174	10	29	44.62	+06	16	17.2	372
1991	CL1		1991	02	10.74653	10	26	58.39	+06	27	16.9	17 372
1991	CL1		1991	02	10.75757	10	26	57.96	+06	27	20.5	372
1991	CL1		1991	02	12.61771	10	25	12.30	+06	34	37.6	17.5 372
1991	CL1		1991	02	12.62743	10	25	11.82	+06	34	40.7	372
1991	CM1	*	1991	02	07.68715	10	31	31.00	+06	00	28.0	18 372
1991	CM1		1991	02	07.70174	10	31	30.24	+06	00	30.8	372
1991	CM1		1991	02	10.74653	10	28	52.39	+06	09	43.1	18 372
1991	CM1		1991	02	10.75757	10	28	51.67	+06	09	46.9	372
1991	CM1		1991	02	17.62361	10	22	28.46	+06	34	20.5	18 372
1991	CM1		1991	02	17.63333	10	22	27.67	+06	34	24.3	372
1991	CN1	*	1991	02	07.68715	10	31	46.66	+06	21	33.8	17 372
1991	CN1		1991	02	07.70174	10	31	46.01	+06	21	38.7	372
1991	CN1		1991	02	10.74653	10	29	26.75	+06	37	11.4	17 372
1991	CN1		1991	02	10.75757	10	29	26.33	+06	37	14.6	372

1991	CN1		1991	02	12.61771	10	27	56.53	+06	47	23.7	18	372
1991	CN1		1991	02	12.62743	10	27	56.06	+06	47	27.5		372
1991	CN1		1991	02	16.63472	10	24	31.99	+07	10	47.6	17.5	372
1991	CN1		1991	02	16.64427	10	24	31.39	+07	10	52.5		372
1991	CN1		1991	03	09.58993	10	06	20.30	+09	22	42.9	16.5	372
1991	CN1		1991	03	09.60174	10	06	19.61	+09	22	47.1		372
1991	CQ1		1991	02	12.60069	09	56	35.00	+20	08	24.3	18	372
1991	CQ1		1991	02	12.60903	09	56	34.73	+20	08	26.6		372
1991	CQ1		1991	02	16.57257	09	53	25.79	+20	38	46.3	18	372
1991	CQ1		1991	02	16.58229	09	53	25.12	+20	38	51.3		372
1991	CR1		1991	02	12.60069	09	57	03.13	+19	19	48.9	18	372
1991	CR1		1991	02	12.60903	09	57	03.01	+19	19	53.2		372
1991	CR1		1991	02	16.57257	09	53	56.64	+19	43	28.6	18	372
1991	CR1		1991	02	16.58229	09	53	56.14	+19	43	35.1		372
1991	CR1		1991	02	16.59236	09	53	55.67	+19	43	38.1	17.5	372
1991	CR1		1991	02	16.60191	09	53	55.15	+19	43	42.1		372
1991	CW1	*	1991	02	12.60069	09	58	51.32	+19	52	30.5	18	372
1991	CW1		1991	02	12.60903	09	58	50.85	+19	52	34.3		372
1991	CW1		1991	02	16.57257	09	54	06.72	+20	07	23.9	18	372
1991	CW1		1991	02	16.58229	09	54	06.29	+20	07	28.7		372
1991	CY1		1991	02	12.65278	11	11	41.74	+10	44	24.1	18	372
1991	CY1		1991	02	12.66181	11	11	41.32	+10	44	25.8		372
1991	CJ2	*	1991	02	12.72069	10	46	03.58	+04	30	48.4	17	372
1991	CJ2		1991	02	12.73229	10	46	03.06	+04	30	55.3		372
1991	CJ2		1991	02	16.65521	10	43	21.37	+05	04	27.6	17	372
1991	CJ2		1991	02	16.66562	10	43	21.06	+05	04	33.2		372
1991	CJ2		1991	02	19.62639	10	41	10.48	+05	31	14.3	17.5	372
1991	CJ2		1991	02	19.68750	10	41	07.82	+05	31	45.6		372
1991	CJ2		1991	02	19.69722	10	41	07.46	+05	31	53.4		372
1991	CJ2		1991	02	20.58785	10	40	27.12	+05	40	07.0	18	372
1991	CJ2		1991	02	20.59965	10	40	26.50	+05	40	13.4		372
1991	CJ2		1991	03	06.64375	10	29	33.23	+07	54	26.4	18	372
1991	CJ2		1991	03	06.65521	10	29	32.89	+07	54	34.9		372
1991	CB3	*	1991	02	10.71111	09	17	48.60	+13	21	32.4	17.5	372
1991	CB3		1991	02	12.52431	09	15	54.50	+13	24	11.3		372
1991	CC3	*	1991	02	12.72069	10	45	00.88	+04	37	05.6	18	372
1991	CC3		1991	02	12.73229	10	45	00.41	+04	37	09.4		372
1991	CC3		1991	02	16.65521	10	42	09.71	+04	59	33.4	18	372
1991	CC3		1991	02	16.66562	10	42	09.17	+04	59	35.4		372
1991	CC3		1991	02	20.58785	10	39	07.45	+05	23	37.0	17.5	372
1991	CC3		1991	02	20.59965	10	39	06.78	+05	23	42.5		372
1991	CC3		1991	03	06.62274	10	27	42.06	+06	56	57.1	17.5	372
1991	CC3		1991	03	06.63316	10	27	41.44	+06	57	03.3		372
1991	CD3	*	1991	02	12.74410	10	38	46.04	+05	05	23.7	18	372
1991	CD3		1991	02	12.75590	10	38	45.28	+05	05	29.0		372
1991	CD3		1991	02	19.64375	10	35	10.28	+05	43	38.1	18	372
1991	CD3		1991	02	19.65347	10	35	09.73	+05	43	43.1		372
1991	CE3	*	1991	02	12.74410	10	41	31.08	+05	39	10.8	18	372
1991	CE3		1991	02	12.75590	10	41	30.32	+05	39	12.8		372
1991	CE3		1991	02	19.64375	10	35	22.04	+06	27	46.8	17.5	372
1991	CE3		1991	02	19.65347	10	35	21.74	+06	27	51.8		372
1991	DK		1991	02	12.76840	12	05	39.34	+02	59	33.2	17	372
1991	DK		1991	02	12.77951	12	05	38.97	+02	59	30.7		372
1991	DK	*	1991	02	20.63056	12	00	09.94	+03	04	17.0	17	372
1991	DK		1991	02	20.64097	12	00	09.54	+03	04	19.4		372
1991	DK		1991	02	22.75972	11	58	27.30	+03	06	29.6	17	372
1991	DK		1991	02	22.77083	11	58	26.70	+03	06	30.3		372
1991	DK		1991	03	09.61285	11	44	36.66	+03	28	24.1	16	372
1991	DK		1991	03	09.62326	11	44	36.06	+03	28	26.0		372

1991 DO		1991 02 10.76840	10	27	30.64	+11	12	55.0	17.5	372
1991 DO		1991 02 10.77847	10	27	30.10	+11	12	55.0		372
1991 DP		1991 02 10.76840	10	24	52.12	+10	35	51.1	18	372
1991 DP		1991 02 10.77847	10	24	51.61	+10	35	55.0		372
1991 DC1	*	1991 02 17.60364	09	17	20.01	+17	57	07.0	18	372
1991 DC1		1991 02 17.61250	09	17	19.32	+17	57	10.3		372
1991 DC1		1991 02 22.71649	09	12	43.98	+18	25	31.4	18	372
1991 DC1		1991 02 22.72708	09	12	43.34	+18	25	35.8		372
1991 DD1	*	1991 02 20.56701	10	30	12.55	+18	05	22.3	18	372
1991 DD1		1991 02 20.57743	10	30	12.03	+18	05	27.1		372
1991 DD1		1991 02 22.73837	10	27	51.66	+18	15	30.0	18.5	372
1991 DD1		1991 02 22.74861	10	27	51.00	+18	15	31.2		372
1991 DE1	*	1991 02 20.56701	10	32	40.62	+18	08	57.8	17.5	372
1991 DE1		1991 02 20.57743	10	32	40.14	+18	09	01.9		372
1991 DE1		1991 02 22.73837	10	30	31.96	+18	15	45.8	18	372
1991 DE1		1991 02 22.74861	10	30	31.60	+18	15	50.1		372
1991 DG1		1991 02 12.74410	10	36	59.06	+05	53	43.4	18	372
1991 DG1		1991 02 12.75590	10	36	58.84	+05	53	47.3		372
1991 DG1		1991 02 19.64375	10	31	57.46	+06	33	55.1	18	372
1991 DG1		1991 02 19.65347	10	31	56.81	+06	34	01.1		372
1991 ED	*	1991 03 06.72569	11	13	46.40	+15	31	17.3	17.5	372
1991 ED		1991 03 06.73646	11	13	45.75	+15	31	20.5		372
1991 ED		1991 03 09.63368	11	10	37.84	+15	43	39.6	17.5	372
1991 ED		1991 03 09.64375	11	10	37.39	+15	43	41.8		372
1991 EF	*	1991 03 06.66441	11	20	30.99	+14	41	34.0	18	372
1991 EF		1991 03 06.67743	11	20	30.88	+14	41	43.6		372
1991 EF		1991 03 09.75764	11	18	12.03	+15	00	33.4	18	372
1991 EF		1991 03 09.76840	11	18	11.88	+15	00	38.4		372
1449		1991 02 20.57743	10	31	20.49	+17	59	07.5		372
2386		1991 02 12.63611	10	38	45.83	+16	17	08.9	17	372
2386		1991 02 12.64444	10	38	45.36	+16	17	15.0		372
2386		1991 02 16.61111	10	35	22.45	+16	31	36.1	18	372
2386		1991 02 16.62396	10	35	21.81	+16	31	39.4		372
2389		1991 02 10.76840	10	26	48.83	+10	30	13.2	18	372
2389		1991 02 10.77847	10	26	48.31	+10	30	16.7		372
3056		1991 02 12.58333	09	47	17.39	+20	32	03.6	17.5	372
3056		1991 02 12.59861	09	47	16.82	+20	32	02.2		372
3894		1991 02 17.62361	10	23	08.21	+06	26	25.0	17.5	372
3894		1991 02 17.63333	10	23	07.67	+06	26	31.1		372
3894		1991 03 09.58993	10	07	16.11	+09	11	14.2	17	372
3894		1991 03 09.60174	10	07	15.60	+09	11	20.3		372
3894		1991 03 12.62049	10	05	06.81	+09	34	58.6	17	372
3894		1991 03 12.62986	10	05	06.64	+09	35	01.2		372
4583		1989 08 30.71736	00	29	42.86	+02	04	49.6	17	372
4583		1989 08 30.73056	00	29	42.43	+02	04	45.0		372

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N. Kawasato, 3-51, Hana-Koganei, Kodaira, Tokyo 187, Japan
AGK3, SAOC

1991 DN	*	1991 02 19.59063	10	36	37.99	+22	46	59.2	17.5	376
1991 DN		1991 02 19.61701	10	36	36.60	+22	47	15.2		376
1991 DN		1991 02 23.63785	10	33	05.11	+23	22	39.9		376
1991 DN		1991 02 23.65729	10	33	04.16	+23	22	51.0		376
4749		1991 02 19.59063	10	39	12.39	+22	55	46.6		376
4749		1991 02 19.61701	10	39	11.00	+22	55	54.7		376

385 Nihondaira Observatory Oohira station
T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan
0.30-m f/3.8 hyperboloid astrocamera

```
1991 BE     1991 02 17.48750  07 21 19.87  +12 09 40.8            16.5    385
1991 BE     1991 02 17.50417  07 21 18.95  +12 09 34.0                    385
1991 CW     1991 02 17.52083  10 04 42.41  +16 40 34.4            16      385
1991 CW     1991 02 17.53819  10 04 41.31  +16 40 41.1                    385
1991 CW     1991 02 19.55069  10 02 39.14  +16 56 36.8            16      385
1991 CW     1991 02 19.56597  10 02 38.12  +16 56 44.7                    385
1991 CW     1991 02 20.55069  10 01 38.84  +17 04 18.0            16      385
1991 CW     1991 02 20.56597  10 01 37.94  +17 04 24.9                    385
1991 CY     1991 02 17.52986  10 13 19.89  -00 51 29.5            16      385
1991 CY     1991 02 17.54583  10 13 18.94  -00 51 27.9                    385
1991 DD   * 1991 02 17.52083  10 04 08.80  +16 24 26.6            16.5    385
1991 DD     1991 02 17.53819  10 04 07.78  +16 24 29.6                    385
1991 DD     1991 02 19.55069  10 02 09.59  +16 33 28.1            16.5    385
1991 DD     1991 02 19.56597  10 02 08.89  +16 33 32.3                    385
1991 DD     1991 02 20.55069  10 01 11.10  +16 37 48.9            16.5    385
1991 DD     1991 02 20.56597  10 01 10.29  +16 37 50.1                    385
1991 DE   * 1991 02 19.55833  10 04 55.81  +35 44 29.9            16      385
1991 DE     1991 02 19.57361  10 04 54.89  +35 44 37.0                    385
1991 DE     1991 02 20.55833  10 04 02.47  +35 51 41.8            16.5    385
1991 DE     1991 02 20.57361  10 04 01.70  +35 51 49.6                    385
1991 DE     1991 02 23.67222  10 01 16.18  +36 11 38.6            16      385
1991 DE     1991 02 23.68750  10 01 15.43  +36 11 44.6                    385
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391 Sendai Observatory, Ayashi Station
M. Koishikawa, Sendai Municipal Observatory, 1-1 Sakuragaoka-koen, Sendai 980, Japan
Observer M. Koishikawa
0.30-m f/3.8 astrocamera

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1991 CZ     1991 02 17.68333  09 27 16.79  +06 59 46.1            16.0    391
1991 CZ     1991 02 17.70417  09 27 15.45  +07 00 10.9                    391
1991 CZ     1991 02 20.71516  09 24 12.04  +08 18 25.5            15.0    391
1991 CO1  * 1991 02 13.62500  09 37 48.44  +05 07 04.0            16.0    391
1991 CO1    1991 02 13.64722  09 37 47.49  +05 07 12.8                    391
1991 CO1    1991 02 17.72639  09 34 41.48  +05 34 16.0            17.0    391
1991 CO1    1991 02 17.74722  09 34 40.61  +05 34 29.4                    391
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399 Kushiro
H. Kaneda, Taiyo MS 2-H, 2 chome 2-15, kawazoe 8 jo, Minami-ku, Sapporo 005, Japan
Observers S. Ueda, M. Matsuyama
Measurers H. Kaneda, K. Watanabe
0.16-m f/3.8 Wright-Schmidt camera
AGK3

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1990 FD3    1990 02 18.64589  10 57 50.15  +06 58 01.7            17      399
1990 FD3    1990 02 18.66667  10 57 49.44  +06 58 15.8                    399
1991 BA2    1991 02 18.62037  10 27 29.31  -01 06 14.9            16.5    399
1991 BA2    1991 02 18.63542  10 27 28.45  -01 06 13.4                    399
1991 BP2    1991 02 03.51881  08 12 59.98  +16 01 20.6            15      399
1991 BP2    1991 02 03.53385  08 12 58.56  +16 01 07.3                    399
1991 BP2    1991 02 19.60295  07 53 05.22  +12 18 56.4            16      399
1991 BQ2    1991 02 19.64444  11 23 09.79  +22 32 44.8            15.5    399
1991 BQ2    1991 02 19.65703  11 23 09.26  +22 32 52.2                    399
1991 CL1    1991 02 14.54311  10 23 20.17  +06 42 31.8            16.5    399
1991 CL1    1991 02 14.55833  10 23 19.37  +06 42 34.8                    399
1991 CL1    1991 02 14.57361  10 23 18.29  +06 42 41.5                    399
1991 CL1    1991 02 14.58819  10 23 17.49  +06 42 46.2                    399
1991 CU1  * 1991 02 14.54311  10 15 01.51  +04 16 52.4            16.5    399
1991 CU1    1991 02 14.55833  10 15 00.60  +04 16 52.4                    399
1991 CU1    1991 02 14.57361  10 14 59.91  +04 16 57.6                    399
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1991	CU1		1991	02	14.58819	10	14	59.00	+04	16	57.7		399
1991	CU1		1991	02	18.58472	10	11	04.28	+04	29	31.3	16	399
1991	CU1		1991	02	18.59931	10	11	03.21	+04	29	34.3		399
1991	CU1		1991	03	05.45972	09	56	55.47	+05	28	20.3	16.5	399
1991	CU1		1991	03	05.47431	09	56	54.75	+05	28	23.7		399
1991	CV1	*	1991	02	14.72917	12	11	05.53	-07	10	36.4	16.5	399
1991	CV1		1991	02	14.75000	12	11	05.17	-07	10	38.1		399
1991	CV1		1991	02	18.65694	12	09	37.67	-07	14	24.0	16.5	399
1991	CV1		1991	02	18.68056	12	09	37.06	-07	14	24.0		399
1991	CV1		1991	03	07.60150	11	58	09.03	-06	48	45.5	15.5	399
1991	CV1		1991	03	07.62083	11	58	08.00	-06	48	40.7		399
1991	CV1		1991	03	07.63611	11	58	07.24	-06	48	38.2		399
1991	CV1		1991	03	10.65281	11	55	24.00	-06	37	21.7	15.5	399
1991	CV1		1991	03	10.66979	11	55	22.93	-06	37	16.4		399
1991	EA	*	1991	03	07.49722	11	13	53.01	+05	38	29.2	16.5	399
1991	EA		1991	03	07.51181	11	13	52.14	+05	38	31.5		399
1991	EA		1991	03	10.48611	11	10	51.97	+05	46	32.8	16.5	399
1991	EA		1991	03	10.50041	11	10	51.08	+05	46	36.2		399
1991	EB	*	1991	03	07.56609	11	20	53.38	-00	57	32.6	16.5	399
1991	EB		1991	03	07.58056	11	20	52.60	-00	57	28.9		399
1991	EB		1991	03	10.55382	11	18	17.11	-00	40	58.3	16.5	399
1991	EB		1991	03	10.57118	11	18	16.30	-00	40	53.3		399
236			1991	03	05.45972	09	56	13.60	+06	21	25.1	13	399
236			1991	03	05.47431	09	56	12.94	+06	21	30.3		399
419			1991	03	05.45972	09	57	21.29	+06	15	02.3	12.5	399
419			1991	03	05.47431	09	57	20.44	+06	15	06.8		399
2112			1991	03	05.45972	09	57	34.40	+06	20	41.9	16	399
2112			1991	03	05.47431	09	57	33.66	+06	20	46.0		399

400 Kitami
K. Watanabe, 3-8 Mason Hashimoto B-203, atsubetsu cyuo 3 jo 4 chome,
Atsubetsu-ku, Sapporo 004, Japan
Observer K. Endate
Measurer K. Watanabe
0.20-m f/4.0 reflector
AGK3, SAOC

1986	TJ2		1991	02	07.48924	09	48	19.01	+17	24	08.3	16.0	400
1986	TJ2		1991	02	07.50382	09	48	18.26	+17	24	15.0		400
1986	TJ2		1991	02	14.52396	09	41	22.48	+18	27	19.9	16.0	400
1986	TJ2		1991	02	14.53924	09	41	21.52	+18	27	26.1		400
1991	BG2		1991	02	03.45556	09	18	13.17	+20	17	06.4	16.5	400
1991	BG2		1991	02	20.51424	09	04	26.68	+21	17	27.2	16.0	400
1991	BG2		1991	02	20.53021	09	04	26.06	+21	17	32.8		400
1991	BH2		1991	02	03.45556	09	17	44.78	+23	41	20.0	16.5	400
1991	BH2		1991	02	20.51424	09	01	39.19	+23	40	39.6	17	400
1991	BH2		1991	02	20.53021	09	01	38.49	+23	40	39.1		400
1991	BJ2		1991	02	14.49549	09	24	19.60	+21	34	59.7	16.5	400
1991	BJ2		1991	02	14.51009	09	24	18.65	+21	35	01.7		400
1991	CB		1991	02	20.48368	08	59	31.83	+22	36	12.5	16.0	400
1991	CB		1991	02	20.50104	08	59	30.89	+22	36	20.7		400
1991	CC		1991	02	20.54826	09	54	23.03	+30	49	53.4	16.0	400
1991	CC		1991	02	20.56701	09	54	22.01	+30	49	59.0		400
1991	CD		1991	02	14.52396	09	41	02.49	+20	35	49.0	16.5	400
1991	CD		1991	02	14.53924	09	41	01.37	+20	35	48.8		400
1991	CG1	*	1991	02	07.48924	09	49	49.48	+17	07	22.2	16.0	400
1991	CG1		1991	02	07.50382	09	49	48.72	+17	07	25.0		400
1991	CG1		1991	02	14.52396	09	42	48.66	+17	20	46.6	16.0	400
1991	CG1		1991	02	14.53924	09	42	47.67	+17	20	48.2		400
1991	CG1		1991	03	05.47604	09	26	15.02	+17	32	26.8	16.5	400

1991	CG1		1991	03	05.49340	09	26	14.33	+17	32	26.4		400
1991	CY1	*	1991	02	14.58854	11	10	16.36	+10	50	33.0	16.0	400
1991	CY1		1991	02	14.60590	11	10	15.73	+10	50	36.0		400
1991	CY1		1991	02	20.58125	11	05	23.68	+11	10	35.9	16.0	400
1991	CY1		1991	02	20.59757	11	05	22.88	+11	10	36.3		400
1991	CY1		1991	03	05.51215	10	53	27.42	+11	52	20.0	16.5	400
1991	CY1		1991	03	05.52604	10	53	26.70	+11	52	20.5		400
1991	CZ1	*	1991	02	14.62188	11	22	41.30	+11	12	02.8	16.0	400
1991	CZ1		1991	02	14.63993	11	22	40.55	+11	12	06.3		400
1991	CZ1		1991	02	20.61146	11	17	36.76	+11	33	21.2	16.0	400
1991	CZ1		1991	02	20.62882	11	17	35.79	+11	33	23.4		400
1991	CU2	*	1991	02	14.62188	11	20	19.11	+06	40	43.9	16.5	400
1991	CU2		1991	02	14.63993	11	20	18.36	+06	40	48.9		400
1991	CU2		1991	02	20.61146	11	15	59.09	+07	02	18.1	16.5	400
1991	CU2		1991	02	20.62882	11	15	57.86	+07	02	18.7		400
1991	CU2		1991	03	05.57118	11	04	25.04	+07	56	48.5	16.0	400
1991	CU2		1991	03	05.58646	11	04	24.18	+07	56	51.5		400
1991	CM3	*	1991	02	14.62188	11	21	36.74	+08	23	19.1	16.5	400
1991	CM3		1991	02	14.63993	11	21	35.93	+08	23	26.8		400
1991	CM3		1991	02	20.61146	11	17	02.54	+09	07	42.9	16.5	400
1991	CM3		1991	02	20.62882	11	17	01.63	+09	07	49.2		400
1991	DL1	*	1991	02	20.64271	11	34	51.67	+07	20	10.5	16.5	400
1991	DL1		1991	02	20.66007	11	34	51.16	+07	20	15.9		400
1991	DL1		1991	03	05.54063	11	26	51.24	+08	33	39.3	16.5	400
1991	DL1		1991	03	05.55799	11	26	50.74	+08	33	40.8		400
9546	P-L		1991	02	14.62188	11	21	40.79	+08	01	33.9	16.0	400
9546	P-L		1991	02	14.63993	11	21	40.18	+08	01	38.9		400
9546	P-L		1991	02	20.61146	11	17	59.80	+08	31	21.3	16.0	400
9546	P-L		1991	02	20.62882	11	17	58.97	+08	31	22.8		400
21			1991	02	14.62188	11	24	27.10	+08	44	16.0	11.0	400
21			1991	02	14.63993	11	24	26.25	+08	44	23.6		400
21			1991	02	20.61146	11	19	52.21	+09	19	08.6	11.0	400
21			1991	02	20.62882	11	19	51.31	+09	19	13.9		400
528			1991	02	20.54826	09	55	16.76	+31	20	23.7	14.0	400
528			1991	02	20.56701	09	55	15.85	+31	20	27.1		400
725			1991	02	20.48368	08	57	08.89	+23	02	06.0	15.0	400
725			1991	02	20.50104	08	57	08.04	+23	02	09.8		400
1089			1991	02	14.49549	09	22	05.27	+22	15	06.8	14.0	400
1089			1991	02	14.51009	09	22	04.15	+22	15	10.3		400
1107			1991	02	14.52396	09	39	36.48	+20	01	54.4	13.0	400
1107			1991	02	14.53924	09	39	35.66	+20	01	58.6		400
1527			1991	02	20.61146	11	19	54.66	+09	23	41.2	16.0	400
1527			1991	02	20.62882	11	19	53.62	+09	23	46.5		400
2933			1991	03	05.54063	11	29	19.61	+12	07	59.5	16.0	400
2933			1991	03	05.55799	11	29	18.86	+12	08	05.9		400
4750			1991	01	14.54097	07	49	59.34	+21	03	18.0	16	400
4750			1991	01	14.56181	07	49	57.65	+21	03	17.6		400

402 Dynic Astronomical Observatory
A. Sugie, Dynic Astronomical Observatory, Taga 270, Taga-Cho, Inukami-Gun, Shiga-Ken, 522-03, Japan
Observer A. Sugie
Measurer A. Sugie
0.25-m f/3.4 Schmidt
AGK3

1988	PK1		1991	01	19.65278	08	49	20.90	+05	59	12.1	17.0	402
1988	PK1		1991	01	19.66823	08	49	20.27	+05	59	13.5		402
1988	PK1		1991	01	23.71458	08	46	02.92	+06	03	41.6		402
1988	PK1		1991	01	23.72847	08	46	02.18	+06	03	42.8		402

1988	VD1		1990	01	21.68472	08	58	47.48	+32	59	59.1	17.0	402
1988	VD1		1990	01	21.70208	08	58	46.54	+33	00	02.6		402
1991	BV		1991	02	20.68206	09	25	09.61	+15	28	40.6	16.0	402
1991	BV		1991	02	20.69323	09	25	09.13	+15	28	45.8		402
1991	BV		1991	02	21.68924	09	24	23.02	+15	39	05.8		402
1991	BV		1991	02	21.76944	09	24	19.16	+15	39	55.4		402
1991	BV		1991	03	06.49792	09	16	02.07	+17	38	49.2	16.5	402
1991	BV		1991	03	06.51667	09	16	01.50	+17	38	57.6		402
1991	CZ		1991	03	06.47092	09	12	40.89	+14	00	23.5	16.0	402
1991	CZ		1991	03	06.48681	09	12	40.25	+14	00	46.1		402
1991	CZ		1991	03	09.54861	09	10	52.92	+15	09	31.9	16.0	402
1991	CZ		1991	03	09.56250	09	10	52.54	+15	09	49.5		402
1991	DV	*	1991	02	20.70694	11	37	56.11	+06	05	43.0	16.5	402
1991	DV		1991	02	20.72222	11	37	55.48	+06	05	50.9		402
1991	DV		1991	02	21.80509	11	37	12.42	+06	15	08.9		402
1991	DV		1991	03	09.57361	11	24	20.42	+08	41	06.8	15.5	402
1991	DV		1991	03	09.58845	11	24	19.58	+08	41	15.7		402
1991	DL1		1991	03	09.57361	11	24	08.28	+08	56	37.6	17.0 d	402
1991	DL1		1991	03	09.58845	11	24	07.72	+08	56	43.7	d	402
1991	EC	*	1991	03	09.57361	11	25	25.46	+07	04	30.3	17.0	402
1991	EC		1991	03	09.58845	11	25	24.51	+07	04	30.2		402
1991	EC		1991	03	12.55579	11	22	37.39	+07	07	56.3	17.0	402
1991	EC		1991	03	12.56944	11	22	36.72	+07	07	56.2		402

403 Kani
T. Furuta, Mitsuike 17-2, Kakiya-Cho, Tokai, Aichi-Ken 477, Japan
Observers Y. Mizuno, T. Furuta
Measurer T. Furuta
0.25-m f/4.2 Wright-Schmidt camera
AGK3

1991	CE		1991	02	17.61753	09	58	27.3	+21	35	04		403
1991	CE		1991	02	17.62830	09	58	26.5	+21	35	06		403
1991	CE		1991	02	23.59792	09	53	36.35	+22	03	28.9	16.0	403
1991	CE		1991	02	23.60648	09	53	35.71	+22	03	30.9		403

413 Siding Spring
R. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2357, Australia
Observers M. Hartley, P. McKenzie, R. H. McNaught, K. S. Russell, S. D. Ryder, S. B. Tritton
Measurers R. H. McNaught, S. D. Ryder
1.2-m U.K. Schmidt, Uppsala Southern Schmidt, 1.0-m reflector + CCD

1953	FK1		1979	08	04.40357	16	07	16.97	-42	57	21.2	16 V	413
1980	VX1		1991	02	20.71801	10	57	51.94	+11	29	24.4		413
1981	EU29		1991	02	20.71801	10	54	05.82	+08	22	04.7		413
1985	RS1		1991	02	20.71801	10	49	34.87	+10	47	17.8		413
1986	JC		1990	09	24.52528	23	45	27.88	-18	02	48.7	17 V	413
1986	JC		1990	09	24.57736	23	45	24.92	-18	03	00.9		413
1989	AY6		1990	05	29.76574	21	50	18.74	-13	13	00.8	18 V t	413
1989	AY6		1990	05	29.80741	21	50	20.53	-13	12	43.6	t	413
1989	NX		1979	12	20.47286	03	40	03.08	-20	10	06.9	17 V	413
1989	NX		1979	12	20.51800	03	40	01.28	-20	09	28.4		413
1991	AH1		1991	02	21.49809	08	25	06.42	+17	36	12.5		413
1991	AB3		1991	02	07.53646	08	38	59.29	+17	24	42.6	18 V	413
1991	AB3		1991	02	07.55455	08	38	58.49	+17	24	45.5		413
1991	AB3		1991	02	09.61493	08	37	19.87	+17	31	16.2		413
1991	AB3		1991	02	10.54936	08	36	36.00	+17	34	12.0		413
1991	BB		1991	02	21.48241	05	57	29.70	-22	57	33.8		413
1991	CS		1991	02	19.68689	07	16	15.19	-25	20	36.9	V	413

1991	CS		1991	02	20.50122	07	17	06.53	-22	49	24.3			413
1991	CS		1991	02	20.50313	07	17	06.67	-22	49	03.1			413
1991	CU		1991	02	21.49809	08	28	02.87	+17	34	08.7			413
1991	CS1		1991	02	20.71801	10	53	20.90	+08	16	08.2	17	V	413
1991	CS1		1991	02	22.64490	10	51	56.66	+08	26	24.2			413
1991	CT1		1991	02	20.71801	10	50	35.39	+09	54	56.2	17	V	413
1991	CT1		1991	02	22.64490	10	48	31.34	+09	59	29.0			413
1991	CH2	*	1991	02	12.66106	11	32	18.87	-24	29	39.1	17.5	V	413
1991	CH2		1991	02	12.70273	11	32	16.65	-24	30	34.3			413
1991	CH2		1991	02	22.66216	11	21	27.64	-28	09	47.9	17	V	413
1991	CH2		1991	02	22.71078	11	21	23.81	-28	10	46.1			413
1991	CK2	*	1991	02	11.73034	10	57	55.97	-14	47	19.3	18	V	413
1991	CK2		1991	02	12.71991	10	57	13.78	-14	46	17.3			413
1991	CL2	*	1991	02	11.73034	11	02	45.75	-13	00	16.6	18.5	V F	413
1991	CL2		1991	02	12.73008	11	02	08.83	-13	02	44.1		V	413
1991	CM2	*	1991	02	11.73034	11	03	25.06	-16	09	18.6	16.5	V	413
1991	CM2		1991	02	12.71991	11	02	44.62	-16	12	10.7			413
1991	CN2	*	1991	02	11.73034	11	05	21.71	-12	01	42.6	17.5	V	413
1991	CN2		1991	02	12.73008	11	04	38.74	-12	01	38.4			413
1991	CO2	*	1991	02	11.73034	11	05	50.86	-16	39	42.3	18	V	413
1991	CO2		1991	02	12.71991	11	05	15.59	-16	42	57.6			413
1991	CP2	*	1991	02	11.73034	11	06	13.65	-12	33	22.5	18	V	413
1991	CP2		1991	02	12.73008	11	05	32.48	-12	35	33.0			413
1991	CQ2	*	1991	02	11.73034	11	06	14.34	-12	19	25.2	17.5	V	413
1991	CQ2		1991	02	12.73008	11	05	35.52	-12	20	43.2			413
1991	CR2	*	1991	02	11.73034	11	07	07.99	-14	40	31.8	18.5	V	413
1991	CR2		1991	02	12.71991	11	06	25.53	-14	39	36.0			413
1991	CS2	*	1991	02	11.73034	11	08	57.82	-14	38	36.8	18	V	413
1991	CS2		1991	02	12.71991	11	08	17.67	-14	37	35.3			413
1991	DA	*	1991	02	18.52973	09	35	23.84	-72	05	32.1	17	V	413
1991	DA		1991	02	18.57140	09	35	07.10	-72	06	17.1			413
1991	DA		1991	02	19.67361	09	27	51.01	-72	25	04.6		o	413
1991	DA		1991	02	19.70995	09	27	36.43	-72	25	38.5		I	413
1991	DA		1991	02	20.46894	09	22	33.06	-72	37	27.3			413
1991	DA		1991	02	22.62053	09	07	54.91	-73	05	54.4			413
1991	DA		1991	02	23.71089	09	00	25.49	-73	17	32.5		p	413
1991	DA		1991	02	23.76493	09	00	03.62	-73	18	01.6		p	413
1991	DA		1991	02	24.73738	08	53	22.03	-73	26	52.7			413
1991	DA		1991	02	25.74491	08	46	28.56	-73	34	31.3			413
1991	DA		1991	03	14.56847	07	12	19.13	-72	55	38.6			413
1991	DA		1991	03	14.57446	07	12	17.50	-72	55	35.3			413
1991	DA		1991	03	14.57750	07	12	16.96	-72	55	33.5			413
1991	DA		1991	03	14.59056	07	12	13.69	-72	55	26.4			413
1991	DB		1991	02	22.63271	10	11	54.29	+04	32	04.0	16	V	413
1991	DB		1991	02	23.73589	10	13	13.06	+05	32	10.0			413
1991	DB		1991	02	25.75625	10	15	56.32	+07	33	02.5			413
1991	DG	*	1991	02	20.46194	09	09	02.87	-09	14	57.8	17.5	V	413
1991	DG		1991	02	20.51056	09	08	56.62	-09	14	00.0		I	413
1991	DG		1991	02	22.57789	09	04	42.93	-08	29	42.5		p	413
1991	DG		1991	02	22.59329	09	04	40.80	-08	29	20.8			413
1991	DG		1991	02	24.68094	09	00	16.47	-07	38	23.3		I	413
1991	DG		1991	02	24.69483	09	00	14.87	-07	38	04.8		F	413
1991	DL	*	1991	02	20.69603	10	55	57.17	+08	41	37.2	17	V	413
1991	DL		1991	02	20.73999	10	55	55.26	+08	42	31.0		b	413
1991	DL		1991	02	22.64490	10	54	34.18	+09	23	50.2			413
1991	DM	*	1991	02	20.71801	10	47	27.85	+08	47	00.6	17	V	413
1991	DM		1991	02	22.64490	10	45	48.73	+08	59	08.9			413
101			1991	02	20.71801	10	56	00.64	+08	07	23.7			413
101			1991	02	22.64490	10	54	12.49	+08	12	40.1			413

399	1991	02	20.71801	10	58	02.37	+09	43	07.0		413
399	1991	02	22.64490	10	56	19.00	+09	44	58.3		413
981	1991	02	20.71801	11	04	34.61	+08	40	53.6		413
1283	1991	02	20.71801	10	55	57.28	+07	16	27.1		413
1851	1991	02	20.71801	10	53	21.18	+08	52	22.8		413
2199	1991	02	20.71801	11	00	18.95	+09	19	18.6		413
2199	1991	02	22.64490	10	58	36.42	+09	37	27.8		413
2240	1991	02	20.71801	11	08	38.61	+06	51	22.2		413
3044	1991	02	11.73034	11	04	04.98	-13	49	59.1		413
3054	1991	02	20.71801	10	47	00.02	+08	21	43.8		413
3105	1991	02	20.71801	11	11	42.53	+08	58	36.7		413
4246	1991	02	20.71801	11	12	18.17	+09	57	32.9		413
4265	1991	02	20.71801	11	01	50.52	+10	01	36.3		413
4273	1991	02	20.71801	11	08	02.35	+08	18	20.1	F	413
4575	1991	02	20.71801	10	49	19.40	+10	05	13.8	15.5V	413
4575	1991	02	22.64490	10	47	57.82	+10	20	56.6		413
4727	1991	02	07.53646	08	42	36.26	+18	04	53.6	18 V	413
4727	1991	02	07.55455	08	42	35.34	+18	04	58.5		413
4727	1991	02	10.54936	08	40	05.88	+18	17	11.1		413

474 Mount John
A. C. Gilmore, P.O. Box 57, Lake Tekapo, New Zealand
Observer A. C. Gilmore
Measurer P. M. Kilmartin
0.6-m f/14 Cassegrain reflector
AGK3, SAOC, CPZ, field plates from Carter Observatory

4742	1991	01	12.62450	08	10	38.05	-19	55	50.4	15.8	474
4742	1991	01	12.63718	08	10	37.26	-19	56	01.5		474

479 Sollies-Pont
B. Candela, 533 Chemin des Laugiers, F-83210 Sollies-Pont, France
Observer B. Candela
0.25-m f/8 Schmidt Cassegrain

1990 SQ	1990	11	05.82223	21	21	42.83	+13	48	33.4		479
1990 SQ	1990	11	05.83681	21	21	43.26	+13	49	12.4		479
1990 SQ	1990	11	14.80834	21	29	47.61	+20	56	25.6		479
1990 SQ	1990	11	14.82188	21	29	48.70	+20	57	03.1		479
1990 SQ	1990	11	16.78855	21	32	12.35	+22	28	04.4		479
1990 SQ	1990	11	16.83264	21	32	15.42	+22	30	05.0		479
28	1990	08	23.87327	21	43	37.60	-14	03	17.0		479
38	1990	09	19.84185	22	26	32.04	-01	19	10.9		479
38	1990	09	19.85573	22	26	31.49	-01	19	12.7		479
64	1990	08	25.98820	22	06	17.18	-10	53	49.0		479
64	1990	08	26.00313	22	06	16.23	-10	53	51.8		479
67	1990	10	25.94387	03	36	49.14	+15	17	55.3		479
67	1990	10	25.95556	03	36	48.55	+15	17	53.2		479
119	1990	12	05.83681	04	22	35.86	+14	35	42.6		479
119	1990	12	05.84553	04	22	35.30	+14	35	39.2		479
120	1990	10	20.94705	01	16	11.72	+15	27	28.4		479
120	1990	10	20.95941	01	16	11.07	+15	27	25.1		479
126	1990	10	27.94688	01	12	16.73	+07	56	52.8		479
126	1990	10	27.96216	01	12	15.86	+07	56	51.0		479
139	1990	10	20.91009	00	33	26.52	+07	50	02.0		479
139	1990	10	20.92466	00	33	25.75	+07	49	57.0		479
142	1990	11	14.94862	03	54	30.18	+23	09	41.0		479
142	1990	11	14.96945	03	54	28.91	+23	09	38.4		479
205	1990	11	05.85313	00	58	48.09	+08	01	07.4		479
205	1990	11	05.86980	00	58	47.46	+08	01	00.7		479
229	1990	11	07.88542	02	55	49.15	+17	45	28.1		479

229		1990	11	07.90215	02	55	48.21	+17	45	25.6	479
289		1990	09	18.88924	00	16	18.06	+02	03	22.4	479
289		1990	09	18.90174	00	16	17.72	+02	03	22.2	479
289		1990	12	06.75835	00	07	36.78	-02	48	31.0	479
289		1990	12	06.77639	00	07	37.48	-02	48	25.2	479
306		1990	09	18.91181	00	27	55.11	-06	19	13.3	479
306		1990	09	18.92570	00	27	54.31	-06	19	20.9	479
336		1990	10	27.90764	00	05	36.92	+06	56	48.6	479
336		1990	10	27.92223	00	05	36.43	+06	56	41.4	479
346		1990	10	27.97639	02	09	32.50	-00	12	48.3	479
346		1990	10	27.99028	02	09	31.77	-00	12	49.1	479
376		1990	10	20.88126	00	38	15.74	+13	45	14.5	479
376		1990	10	20.89410	00	38	15.03	+13	45	12.4	479
377		1990	10	25.91181	00	01	35.16	+03	26	45.4	479
377		1990	10	25.92535	00	01	34.82	+03	26	39.7	479
409		1990	11	14.87917	03	54	09.03	+21	39	53.8	479
409		1990	11	14.89098	03	54	08.34	+21	39	49.9	479
427		1990	11	16.86355	02	47	14.63	+23	33	17.4	479
427		1990	11	16.88230	02	47	13.79	+23	33	12.4	479
508		1990	11	01.97466	03	55	57.64	+24	00	26.9	479
508		1990	11	01.98996	03	55	56.85	+24	00	27.9	479
508		1990	11	14.85070	03	44	43.49	+24	14	23.9	479
508		1990	11	14.86459	03	44	42.69	+24	14	23.1	479
654		1990	09	18.93785	23	55	41.65	+31	21	51.0	479
654		1990	09	18.95139	23	55	40.54	+31	21	48.9	479
678		1990	10	20.85348	00	30	23.59	+15	50	08.5	479
678		1990	10	20.86841	00	30	23.03	+15	50	01.4	479
689		1990	09	19.87674	22	45	07.74	-08	11	04.9	479
689		1990	09	19.89410	22	45	07.22	-08	11	13.4	479
705		1990	10	28.00417	01	12	22.66	+27	20	41.7	479
705		1990	10	28.01771	01	12	21.68	+27	20	40.1	479
720		1990	11	16.90556	03	41	00.02	+20	55	43.8	479
720		1990	11	16.92466	03	40	59.01	+20	55	40.4	479
790		1990	09	12.95209	22	43	19.98	+24	04	38.0	479
790		1990	09	12.96702	22	43	19.05	+24	04	34.8	479
792		1990	11	14.91632	03	17	12.48	+26	03	52.2	479
792		1990	11	14.93403	03	17	11.34	+26	03	44.9	479
886		1990	11	16.95487	03	17	07.76	+13	49	27.1	479
886		1990	11	16.96875	03	17	06.87	+13	49	32.1	479

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J. M. Baur, Via Zara 20, I-33083 Chions, Italy
Observer K. Birkle
Measurers K. Birkle, J. M. Baur
0.8-m f/3 Schmidt

1989	SN12*	1989	09	28.96319	00	20	05.01	+17	43	54.9	16.5	493
1989	SN12	1989	09	28.99097	00	20	02.89	+17	43	58.8		493
1989	SN12	1989	10	03.00139	00	15	08.01	+17	54	58.4		493
1989	SN12	1989	10	03.02917	00	15	05.78	+17	55	03.7		493
1989	SO12*	1989	09	28.96319	00	21	31.87	+19	08	44.5	18.2	493
1989	SO12	1989	09	28.99097	00	21	30.35	+19	08	42.5		493
1989	SO12	1989	10	03.00139	00	18	04.97	+18	58	03.8		493
1989	SO12	1989	10	03.02917	00	18	03.46	+18	58	00.8		493
1989	SP12*	1989	09	28.96319	00	23	18.05	+17	00	34.9	17.2	493
1989	SP12	1989	09	28.99097	00	23	16.43	+17	00	33.8		493
1989	SP12	1989	10	03.00139	00	19	18.89	+16	54	55.8		493
1989	SP12	1989	10	03.02917	00	19	17.27	+16	54	54.6		493
1989	SQ12*	1989	09	28.96319	00	23	56.19	+17	43	47.4	18.2	493
1989	SQ12	1989	09	28.99097	00	23	55.05	+17	43	42.1		493

1989	SQ12	1989	10	03.00139	00	20	44.41	+17	23	11.6	493
1989	SQ12	1989	10	03.02917	00	20	43.03	+17	23	04.4	493
1989	SR12*	1989	09	28.96319	00	25	58.20	+15	54	28.3	16.2 493
1989	SR12	1989	09	28.99097	00	25	56.77	+15	54	26.4	493
1989	SR12	1989	10	03.00139	00	22	32.62	+15	45	33.4	493
1989	SR12	1989	10	03.02917	00	22	31.13	+15	45	30.5	493
1989	SS12*	1989	09	28.96319	00	26	02.45	+16	57	26.1	17.5 493
1989	SS12	1989	09	28.99097	00	26	01.19	+16	57	20.7	493
1989	SS12	1989	10	03.00139	00	22	52.88	+16	36	50.9	493
1989	SS12	1989	10	03.02917	00	22	51.51	+16	36	43.8	493
1989	ST12*	1989	09	28.96319	00	26	42.76	+19	29	07.7	18 493
1989	ST12	1989	09	28.99097	00	26	41.49	+19	28	59.1	493
1989	ST12	1989	10	03.00139	00	23	34.46	+18	58	02.9	493
1989	ST12	1989	10	03.02917	00	23	33.01	+18	57	50.7	493
1989	SU12*	1989	09	28.96319	00	27	15.01	+17	37	13.5	16.8 493
1989	SU12	1989	09	28.99097	00	27	13.68	+17	37	11.7	493
1989	SU12	1989	10	03.00139	00	23	47.19	+17	25	56.8	493
1989	SU12	1989	10	03.02917	00	23	45.63	+17	25	52.2	493
1989	SV12*	1989	09	28.96319	00	27	54.70	+16	10	45.1	17.3 493
1989	SV12	1989	09	28.99097	00	27	53.15	+16	10	36.4	493
1989	SV12	1989	10	03.00139	00	24	19.50	+15	45	26.3	493
1989	SV12	1989	10	03.02917	00	24	18.01	+15	45	16.6	493
1989	SW12*	1989	09	28.96319	00	29	33.15	+16	29	58.9	17.5 493
1989	SW12	1989	09	28.99097	00	29	31.12	+16	29	59.7	493
1989	SW12	1989	10	03.00139	00	24	36.12	+16	28	04.2	493
1989	SW12	1989	10	03.02917	00	24	34.03	+16	28	03.9	493
1989	SX12*	1989	09	28.96319	00	29	50.80	+17	32	22.8	15.6 493
1989	SX12	1989	09	28.99097	00	29	49.54	+17	32	15.9	493
1989	SX12	1989	10	03.00139	00	26	42.32	+17	12	16.7	493
1989	SX12	1989	10	03.02917	00	26	41.00	+17	12	09.7	493
1989	SY12*	1989	09	28.96319	00	30	29.03	+17	29	39.1	16.5 493
1989	SY12	1989	09	28.99097	00	30	27.82	+17	29	34.8	493
1989	SY12	1989	10	03.00139	00	27	31.64	+17	13	09.5	493
1989	SY12	1989	10	03.02917	00	27	30.38	+17	13	02.5	493
1989	SZ12*	1989	09	28.96319	00	30	33.72	+18	34	22.1	16.5 493
1989	SZ12	1989	09	28.99097	00	30	32.21	+18	34	20.3	493
1989	SZ12	1989	10	03.00139	00	26	42.56	+18	21	53.9	493
1989	SZ12	1989	10	03.02917	00	26	40.87	+18	21	49.5	493
1989	SA13*	1989	09	28.96319	00	31	04.35	+16	01	13.7	17 493
1989	SA13	1989	09	28.99097	00	31	02.86	+16	01	08.5	493
1989	SA13	1989	10	03.00139	00	27	15.08	+15	41	28.4	493
1989	SA13	1989	10	03.02917	00	27	13.41	+15	41	20.5	493
1989	SB13*	1989	09	28.96319	00	32	53.98	+17	45	05.2	17 493
1989	SB13	1989	09	28.99097	00	32	52.77	+17	44	57.5	493
1989	SB13	1989	10	03.00139	00	29	45.24	+17	11	51.3	493
1989	SB13	1989	10	03.02917	00	29	43.86	+17	11	40.1	493
1989	SC13*	1989	09	28.96319	00	33	08.58	+18	44	03.3	18.2 493
1989	SC13	1989	09	28.99097	00	33	06.89	+18	44	04.3	493
1989	SC13	1989	10	03.00139	00	28	49.50	+18	46	56.0	493
1989	SC13	1989	10	03.02917	00	28	47.86	+18	46	56.7	493
1989	SD13*	1989	09	28.96319	00	33	11.74	+17	45	03.6	18.5 493
1989	SD13	1989	09	28.99097	00	33	10.24	+17	45	07.1	493
1989	SD13	1989	10	03.00139	00	29	26.43	+17	51	29.5	493
1989	SD13	1989	10	03.02917	00	29	24.99	+17	51	31.2	493
1989	SE13*	1989	09	28.96319	00	33	36.84	+18	38	31.5	16.2 493
1989	SE13	1989	09	28.99097	00	33	35.32	+18	38	27.3	493
1989	SE13	1989	10	03.00139	00	30	10.09	+18	22	29.9	493
1989	SE13	1989	10	03.02917	00	30	08.52	+18	22	23.1	493
1989	SF13*	1989	09	28.96319	00	34	00.16	+20	26	05.6	17.8 493

1989	SF13	1989	09	28.99097	00	33	59.06	+20	25	45.9	493
1989	SF13	1989	10	03.00139	00	31	30.79	+19	28	09.2	493
1989	SF13	1989	10	03.02917	00	31	29.58	+19	27	46.0	493
1989	SG13*	1989	09	28.96319	00	34	07.54	+18	51	50.2	16.5 493
1989	SG13	1989	09	28.99097	00	34	06.27	+18	51	50.3	493
1989	SG13	1989	10	03.00139	00	30	24.73	+18	49	02.1	493
1989	SG13	1989	10	03.02917	00	30	23.15	+18	49	01.1	493
1989	SH13*	1989	09	28.96319	00	34	32.97	+16	21	30.2	16 493
1989	SH13	1989	09	28.99097	00	34	31.24	+16	21	32.1	493
1989	SH13	1989	10	03.00139	00	30	18.79	+16	26	33.3	493
1989	SH13	1989	10	03.02917	00	30	17.11	+16	26	35.8	493
1989	SJ13*	1989	09	28.96319	00	34	49.34	+18	25	33.3	15.5 493
1989	SJ13	1989	09	28.99097	00	34	48.25	+18	25	22.2	493
1989	SJ13	1989	10	03.00139	00	32	05.18	+17	48	10.1	493
1989	SJ13	1989	10	03.02917	00	32	03.98	+17	47	58.0	493
1989	SK13*	1989	09	28.96319	00	35	34.37	+16	14	44.9	17.5 493
1989	SK13	1989	09	28.99097	00	35	32.99	+16	14	40.8	493
1989	SK13	1989	10	03.00139	00	32	05.88	+15	59	24.4	493
1989	SK13	1989	10	03.02917	00	32	04.39	+15	59	19.3	493
1989	SL13*	1989	09	28.96319	00	36	07.27	+18	14	50.6	18.5 493
1989	SL13	1989	09	28.99097	00	36	05.69	+18	14	44.8	493
1989	SL13	1989	10	03.00139	00	32	16.41	+18	08	06.7	493
1989	SL13	1989	10	03.02917	00	32	14.84	+18	08	01.5	493
1989	SM13*	1989	09	28.96319	00	36	21.95	+15	52	57.5	16.5 493
1989	SM13	1989	09	28.99097	00	36	20.40	+15	52	55.1	493
1989	SM13	1989	10	03.00139	00	32	49.87	+15	46	20.3	493
1989	SM13	1989	10	03.02917	00	32	48.26	+15	46	17.7	493
1989	SN13*	1989	09	28.96319	00	36	37.72	+17	25	46.2	17.8 493
1989	SN13	1989	09	28.99097	00	36	36.27	+17	25	38.6	493
1989	SN13	1989	10	03.00139	00	33	25.65	+16	59	21.2	493
1989	SN13	1989	10	03.02917	00	33	24.09	+16	59	10.1	493
1989	SO13*	1989	09	28.96319	00	37	57.55	+15	34	01.4	17 493
1989	SO13	1989	09	28.99097	00	37	55.71	+15	34	05.1	493
1989	SO13	1989	10	03.00139	00	33	13.42	+15	42	53.2	493
1989	SO13	1989	10	03.02917	00	33	11.64	+15	42	55.8	493
1989	SP13*	1989	09	28.96319	00	38	04.43	+17	33	13.1	18.5 493
1989	SP13	1989	09	28.99097	00	38	03.41	+17	33	08.9	493
1989	SP13	1989	10	03.00139	00	35	24.26	+17	14	33.8	493
1989	SP13	1989	10	03.02917	00	35	23.12	+17	14	27.8	493
1989	SQ13*	1989	09	28.96319	00	38	35.72	+16	17	56.9	16 493
1989	SQ13	1989	09	28.99097	00	38	34.65	+16	17	50.2	493
1989	SQ13	1989	10	03.00139	00	35	50.19	+15	57	38.7	493
1989	SQ13	1989	10	03.02917	00	35	49.05	+15	57	31.9	493
1989	SR13*	1989	09	28.96319	00	39	02.56	+16	44	37.5	16.5 493
1989	SR13	1989	09	28.99097	00	39	01.12	+16	44	33.4	493
1989	SR13	1989	10	03.00139	00	35	32.65	+16	34	00.7	493
1989	SR13	1989	10	03.02917	00	35	31.15	+16	33	56.5	493
1989	SS13*	1989	09	28.96319	00	39	28.35	+17	03	28.3	19 493
1989	SS13	1989	09	28.99097	00	39	26.85	+17	03	22.5	493
1989	SS13	1989	10	03.00139	00	35	44.64	+16	40	44.8	493
1989	SS13	1989	10	03.02917	00	35	43.45	+16	40	38.0	493
1989	ST13*	1989	09	28.96319	00	39	32.05	+16	40	23.2	18.3 493
1989	ST13	1989	09	28.99097	00	39	30.61	+16	40	17.4	493
1989	ST13	1989	10	03.00139	00	35	39.59	+16	16	14.1	493
1989	ST13	1989	10	03.02917	00	35	38.04	+16	16	06.5	493
1989	SU13*	1989	09	28.96319	00	39	46.44	+18	30	07.7	17.5 493
1989	SU13	1989	09	28.99097	00	39	45.17	+18	30	01.9	493
1989	SU13	1989	10	03.00139	00	36	34.19	+18	12	39.3	493
1989	SU13	1989	10	03.02917	00	36	32.74	+18	12	33.4	493

1989	SV13*	1989	09	28.96319	00	39	53.62	+17	48	34.7	18	493
1989	SV13	1989	09	28.99097	00	39	52.00	+17	48	34.1		493
1989	SV13	1989	10	03.00139	00	35	49.86	+17	43	26.3		493
1989	SV13	1989	10	03.02917	00	35	48.30	+17	43	23.9		493
1989	TA18*	1989	10	03.00139	00	35	31.98	+16	38	44.4		493
1989	TA18	1989	10	03.02917	00	35	30.90	+16	38	38.4		493
188		1989	09	28.96319	00	26	36.28	+19	27	34.4	12.7	493
188		1989	09	28.99097	00	26	34.89	+19	27	21.3		493
188		1989	10	03.00139	00	23	26.18	+18	53	20.2		493
188		1989	10	03.02917	00	23	24.62	+18	53	07.1		493
1206		1989	09	28.96319	00	29	11.48	+18	49	31.1	14	493
1206		1989	09	28.99097	00	29	09.90	+18	49	29.3		493
1206		1989	10	03.00139	00	25	30.01	+18	39	49.4		493
1206		1989	10	03.02917	00	25	28.44	+18	39	44.0		493
1506		1989	09	28.96319	00	31	20.98	+19	28	28.8	15.2	493
1506		1989	09	28.99097	00	31	19.45	+19	28	14.2		493
1506		1989	10	03.00139	00	27	51.51	+18	48	00.1		493
1506		1989	10	03.02917	00	27	49.94	+18	47	47.1		493
2744		1989	09	28.96319	00	18	10.77	+18	18	56.7	15.4	493
2744		1989	09	28.99097	00	18	09.49	+18	19	02.5		493
2744		1989	10	03.00139	00	15	20.71	+18	29	00.6		493
2744		1989	10	03.02917	00	15	19.44	+18	29	04.5		493
3075		1989	09	28.96319	00	35	50.45	+16	32	13.6	16	493
3075		1989	09	28.99097	00	35	48.66	+16	32	14.6		493
3075		1989	10	03.00139	00	31	15.72	+16	31	55.6		493
3075		1989	10	03.02917	00	31	13.80	+16	31	54.7		493
3237		1989	09	28.96319	00	34	44.14	+18	17	14.9	15.2	493
3237		1989	09	28.99097	00	34	42.87	+18	17	07.3		493
3237		1989	10	03.00139	00	31	32.82	+17	59	04.7		493
3237		1989	10	03.02917	00	31	31.43	+17	58	56.9		493

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E. W. Elst, Royal Observatory, B-1180 Brussels, Belgium
Observers E. W. Elst, G. Traversa
Measurer E. W. Elst
0.6-m Schmidt

1982	UH	1991	02	15.00868	10	10	50.47	+07	19	35.0		511
1982	UH	1991	02	16.97812	10	08	51.07	+07	29	57.3	17.5	511
1984	SG1	1991	02	12.05347	09	59	08.77	+08	56	23.9	17.7	511
1984	SG1	1991	02	12.08889	09	59	06.82	+08	56	33.9		511
1986	VK9 *	1986	11	04.83090	01	17	45.07	+26	59	12.6	17.5	511
1986	VK9	1986	11	04.86701	01	17	43.51	+26	58	57.2		511
1986	VK9	1986	11	04.90104	01	17	41.97	+26	58	42.8		511
1986	VK9	1986	11	07.89201	01	15	44.67	+26	38	02.7		511
1986	VK9	1986	11	07.90799	01	15	44.04	+26	38	01.4		511
1990	YB	1991	01	18.01181	07	59	38.99	+19	10	50.9		511
1990	YB	1991	01	18.98472	07	58	46.16	+19	14	06.8	17.4	511
1991	BV	1991	02	14.95208	09	29	48.38	+14	27	11.2	17.5	511
1991	BV	1991	02	16.92118	09	28	10.74	+14	48	38.0		511
1991	CA2 *	1991	02	14.89722	09	12	31.32	+16	00	14.5	17.8	511
1991	CA2	1991	02	16.84618	09	11	05.63	+16	13	06.4		511
1991	CB2 *	1991	02	14.89722	09	18	39.12	+14	51	54.8	18.2	511
1991	CB2	1991	02	16.84618	09	16	42.38	+14	57	56.2		511
1991	CC2 *	1991	02	15.00868	10	04	36.90	+09	18	27.6		511
1991	CC2	1991	02	16.97812	10	02	49.83	+09	27	10.1	18.3	511
1991	CD2 *	1991	02	15.00868	10	07	04.04	+10	59	33.4		511
1991	CD2	1991	02	16.97812	10	05	51.83	+11	19	02.1	18.0	511
1991	CE2 *	1991	02	15.00868	10	09	09.94	+10	05	13.9		511
1991	CE2	1991	02	16.97812	10	07	35.28	+10	13	03.4	18.2	511

1991	CF2	*	1991	02	15.00868	10	12	10.50	+08	00	41.5	511
1991	CF2		1991	02	16.97812	10	10	14.11	+08	18	12.1	18.5 511
1991	CG2	*	1991	02	15.00868	10	13	25.64	+11	09	47.1	511
1991	CG2		1991	02	16.97812	10	11	37.86	+11	21	40.2	18.5 511
1991	CX2	*	1991	02	12.05347	09	57	10.76	+08	59	59.8	17.8 511
1991	CX2		1991	02	12.08889	09	57	08.47	+09	00	16.2	511
1991	CX2		1991	02	22.06007	09	46	57.15	+10	19	56.2	18.0 511
1991	CY2	*	1991	02	12.05347	09	57	37.79	+09	44	15.2	17.5 511
1991	CY2		1991	02	12.08889	09	57	35.87	+09	44	33.1	511
1991	CY2		1991	02	22.06007	09	49	07.16	+10	58	03.8	511
1991	CZ2	*	1991	02	12.05347	10	04	06.77	+08	58	05.2	18.4 511
1991	CZ2		1991	02	12.08889	10	04	04.63	+08	58	11.9	511
1991	CZ2		1991	02	22.06007	09	54	46.93	+09	28	56.0	18.0 511
135			1991	02	16.84618	09	25	15.83	+16	31	54.0	15.0 511
135			1991	02	16.92118	09	25	11.31	+16	32	12.2	15.5 511
251			1991	02	12.05347	10	00	03.01	+09	28	28.6	16.5 511
251			1991	02	12.08889	10	00	01.42	+09	28	44.7	511
251			1991	02	22.06007	09	52	36.77	+10	43	59.8	511
301			1991	02	14.89722	09	21	59.89	+15	13	04.0	16.8 511
301			1991	02	14.95208	09	21	56.89	+15	13	22.0	16.5 511
301			1991	02	16.84618	09	20	19.08	+15	24	12.1	511
301			1991	02	16.92118	09	20	14.96	+15	24	38.6	511
570			1991	02	12.05347	10	02	20.25	+09	32	03.1	16.3 511
570			1991	02	12.08889	10	02	18.75	+09	32	11.1	511
570			1991	02	22.06007	09	55	14.13	+10	11	07.5	511
627			1991	02	14.95208	09	31	17.13	+14	39	05.0	16.5 511
627			1991	02	16.92118	09	29	41.44	+14	50	28.4	511
954			1991	02	14.89722	09	18	16.24	+15	02	47.9	17.2 511
954			1991	02	16.84618	09	16	47.73	+15	10	02.4	511
954			1991	02	16.92118	09	16	44.34	+15	10	19.5	17.2 511
1130			1991	02	15.00868	10	13	11.04	+07	40	49.9	511
1130			1991	02	16.97812	10	11	12.03	+07	52	16.7	17.2 511
1247			1991	02	12.05347	09	54	20.49	+12	00	58.0	17.2 511
1247			1991	02	12.08889	09	54	18.86	+12	01	08.3	511
1247			1991	02	22.06007	09	46	46.47	+12	44	07.6	511
1331			1991	02	14.89722	09	26	48.27	+16	31	27.6	17.2 511
1331			1991	02	16.84618	09	25	18.47	+16	39	30.9	511
1625			1991	02	14.89722	09	19	04.69	+17	07	30.3	16.8 511
1625			1991	02	16.84618	09	17	14.73	+17	07	44.5	511
1928			1991	02	15.00868	10	05	42.28	+07	55	12.2	511
1928			1991	02	16.97812	10	03	55.69	+08	07	01.1	18.1 511
2104			1986	11	04.83090	01	19	13.71	+26	18	28.2	17.0 511
2104			1986	11	04.86701	01	19	12.32	+26	18	10.2	511
2104			1986	11	04.90104	01	19	10.89	+26	17	52.9	511
2104			1986	11	07.89201	01	17	18.32	+25	52	56.1	511
2104			1986	11	07.90799	01	17	17.72	+25	52	48.9	511
2190			1991	02	14.89722	09	12	23.61	+14	54	48.4	17.5 511
2190			1991	02	16.84618	09	10	30.42	+15	03	01.4	511
2217			1991	02	14.89722	09	17	35.64	+16	24	07.9	18.0 511
2217			1991	02	16.84618	09	16	07.00	+16	31	38.6	511
2390			1991	02	14.95208	09	32	02.69	+15	36	50.6	18.0 511
2390			1991	02	16.92118	09	30	05.36	+15	40	25.0	511
2469			1991	02	12.05347	10	05	26.56	+10	40	33.2	18.0 511
2469			1991	02	12.08889	10	05	24.88	+10	40	46.3	511
2469			1991	02	15.00868	10	03	17.94	+10	58	46.1	511
2469			1991	02	16.97812	10	01	51.26	+11	10	58.3	18.0 511
2616			1991	02	14.89722	09	18	08.01	+15	27	31.4	17.3 511
2616			1991	02	16.84618	09	16	04.08	+15	38	28.0	511
2616			1991	02	16.92118	09	15	59.43	+15	38	52.9	17.0 511

2659	1991 02 12.05347	09 57 48.67	+12 00 18.6	17.2	511
2659	1991 02 12.08889	09 57 46.90	+12 00 28.6		511
2659	1991 02 22.06007	09 49 52.75	+12 47 19.6		511
2664	1991 02 15.00868	10 06 45.93	+09 48 49.5		511
2664	1991 02 16.97812	10 04 51.69	+10 01 34.6	18.0	511
2713	1991 02 14.95208	09 35 06.03	+15 00 18.0	17.7	511
2808	1991 02 14.95208	09 27 33.53	+13 07 10.2	17.5	511
2808	1991 02 16.92118	09 25 47.64	+13 10 02.1		511
2814	1991 02 14.89722	09 21 36.21	+14 35 13.5	17.8	511
2814	1991 02 14.95208	09 21 33.24	+14 35 29.3	17.8	511
2814	1991 02 16.84618	09 19 59.38	+14 44 10.0		511
2814	1991 02 16.92118	09 19 55.35	+14 44 32.0		511
2927	1991 02 12.05347	10 02 33.93	+10 26 08.0	17.0	511
2927	1991 02 12.08889	10 02 32.18	+10 26 27.3		511
2927	1991 02 22.06007	09 54 00.26	+12 01 56.7		511
2928	1991 02 14.89722	09 12 50.64	+13 40 40.7	17.0	511
3060	1991 02 16.92118	09 24 35.62	+16 11 54.8	18.5	511
4351	1991 02 15.00868	10 09 48.78	+10 38 48.7		511
4351	1991 02 16.97812	10 08 11.16	+10 49 20.5	17.8	511
4360	1991 02 15.00868	10 16 37.85	+10 47 36.4		511
4360	1991 02 16.97812	10 14 45.84	+10 56 07.8	18.0	511
4404	1991 02 14.95208	09 26 04.91	+11 58 19.2	17.2	511
4404	1991 02 16.92118	09 24 17.50	+12 46 03.9		511
4473	1991 02 14.95208	09 32 49.04	+13 46 19.4	18.0	511
4473	1991 02 16.92118	09 31 02.64	+13 49 10.7		511

552 San Vittore
E. Colombini, Via S. Vittore 44, I-40136 Bologna, Italy
Observers C. Vacchi, G. Sassi
Measurers V. Goretti, E. Colombini

978	1990 05 17.83611	12 40 54.12	-10 56 08.8	16.5	552
978	1990 05 17.86319	12 40 53.59	-10 55 58.4		552

553 Chorzow
I. Wlodarczyk, Planetarium and Astronomical Observatory,
PL-41501 Chorzow 1 s.p.10, Poland
Observers M. Szczepanski, J. Kuczynski, B. Pawicka
Measurers I. Wlodarczyk, T. Piwek
0.2-m f/5 astrograph

704	1990 10 23.83726	22 02 05.61	+12 38 26.9	553
704	1990 10 23.86226	22 02 05.77	+12 38 18.9	553
704	1990 10 23.88726	22 02 05.97	+12 38 10.5	553
704	1990 10 24.84294	22 02 16.18	+12 33 23.3	553
704	1990 10 24.86933	22 02 16.44	+12 33 15.7	553
704	1990 10 24.89815	22 02 16.74	+12 33 07.5	553

565 Bassano Bresciano
U. Quadri, Osservatorio di Bassano Bresciano, Via S. Michele 4,
I-25020 Bassano Bresciano (Brescia), Italy
Observers U. Quadri, L. Strabla
0.3-0.4-m f/3.3 Schmidt
AGK3, SAOC

540	1990 08 19.92674	21 34 04.18	-05 53 04.2	565
540	1990 08 19.94792	21 34 02.94	-05 53 15.4	565

567 Osservatorio Chaonis
J. M. Baur, Via Zara 20, I-33083 Chions, Italy
Observers J. M. Baur, G. Carniel
Measurer J. M. Baur

0.6-m f/3 Wright-Schmidt reflector
AGK3

1989 XA	1990 02	17.77361	03 53	24.47	+22 04	26.2	567
1989 XA	1990 02	17.79305	03 53	25.29	+22 04	29.6	567
1989 XA	1990 02	18.75694	03 54	07.10	+22 06	31.1	567
1989 XA	1990 02	18.77534	03 54	07.82	+22 06	33.7	567
1989 XA	1990 02	18.79305	03 54	08.62	+22 06	35.9	567
1989 XA	1990 02	22.77222	03 57	12.07	+22 15	22.2	567
1989 XA	1990 02	22.78889	03 57	12.89	+22 15	24.6	567
1989 XA	1990 02	22.80417	03 57	13.62	+22 15	27.1	567
1989 XA	1990 02	24.76944	03 58	50.45	+22 20	00.7	567
1989 XA	1990 02	24.78750	03 58	51.36	+22 20	03.3	567
1989 XA	1990 02	24.80417	03 58	52.20	+22 20	05.5	567
1989 XA	1991 02	03.90555	10 36	49.61	+13 17	58.3	567
1989 XA	1991 02	03.92222	10 36	48.86	+13 18	02.9	567
1989 XA	1991 02	14.93611	10 28	36.88	+14 09	12.9	567
1989 XA	1991 02	14.95555	10 28	35.81	+14 09	18.8	567
1989 XA	1991 02	17.92778	10 26	09.29	+14 23	21.4	567
1989 XA	1991 02	17.94722	10 26	08.27	+14 23	27.2	567
1989 XA	1991 02	17.96528	10 26	07.31	+14 23	31.9	567
1989 XA	1991 03	13.86111	10 06	47.44	+15 57	07.8	567
1989 XA	1991 03	13.88194	10 06	46.51	+15 57	10.9	567
1989 XA	1991 03	13.90278	10 06	45.63	+15 57	13.8	567
1989 XA	1991 03	14.88055	10 06	05.16	+15 59	49.5	567
1989 XA	1991 03	14.89861	10 06	04.41	+15 59	53.0	567

573 Eldagsen
W. Bonk, Nordstrasse 33, W-3257 Springe 3, Federal Republic of Germany
AGK3

48	1991 01	16.72515	05 13	31.37	+13 45	53.7	573
48	1991 01	16.73546	05 13	31.09	+13 45	54.8	573
48	1991 01	18.75613	05 12	39.88	+13 49	19.4	573
48	1991 01	18.76273	05 12	39.72	+13 49	20.4	573
170	1991 01	15.71794	05 21	48.03	+33 25	56.5	573
170	1991 01	15.72546	05 21	47.75	+33 25	52.3	573
207	1991 01	14.81499	07 16	44.19	+28 51	16.5	573
207	1991 01	14.82228	07 16	43.66	+28 51	17.4	573
443	1991 01	15.73559	06 03	26.21	+16 18	25.1	573
443	1991 01	15.74282	06 03	25.81	+16 18	26.2	573

589 Santa Lucia Stroncone
A. Vagnozzi, Santa Lucia 68, I-05039 Stroncone (Terni), Italy
Observers A. Vagnozzi, G. C. Morando, S. Casulli, R. Castellani
0.5-m f/7.5 Ritchey-Chretien
SAOC, AGK3

1988 JV	1991 01	17.80833	08 22	29.78	+31 40	24.7	589
1988 JV	1991 01	17.81562	08 22	29.20	+31 40	30.3	589
1988 JV	1991 01	17.82986	08 22	28.62	+31 40	34.4	589
1988 JV	1991 01	17.87639	08 22	25.41	+31 41	05.2	589
1988 JV	1991 01	17.88369	08 22	25.13	+31 41	09.0	589
1988 JV	1991 01	17.89097	08 22	24.86	+31 41	11.3	589
1988 JV	1991 01	18.81250	08 21	26.75	+31 49	59.9	589
1988 JV	1991 01	18.81979	08 21	26.46	+31 50	02.5	589
1988 JV	1991 01	18.82708	08 21	26.17	+31 50	03.9	589
1988 JV	1991 01	18.85417	08 21	24.23	+31 50	23.7	589
1988 JV	1991 01	18.86146	08 21	23.80	+31 50	26.5	589
1988 JV	1991 01	18.86875	08 21	23.43	+31 50	29.3	589
1988 JV	1991 01	19.88542	08 20	18.93	+32 00	01.5	589
1988 JV	1991 01	19.89236	08 20	18.61	+32 00	05.6	589

1988	JV	1991	01	19.89930	08	20	18.26	+32 00 08.7	589
312		1991	01	17.87639	08	24	50.55	+31 40 12.7	589
312		1991	01	17.88369	08	24	50.26	+31 40 13.8	589
312		1991	01	17.89097	08	24	49.99	+31 40 14.0	589
312		1991	01	18.81250	08	23	53.44	+31 42 51.1	589
312		1991	01	18.81979	08	23	53.12	+31 42 51.2	589
312		1991	01	18.82708	08	23	52.78	+31 42 51.2	589
312		1991	01	18.85417	08	23	50.83	+31 42 56.5	589
312		1991	01	18.86146	08	23	50.42	+31 42 57.8	589
312		1991	01	18.86875	08	23	50.05	+31 42 58.0	589
312		1991	01	19.88542	08	22	46.91	+31 45 37.5	589
312		1991	01	19.89236	08	22	46.53	+31 45 38.5	589
312		1991	01	19.89930	08	22	46.22	+31 45 39.4	589
1031		1990	12	16.89930	04	06	52.20	+07 47 19.9	589
1031		1990	12	16.98055	04	06	49.15	+07 46 59.0	589
3616		1990	12	22.88194	04	07	40.85	+07 07 30.3	589
3616		1990	12	22.88888	04	07	40.60	+07 07 31.8	589
3616		1990	12	22.89583	04	07	40.36	+07 07 33.3	589
4673		1990	12	16.89245	04	14	50.10	+06 25 42.8	589
4673		1990	12	16.90634	04	14	49.56	+06 25 51.9	589
4673		1990	12	16.97361	04	14	45.53	+06 26 15.0	589
4673		1990	12	16.98055	04	14	45.30	+06 26 19.0	589
4673		1990	12	16.98750	04	14	45.06	+06 26 22.4	589
4673		1990	12	22.88194	04	09	41.85	+07 07 30.3	589
4673		1990	12	22.88888	04	09	41.58	+07 07 33.8	589
4673		1990	12	22.89583	04	09	41.34	+07 07 37.5	589

595 Osservatorio Circulo Culturale Astronomico di Farra
L. Bittesini, Via dei Conventi 10, I-34070 Farra D'Isonzo (GO), Italy
Observers G. Lombardi, E. Pettarin
Measurers L. Bittesini, F. Piani
0.4-m f/4.5 reflector
SAOC

1990	SQ	1990	12	20.87396	22	55	22.51	+46 04 21.3	595
1990	SQ	1990	12	20.89410	22	55	27.32	+46 05 02.1	595
1990	SQ	1990	12	20.91285	22	55	31.47	+46 05 42.8	595
1990	SQ	1991	01	15.90139	01	20	30.32	+57 03 22.8	595
1990	SQ	1991	01	15.91875	01	20	36.86	+57 03 34.3	595
1990	SQ	1991	01	21.84861	02	03	26.87	+57 43 17.8	595
1990	SQ	1991	01	21.89167	02	03	44.99	+57 43 23.6	595

657 Victoria, Climenhaga Observatory
J. B. Tatum, Dept. of Physics, University of Victoria, P.O. Box 1700,
Victoria, BC V8W 2Y2, Canada
Observers J. B. Tatum, D. D. Balam

1990	RF	1990	09	11.21049	23	05	02.94	-02 21 53.5	657
1990	RF	1990	09	11.23722	23	05	01.92	-02 22 08.2	657
1990	RF	1990	09	14.23062	23	03	07.74	-02 50 10.4	657
1990	RF	1990	09	14.26326	23	03	06.46	-02 50 28.8	657
1990	TL6	1990	09	11.21049	23	02	28.53	-00 07 14.8	657
1990	TL6	1990	09	11.23722	23	02	26.93	-00 07 17.3	657
1991	DB	1991	03	11.24375	10	49	43.81	+28 02 37.9	657
3045	P-L	1990	09	11.22333	23	25	23.12	+04 20 07.2	657
159		1991	01	21.15764	03	24	15.69	+11 43 56.3	657
181		1990	03	27.45215	17	17	33.57	-02 06 15.9	657
181		1990	03	27.46674	17	17	33.75	-02 06 12.2	657
183		1990	03	29.20840	08	52	10.43	+21 58 27.8	657
183		1990	03	29.21986	08	52	10.50	+21 58 31.4	657
334		1990	05	17.32483	15	32	22.88	-12 45 20.5	657

477	1990	02	26.50764	12	10	18.30	+01	22	02.9	657
669	1990	02	26.50764	12	02	32.76	+00	31	38.3	657
704	1990	09	10.21944	22	19	11.72	+16	17	33.2	657
821	1990	03	29.27125	11	53	46.29	-03	45	17.3	657
834	1990	11	20.41979	03	39	23.12	+15	04	16.7	657
898	1990	06	21.29660	16	52	20.32	-14	14	57.1	657
898	1990	06	21.33201	16	52	18.99	-14	14	32.6	657
933	1990	07	17.32507	20	38	43.60	-15	36	10.7	657
1231	1990	02	27.28826	09	06	21.22	+22	58	57.4	657
1796	1990	03	29.27125	11	46	23.74	-02	25	25.3	657
1796	1990	03	29.30042	11	46	22.69	-02	25	04.5	657
2647	1990	09	11.21049	23	01	41.96	+00	41	44.7	657
2647	1990	09	11.23722	23	01	40.39	+00	41	37.9	657
2928	1991	02	09.27646	09	17	59.10	+13	35	24.4	657
2928	1991	02	09.29799	09	17	57.96	+13	35	25.8	657
3773	1990	09	20.20076	23	03	50.35	-09	08	03.9	657
3773	1990	09	20.21326	23	03	49.94	-09	08	05.9	657
4101	1990	09	22.24479	23	08	17.37	-01	51	38.7	657

675 Palomar
J. Gibson, OAO Corporation and Jet Propulsion Laboratory, MS 238-332, Pasadena, CA 91109, U.S.A. (1)
E. Helin, MS 183-501, Jet Propulsion Laboratory, Pasadena, CA 91109, U.S.A. (2)
C. Shoemaker, P.O. Box 984, Flagstaff, AZ 86002, U.S.A. (3)
C. J. van Houten, Sterrewacht Leiden, Postbus 9513, NL-2300 RA Leiden, The Netherlands (4)
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff, AZ 86001, U.S.A. (6)
9 = 3 + 6
Observers J. A. Brown (3, S), T. Gehrels (4, L), J. Gibson (1, C), E. Helin (2, S), H. E. Holt (3, S), H. R. Holt (3, S), C. T. Kowal (6, L), K. Lawrence (2, S), D. H. Levy (3, S), C. M. Olmstead (3, S), P. Rose (2, S), C. S. Shoemaker (3, S), E. M. Shoemaker (3, S)
Measurers E. Bowell (6), T. M. King (3), K. A. Lawler (3), K. Lawrence (2), D. J. Osip (6), P. Rose (2), C. J. van Houten (4), I. van Houten-Groeneveld (4), A. Wisse (4)
1.5-m reflector + CCD (C), 1.2-m (L) and 0.46-m (S) Schmidt telescopes

1927	TC	1990	09	17.28889	23	20	26.85	+08	15	14.0	14.0 9 675
1927	TC	1990	09	17.32274	23	20	25.82	+08	16	08.7	9 675
1927	TC	1990	09	19.32757	23	19	46.55	+09	08	10.0	14.0 9 675
1927	TC	1990	09	19.35885	23	19	45.65	+09	08	58.6	9 675
1973	QO1	1990	09	17.28889	23	28	16.60	+07	55	50.1	16.2 9 675
1973	QO1	1990	09	17.32274	23	28	14.70	+07	55	52.8	9 675
1973	QO1	1990	09	19.32757	23	26	30.46	+07	57	57.7	15.8 9 675
1973	QO1	1990	09	19.35885	23	26	28.69	+07	57	59.4	9 675
1976	GK3	1990	09	17.28889	23	22	45.20	+05	56	56.4	16.8 9 675
1976	GK3	1990	09	17.32274	23	22	43.67	+05	56	42.2	9 675
1976	GK3	1990	09	19.32757	23	21	23.80	+05	40	00.5	17.0 9 675
1976	GK3	1990	09	19.35885	23	21	22.50	+05	39	44.0	9 675
1977	QW	1977	09	10.28316	23	49	47.95	+01	13	21.7	6 675
1977	QF1	1977	09	09.40313	23	58	26.41	-01	07	38.7	6 675
1977	QF1	1977	09	10.28316	23	57	32.58	-01	05	39.4	6 675
1977	QD3	1990	10	22.14306	23	17	37.59	-05	03	18.2	17.2 9 675
1977	QD3	1990	10	22.17517	23	17	36.89	-05	03	08.6	9 675
1977	RZ1	1977	09	09.40313	00	08	20.90	-02	08	35.1	6 675
1977	RZ1	1977	09	10.28316	00	07	25.54	-02	05	41.1	18.2 6 675
1977	RX2	1977	09	09.40313	23	47	08.60	-00	32	55.1	18.2 6 675
1977	RX2	1977	09	10.28316	23	46	20.20	-00	34	31.1	18.2 6 675

1977	RF9	*	1977	09	09.40313	00	00	03.12	+01	16	28.2	19.8	6 675
1977	RF9		1977	09	10.28316	23	59	25.36	+01	12	07.2	19.8	6 675
1977	RG9	*	1977	09	09.40313	00	00	06.94	+02	01	45.7	19.5	6 675
1977	RG9		1977	09	10.28316	23	59	23.39	+01	56	55.5	19.5	6 675
1977	RH9	*	1977	09	09.40313	00	00	07.08	-02	52	58.9		6 675
1977	RH9		1977	09	10.28316	23	59	27.56	-02	59	01.4	19.8	6 675
1977	RJ9	*	1977	09	09.40313	00	00	17.99	+00	53	55.9	20.0	6 675
1977	RJ9		1977	09	10.28316	23	59	29.94	+00	51	39.0	20.0	6 675
1977	RK9	*	1977	09	09.40313	00	00	25.00	+01	48	29.1	19.0	6 675
1977	RK9		1977	09	10.28316	23	59	47.50	+01	43	50.5	19.0	6 675
1977	RL9	*	1977	09	09.40313	00	00	28.18	-00	06	13.0		6 675
1977	RL9		1977	09	10.28316	23	59	45.62	-00	11	55.1	20.2	6 675
1977	RM9	*	1977	09	09.40313	00	00	32.14	-02	49	05.7		6 675
1977	RM9		1977	09	10.28316	23	59	59.95	-02	55	26.8	20.0	6 675
1977	RN9	*	1977	09	09.40313	00	00	34.32	+02	58	46.6	19.0	6 675
1977	RN9		1977	09	10.28316	23	59	53.29	+02	56	11.5	19.0	6 675
1977	RO9	*	1977	09	09.40313	00	00	38.98	-02	07	26.3		6 675
1977	RO9		1977	09	10.28316	23	59	58.12	-02	14	25.5	18.8	6 675
1977	RP9	*	1977	09	09.40313	00	00	46.39	-02	39	38.7		6 675
1977	RP9		1977	09	10.28316	00	00	12.09	-02	45	48.5	19.5	6 675
1977	RQ9	*	1977	09	09.40313	00	01	02.16	+00	05	47.7	19.5	6 675
1977	RQ9		1977	09	10.28316	00	00	21.20	+00	00	49.5	19.5	6 675
1977	RR9	*	1977	09	09.40313	00	01	06.11	-02	03	08.8		6 675
1977	RR9		1977	09	10.28316	00	00	14.71	-02	03	20.1	19.0	6 675
1977	RS9	*	1977	09	09.40313	00	01	08.34	+01	20	18.5	18.8	6 675
1977	RS9		1977	09	10.28316	00	00	42.36	+01	18	40.7	18.8	6 675
1977	RT9	*	1977	09	09.40313	00	01	10.61	+00	25	35.7	19.0	6 675
1977	RT9		1977	09	10.28316	00	00	34.52	+00	21	08.0	19.0	6 675
1977	RU9	*	1977	09	09.40313	00	01	15.03	+02	05	00.7	19.8	6 675
1977	RU9		1977	09	10.28316	00	00	31.23	+02	01	37.1	19.8	6 675
1977	RV9	*	1977	09	09.40313	00	01	25.34	+02	36	57.1	19.2	6 675
1977	RV9		1977	09	10.28316	00	00	48.69	+02	28	28.4	19.2	6 675
1977	RW9	*	1977	09	09.40313	00	01	26.65	+00	45	17.0	20.0	6 675
1977	RW9		1977	09	10.28316	00	00	45.51	+00	38	42.2	20.0	6 675
1977	RX9	*	1977	09	09.40313	00	01	32.48	-02	47	01.6		6 675
1977	RX9		1977	09	10.28316	00	00	48.12	-02	47	38.5	20.0	6 675
1977	RY9	*	1977	09	09.40313	00	01	33.38	+00	41	16.1	20.0	6 675
1977	RY9		1977	09	10.28316	00	00	50.60	+00	37	47.8	20.0	6 675
1977	RZ9	*	1977	09	09.40313	00	01	34.51	+02	11	27.9	19.5	6 675
1977	RZ9		1977	09	10.28316	00	00	52.07	+02	07	39.8	19.5	6 675
1977	RA10	*	1977	09	09.40313	00	01	34.66	-00	10	13.7		6 675
1977	RA10		1977	09	10.28316	00	01	11.21	-00	17	55.6	18.5	6 675
1977	RB10	*	1977	09	09.40313	00	01	53.28	+02	57	02.6	19.2	6 675
1977	RB10		1977	09	10.28316	00	01	24.75	+02	46	05.7	19.2	6 675
1977	RC10	*	1977	09	09.40313	00	01	57.64	+00	03	53.7	19.8	6 675
1977	RC10		1977	09	10.28316	00	01	16.74	-00	02	05.5	19.8	6 675
1977	RD10	*	1977	09	09.40313	00	01	58.41	+01	46	30.5	19.8	6 675
1977	RD10		1977	09	10.28316	00	01	17.49	+01	39	38.9	19.8	6 675
1977	RE10	*	1977	09	09.40313	00	02	00.58	+02	19	47.7	20.0	6 675
1977	RE10		1977	09	10.28316	00	01	19.12	+02	17	57.1	20.0	6 675
1977	RF10	*	1977	09	09.40313	00	02	14.75	-01	45	28.0		6 675
1977	RF10		1977	09	10.28316	00	01	27.94	-01	46	40.0	18.5	6 675
1977	RG10	*	1977	09	09.40313	00	02	28.19	-00	24	19.8		6 675
1977	RG10		1977	09	10.28316	00	01	40.50	-00	41	42.1	20.2	6 675
1977	RH10	*	1977	09	09.40313	00	02	33.88	+00	45	58.9	19.5	6 675
1977	RH10		1977	09	10.28316	00	01	43.27	+00	45	50.8	19.5	6 675
1977	RJ10	*	1977	09	09.40313	00	02	43.30	+00	10	41.9	19.5	6 675
1977	RJ10		1977	09	10.28316	00	02	08.52	+00	06	57.9	19.5	6 675
1977	RK10	*	1977	09	09.40313	00	02	56.54	-02	33	11.0		6 675

1977	RK10	1977	09	10.28316	00	02	19.88	-02	37	27.9		20.2	6 675
1977	RL10*	1977	09	09.40313	00	03	08.29	+02	57	01.0		20.2	6 675
1977	RL10	1977	09	10.28316	00	02	23.88	+02	53	29.7		20.2	6 675
1977	RM10*	1977	09	09.40313	00	03	13.18	+01	39	31.1		19.8	6 675
1977	RM10	1977	09	10.28316	00	02	31.43	+01	36	54.9		19.8	6 675
1977	RN10*	1977	09	09.40313	00	03	14.23	-00	40	55.2			6 675
1977	RN10	1977	09	10.28316	00	02	26.29	-00	44	53.8		19.5	6 675
1977	RO10*	1977	09	09.40313	00	03	16.68	-01	49	57.4			6 675
1977	RO10	1977	09	10.28316	00	02	37.34	-01	52	26.7		18.8	6 675
1977	RP10*	1977	09	09.40313	00	03	22.97	-02	03	01.9			6 675
1977	RP10	1977	09	10.28316	00	02	47.12	-02	08	01.7		19.8	6 675
1977	RQ10*	1977	09	09.40313	00	03	28.24	+00	13	40.9		19.0	6 675
1977	RQ10	1977	09	10.28316	00	02	54.19	+00	04	31.7		19.0	6 675
1977	RR10*	1977	09	09.40313	00	03	31.48	-02	56	01.9			6 675
1977	RR10	1977	09	10.28316	00	02	45.37	-03	00	47.6		20.0	6 675
1977	RS10*	1977	09	09.40313	00	03	35.32	-00	18	56.2			6 675
1977	RS10	1977	09	10.28316	00	02	59.61	-00	23	20.3		20.0	6 675
1977	RT10*	1977	09	09.40313	00	03	36.39	-03	01	01.2			6 675
1977	RT10	1977	09	10.28316	00	03	03.83	-03	07	56.9		19.8	6 675
1977	RU10*	1977	09	09.40313	00	03	50.57	+01	13	56.6		20.2	6 675
1977	RU10	1977	09	10.28316	00	03	16.33	+01	05	55.7		20.2	6 675
1977	RV10*	1977	09	09.40313	00	03	55.75	-03	08	08.9			6 675
1977	RV10	1977	09	10.28316	00	03	12.76	-03	09	50.3		20.0	6 675
1977	RW10*	1977	09	09.40313	00	03	56.10	+03	03	47.2		20.0	6 675
1977	RW10	1977	09	10.28316	00	03	26.43	+02	59	11.6		20.0	6 675
1977	RX10*	1977	09	09.40313	00	03	57.10	+01	02	53.9		20.0	6 675
1977	RX10	1977	09	10.28316	00	03	11.46	+00	58	56.7		20.0	6 675
1977	RY10*	1977	09	09.40313	00	03	58.68	+01	51	08.9		19.5	6 675
1977	RY10	1977	09	10.28316	00	03	13.22	+01	51	34.2		19.5	6 675
1977	RZ10*	1977	09	09.40313	00	04	00.80	-01	02	57.5			6 675
1977	RZ10	1977	09	10.28316	00	03	14.82	-01	09	17.9		18.5	6 675
1977	RA11*	1977	09	09.40313	00	04	02.60	+03	02	23.8		20.0	6 675
1977	RA11	1977	09	10.28316	00	03	29.40	+02	54	52.8		20.0	6 675
1977	RB11*	1977	09	09.40313	00	04	10.65	+01	27	08.9		19.8	6 675
1977	RB11	1977	09	10.28316	00	03	36.52	+01	20	48.5		19.8	6 675
1977	RC11*	1977	09	09.40313	00	04	12.96	-01	57	10.8			6 675
1977	RC11	1977	09	10.28316	00	03	37.09	-02	02	38.8		20.2	6 675
1977	RD11*	1977	09	09.40313	00	04	19.24	+03	07	00.2		19.0	6 675
1977	RD11	1977	09	10.28316	00	03	43.74	+03	03	27.6		19.0	6 675
1977	RE11*	1977	09	09.40313	00	04	31.98	-00	33	00.0			6 675
1977	RE11	1977	09	10.28316	00	03	53.58	-00	36	42.4		18.8	6 675
1977	RF11*	1977	09	09.40313	00	04	36.39	+00	39	25.3		20.0	6 675
1977	RF11	1977	09	10.28316	00	04	01.32	+00	33	11.6		20.0	6 675
1977	RG11*	1977	09	09.40313	00	04	37.89	+02	55	43.5		19.5	6 675
1977	RG11	1977	09	10.28316	00	04	00.14	+02	50	58.9		19.5	6 675
1977	RH11*	1977	09	09.40313	00	04	39.30	+00	20	25.2		18.8	6 675
1977	RH11	1977	09	10.28316	00	04	11.44	+00	11	23.8		18.8	6 675
1977	RJ11*	1977	09	09.40313	00	04	47.55	-00	18	56.0			6 675
1977	RJ11	1977	09	10.28316	00	03	59.37	-00	18	30.6		19.8	6 675
1977	RK11*	1977	09	09.40313	00	04	53.23	-01	59	10.4			6 675
1977	RK11	1977	09	10.28316	00	04	17.08	-02	04	00.6		20.0	6 675
1977	RL11*	1977	09	09.40313	00	05	00.07	-01	15	42.6			6 675
1977	RL11	1977	09	10.28316	00	04	28.20	-01	20	42.6		19.0	6 675
1977	RM11*	1977	09	09.40313	00	05	09.35	-01	12	13.7			6 675
1977	RM11	1977	09	10.28316	00	04	32.53	-01	17	01.2		18.8	6 675
1977	RN11*	1977	09	09.40313	00	05	18.74	+02	33	57.4		18.5	6 675
1977	RN11	1977	09	10.28316	00	04	41.53	+02	30	55.4		18.5	6 675
1977	RO11*	1977	09	09.40313	00	05	20.29	+02	15	35.9		19.8	6 675
1977	RO11	1977	09	10.28316	00	04	41.33	+02	10	30.6		19.8	6 675

1977	RP11*	1977	09	09.40313	00	05	23.19	+01	21	56.0		19.2	6 675
1977	RP11	1977	09	10.28316	00	04	51.42	+01	16	20.8		19.2	6 675
1977	RQ11*	1977	09	09.40313	00	05	27.91	+00	20	46.2		20.0	6 675
1977	RQ11	1977	09	10.28316	00	04	53.55	+00	16	42.7		20.0	6 675
1977	RR11*	1977	09	09.40313	00	05	31.25	-02	54	47.3			6 675
1977	RR11	1977	09	10.28316	00	04	55.42	-02	59	38.5		20.2	6 675
1977	RS11*	1977	09	09.40313	00	05	38.94	+00	29	22.9		19.2	6 675
1977	RS11	1977	09	10.28316	00	05	04.98	+00	22	43.7		19.2	6 675
1977	RT11*	1977	09	09.40313	00	05	48.80	-00	07	00.2			6 675
1977	RT11	1977	09	10.28316	00	05	16.69	-00	12	22.9		20.0	6 675
1977	RU11*	1977	09	09.40313	00	05	51.53	-00	54	12.0			6 675
1977	RU11	1977	09	10.28316	00	05	11.41	-00	57	50.0		19.5	6 675
1977	RV11*	1977	09	09.40313	00	05	57.00	-02	50	09.8			6 675
1977	RV11	1977	09	10.28316	00	05	15.15	-02	57	31.4		20.0	6 675
1977	RW11*	1977	09	09.40313	00	06	01.30	-00	44	30.3			6 675
1977	RW11	1977	09	10.28316	00	05	19.56	-00	50	18.5		19.5	6 675
1977	RX11*	1977	09	09.40313	00	06	05.94	-00	58	35.9			6 675
1977	RX11	1977	09	10.28316	00	05	23.53	-01	02	11.0		20.0	6 675
1977	RY11*	1977	09	09.40313	00	06	10.22	-01	17	59.5			6 675
1977	RY11	1977	09	10.28316	00	05	43.58	-01	19	14.6		18.5	6 675
1977	RZ11*	1977	09	09.40313	00	06	15.22	-02	19	48.3			6 675
1977	RZ11	1977	09	10.28316	00	05	49.38	-02	27	25.3		20.2	6 675
1977	RA12*	1977	09	09.40313	00	06	15.49	+01	04	57.5		19.8	6 675
1977	RA12	1977	09	10.28316	00	05	40.10	+00	56	09.4		19.8	6 675
1977	RB12*	1977	09	09.40313	00	06	22.24	-00	30	13.0			6 675
1977	RB12	1977	09	10.28316	00	05	43.73	-00	33	52.3		19.5	6 675
1977	RC12*	1977	09	09.40313	00	06	22.69	+02	11	25.3		18.5	6 675
1977	RC12	1977	09	10.28316	00	05	45.25	+02	07	43.2		18.5	6 675
1977	RD12*	1977	09	09.40313	00	06	26.22	-01	28	34.1			6 675
1977	RD12	1977	09	10.28316	00	05	45.05	-01	29	45.0		20.0	6 675
1977	RE12*	1977	09	09.40313	00	06	29.52	+02	32	31.6		19.5	6 675
1977	RE12	1977	09	10.28316	00	05	47.09	+02	28	46.8		19.5	6 675
1977	RF12*	1977	09	09.40313	00	06	30.29	+01	06	09.3		18.8	6 675
1977	RF12	1977	09	10.28316	00	05	55.48	+01	03	55.7		18.8	6 675
1977	RG12*	1977	09	09.40313	00	06	33.22	+01	22	07.3		20.0	6 675
1977	RG12	1977	09	10.28316	00	05	53.59	+01	22	05.0		20.0	6 675
1977	RH12*	1977	09	09.40313	00	06	33.82	-02	14	40.5			6 675
1977	RH12	1977	09	10.28316	00	05	51.28	-02	22	31.4		20.2	6 675
1977	RJ12*	1977	09	09.40313	00	06	39.10	+00	08	31.7		19.5	6 675
1977	RJ12	1977	09	10.28316	00	05	57.30	+00	06	36.1		19.5	6 675
1977	RK12*	1977	09	09.40313	00	06	39.88	-00	11	12.0			6 675
1977	RK12	1977	09	10.28316	00	05	53.37	-00	15	40.5		20.2	6 675
1977	RL12*	1977	09	09.40313	00	06	42.76	-00	07	38.3			6 675
1977	RL12	1977	09	10.28316	00	06	07.44	-00	12	27.2		18.5	6 675
1977	RM12*	1977	09	09.40313	00	06	45.62	-02	13	57.4			6 675
1977	RM12	1977	09	10.28316	00	06	01.82	-02	21	50.4		20.2	6 675
1977	RN12*	1977	09	09.40313	00	06	58.73	+02	48	54.6		18.8	6 675
1977	RN12	1977	09	10.28316	00	06	20.31	+02	46	33.8		18.8	6 675
1977	RO12*	1977	09	09.40313	00	06	59.48	+01	36	13.3		19.5	6 675
1977	RO12	1977	09	10.28316	00	06	24.56	+01	27	43.1		19.5	6 675
1977	RP12*	1977	09	09.40313	00	07	04.98	+02	15	58.6		20.0	6 675
1977	RP12	1977	09	10.28316	00	06	33.41	+02	10	16.6		20.0	6 675
1977	RQ12*	1977	09	09.40313	00	07	05.18	+00	12	49.5		19.8	6 675
1977	RQ12	1977	09	10.28316	00	06	29.17	+00	08	00.8		19.8	6 675
1977	RR12*	1977	09	09.40313	00	07	10.67	+00	20	22.7		19.0	6 675
1977	RR12	1977	09	10.28316	00	06	43.81	+00	09	19.8		19.0	6 675
1977	RS12*	1977	09	09.40313	00	07	19.23	+01	02	45.6		20.2	6 675
1977	RS12	1977	09	10.28316	00	06	45.88	+00	57	21.5		20.2	6 675
1977	RT12*	1977	09	09.40313	00	07	25.93	+02	23	39.5		19.8	6 675

1977	RT12	1977	09	10.28316	00	06	48.71	+02	18	54.8		19.8	6 675
1977	RU12*	1977	09	09.40313	00	07	32.64	+01	24	13.0		19.2	6 675
1977	RU12	1977	09	10.28316	00	06	57.00	+01	20	05.2		19.2	6 675
1977	RV12*	1977	09	09.40313	00	07	40.08	+01	53	31.4		19.8	6 675
1977	RV12	1977	09	10.28316	00	06	58.36	+01	50	57.0		19.8	6 675
1977	RW12*	1977	09	09.40313	00	07	54.82	+01	32	46.6		18.8	6 675
1977	RW12	1977	09	10.28316	00	07	18.66	+01	25	24.5		18.8	6 675
1977	RX12*	1977	09	09.40313	00	07	56.28	-02	32	13.0			6 675
1977	RX12	1977	09	10.28316	00	07	20.24	-02	36	30.0		19.8	6 675
1977	RY12*	1977	09	09.40313	00	07	57.61	+00	16	32.1		18.8	6 675
1977	RY12	1977	09	10.28316	00	07	21.25	+00	13	40.6		18.8	6 675
1977	RZ12*	1977	09	09.40313	00	08	03.68	+02	12	18.6		20.0	6 675
1977	RZ12	1977	09	10.28316	00	07	27.86	+02	08	26.7		20.0	6 675
1977	RA13*	1977	09	09.40313	00	08	09.80	+01	16	58.8		20.0	6 675
1977	RA13	1977	09	10.28316	00	07	25.61	+01	15	29.4		20.0	6 675
1977	RB13*	1977	09	09.40313	00	08	11.27	+00	49	43.3		19.8	6 675
1977	RB13	1977	09	10.28316	00	07	36.41	+00	41	27.2		19.8	6 675
1977	RC13*	1977	09	09.40313	00	08	12.17	+02	48	34.6		19.0	6 675
1977	RC13	1977	09	10.28316	00	07	34.44	+02	42	00.0		19.0	6 675
1977	RD13*	1977	09	09.40313	00	08	14.26	+02	22	06.2		19.0	6 675
1977	RD13	1977	09	10.28316	00	07	36.58	+02	18	18.1		19.0	6 675
1977	RE13*	1977	09	09.40313	00	08	14.50	+00	23	31.4		19.8	6 675
1977	RE13	1977	09	10.28316	00	07	37.20	+00	20	20.6		19.8	6 675
1977	RF13*	1977	09	09.40313	00	08	18.60	+01	10	27.3		19.8	6 675
1977	RF13	1977	09	10.28316	00	07	46.71	+01	00	14.1		19.8	6 675
1977	RG13*	1977	09	09.40313	00	08	24.79	-01	23	07.7			6 675
1977	RG13	1977	09	10.28316	00	07	47.12	-01	26	23.6		18.5	6 675
1977	RH13*	1977	09	09.40313	00	08	37.62	+00	29	28.8		20.2	6 675
1977	RH13	1977	09	10.28316	00	07	54.63	+00	23	13.2		20.2	6 675
1977	RJ13*	1977	09	09.40313	00	08	38.26	-00	16	24.9			6 675
1977	RJ13	1977	09	10.28316	00	08	07.80	-00	27	04.1		18.8	6 675
1977	RK13*	1977	09	09.40313	00	08	41.64	+01	00	36.6		19.8	6 675
1977	RK13	1977	09	10.28316	00	07	53.21	+00	57	24.8		19.8	6 675
1977	RL13*	1977	09	09.40313	00	08	49.02	+03	05	27.5		19.2	6 675
1977	RL13	1977	09	10.28316	00	08	04.73	+03	05	22.0		19.2	6 675
1977	RM13*	1977	09	09.40313	00	08	49.22	-01	55	45.9			6 675
1977	RM13	1977	09	10.28316	00	08	14.96	-02	06	39.6		19.2	6 675
1977	RN13*	1977	09	09.40313	00	08	53.71	+03	07	43.0		19.2	6 675
1977	RN13	1977	09	10.28316	00	08	20.87	+03	02	46.2		19.2	6 675
1977	RO13*	1977	09	09.40313	00	09	03.15	-01	35	04.8			6 675
1977	RO13	1977	09	10.28316	00	08	20.32	-01	42	17.2		20.2	6 675
1977	RP13*	1977	09	09.40313	00	09	06.29	-00	54	46.9			6 675
1977	RP13	1977	09	10.28316	00	08	10.83	-00	51	51.3		19.2	6 675
1977	RQ13*	1977	09	09.40313	00	09	06.87	-00	21	33.7			6 675
1977	RQ13	1977	09	10.28316	00	08	29.05	-00	26	07.2		20.2	6 675
1977	RR13*	1977	09	09.40313	00	09	09.39	+03	02	24.3		19.5	6 675
1977	RR13	1977	09	10.28316	00	08	30.42	+02	41	46.9		19.5	6 675
1977	RS13*	1977	09	09.40313	00	09	12.32	-00	44	21.5			6 675
1977	RS13	1977	09	10.28316	00	08	37.54	-00	47	50.2		19.2	6 675
1977	RT13*	1977	09	09.40313	00	09	13.73	+01	23	24.0		19.0	6 675
1977	RT13	1977	09	10.28316	00	08	40.02	+01	19	48.3		19.0	6 675
1977	RU13*	1977	09	09.40313	00	09	22.30	-00	47	56.6			6 675
1977	RU13	1977	09	10.28316	00	08	46.76	-00	57	15.9		20.0	6 675
1977	RV13*	1977	09	09.40313	00	09	35.48	+00	51	15.6		19.5	6 675
1977	RV13	1977	09	10.28316	00	08	57.81	+00	48	43.6		19.5	6 675
1977	RW13*	1977	09	09.40313	00	09	53.63	-01	37	55.9			6 675
1977	RW13	1977	09	10.28316	00	09	13.06	-01	41	11.8		20.0	6 675
1977	RX13*	1977	09	09.40313	00	10	06.01	+02	34	03.9		20.0	6 675
1977	RX13	1977	09	10.28316	00	09	24.99	+02	31	13.2		20.0	6 675

1977	RY13*	1977	09	09.40313	00	10	08.08	+03	12	12.3		19.0	6 675
1977	RY13	1977	09	10.28316	00	09	39.18	+03	00	55.6		19.0	6 675
1977	RZ13*	1977	09	09.40313	00	10	10.42	+02	36	04.4		19.8	6 675
1977	RZ13	1977	09	10.28316	00	09	35.18	+02	33	36.5		19.8	6 675
1977	RA14*	1977	09	09.40313	00	10	14.64	-01	18	56.3			6 675
1977	RA14	1977	09	10.28316	00	09	49.80	-01	28	42.0		18.5	6 675
1977	RB14*	1977	09	09.40313	00	10	19.50	-00	32	21.7			6 675
1977	RB14	1977	09	10.28316	00	09	30.32	-00	37	03.3		18.5	6 675
1977	RC14*	1977	09	09.40313	00	10	19.97	+02	32	54.6		19.0	6 675
1977	RC14	1977	09	10.28316	00	09	42.00	+02	30	17.2		19.0	6 675
1977	RD14*	1977	09	09.40313	00	10	21.98	+00	13	43.4		19.5	6 675
1977	RD14	1977	09	10.28316	00	09	36.66	+00	14	02.6		19.5	6 675
1977	RE14*	1977	09	09.40313	00	10	29.54	+03	10	51.4		19.2	6 675
1977	RE14	1977	09	10.28316	00	09	55.50	+03	01	52.2		19.2	6 675
1977	RF14*	1977	09	09.40313	00	10	30.65	-01	54	11.1			6 675
1977	RF14	1977	09	10.28316	00	09	51.09	-01	59	46.7		19.8	6 675
1977	RG14*	1977	09	09.40313	00	10	33.11	-00	14	08.6			6 675
1977	RG14	1977	09	10.28316	00	09	57.78	-00	18	02.6		20.0	6 675
1977	RH14*	1977	09	09.40313	00	10	36.48	+02	47	58.2		20.0	6 675
1977	RH14	1977	09	10.28316	00	09	55.54	+02	41	37.1		20.0	6 675
1977	RJ14*	1977	09	09.40313	00	10	39.39	+00	02	48.3		20.2	6 675
1977	RJ14	1977	09	10.28316	00	09	50.60	+00	02	14.8		20.2	6 675
1977	RK14*	1977	09	09.40313	00	10	40.72	+01	34	12.0		18.5	6 675
1977	RK14	1977	09	10.28316	00	10	05.98	+01	30	39.9		18.5	6 675
1977	RL14*	1977	09	09.40313	00	10	50.73	+01	17	47.7		19.5	6 675
1977	RL14	1977	09	10.28316	00	10	09.98	+01	16	10.0		19.5	6 675
1977	RM14*	1977	09	09.40313	00	10	57.43	-02	56	16.8			6 675
1977	RM14	1977	09	10.28316	00	10	09.54	-02	57	36.1		20.2	6 675
1977	RN14*	1977	09	09.40313	00	11	02.86	-00	17	50.8			6 675
1977	RN14	1977	09	10.28316	00	10	29.49	-00	23	06.7		19.8	6 675
1977	RO14*	1977	09	09.40313	00	11	09.45	+01	40	52.9		19.0	6 675
1977	RO14	1977	09	10.28316	00	10	20.68	+01	38	27.1		19.0	6 675
1977	RP14*	1977	09	09.40313	00	11	16.87	-01	27	34.9			6 675
1977	RP14	1977	09	10.28316	00	10	44.44	-01	32	14.7		19.5	6 675
1977	RQ14*	1977	09	09.40313	00	11	17.35	+01	46	49.7		19.0	6 675
1977	RQ14	1977	09	10.28316	00	10	38.28	+01	46	38.1		19.0	6 675
1977	RR14*	1977	09	09.40313	00	11	18.97	+01	38	35.4		19.0	6 675
1977	RR14	1977	09	10.28316	00	10	39.34	+01	35	27.3		19.0	6 675
1977	RS14*	1977	09	09.40313	00	11	21.87	+02	02	21.4		20.0	6 675
1977	RS14	1977	09	10.28316	00	10	38.30	+02	02	03.1		20.0	6 675
1977	RT14*	1977	09	09.40313	00	11	30.06	-02	36	46.1			6 675
1977	RT14	1977	09	10.28316	00	10	46.89	-02	42	47.1		20.0	6 675
1977	RU14*	1977	09	09.40313	00	11	50.84	-00	06	23.8			6 675
1977	RU14	1977	09	10.28316	00	11	11.89	-00	11	35.6		18.8	6 675
1977	RV14*	1977	09	09.40313	23	46	48.43	-00	43	00.3		19.8	6 675
1977	RV14	1977	09	10.28316	23	46	18.01	-00	46	51.5		19.8	6 675
1977	RW14*	1977	09	09.40313	23	46	55.46	-01	20	14.8		19.5	6 675
1977	RW14	1977	09	10.28316	23	46	14.98	-01	26	30.4		19.5	6 675
1977	RX14*	1977	09	09.40313	23	47	19.64	-00	54	28.7		19.8	6 675
1977	RX14	1977	09	10.28316	23	46	42.61	-00	59	13.9		19.8	6 675
1977	RY14*	1977	09	09.40313	23	47	20.07	-00	58	09.0		19.5	6 675
1977	RY14	1977	09	10.28316	23	46	48.43	-01	08	13.8		19.5	6 675
1977	RZ14*	1977	09	09.40313	23	47	24.52	+01	42	19.3		18.0	6 675
1977	RZ14	1977	09	10.28316	23	46	42.04	+01	41	27.0		18.0	6 675
1977	RA15*	1977	09	09.40313	23	47	27.28	-02	24	38.5		20.2	6 675
1977	RA15	1977	09	10.28316	23	46	49.02	-02	34	26.6		20.2	6 675
1977	RB15*	1977	09	09.40313	23	47	29.04	-01	57	42.4		18.5	6 675
1977	RB15	1977	09	10.28316	23	46	53.15	-02	03	20.5		18.5	6 675
1977	RC15*	1977	09	09.40313	23	47	30.08	-00	33	39.6		20.2	6 675

1977	RC15	1977	09	10.28316	23	46	43.14	-00	37	57.9	20.2	6	675
1977	RD15*	1977	09	09.40313	23	47	34.81	-01	48	56.2	18.8	6	675
1977	RD15	1977	09	10.28316	23	46	57.70	-01	53	02.2	18.8	6	675
1977	RE15*	1977	09	09.40313	23	47	38.35	-00	02	22.5	19.8	6	675
1977	RE15	1977	09	10.28316	23	46	48.77	-00	06	23.1	19.8	6	675
1977	RF15*	1977	09	09.40313	23	47	54.27	-00	00	50.7	20.2	6	675
1977	RF15	1977	09	10.28316	23	47	13.60	-00	06	17.2	20.2	6	675
1977	RG15*	1977	09	09.40313	23	47	56.47	-02	03	56.9	18.5	6	675
1977	RG15	1977	09	10.28316	23	47	09.68	-02	09	55.6	18.5	6	675
1977	RH15*	1977	09	09.40313	23	48	00.67	+00	26	19.8	19.5	6	675
1977	RH15	1977	09	10.28316	23	47	21.48	+00	22	56.3	19.5	6	675
1977	RJ15*	1977	09	09.40313	23	48	07.36	+00	56	07.7	19.2	6	675
1977	RJ15	1977	09	10.28316	23	47	26.26	+00	52	33.7	19.2	6	675
1977	RK15*	1977	09	09.40313	23	48	13.56	+01	45	55.2	19.5	6	675
1977	RK15	1977	09	10.28316	23	47	28.08	+01	42	12.6	19.5	6	675
1977	RL15*	1977	09	09.40313	23	48	17.90	-01	50	21.9	19.8	6	675
1977	RL15	1977	09	10.28316	23	47	31.71	-01	55	02.3	19.8	6	675
1977	RM15*	1977	09	09.40313	23	48	22.51	-01	11	23.4	18.5	6	675
1977	RM15	1977	09	10.28316	23	47	40.27	-01	17	02.7	18.5	6	675
1977	RN15*	1977	09	09.40313	23	48	31.64	-02	12	33.1	19.5	6	675
1977	RN15	1977	09	10.28316	23	47	38.38	-02	10	27.0	19.5	6	675
1977	RO15*	1977	09	09.40313	23	48	37.81	+01	17	43.9	19.0	6	675
1977	RO15	1977	09	10.28316	23	47	58.30	+01	13	06.4	19.0	6	675
1977	RP15*	1977	09	09.40313	23	49	20.66	-00	52	09.5	18.5	6	675
1977	RP15	1977	09	10.28316	23	48	33.83	-00	52	16.0	18.5	6	675
1977	RQ15*	1977	09	09.40313	23	49	24.02	-00	40	38.6	20.2	6	675
1977	RQ15	1977	09	10.28316	23	48	35.62	-00	40	10.1	20.2	6	675
1977	RR15*	1977	09	09.40313	23	49	31.83	+00	18	33.7	19.5	6	675
1977	RR15	1977	09	10.28316	23	48	54.81	+00	14	03.7	19.5	6	675
1977	RS15*	1977	09	09.40313	23	49	32.16	+02	11	18.5	20.0	6	675
1977	RS15	1977	09	10.28316	23	48	40.99	+02	13	07.6	20.0	6	675
1977	RT15*	1977	09	09.40313	23	49	40.73	+00	42	07.1	18.8	6	675
1977	RT15	1977	09	10.28316	23	48	56.54	+00	38	09.9	18.8	6	675
1977	RU15*	1977	09	09.40313	23	49	41.73	-01	44	06.5	20.0	6	675
1977	RU15	1977	09	10.28316	23	49	04.32	-01	50	44.8	20.0	6	675
1977	RV15*	1977	09	09.40313	23	49	42.97	+00	09	45.2	19.2	6	675
1977	RV15	1977	09	10.28316	23	49	04.04	+00	03	55.6	19.2	6	675
1977	RW15*	1977	09	09.40313	23	50	09.21	+00	41	18.0	19.2	6	675
1977	RW15	1977	09	10.28316	23	49	34.88	+00	34	46.1	19.2	6	675
1977	RX15*	1977	09	09.40313	23	50	20.73	+01	35	39.2	20.2	6	675
1977	RX15	1977	09	10.28316	23	49	38.62	+01	29	54.8	20.2	6	675
1977	RY15*	1977	09	09.40313	23	50	23.45	-02	57	00.4	20.0	6	675
1977	RY15	1977	09	10.28316	23	49	35.58	-03	01	27.0	20.0	6	675
1977	RZ15*	1977	09	09.40313	23	50	33.87	-02	22	32.4	19.8	6	675
1977	RZ15	1977	09	10.28316	23	49	49.85	-02	26	10.9	19.8	6	675
1977	RA16*	1977	09	09.40313	23	50	42.13	-00	33	17.1	20.0	6	675
1977	RA16	1977	09	10.28316	23	49	55.20	-00	38	49.2	20.0	6	675
1977	RB16*	1977	09	09.40313	23	50	46.22	+01	15	25.0	19.8	6	675
1977	RB16	1977	09	10.28316	23	50	02.06	+01	09	39.3	19.8	6	675
1977	RC16*	1977	09	09.40313	23	50	48.03	-00	42	30.8	18.8	6	675
1977	RC16	1977	09	10.28316	23	50	11.80	-00	46	52.3	18.8	6	675
1977	RD16*	1977	09	09.40313	23	50	50.67	-00	19	25.6	19.8	6	675
1977	RD16	1977	09	10.28316	23	50	23.66	-00	29	39.4	19.8	6	675
1977	RE16*	1977	09	09.40313	23	50	59.22	+02	50	32.1	19.2	6	675
1977	RE16	1977	09	10.28316	23	50	19.32	+02	45	34.3	19.2	6	675
1977	RF16*	1977	09	09.40313	23	51	04.39	-00	07	42.4	20.0	6	675
1977	RF16	1977	09	10.28316	23	50	25.35	-00	12	52.6	20.0	6	675
1977	RG16*	1977	09	09.40313	23	51	05.70	-00	06	57.2	19.2	6	675
1977	RG16	1977	09	10.28316	23	50	24.12	-00	11	25.1	19.2	6	675

1977	RH16*	1977	09	09.40313	23	51	26.22	+00	14	50.3		20.0	6 675
1977	RH16	1977	09	10.28316	23	50	51.43	+00	07	39.7		20.0	6 675
1977	RJ16*	1977	09	09.40313	23	51	26.26	+02	52	04.5		19.5	6 675
1977	RJ16	1977	09	10.28316	23	50	43.93	+02	49	01.6		19.5	6 675
1977	RK16*	1977	09	09.40313	23	51	27.92	+02	30	14.5		19.5	6 675
1977	RK16	1977	09	10.28316	23	50	50.44	+02	26	53.7		19.5	6 675
1977	RL16*	1977	09	09.40313	23	51	29.70	+00	25	44.9		18.0	6 675
1977	RL16	1977	09	10.28316	23	50	37.36	+00	27	01.7		18.0	6 675
1977	RM16*	1977	09	09.40313	23	51	30.36	-03	02	59.7		18.5	6 675
1977	RM16	1977	09	10.28316	23	50	44.37	-03	06	23.2		18.5	6 675
1977	RN16*	1977	09	09.40313	23	51	32.74	-00	08	27.9		18.5	6 675
1977	RN16	1977	09	10.28316	23	50	50.13	-00	12	33.2		18.5	6 675
1977	RO16*	1977	09	09.40313	23	51	42.32	-01	11	24.8		18.8	6 675
1977	RO16	1977	09	10.28316	23	51	01.73	-01	13	50.0		18.8	6 675
1977	RP16*	1977	09	09.40313	23	51	47.69	-01	18	39.5		19.0	6 675
1977	RP16	1977	09	10.28316	23	51	10.71	-01	27	32.6		19.0	6 675
1977	RQ16*	1977	09	09.40313	23	52	00.11	+00	15	42.4		19.5	6 675
1977	RQ16	1977	09	10.28316	23	51	25.52	+00	09	20.6		19.5	6 675
1977	RR16*	1977	09	09.40313	23	52	17.68	-00	07	02.6		19.0	6 675
1977	RR16	1977	09	10.28316	23	51	37.78	-00	10	58.1		19.0	6 675
1977	RS16*	1977	09	09.40313	23	52	18.76	+00	35	02.6		20.2	6 675
1977	RS16	1977	09	10.28316	23	51	37.53	+00	27	25.2		20.2	6 675
1977	RT16*	1977	09	09.40313	23	52	26.36	-01	59	46.4		19.0	6 675
1977	RT16	1977	09	10.28316	23	51	47.92	-02	04	52.1		19.0	6 675
1977	RU16*	1977	09	09.40313	23	52	31.57	-00	20	14.1		19.5	6 675
1977	RU16	1977	09	10.28316	23	51	51.78	-00	23	55.3		19.5	6 675
1977	RV16*	1977	09	09.40313	23	52	32.68	-02	01	45.8		19.8	6 675
1977	RV16	1977	09	10.28316	23	51	40.66	-02	02	27.0		19.8	6 675
1977	RW16*	1977	09	09.40313	23	52	32.89	+02	35	25.7		19.2	6 675
1977	RW16	1977	09	10.28316	23	51	48.95	+02	28	30.0		19.2	6 675
1977	RX16*	1977	09	09.40313	23	52	40.37	+02	12	41.6		19.2	6 675
1977	RX16	1977	09	10.28316	23	51	54.87	+02	08	23.9		19.2	6 675
1977	RY16*	1977	09	09.40313	23	52	43.48	-02	09	36.5		19.0	6 675
1977	RY16	1977	09	10.28316	23	52	00.30	-02	12	05.9		19.0	6 675
1977	RZ16*	1977	09	09.40313	23	52	44.40	-01	38	44.9		18.2	6 675
1977	RZ16	1977	09	10.28316	23	51	52.14	-01	37	13.7		18.2	6 675
1977	RA17*	1977	09	09.40313	23	52	49.42	-00	16	46.0		19.0	6 675
1977	RA17	1977	09	10.28316	23	52	10.84	-00	21	27.1		19.0	6 675
1977	RB17*	1977	09	09.40313	23	52	50.84	+00	23	41.5		20.2	6 675
1977	RB17	1977	09	10.28316	23	52	04.81	+00	18	03.9		20.2	6 675
1977	RC17*	1977	09	09.40313	23	53	04.40	+01	49	56.1		20.0	6 675
1977	RC17	1977	09	10.28316	23	52	14.47	+01	45	35.0		20.0	6 675
1977	RD17*	1977	09	09.40313	23	53	04.72	-01	07	03.1		19.5	6 675
1977	RD17	1977	09	10.28316	23	52	31.95	-01	15	48.3		19.5	6 675
1977	RE17*	1977	09	09.40313	23	53	09.60	-01	14	25.0		19.5	6 675
1977	RE17	1977	09	10.28316	23	52	39.33	-01	22	43.1		19.5	6 675
1977	RF17*	1977	09	09.40313	23	53	15.41	-02	04	22.0		18.8	6 675
1977	RF17	1977	09	10.28316	23	52	40.48	-02	10	49.6		18.8	6 675
1977	RG17*	1977	09	09.40313	23	53	17.81	+01	22	23.3		20.0	6 675
1977	RG17	1977	09	10.28316	23	52	27.80	+01	18	26.8		20.0	6 675
1977	RH17*	1977	09	09.40313	23	53	25.21	-01	06	08.0		19.5	6 675
1977	RH17	1977	09	10.28316	23	52	37.45	-01	11	43.5		19.5	6 675
1977	RJ17*	1977	09	09.40313	23	53	32.10	-02	28	05.2		20.0	6 675
1977	RJ17	1977	09	10.28316	23	52	52.50	-02	31	54.5		20.0	6 675
1977	RK17*	1977	09	09.40313	23	53	51.33	+00	59	24.8		18.8	6 675
1977	RK17	1977	09	10.28316	23	53	17.93	+00	53	22.3		18.8	6 675
1977	RL17*	1977	09	09.40313	23	54	02.87	+02	55	26.8		20.0	6 675
1977	RL17	1977	09	10.28316	23	53	23.98	+02	52	39.5		20.0	6 675
1977	RM17*	1977	09	09.40313	23	54	32.09	+00	41	56.8		19.2	6 675

1977	RM17	1977	09	10.28316	23	53	44.23	+00	35	16.8	19.2	6 675
1977	RN17*	1977	09	09.40313	23	54	37.52	+00	47	10.2	19.0	6 675
1977	RN17	1977	09	10.28316	23	53	58.89	+00	38	49.7	19.0	6 675
1977	RO17*	1977	09	09.40313	23	54	47.69	-01	07	41.4	18.8	6 675
1977	RO17	1977	09	10.28316	23	54	08.08	-01	14	08.5	18.8	6 675
1977	RP17*	1977	09	09.40313	23	54	48.18	-00	38	01.0	19.2	6 675
1977	RP17	1977	09	10.28316	23	54	05.04	-00	43	36.3	19.2	6 675
1977	RQ17*	1977	09	09.40313	23	54	48.83	+03	00	22.3	20.0	6 675
1977	RQ17	1977	09	10.28316	23	54	02.95	+02	59	53.6	20.0	6 675
1977	RR17*	1977	09	09.40313	23	54	55.40	+01	18	19.5	20.0	6 675
1977	RR17	1977	09	10.28316	23	54	12.75	+01	14	44.6	20.0	6 675
1977	RS17*	1977	09	09.40313	23	55	11.99	-00	29	24.3	18.5	6 675
1977	RS17	1977	09	10.28316	23	54	34.53	-00	34	05.2	18.5	6 675
1977	RT17*	1977	09	09.40313	23	55	18.84	-01	49	55.9	19.8	6 675
1977	RT17	1977	09	10.28316	23	54	36.43	-01	51	09.5	19.8	6 675
1977	RU17*	1977	09	09.40313	23	55	22.99	-00	10	58.3	19.0	6 675
1977	RU17	1977	09	10.28316	23	54	37.79	-00	15	29.7	19.0	6 675
1977	RV17*	1977	09	09.40313	23	55	24.44	+01	18	32.9	20.0	6 675
1977	RV17	1977	09	10.28316	23	54	47.49	+01	15	44.8	20.0	6 675
1977	RW17*	1977	09	09.40313	23	55	33.03	-01	11	24.2	19.5	6 675
1977	RW17	1977	09	10.28316	23	54	46.26	-01	14	04.5	19.5	6 675
1977	RX17*	1977	09	09.40313	23	55	41.80	-00	46	28.2	19.5	6 675
1977	RX17	1977	09	10.28316	23	54	55.80	-00	47	53.1	19.5	6 675
1977	RY17*	1977	09	09.40313	23	55	49.04	+01	57	20.0	19.5	6 675
1977	RY17	1977	09	10.28316	23	55	14.34	+01	52	47.7	19.5	6 675
1977	RZ17*	1977	09	09.40313	23	55	52.09	+02	23	33.3	19.8	6 675
1977	RZ17	1977	09	10.28316	23	55	08.17	+02	19	23.1	19.8	6 675
1977	RA18*	1977	09	09.40313	23	55	53.93	+02	24	35.9	19.2	6 675
1977	RA18	1977	09	10.28316	23	55	11.52	+02	23	09.3	19.2	6 675
1977	RB18*	1977	09	09.40313	23	56	02.64	-01	14	29.6	18.5	6 675
1977	RB18	1977	09	10.28316	23	55	19.42	-01	18	02.1	18.5	6 675
1977	RC18*	1977	09	09.40313	23	56	08.99	+01	12	18.2	18.8	6 675
1977	RC18	1977	09	10.28316	23	55	24.79	+01	10	44.2	18.8	6 675
1977	RD18*	1977	09	09.40313	23	56	10.29	-00	49	38.0	20.0	6 675
1977	RD18	1977	09	10.28316	23	55	17.56	-00	51	18.7	20.0	6 675
1977	RE18*	1977	09	09.40313	23	56	19.45	-00	06	15.4	19.2	6 675
1977	RE18	1977	09	10.28316	23	55	43.30	-00	13	12.3	19.2	6 675
1977	RF18*	1977	09	09.40313	23	56	20.50	-02	59	42.9	18.2	6 675
1977	RF18	1977	09	10.28316	23	55	43.66	-03	03	20.9	18.2	6 675
1977	RG18*	1977	09	09.40313	23	56	31.16	-00	53	59.1	20.2	6 675
1977	RG18	1977	09	10.28316	23	55	56.28	-00	59	54.1	20.2	6 675
1977	RH18*	1977	09	09.40313	23	56	37.57	+01	26	34.7	20.2	6 675
1977	RH18	1977	09	10.28316	23	56	04.95	+01	19	31.1	20.2	6 675
1977	RJ18*	1977	09	09.40313	23	56	46.17	+00	03	20.4	19.8	6 675
1977	RJ18	1977	09	10.28316	23	56	05.64	+00	00	10.1	19.8	6 675
1977	RK18*	1977	09	09.40313	23	56	48.84	+00	12	07.2	18.2	6 675
1977	RK18	1977	09	10.28316	23	55	44.97	+00	16	39.0	18.2	6 675
1977	RL18*	1977	09	09.40313	23	56	56.60	+00	27	41.7	18.8	6 675
1977	RL18	1977	09	10.28316	23	56	06.43	+00	26	50.1	18.8	6 675
1977	RM18*	1977	09	09.40313	23	57	02.89	+02	15	38.8	19.8	6 675
1977	RM18	1977	09	10.28316	23	56	19.51	+02	11	54.5	19.8	6 675
1977	RN18*	1977	09	09.40313	23	57	13.47	-02	19	57.3	19.5	6 675
1977	RN18	1977	09	10.28316	23	56	31.62	-02	27	35.7	19.5	6 675
1977	RO18*	1977	09	09.40313	23	57	22.53	+02	36	46.4	19.5	6 675
1977	RO18	1977	09	10.28316	23	56	35.77	+02	37	08.6	19.5	6 675
1977	RP18*	1977	09	09.40313	23	57	22.76	-00	34	01.0	18.8	6 675
1977	RP18	1977	09	10.28316	23	56	37.89	-00	36	33.1	18.8	6 675
1977	RQ18*	1977	09	09.40313	23	57	23.70	+00	35	03.2	20.0	6 675
1977	RQ18	1977	09	10.28316	23	56	42.32	+00	29	56.7	20.0	6 675

1977	RR18*	1977	09	09.40313	23	57	26.95	+00	24	00.3		19.2	6 675
1977	RR18	1977	09	10.28316	23	56	44.90	+00	21	28.7		19.2	6 675
1977	RS18*	1977	09	09.40313	23	57	29.74	+01	06	32.8		18.5	6 675
1977	RS18	1977	09	10.28316	23	56	56.94	+00	57	44.4		18.5	6 675
1977	RT18*	1977	09	09.40313	23	57	40.99	-02	45	21.9		19.2	6 675
1977	RT18	1977	09	10.28316	23	57	09.72	-02	54	47.2		19.2	6 675
1977	RU18*	1977	09	09.40313	23	57	49.77	+01	32	27.3		17.2	6 675
1977	RU18	1977	09	10.28316	23	57	16.16	+01	22	38.3		17.2	6 675
1977	RV18*	1977	09	09.40313	23	57	52.86	-02	05	20.6		20.0	6 675
1977	RV18	1977	09	10.28316	23	57	09.56	-02	07	11.4		20.0	6 675
1977	RW18*	1977	09	09.40313	23	57	59.14	-00	35	49.8		20.0	6 675
1977	RW18	1977	09	10.28316	23	57	15.54	-00	41	15.7		20.0	6 675
1977	RX18*	1977	09	09.40313	23	58	01.32	+01	37	50.6		17.8	6 675
1977	RX18	1977	09	10.28316	23	57	22.62	+01	32	43.9		17.8	6 675
1977	RY18*	1977	09	09.40313	23	58	08.90	-00	38	00.5		20.0	6 675
1977	RY18	1977	09	10.28316	23	57	33.15	-00	42	03.0		20.0	6 675
1977	RZ18*	1977	09	09.40313	23	58	12.90	-02	54	29.0		19.2	6 675
1977	RZ18	1977	09	10.28316	23	57	31.00	-03	00	40.2		19.2	6 675
1977	RA19*	1977	09	09.40313	23	58	20.95	+01	03	16.0		20.2	6 675
1977	RA19	1977	09	10.28316	23	57	39.56	+00	57	13.3		20.2	6 675
1977	RB19*	1977	09	09.40313	23	58	28.42	+02	55	32.8		19.8	6 675
1977	RB19	1977	09	10.28316	23	57	47.00	+02	51	49.0		19.8	6 675
1977	RC19*	1977	09	09.40313	23	58	35.35	+00	56	36.5		19.8	6 675
1977	RC19	1977	09	10.28316	23	57	58.25	+00	50	52.8		19.8	6 675
1977	RD19*	1977	09	09.40313	23	58	35.45	+03	09	25.6		19.2	6 675
1977	RD19	1977	09	10.28316	23	57	42.76	+03	10	39.3		19.2	6 675
1977	RE19*	1977	09	09.40313	23	58	42.75	-02	44	53.6		19.5	6 675
1977	RE19	1977	09	10.28316	23	58	02.68	-02	50	43.4		19.5	6 675
1977	RF19*	1977	09	09.40313	23	58	44.49	+01	39	23.8		19.2	6 675
1977	RF19	1977	09	10.28316	23	58	03.81	+01	35	50.4		19.2	6 675
1977	RG19*	1977	09	09.40313	23	58	48.32	+02	31	52.9		19.5	6 675
1977	RG19	1977	09	10.28316	23	57	59.69	+02	27	46.2		19.5	6 675
1977	RH19*	1977	09	09.40313	23	58	49.05	-00	33	21.4		20.2	6 675
1977	RH19	1977	09	10.28316	23	58	07.80	-00	35	36.4		20.2	6 675
1977	RJ19*	1977	09	09.40313	23	58	49.83	+02	55	25.8		19.8	6 675
1977	RJ19	1977	09	10.28316	23	58	12.67	+02	50	11.7		19.8	6 675
1977	RK19*	1977	09	09.40313	23	59	11.38	+00	17	51.1		19.5	6 675
1977	RK19	1977	09	10.28316	23	58	21.76	+00	16	46.8		19.5	6 675
1977	RL19*	1977	09	09.40313	23	59	14.68	-02	15	50.6			6 675
1977	RL19	1977	09	10.28316	23	58	34.38	-02	21	46.0		20.2	6 675
1977	RM19*	1977	09	09.40313	23	59	15.31	-01	39	24.6			6 675
1977	RM19	1977	09	10.28316	23	58	40.31	-01	44	37.6		20.2	6 675
1977	RN19*	1977	09	09.40313	23	59	18.52	+02	11	02.5		20.2	6 675
1977	RN19	1977	09	10.28316	23	58	37.50	+02	06	05.0		20.2	6 675
1977	RO19*	1977	09	09.40313	23	59	22.53	+01	26	50.0		19.5	6 675
1977	RO19	1977	09	10.28316	23	58	41.60	+01	24	29.1		19.5	6 675
1977	RP19*	1977	09	09.40313	23	59	24.83	+02	58	42.2		18.8	6 675
1977	RP19	1977	09	10.28316	23	58	48.95	+02	50	28.6		18.8	6 675
1977	RQ19*	1977	09	09.40313	23	59	28.92	-01	39	23.3			6 675
1977	RQ19	1977	09	10.28316	23	58	48.34	-01	45	45.3		19.8	6 675
1977	RR19*	1977	09	09.40313	23	59	37.74	-01	18	58.4			6 675
1977	RR19	1977	09	10.28316	23	58	59.46	-01	24	03.0		20.0	6 675
1977	RS19*	1977	09	09.40313	23	59	38.50	-01	27	39.8			6 675
1977	RS19	1977	09	10.28316	23	59	04.15	-01	32	23.6		19.8	6 675
1977	RT19*	1977	09	09.40313	23	59	38.88	-00	28	57.7			6 675
1977	RT19	1977	09	10.28316	23	59	00.57	-00	34	14.1		19.8	6 675
1977	RU19*	1977	09	09.40313	23	59	42.83	-02	44	22.3			6 675
1977	RU19	1977	09	10.28316	23	59	00.60	-02	46	12.9		20.0	6 675
1977	RV19*	1977	09	09.40313	23	59	42.85	-00	21	16.2			6 675

1977	RV19	1977	09	10.28316	23	59	04.54	-00	26	54.6	20.0	6	675
1977	RW19*	1977	09	09.40313	23	59	44.65	-02	20	09.2		6	675
1977	RW19	1977	09	10.28316	23	59	03.25	-02	22	51.0	20.0	6	675
1977	RX19*	1977	09	09.40313	23	59	51.26	+01	06	17.8	19.8	6	675
1977	RX19	1977	09	10.28316	23	59	11.60	+01	02	45.5	19.8	6	675
1977	SL	1977	09	09.40313	00	02	12.47	-02	16	48.6		6	675
1977	SL	1977	09	10.28316	00	01	39.30	-02	23	02.7	18.0	6	675
1978	SE5	1990	09	18.23889	22	59	05.74	+02	44	18.2	16.8	9	675
1978	SE5	1990	09	18.27049	22	59	04.25	+02	44	00.0		9	675
1978	SE5	1990	09	20.31778	22	57	35.54	+02	24	56.1	17.0	9	675
1978	SE5	1990	09	20.34896	22	57	34.13	+02	24	38.5		9	675
1978	VL11	1991	02	14.42639	11	40	41.76	+12	57	33.5	15.5	2	675
1978	VL11	1991	02	14.45694	11	40	41.01	+12	57	46.5		2	675
1978	VL11	1991	02	18.44219	11	38	28.43	+13	25	02.7		2	675
1978	VL11	1991	02	18.47535	11	38	27.11	+13	25	15.8		2	675
1980	FV2	1990	10	22.14306	23	12	55.49	-02	19	46.3	17.8	9	675
1980	FV2	1990	10	22.17517	23	12	54.76	-02	19	44.1		9	675
1980	FF3	1977	09	09.40313	23	59	24.01	+00	49	36.7	19.8	6	675
1980	FF3	1977	09	10.28316	23	58	37.61	+00	46	48.0		6	675
1980	KM	1990	09	18.23889	22	47	39.32	+00	56	21.9	18.0	9	675
1980	KM	1990	09	18.27049	22	47	37.90	+00	56	09.7		9	675
1980	KM	1990	09	20.31778	22	46	11.48	+00	42	38.7	18.0	9	675
1980	KM	1990	09	20.34896	22	46	10.11	+00	42	25.6		9	675
1980	TC5	1991	01	17.21736	05	42	17.76	+14	12	19.7	17.7	3	675
1980	TC5	1991	01	22.28698	05	39	35.69	+14	13	33.8		3	675
1981	DE	1990	09	13.32951	22	24	12.88	-00	00	37.6	18.0	9	675
1981	DE	1990	09	17.21997	22	21	05.76	-00	25	48.1	17.5	9	675
1981	DE	1990	09	17.25417	22	21	04.08	-00	26	02.3		9	675
1981	EY10	1990	10	22.14306	23	35	06.18	-00	39	47.2	18.5	9	675
1981	EY10	1990	10	22.17517	23	35	05.48	-00	39	56.3		9	675
1981	UU11	1990	09	18.23889	22	49	12.59	+00	16	32.8	17.5	9	675
1981	UU11	1990	09	18.27049	22	49	11.15	+00	16	18.1		9	675
1981	VS	1990	09	17.21997	22	36	27.25	+02	04	55.0	16.0	9	675
1981	VS	1990	09	17.25417	22	36	25.66	+02	04	35.8		9	675
1981	VS	1990	09	18.23889	22	35	44.64	+01	55	30.8	16.2	9	675
1981	VS	1990	09	18.27049	22	35	43.26	+01	55	12.5		9	675
1981	WE1	1990	09	18.23889	23	00	48.61	+04	47	33.4	16.0	9	675
1981	WE1	1990	09	18.27049	23	00	47.39	+04	47	11.6		9	675
1981	WE1	1990	09	20.31778	22	59	33.08	+04	23	50.4	16.5	9	675
1981	WE1	1990	09	20.34896	22	59	31.83	+04	23	28.6		9	675
1983	AH1	1991	01	22.24340	05	22	12.03	+18	13	28.1	17.4	3	675
1983	AH1	1991	01	22.28698	05	22	11.02	+18	14	01.9		3	675
1983	CN3	1991	02	14.29149	09	06	32.94	+05	15	39.3	14.0	2	675
1983	CN3	1991	02	14.31753	09	06	31.57	+05	16	08.6		2	675
1984	SR5	1990	10	22.14306	23	47	24.67	-02	57	35.8	17.5	9	675
1984	SR5	1990	10	22.17517	23	47	23.71	-02	57	35.4		9	675
1985	RE2	1991	02	18.45347	12	22	09.32	-03	35	58.7	17.0	2	675
1985	RE2	1991	02	18.49809	12	22	07.98	-03	35	53.2		2	675
1985	RE2	1991	02	19.49583	12	21	36.78	-03	33	41.2		2	675
1985	RC4	1990	10	22.14306	23	26	18.30	-06	33	08.7	17.8	9	675
1985	RC4	1990	10	22.17517	23	26	17.60	-06	33	13.1		9	675
1986	GY	1990	10	22.14306	23	14	49.20	-05	43	07.5	17.2	9	675
1986	JN1	1991	02	11.19323	08	44	27.05	+57	17	25.9	17.2	3	675
1986	JN1	1991	02	11.22500	08	44	23.91	+57	17	37.4		3	675
1986	RU5	1990	09	18.23889	22	47	31.06	+04	13	26.6	16.8	9	675
1986	RU5	1990	09	18.27049	22	47	29.68	+04	13	07.9		9	675
1986	RU5	1990	09	20.31778	22	46	04.10	+03	53	11.5	17.0	9	675
1986	RU5	1990	09	20.34896	22	46	02.77	+03	52	52.7		9	675
1986	TC1	1991	02	18.39271	10	22	46.93	+11	29	28.0	15.8	2	675

1986	TC1	1991	02	18.41840	10	22	45.37	+11	29	42.3		2 675
1986	TC1	1991	02	19.39774	10	21	45.79	+11	37	29.6		2 675
1986	UO	1990	10	22.14306	23	34	07.28	-03	18	32.1	17.2	9 675
1986	UO	1990	10	22.17517	23	34	06.92	-03	18	29.1		9 675
1987	FF1	1991	02	14.42639	11	21	05.36	+26	11	47.6	15.2	2 675
1987	FF1	1991	02	14.45087	11	21	04.30	+26	12	03.5		2 675
1987	FF1	1991	02	18.43663	11	18	08.83	+26	54	39.7		2 675
1987	FF1	1991	02	18.46701	11	18	07.29	+26	54	59.7		2 675
1987	FF1	1991	02	20.41076	11	16	34.92	+27	14	51.9		2 675
1987	GK	1991	02	14.29149	08	55	08.54	+07	02	03.2	16.0	2 675
1987	GK	1991	02	14.31753	08	55	07.26	+07	02	17.7		2 675
1987	GK	1991	02	18.26597	08	51	57.69	+07	42	19.1		2 675
1987	GK	1991	02	18.28906	08	51	56.59	+07	42	34.1		2 675
1987	GK	1991	02	20.28854	08	50	25.78	+08	03	00.9		2 675
1987	GK	1991	02	20.31476	08	50	24.52	+08	03	15.7		2 675
1987	WV1	1990	10	22.14306	23	34	48.41	-04	13	25.3	17.8	9 675
1987	WV1	1990	10	22.17517	23	34	47.69	-04	13	30.2		9 675
1988	CV3	1990	10	22.14306	23	21	31.96	-02	42	43.8	17.0	9 675
1988	CV3	1990	10	22.17517	23	21	31.86	-02	43	01.0		9 675
1988	EJ1	1991	02	14.20226	07	01	37.37	+15	50	19.5	16.0	2 675
1988	EJ1	1991	02	14.26753	07	01	35.61	+15	50	29.7		2 675
1988	EJ1	1991	02	19.20833	07	00	07.83	+16	02	12.3		2 675
1988	EJ1	1991	02	19.23125	07	00	07.53	+16	02	15.0		2 675
1988	EJ1	1991	02	20.25712	06	59	56.23	+16	04	36.8		2 675
1988	JO	1991	02	08.45122	12	04	55.63	+35	18	11.9	17.5	3 675
1988	JO	1991	02	10.51441	12	03	59.89	+35	46	11.5		3 675
1988	JQ	1991	01	18.45608	09	27	59.55	+12	48	44.3		3 675
1988	JQ	1991	01	18.50729	09	27	57.22	+12	49	22.0	16.9	3 675
1988	JQ	1991	01	22.34896	09	24	57.66	+13	37	04.7	16.9	3 675
1988	JQ	1991	02	07.34149	09	09	52.50	+17	15	45.0	17.5	3 675
1988	JQ	1991	02	08.26111	09	08	56.30	+17	28	45.5		3 675
1988	JQ	1991	02	11.35139	09	05	46.39	+18	12	15.0		3 675
1988	JQ	1991	02	14.29774	09	02	46.78	+18	53	13.5	15.8	2 675
1988	JQ	1991	02	14.32517	09	02	45.04	+18	53	35.6		2 675
1988	JQ	1991	02	19.24444	08	57	53.42	+20	00	15.1		2 675
1988	JQ	1991	02	19.27899	08	57	51.47	+20	00	41.7		2 675
1988	JA1	1991	02	07.27361	08	28	24.90	+23	51	11.2	16.7	3 675
1988	JA1	1991	02	10.28021	08	25	11.54	+24	30	00.2		3 675
1988	PP	1991	02	18.39861	11	06	52.68	+15	33	09.1	16.3	2 675
1988	PP	1991	02	18.42431	11	06	51.53	+15	33	25.5		2 675
1988	PB1	1989	08	29.44757	23	43	15.56	+31	33	57.1	17.9	3 675
1988	PB1	1989	09	01.41701	23	41	50.82	+31	33	46.4		3 675
1988	PB1	1989	09	24.38247	23	29	48.34	+30	47	45.8		3 675
1988	PB1	1989	11	03.10608	23	14	55.45	+27	12	25.3		3 675
1988	PB1	1989	11	04.15052	23	14	46.56	+27	05	58.0		3 675
1988	PB1	1990	11	15.26007	02	08	44.55	+34	20	56.9	17.7	3 675
1988	QY	1989	11	01.23056	00	14	08.93	+19	48	29.1	18.1	3 675
1988	QY	1989	11	02.22344	00	13	50.88	+19	41	15.4		3 675
1988	RA1	1989	11	01.31823	01	36	40.56	+31	03	41.4		3 675
1988	RA1	1989	11	01.35764	01	36	39.27	+31	03	33.0		3 675
1988	RA1	1989	11	22.17309	01	26	22.81	+29	44	51.0		3 675
1988	RA1	1989	11	22.21059	01	26	21.80	+29	44	42.5		3 675
1988	RK1	1989	09	28.46806	02	58	35.18	+12	20	11.0	17.9	3 675
1988	RK1	1989	09	28.50555	02	58	34.47	+12	20	07.6		3 675
1988	RK1	1991	01	16.20364	04	37	10.84	+25	24	18.1	18.0	3 675
1988	RK1	1991	01	18.16962	04	36	36.93	+25	23	58.2		3 675
1988	RG14*	1988	09	11.30104	22	22	48.64	+04	34	11.6	17.5	3 675
1988	TU1	1991	01	16.26563	05	42	32.19	+07	18	55.9	17.6	3 675
1988	TU1	1991	01	20.18611	05	40	57.46	+07	30	25.6		3 675

1988	TD5	*	1988	10	07.23993	22	11	15.38	+03	00	17.6		3 675
1988	TD5		1988	10	09.18819	22	10	51.17	+02	47	54.0		3 675
1989	EM		1990	10	22.17517	23	37	45.38	-00	17	43.8		9 675
1989	PB		1990	06	16.45932	20	34	09.85	-35	33	47.0		1 675
1989	PB		1990	06	16.46484	20	34	09.39	-35	33	50.2		1 675
1989	PB		1990	06	16.47205	20	34	08.74	-35	33	54.6		1 675
1989	PB		1990	06	17.44722	20	32	42.06	-35	44	08.3		1 675
1989	PB		1990	06	17.45370	20	32	41.41	-35	44	12.4		1 675
1989	PB		1990	06	17.45936	20	32	40.84	-35	44	16.3		1 675
1990	QQ		1990	09	14.25503	21	57	56.68	-03	04	35.9	18.5	9 675
1990	QQ		1990	09	14.29497	21	57	54.68	-03	04	43.1		9 675
1990	QQ		1990	09	18.18142	21	55	02.77	-03	13	19.2	17.5	9 675
1990	QQ		1990	09	18.21476	21	55	01.31	-03	13	23.0		9 675
1990	QP2		1990	10	22.14306	23	20	45.91	-04	07	48.7	17.8	9 675
1990	QP2		1990	10	22.17517	23	20	45.12	-04	07	53.5		9 675
1990	QR2		1990	10	22.14306	23	22	44.32	-00	32	37.6	17.5	9 675
1990	QR2		1990	10	22.17517	23	22	43.52	-00	32	40.1		9 675
1990	QS2		1990	10	22.14306	23	28	07.31	-06	01	12.4	17.5	9 675
1990	QS2		1990	10	22.17517	23	28	06.48	-06	01	17.3		9 675
1990	QT2		1990	10	22.14306	23	26	52.74	-04	05	37.2	17.8	9 675
1990	QT2		1990	10	22.17517	23	26	51.98	-04	05	40.8		9 675
1990	QV2		1990	10	22.14306	23	16	07.34	-05	47	42.6	17.2	9 675
1990	QV2		1990	10	22.17517	23	16	06.90	-05	47	51.1		9 675
1990	RO1		1990	10	22.14306	23	21	12.54	-06	42	17.6	17.8	9 675
1990	RO1		1990	10	22.17517	23	21	11.91	-06	42	22.8		9 675
1990	RC2		1990	10	22.14306	23	18	56.60	-02	33	35.6	17.8	9 675
1990	RC2		1990	10	22.17517	23	18	55.89	-02	33	44.8		9 675
1990	RE2		1990	10	22.14306	23	26	42.92	-02	51	26.9	17.5	9 675
1990	RE2		1990	10	22.17517	23	26	42.55	-02	51	34.7		9 675
1990	RG2		1990	10	22.14306	23	32	53.79	-03	08	45.2	17.2	9 675
1990	RG2		1990	10	22.17517	23	32	53.38	-03	08	58.0		9 675
1990	RJ2		1990	10	22.14306	23	45	33.37	-04	12	48.5	17.8	9 675
1990	RJ2		1990	10	22.17517	23	45	32.82	-04	12	54.7		9 675
1990	RK2		1990	10	22.14306	23	41	15.32	-03	10	27.9	17.8	9 675
1990	RK2		1990	10	22.17517	23	41	14.55	-03	10	35.3		9 675
1990	RC3		1990	10	22.14306	23	23	29.05	-01	45	16.9	17.8	9 675
1990	RC3		1990	10	22.17517	23	23	28.40	-01	45	23.4		9 675
1990	RJ3		1990	10	22.14306	23	20	08.70	-01	13	18.0	18.0	9 675
1990	RJ3		1990	10	22.17517	23	20	07.79	-01	13	19.5		9 675
1990	RN3		1990	10	22.14306	23	31	15.84	-04	16	39.6	17.5	9 675
1990	RN3		1990	10	22.17517	23	31	15.35	-04	16	47.5		9 675
1990	RR3		1990	10	22.14306	23	31	52.08	-05	21	46.3	18.2	9 675
1990	RR3		1990	10	22.17517	23	31	51.24	-05	21	47.8		9 675
1990	RS3		1990	10	22.14306	23	35	00.42	-07	03	13.1	17.8	9 675
1990	RS3		1990	10	22.17517	23	34	59.49	-07	03	16.9		9 675
1990	RW3		1990	10	22.14306	23	36	28.15	-04	24	55.6	17.0	9 675
1990	RW3		1990	10	22.17517	23	36	27.57	-04	24	54.4		9 675
1990	RC4		1990	10	22.14306	23	39	29.07	-02	13	30.9	18.0	9 675
1990	RC4		1990	10	22.17517	23	39	28.48	-02	13	41.6		9 675
1990	RH4		1990	10	22.14306	23	37	14.43	-06	28	07.9	17.5	9 675
1990	RH4		1990	10	22.17517	23	37	13.35	-06	28	15.2		9 675
1990	RW8	*	1990	09	13.32951	22	08	26.56	+01	16	04.6	18.2	9 675
1990	RW8		1990	09	17.21997	22	05	56.49	+01	01	25.8	17.8	9 675
1990	RW8		1990	09	17.25417	22	05	55.11	+01	01	18.0		9 675
1990	RW8		1990	09	18.18142	22	05	23.38	+00	57	44.0	17.8	9 675
1990	RW8		1990	09	18.21476	22	05	22.13	+00	57	36.4		9 675
1990	RX8	*	1990	09	13.32951	22	13	12.51	+00	50	30.3	16.8	9 675
1990	RX8		1990	09	14.25503	22	12	36.78	+00	44	31.5	16.8	9 675
1990	RX8		1990	09	14.29497	22	12	35.08	+00	44	15.4		9 675

1990	RX8		1990	09	17.21997	22	10	50.54	+00	25	04.6	16.8	9 675
1990	RX8		1990	09	17.25417	22	10	49.29	+00	24	51.6		9 675
1990	RX8		1990	09	18.18142	22	10	19.29	+00	18	44.6	16.8	9 675
1990	RX8		1990	09	18.21476	22	10	18.10	+00	18	31.6		9 675
1990	RY8	*	1990	09	13.32951	22	16	27.63	+01	17	04.3	17.0	9 675
1990	RY8		1990	09	17.21997	22	13	35.18	+00	57	56.8	17.0	9 675
1990	RY8		1990	09	17.25417	22	13	33.71	+00	57	46.1		9 675
1990	RZ8	*	1990	09	13.32951	22	20	46.48	-00	05	39.6	16.5	9 675
1990	RZ8		1990	09	17.21997	22	18	31.87	-00	34	50.2	16.5	9 675
1990	RZ8		1990	09	17.25417	22	18	30.72	-00	35	05.4		9 675
1990	RA9	*	1990	09	13.32951	22	27	23.99	+00	05	54.5	16.5	9 675
1990	RA9		1990	09	17.21997	22	24	51.04	-00	36	22.1	16.8	9 675
1990	RA9		1990	09	17.25417	22	24	49.68	-00	36	44.3		9 675
1990	RB9	*	1990	09	13.32951	22	32	25.21	+00	55	25.0	17.5	9 675
1990	RB9		1990	09	17.21997	22	29	00.64	+01	05	29.1	17.2	9 675
1990	RB9		1990	09	17.25417	22	28	58.84	+01	05	34.0		9 675
1990	RC9	*	1990	09	13.32951	22	35	13.10	+00	38	53.0	16.5	9 675
1990	RC9		1990	09	17.21997	22	31	42.55	+00	33	51.0	16.5	9 675
1990	RC9		1990	09	17.25417	22	31	40.69	+00	33	48.2		9 675
1990	RD9	*	1990	09	14.25503	21	44	19.85	-00	00	39.6	17.2	9 675
1990	RD9		1990	09	14.29497	21	44	18.06	-00	00	48.4		9 675
1990	RD9		1990	09	18.18142	21	41	37.07	-00	15	01.6	17.5	9 675
1990	RD9		1990	09	18.21476	21	41	35.66	-00	15	06.8		9 675
1990	RE9	*	1990	09	14.25503	21	46	37.02	+00	21	54.0	18.0	9 675
1990	RE9		1990	09	14.29497	21	46	35.50	+00	21	43.5		9 675
1990	RE9		1990	09	18.18142	21	44	21.80	+00	04	36.6	17.8	9 675
1990	RE9		1990	09	18.21476	21	44	20.89	+00	04	26.8		9 675
1990	RF9	*	1990	09	14.25503	21	48	01.11	+00	58	34.3	17.5	9 675
1990	RF9		1990	09	14.29497	21	47	59.75	+00	58	19.0		9 675
1990	RF9		1990	09	18.18142	21	45	54.63	+00	33	25.3	17.5	9 675
1990	RF9		1990	09	18.21476	21	45	53.57	+00	33	12.9		9 675
1990	RG9	*	1990	09	14.25503	21	49	15.21	+00	48	22.4	18.2	9 675
1990	RG9		1990	09	14.29497	21	49	13.78	+00	48	10.9		9 675
1990	RG9		1990	09	18.18142	21	47	04.83	+00	29	02.4	18.0	9 675
1990	RG9		1990	09	18.21476	21	47	03.62	+00	28	53.0	18.5	9 675
1990	RH9	*	1990	09	14.25503	21	51	19.61	+01	46	42.0	17.5	9 675
1990	RH9		1990	09	14.29497	21	51	17.60	+01	46	36.0		9 675
1990	RH9		1990	09	18.18142	21	48	21.39	+01	37	38.0	17.5	9 675
1990	RH9		1990	09	18.21476	21	48	19.94	+01	37	32.9		9 675
1990	RJ9	*	1990	09	14.25503	21	51	48.94	+01	55	36.5	16.8	9 675
1990	RJ9		1990	09	14.29497	21	51	47.50	+01	55	20.9		9 675
1990	RJ9		1990	09	18.18142	21	49	41.48	+01	30	50.9	17.0	9 675
1990	RJ9		1990	09	18.21476	21	49	40.38	+01	30	39.2		9 675
1990	RK9	*	1990	09	14.25503	21	54	12.76	+00	34	49.5	17.8	9 675
1990	RK9		1990	09	14.29497	21	54	10.83	+00	34	43.6		9 675
1990	RK9		1990	09	18.18142	21	51	21.19	+00	27	03.5	17.8	9 675
1990	RK9		1990	09	18.21476	21	51	19.79	+00	26	59.2		9 675
1990	RL9	*	1990	09	14.25503	21	56	15.92	+00	14	47.4	17.0	9 675
1990	RL9		1990	09	14.29497	21	56	14.31	+00	14	37.5		9 675
1990	RL9		1990	09	18.18142	21	53	54.03	-00	00	45.7	17.0	9 675
1990	RL9		1990	09	18.21476	21	53	52.77	-00	00	54.2		9 675
1990	RM9	*	1990	09	14.25503	21	57	50.74	+00	09	51.8	16.5	9 675
1990	RM9		1990	09	14.29497	21	57	49.55	+00	09	37.5		9 675
1990	RM9		1990	09	18.18142	21	56	22.16	-00	13	41.6	16.5	9 675
1990	RM9		1990	09	18.21476	21	56	21.41	-00	13	53.3		9 675
1990	RN9	*	1990	09	14.25503	22	01	45.99	+01	17	02.4	16.5	9 675
1990	RN9		1990	09	14.29497	22	01	43.95	+01	17	02.3		9 675
1990	RN9		1990	09	18.18142	21	58	45.48	+01	16	27.1	16.8	9 675
1990	RN9		1990	09	18.21476	21	58	43.97	+01	16	26.3		9 675

1990	RO9	*	1990	09	14.25503	22	02	21.87	-00	27	40.2	18.2	9	675
1990	RO9		1990	09	14.29497	22	02	20.48	-00	28	08.7		9	675
1990	RO9		1990	09	18.18142	22	00	17.55	-01	13	33.9	18.5	9	675
1990	RO9		1990	09	18.21476	22	00	16.55	-01	13	57.2		9	675
1990	RP9	*	1990	09	14.25503	22	08	10.21	-00	35	19.3	17.0	9	675
1990	RP9		1990	09	14.29497	22	08	08.45	-00	35	34.8		9	675
1990	RP9		1990	09	18.18142	22	05	37.91	-01	00	30.9	17.2	9	675
1990	RP9		1990	09	18.21476	22	05	36.68	-01	00	43.5		9	675
1990	SW1		1990	10	22.14306	23	39	20.40	-02	03	07.1		9	675
1990	SW1		1990	10	22.17517	23	39	20.85	-02	04	07.5		9	675
1990	SC4		1990	10	22.14306	23	20	14.62	-02	41	34.2	17.0	9	675
1990	SC4		1990	10	22.17517	23	20	14.22	-02	42	09.6		9	675
1990	SP7		1990	09	18.30295	00	08	25.19	-03	47	28.9	18.0	9	675
1990	SP7		1990	09	18.33576	00	08	23.61	-03	47	38.0		9	675
1990	SL9		1990	10	22.14306	23	42	18.00	-05	47	17.2	18.0	9	675
1990	SL9		1990	10	22.17517	23	42	17.06	-05	47	21.7		9	675
1990	SG12		1990	09	16.33872	23	57	01.88	+04	38	25.9	17.2	9	675
1990	SG12		1990	09	16.37431	23	57	00.27	+04	38	10.2		9	675
1990	SW14	*	1990	09	17.28889	23	02	02.01	+08	02	46.8	17.0	9	675
1990	SW14		1990	09	17.32274	23	02	00.44	+08	02	37.4		9	675
1990	SW14		1990	09	19.32757	23	00	33.03	+07	53	03.5	17.8	9	675
1990	SW14		1990	09	19.35885	23	00	31.60	+07	52	54.2		9	675
1990	SX14	*	1990	09	17.28889	23	05	10.42	+08	12	54.4	16.2	9	675
1990	SX14		1990	09	17.32274	23	05	08.93	+08	12	38.6		9	675
1990	SX14		1990	09	19.32757	23	03	44.99	+07	56	02.9	16.8	9	675
1990	SX14		1990	09	19.35885	23	03	43.59	+07	55	46.2		9	675
1990	SY14	*	1990	09	17.28889	23	05	15.19	+07	31	31.9	16.8	9	675
1990	SY14		1990	09	17.32274	23	05	13.19	+07	31	22.5		9	675
1990	SY14		1990	09	19.32757	23	03	19.74	+07	21	44.4	17.5	9	675
1990	SY14		1990	09	19.35885	23	03	17.89	+07	21	35.4		9	675
1990	SZ14	*	1990	09	17.28889	23	10	23.48	+07	42	40.9	17.2	9	675
1990	SZ14		1990	09	17.32274	23	10	21.73	+07	42	25.4		9	675
1990	SZ14		1990	09	19.32757	23	08	42.42	+07	27	03.1	17.8	9	675
1990	SZ14		1990	09	19.35885	23	08	40.79	+07	26	48.3		9	675
1990	SA15	*	1990	09	17.28889	23	14	20.71	+04	18	58.2	16.5	9	675
1990	SA15		1990	09	17.32274	23	14	18.71	+04	18	45.5		9	675
1990	SA15		1990	09	19.32757	23	12	29.36	+04	05	28.4	17.0	9	675
1990	SA15		1990	09	19.35885	23	12	27.60	+04	05	15.9		9	675
1990	SB15	*	1990	09	17.28889	23	17	46.65	+05	36	41.9	16.5	9	675
1990	SB15		1990	09	17.32274	23	17	44.76	+05	36	37.0		9	675
1990	SB15		1990	09	19.32757	23	16	02.44	+05	31	19.4	16.8	9	675
1990	SB15		1990	09	19.35885	23	16	00.74	+05	31	14.2		9	675
1990	SC15	*	1990	09	17.28889	23	18	22.42	+08	07	54.1	17.2	9	675
1990	SC15		1990	09	17.32274	23	18	20.88	+08	07	42.3		9	675
1990	SC15		1990	09	19.32757	23	16	54.18	+07	55	40.3	17.5	9	675
1990	SC15		1990	09	19.35885	23	16	52.77	+07	55	28.8		9	675
1990	SD15	*	1990	09	17.28889	23	20	39.72	+08	53	29.7	17.0	9	675
1990	SD15		1990	09	17.32274	23	20	38.07	+08	53	12.3		9	675
1990	SD15		1990	09	19.32757	23	19	04.69	+08	35	05.0	18.0	9	675
1990	SD15		1990	09	19.35885	23	19	03.14	+08	34	47.2		9	675
1990	SE15	*	1990	09	17.28889	23	22	20.38	+09	26	36.0	17.2	9	675
1990	SE15		1990	09	17.32274	23	22	18.84	+09	26	17.2		9	675
1990	SE15		1990	09	19.32757	23	20	59.46	+09	07	13.6	17.2	9	675
1990	SE15		1990	09	19.35885	23	20	58.11	+09	06	55.0		9	675
1990	SF15	*	1990	09	17.28889	23	23	01.36	+06	55	16.2	17.5	9	675
1990	SF15		1990	09	17.32274	23	22	59.46	+06	55	10.2		9	675
1990	SF15		1990	09	19.32757	23	21	13.44	+06	48	29.6	17.2	9	675
1990	SF15		1990	09	19.35885	23	21	11.68	+06	48	22.9		9	675
1990	SG15	*	1990	09	17.28889	23	23	44.44	+06	50	51.8	17.8	9	675

1990	SG15	1990	09	17.32274	23	23	42.52	+06	50	49.3		9 675
1990	SG15	1990	09	19.32757	23	21	54.38	+06	48	22.6	17.8	9 675
1990	SG15	1990	09	19.35885	23	21	52.64	+06	48	19.7		9 675
1990	SH15*	1990	09	17.28889	23	29	24.71	+07	10	00.8	17.8	9 675
1990	SH15	1990	09	17.32274	23	29	23.16	+07	09	47.3		9 675
1990	SH15	1990	09	19.32757	23	27	57.64	+06	56	13.2	18.0	9 675
1990	SH15	1990	09	19.35885	23	27	56.32	+06	55	59.6		9 675
1990	SJ15*	1990	09	17.28889	23	30	09.82	+06	56	32.0	17.8	9 675
1990	SJ15	1990	09	17.32274	23	30	08.05	+06	56	24.1		9 675
1990	SJ15	1990	09	19.32757	23	28	37.89	+06	45	26.0	18.0	9 675
1990	SJ15	1990	09	19.35885	23	28	36.34	+06	45	15.2		9 675
1990	SK15*	1990	09	18.23889	22	34	29.82	+04	46	08.2	17.2	9 675
1990	SK15	1990	09	18.27049	22	34	28.54	+04	45	59.8		9 675
1990	SK15	1990	09	20.31778	22	33	02.99	+04	36	50.1	17.8	9 675
1990	SK15	1990	09	20.34896	22	33	01.58	+04	36	43.4		9 675
1990	SL15*	1990	09	18.23889	22	49	15.21	+07	46	20.0	17.0	9 675
1990	SL15	1990	09	18.27049	22	49	13.66	+07	46	08.2		9 675
1990	SL15	1990	09	20.31778	22	47	37.45	+07	33	13.6	17.2	9 675
1990	SL15	1990	09	20.34896	22	47	35.95	+07	33	00.6		9 675
1990	SM15*	1990	09	18.23889	22	50	58.49	+04	45	04.1	17.8	9 675
1990	SM15	1990	09	18.27049	22	50	56.89	+04	44	56.3		9 675
1990	SM15	1990	09	20.31778	22	49	20.60	+04	36	43.6	18.5	9 675
1990	SM15	1990	09	20.34896	22	49	19.04	+04	36	35.3		9 675
1990	SN15*	1990	09	18.23889	22	56	50.17	+06	01	09.4	17.5	9 675
1990	SN15	1990	09	18.27049	22	56	48.56	+06	00	58.5		9 675
1990	SN15	1990	09	20.31778	22	55	08.13	+05	49	23.8	18.2	9 675
1990	SN15	1990	09	20.34896	22	55	06.59	+05	49	12.0		9 675
1990	SO15*	1990	09	18.23889	23	01	47.23	+04	40	10.0	16.8	9 675
1990	SO15	1990	09	18.27049	23	01	45.63	+04	40	03.0		9 675
1990	SO15	1990	09	20.31778	23	00	08.24	+04	33	11.9	17.0	9 675
1990	SO15	1990	09	20.34896	23	00	06.67	+04	33	04.8		9 675
1990	SP15*	1990	09	18.23889	23	05	09.28	+03	36	10.2	17.0	9 675
1990	SP15	1990	09	18.27049	23	05	08.13	+03	35	53.1		9 675
1990	SP15	1990	09	20.31778	23	03	52.23	+03	18	09.8	17.5	9 675
1990	SP15	1990	09	20.34896	23	03	50.95	+03	17	53.3		9 675
1990	SQ15	1990	09	17.28889	23	24	33.57	+08	38	27.5	15.5	9 675
1990	SQ15	1990	09	17.32274	23	24	31.88	+08	38	13.5		9 675
1990	SQ15*	1990	09	18.29497	23	23	47.26	+08	31	33.6	16.0	9 675
1990	SQ15	1990	09	18.32760	23	23	45.72	+08	31	19.9		9 675
1990	SQ15	1990	09	19.32757	23	22	59.81	+08	24	14.4	15.5	9 675
1990	SQ15	1990	09	19.35885	23	22	58.21	+08	24	01.0		9 675
1990	SR15	1990	09	17.28889	23	31	21.05	+06	37	44.2	17.8	9 675
1990	SR15	1990	09	17.32274	23	31	19.05	+06	37	37.5		9 675
1990	SR15*	1990	09	18.29497	23	30	25.47	+06	34	20.5	17.8	9 675
1990	SR15	1990	09	18.32760	23	30	23.71	+06	34	14.1		9 675
1990	SR15	1990	09	19.32757	23	29	28.78	+06	30	40.4	17.8	9 675
1990	SR15	1990	09	19.35885	23	29	26.90	+06	30	33.2		9 675
1990	TB	1990	09	18.23889	22	31	50.92	+05	51	51.4		9 675
1990	TB	1990	09	18.27049	22	31	50.30	+05	51	27.1		9 675
1990	TC	1990	09	18.23889	22	39	20.54	+03	56	34.0	17.0	9 675
1990	TC	1990	09	18.27049	22	39	19.28	+03	56	18.6		9 675
1990	TC	1990	09	20.31778	22	38	02.52	+03	40	26.0	17.2	9 675
1990	TC	1990	09	20.34896	22	38	01.31	+03	40	11.9		9 675
1990	TD	1990	09	18.23889	22	37	31.68	+02	39	27.2	16.5	9 675
1990	TD	1990	09	18.27049	22	37	30.30	+02	39	13.8		9 675
1990	TD	1990	09	20.31778	22	36	09.86	+02	25	32.5	16.8	9 675
1990	TD	1990	09	20.34896	22	36	08.59	+02	25	20.2		9 675
1990	TF	1990	09	18.23889	22	59	45.97	+01	15	56.9	16.5	9 675
1990	TF	1990	09	18.27049	22	59	44.04	+01	15	57.8		9 675

1990	TF	1990	09	20.31778	22	57	41.63	+01	18	30.0	16.5	9 675
1990	TF	1990	09	20.34896	22	57	39.72	+01	18	30.3		9 675
1990	TX4	1990	09	18.23889	22	44	30.09	+02	04	57.5	18.0	9 675
1990	TX4	1990	09	18.27049	22	44	28.87	+02	04	43.2		9 675
1990	TX4	1990	09	20.31778	22	43	12.41	+01	49	09.3	17.5	9 675
1990	TX4	1990	09	20.34896	22	43	11.09	+01	48	54.5		9 675
1990	TM5	1990	09	18.23889	22	36	52.52	+03	35	08.1	17.5	9 675
1990	TM5	1990	09	18.27049	22	36	51.19	+03	34	53.4		9 675
1990	TM5	1990	09	20.31778	22	35	25.91	+03	19	47.3	17.2	9 675
1990	TM5	1990	09	20.34896	22	35	24.40	+03	19	36.1		9 675
1990	TR5	1990	09	18.23889	22	34	20.87	+04	36	45.7	17.0	9 675
1990	TR5	1990	09	18.27049	22	34	19.95	+04	36	28.1		9 675
1990	TR5	1990	09	20.31778	22	33	28.84	+04	18	16.0	17.2	9 675
1990	TR5	1990	09	20.34896	22	33	27.90	+04	17	59.8		9 675
1990	XF	1991	02	14.16181	06	08	28.21	+23	06	22.7	16.0	2 675
1990	XF	1991	02	14.18576	06	08	28.50	+23	06	14.7		2 675
1990	XF	1991	02	19.14462	06	09	13.35	+22	37	01.0		2 675
1990	XF	1991	02	19.17865	06	09	13.77	+22	36	51.8		2 675
1990	XF	1991	02	20.21632	06	09	30.18	+22	30	54.9		2 675
1990	YH	1991	01	11.36701	07	40	40.30	+14	36	24.6	15.7	2 675
1990	YH	1991	01	11.39514	07	40	38.87	+14	36	33.4		2 675
1990	YH	1991	01	15.31892	07	37	17.06	+14	58	27.6		2 675
1990	YH	1991	01	15.35226	07	37	15.21	+14	58	37.8		2 675
1991	AT	1991	02	14.16181	06	13	33.55	+23	55	56.0	16.7	2 675
1991	AT	1991	02	14.18576	06	13	33.52	+23	55	46.3		2 675
1991	AT	1991	02	19.14462	06	14	08.35	+23	26	56.7		2 675
1991	AT	1991	02	19.17865	06	14	08.55	+23	26	44.5		2 675
1991	AW	1991	02	14.22118	08	36	57.18	+21	35	23.3	16.0	2 675
1991	AW	1991	02	14.25955	08	36	55.32	+21	35	46.9		2 675
1991	AW	1991	02	18.25434	08	33	59.73	+22	13	48.7		2 675
1991	AW	1991	02	18.27760	08	33	58.42	+22	14	02.9		2 675
1991	AW	1991	02	20.27540	08	32	38.32	+22	31	57.8		2 675
1991	AR1	1991	02	14.15556	05	18	20.28	+24	05	07.4	16.3	2 675
1991	AR1	1991	02	14.27587	05	18	22.97	+24	05	08.6		2 675
1991	AS1	1991	02	14.28559	08	50	26.72	+18	31	29.3	16.3	2 675
1991	AS1	1991	02	14.31042	08	50	24.42	+18	31	11.1		2 675
1991	AS1	1991	02	18.26007	08	44	41.85	+17	41	44.0		2 675
1991	AS1	1991	02	18.28333	08	44	40.12	+17	41	26.0		2 675
1991	AU1	1991	02	16.41250	11	14	00.58	+02	40	03.7	15.5	2 675
1991	AU1	1991	02	16.43073	11	13	58.80	+02	39	50.5		2 675
1991	AU1	1991	02	19.45139	11	08	49.41	+02	01	47.2		2 675
1991	AU1	1991	02	19.47552	11	08	46.86	+02	01	29.9		2 675
1991	AD2	1991	02	18.26007	08	43	43.94	+17	32	22.7	16.5	2 675
1991	AD2	1991	02	18.28333	08	43	42.90	+17	32	29.8		2 675
1991	BK	1991	02	07.21024	07	18	51.82	+31	30	41.1	16	3 675
1991	BK	1991	02	08.23645	07	18	29.87	+31	31	12.7		3 675
1991	BV	1991	02	18.31979	09	27	02.26	+15	03	41.6	15.8	2 675
1991	BV	1991	02	18.35399	09	27	00.66	+15	04	03.8		2 675
1991	BV	1991	02	19.32639	09	26	13.86	+15	14	23.9		2 675
1991	BD1	1991	02	14.21476	07	31	35.43	+23	28	11.4	16.5	2 675
1991	BD1	1991	02	14.25069	07	31	34.22	+23	28	18.7		2 675
1991	BD1	1991	02	19.23767	07	29	06.15	+23	45	42.4		2 675
1991	BD1	1991	02	19.27222	07	29	05.18	+23	45	48.2		2 675
1991	BP2	1991	02	10.24288	08	03	34.26	+14	25	40.9	16	3 675
1991	BP2	1991	02	13.22188	07	59	51.35	+13	44	17.2		3 675
1991	CB	1991	02	18.27188	09	01	09.33	+22	15	41.7	15.5	2 675
1991	CB	1991	02	18.29479	09	01	08.28	+22	15	54.0		2 675
1991	CB	1991	02	19.24444	09	00	25.92	+22	24	48.8		2 675
1991	CB	1991	02	19.27899	09	00	24.34	+22	25	08.2		2 675

1991	CZ		1991	02	07.38836	09	38	00.43	+02	40	58.1	16	3 675
1991	CZ		1991	02	08.37725	09	36	59.87	+03	04	39.9		3 675
1991	CZ		1991	02	18.31233	09	26	38.18	+07	16	01.2	15.5	2 675
1991	CZ		1991	02	18.34809	09	26	35.75	+07	16	55.2		2 675
1991	CZ		1991	02	19.31354	09	25	36.82	+07	42	02.1		2 675
1991	CZ		1991	02	20.29549	09	24	37.63	+08	07	32.5		2 675
1991	CZ		1991	02	20.32153	09	24	35.90	+08	08	12.6		2 675
1991	CA1		1991	02	08.38420	10	05	13.01	+30	27	19.8	17	3 675
1991	CA1		1991	02	09.31006	10	04	15.92	+30	54	43.7		3 675
1991	CA1		1991	02	19.39184	09	53	07.30	+35	24	02.5	16.5	2 675
1991	CA1		1991	02	20.34809	09	52	03.41	+35	46	16.9		2 675
1991	CA1		1991	02	20.37934	09	52	01.18	+35	46	59.8		2 675
1991	CC1		1991	02	16.42465	12	11	28.71	+02	38	23.0	16.0	2 675
1991	CC1		1991	02	20.39201	12	10	36.86	+03	08	28.2		2 675
1991	CC1		1991	02	20.42205	12	10	36.27	+03	08	42.3		2 675
1991	CX1	*	1991	02	14.29149	08	53	36.99	+08	15	33.9	17.0	2 675
1991	CX1		1991	02	14.31753	08	53	36.59	+08	16	15.6		2 675
1991	CX1		1991	02	18.26597	08	50	36.65	+09	35	24.4		2 675
1991	CX1		1991	02	18.28906	08	50	35.66	+09	35	55.7		2 675
1991	CV2	*	1991	02	14.43785	12	28	47.38	+02	14	41.7	16.5	2 675
1991	CV2		1991	02	14.46372	12	28	46.47	+02	14	44.0		2 675
1991	CV2		1991	02	16.42465	12	27	39.61	+02	18	30.5		2 675
1991	CV2		1991	02	16.44306	12	27	38.91	+02	18	33.4		2 675
1991	CW2	*	1991	02	14.43785	12	29	04.75	+02	13	54.1	17.0	2 675
1991	CW2		1991	02	14.46372	12	29	03.95	+02	13	56.5		2 675
1991	CW2		1991	02	16.42465	12	28	13.49	+02	15	42.8		2 675
1991	CW2		1991	02	16.44306	12	28	12.87	+02	15	44.2		2 675
1991	CW2		1991	02	20.39201	12	26	10.59	+02	20	45.0		2 675
1991	CW2		1991	02	20.42205	12	26	09.43	+02	20	46.7		2 675
1991	CA3	*	1991	02	14.30417	09	47	49.74	+26	02	49.9	15.8	2 675
1991	CA3		1991	02	14.33299	09	47	46.40	+26	02	35.3		2 675
1991	CA3		1991	02	19.29965	09	39	02.58	+25	14	44.0		2 675
1991	CA3		1991	02	19.33993	09	38	58.32	+25	14	20.4		2 675
1991	CA3		1991	02	20.34219	09	37	16.32	+25	03	50.9		2 675
1991	CF3	*	1991	02	14.39913	11	16	29.56	+11	30	37.7	16.0	2 675
1991	CF3		1991	02	14.41875	11	16	28.47	+11	30	55.0		2 675
1991	CF3		1991	02	16.41858	11	14	43.41	+12	00	03.3		2 675
1991	CF3		1991	02	16.43698	11	14	42.48	+12	00	18.6		2 675
1991	CG3	*	1991	02	14.39913	11	29	53.46	+09	49	18.9	16.8	2 675
1991	CG3		1991	02	14.41875	11	29	52.83	+09	49	43.2		2 675
1991	CG3		1991	02	16.41858	11	28	34.03	+10	32	20.0		2 675
1991	CG3		1991	02	16.43698	11	28	33.16	+10	32	42.7		2 675
1991	CH3	*	1991	02	07.29097	09	05	19.09	+39	00	47.1	17.2	3 675
1991	CH3		1991	02	09.25816	09	03	03.52	+39	03	01.2		3 675
1991	CJ3	*	1991	02	07.29097	09	22	47.21	+37	46	08.5	17.4	3 675
1991	CJ3		1991	02	09.25816	09	20	58.83	+38	32	05.9		3 675
1991	CK3	*	1991	02	14.42639	11	19	44.65	+29	05	38.6	16.0	2 675
1991	CK3		1991	02	14.45087	11	19	43.95	+29	06	00.7		2 675
1991	CK3		1991	02	18.43663	11	17	56.39	+30	02	16.5		2 675
1991	CK3		1991	02	18.46701	11	17	55.39	+30	02	40.2		2 675
1991	CK3		1991	02	20.41076	11	16	55.32	+30	28	54.3		2 675
1991	CL3	*	1991	02	14.42639	11	20	04.14	+26	09	20.8	16.0	2 675
1991	CL3		1991	02	14.45087	11	20	02.85	+26	09	27.1		2 675
1991	CL3		1991	02	18.46701	11	16	33.99	+26	21	50.1		2 675
1991	CL3		1991	02	20.41076	11	14	47.88	+26	27	03.6		2 675
1991	DB		1991	02	13.30555	10	03	28.75	-01	38	23.2	17.8	3 675
1991	DB		1991	02	13.34427	10	03	30.00	-01	37	17.1		3 675
1991	DB	*	1991	02	18.38698	10	07	32.12	+01	14	47.4	17.0	2 675
1991	DB		1991	02	18.41285	10	07	33.22	+01	15	47.9		2 675

1991	DB		1991	02	19.43333	10	08	30.22	+01	58	24.5		2 675
1991	DB		1991	02	20.35451	10	09	25.71	+02	39	19.2		2 675
1991	DB		1991	02	20.38606	10	09	27.07	+02	40	43.8		2 675
1991	DE		1991	02	14.34983	10	09	32.14	+35	00	50.3	15.8	2 675
1991	DE		1991	02	14.37413	10	09	30.79	+35	01	04.2		2 675
1991	DE		1991	02	16.34913	10	07	47.06	+35	18	45.5		2 675
1991	DE		1991	02	16.40625	10	07	43.79	+35	19	14.8		2 675
1991	DE		1991	02	18.30243	10	06	03.17	+35	34	54.0		2 675
1991	DE		1991	02	19.39184	10	05	04.43	+35	43	16.7		2 675
1991	DH	*	1991	02	18.31979	09	47	24.81	+15	09	54.7	15.8	2 675
1991	DH		1991	02	18.35399	09	47	23.13	+15	10	18.9		2 675
1991	DH		1991	02	19.32639	09	46	36.64	+15	21	26.0		2 675
1991	DW	*	1991	02	18.40451	11	43	35.89	+28	17	32.8	16.5	2 675
1991	DW		1991	02	18.43021	11	43	34.84	+28	17	48.7		2 675
1991	DW		1991	02	19.48229	11	42	52.96	+28	28	57.8		2 675
1991	DW		1991	02	19.52726	11	42	51.09	+28	29	26.5		2 675
1991	DX	*	1991	02	19.30677	09	52	58.77	+02	14	30.5	16.8	2 675
1991	DX		1991	02	19.34705	09	52	56.62	+02	14	56.9		2 675
1991	DX		1991	02	20.45347	09	52	02.13	+02	26	49.3		2 675
1991	DY	*	1991	02	19.30677	10	00	49.43	+04	00	18.4	16.2	2 675
1991	DY		1991	02	19.34705	10	00	47.48	+04	00	36.0		2 675
1991	DY		1991	02	20.45347	09	59	53.29	+04	08	57.7		2 675
1991	DZ	*	1991	02	18.39861	10	49	23.84	+17	40	33.3	15.8	2 675
1991	DZ		1991	02	18.42431	10	49	22.61	+17	40	52.4		2 675
1991	DZ		1991	02	19.41840	10	48	39.81	+17	52	49.7		2 675
1991	DF1	*	1991	02	18.39271	10	30	55.14	+13	21	56.0	16.3	2 675
1991	DF1		1991	02	18.41840	10	30	53.72	+13	22	20.9		2 675
1991	DF1		1991	02	19.39774	10	30	01.76	+13	38	26.2		2 675
1991	DG1	*	1991	02	18.39271	10	32	53.33	+06	26	27.0	16.7	2 675
1991	DG1		1991	02	18.41840	10	32	52.18	+06	26	37.0		2 675
1991	DG1		1991	02	19.39774	10	32	08.22	+06	32	29.6		2 675
1991	DH1	*	1991	02	18.39271	10	44	49.94	+07	47	29.1	16.2	2 675
1991	DH1		1991	02	18.41840	10	44	48.85	+07	47	47.0		2 675
1991	DH1		1991	02	19.39774	10	44	08.22	+07	59	31.4		2 675
1991	DJ1	*	1991	02	18.32691	10	08	17.46	+20	47	11.7	15.0	2 675
1991	DJ1		1991	02	18.36024	10	08	15.44	+20	47	28.8		2 675
1991	DJ1		1991	02	19.35469	10	07	17.56	+20	55	27.7		2 675
1991	DJ1		1991	02	19.40469	10	07	14.49	+20	55	50.8		2 675
1991	DJ1		1991	02	20.36042	10	06	18.97	+21	03	18.7		2 675
2095	P-L	*	1960	09	24.45000	00	46	25.34	+07	48	35.1	19.4	4 675
2095	P-L		1960	09	26.37010	00	44	48.75	+07	40	45.2		4 675
2095	P-L		1960	09	28.45140	00	43	01.28	+07	31	53.4		4 675
2095	P-L		1960	09	29.44510	00	42	09.49	+07	27	31.4		4 675
2095	P-L		1960	10	17.30420	00	26	39.99	+06	02	55.5		4 675
2095	P-L		1960	10	22.27920	00	22	51.65	+05	40	19.0		4 675
2095	P-L		1960	10	25.37570	00	20	42.84	+05	27	10.1		4 675
2095	P-L		1960	10	26.36840	00	20	03.96	+05	23	08.6		4 675
2614	P-L	*	1960	09	24.46184	00	42	41.68	+04	17	56.7	19.2	4 675
2614	P-L		1960	09	26.37988	00	41	13.96	+04	04	44.1		4 675
2614	P-L		1960	09	28.43822	00	39	37.70	+03	50	21.6		4 675
2614	P-L		1960	09	29.39514	00	38	52.77	+03	43	38.6		4 675
2614	P-L		1960	10	17.31529	00	25	25.64	+01	43	15.3		4 675
2614	P-L		1960	10	22.26809	00	22	25.35	+01	15	36.1		4 675
2614	P-L		1960	10	25.30351	00	20	49.95	+01	00	37.0		4 675
2614	P-L		1960	10	26.35766	00	20	19.81	+00	55	49.1		4 675
3045	P-L		1990	09	17.28889	23	19	03.57	+04	21	50.4	16.8	9 675
3045	P-L		1990	09	17.32274	23	19	01.37	+04	21	51.8		9 675
3045	P-L		1990	09	19.32757	23	16	58.29	+04	21	38.0	16.5	9 675
3045	P-L		1990	09	19.35885	23	16	56.26	+04	21	37.3		9 675

3083	P-L		1990	09	13.32951	22	11	57.84	+00	34	16.8	17.8	9 675
3083	P-L		1990	09	14.25503	22	11	15.51	+00	29	25.2	17.8	9 675
3083	P-L		1990	09	14.29497	22	11	13.57	+00	29	11.6	17.2	9 675
3083	P-L		1990	09	17.21997	22	09	06.70	+00	13	43.8	17.5	9 675
3083	P-L		1990	09	17.25417	22	09	05.21	+00	13	33.2		9 675
3083	P-L		1990	09	18.18142	22	08	27.66	+00	08	37.6		9 675
3083	P-L		1990	09	18.21476	22	08	26.07	+00	08	28.9	17.2	9 675
3092	P-L	*	1960	09	24.27708	00	32	51.12	+16	54	39.9	18.7	4 675
3092	P-L		1960	09	26.24514	00	31	01.06	+16	46	42.0		4 675
3092	P-L		1960	09	28.34722	00	29	02.67	+16	37	22.5		4 675
3092	P-L		1960	09	28.46181	00	28	55.91	+16	36	50.6		4 675
3092	P-L		1960	09	29.47153	00	27	59.11	+16	32	02.3		4 675
3092	P-L		1960	10	17.17917	00	12	49.07	+14	47	27.7		4 675
3092	P-L		1960	10	17.33750	00	12	41.75	+14	46	25.1		4 675
3092	P-L		1960	10	22.12083	00	09	31.93	+14	15	19.8		4 675
3092	P-L		1960	10	22.17778	00	09	29.83	+14	14	59.7		4 675
3092	P-L		1960	10	26.28264	00	07	13.48	+13	48	55.3		4 675
4081	P-L		1990	09	13.32951	22	19	26.12	-01	15	51.6	16.5	9 675
4081	P-L		1990	09	17.21997	22	17	01.35	-01	56	21.8	16.8	9 675
4081	P-L		1990	09	17.25417	22	17	00.05	-01	56	43.2		9 675
4529	P-L	*	1960	09	24.41183	00	17	05.30	+02	35	01.8	18.4	4 675
4529	P-L		1960	09	26.31530	00	15	35.24	+02	28	41.8		4 675
4529	P-L		1960	09	27.40836	00	14	43.33	+02	25	03.5		4 675
4529	P-L		1960	09	28.32780	00	13	59.89	+02	21	58.4		4 675
4529	P-L		1960	09	28.39725	00	13	56.48	+02	21	43.9		4 675
4529	P-L		1960	10	17.27085	00	00	25.07	+01	24	20.0		4 675
4529	P-L		1960	10	22.22293	23	57	39.67	+01	13	14.1		4 675
4529	P-L		1960	10	24.35836	23	56	36.76	+01	09	13.3		4 675
4529	P-L		1960	10	26.32573	23	55	43.87	+01	05	56.0		4 675
4582	P-L	*	1960	09	24.41183	00	16	36.93	+00	05	53.5	17.4	4 675
4582	P-L		1960	09	26.31530	00	15	07.90	-00	01	29.9		4 675
4582	P-L		1960	09	27.40836	00	14	16.66	-00	05	42.3		4 675
4582	P-L		1960	09	28.39725	00	13	30.53	-00	09	29.5		4 675
4582	P-L		1960	10	17.28198	00	00	15.93	-01	10	56.8		4 675
4582	P-L		1960	10	22.23406	23	57	35.35	-01	21	43.2		4 675
4582	P-L		1960	10	25.25350	23	56	10.84	-01	26	51.1		4 675
4582	P-L		1960	10	26.31531	23	55	43.63	-01	28	22.7		4 675
4801	P-L	*	1960	09	24.41183	00	27	37.87	-00	28	59.1	19.4	4 675
4801	P-L		1960	09	26.31530	00	26	13.56	-00	38	11.6		4 675
4801	P-L		1960	09	27.40836	00	25	24.91	-00	43	26.1		4 675
4801	P-L		1960	09	28.39725	00	24	40.89	-00	48	09.8		4 675
4801	P-L		1960	10	22.23406	00	08	48.32	-02	22	26.9		4 675
4801	P-L		1960	10	26.31531	00	06	47.10	-02	32	42.3		4 675
4837	P-L	*	1960	09	24.38750	00	30	41.05	+03	17	26.0	19.5	4 675
4837	P-L		1960	09	24.41183	00	30	39.92	+03	17	18.0		4 675
4837	P-L		1960	09	26.31530	00	29	20.41	+03	08	55.5		4 675
4837	P-L		1960	09	26.33542	00	29	19.54	+03	08	50.3		4 675
4837	P-L		1960	09	27.37500	00	28	35.77	+03	04	13.8		4 675
4837	P-L		1960	09	27.40836	00	28	34.38	+03	04	05.3		4 675
4837	P-L		1960	09	28.37778	00	27	53.42	+02	59	46.6		4 675
4837	P-L		1960	09	28.39725	00	27	52.58	+02	59	40.5		4 675
6104	P-L	*	1960	09	24.33613	00	00	43.19	+01	58	35.9	19.3	4 675
6104	P-L		1960	09	25.32502	00	00	01.38	+01	52	55.2		4 675
6104	P-L		1960	09	26.27573	23	59	21.30	+01	47	29.1		4 675
6104	P-L		1960	09	28.32780	23	57	54.94	+01	35	42.4		4 675
6104	P-L		1960	10	17.21390	23	46	14.30	-00	04	46.4		4 675
6104	P-L		1960	10	22.15559	23	43	58.46	-00	26	15.6		4 675
6104	P-L		1960	10	24.18787	23	43	10.14	-00	34	17.0		4 675
6104	P-L		1960	10	26.26113	23	42	25.72	-00	41	54.1		4 675

6586	P-L	*	1960	09	24.35002	00	00	38.85	-03	12	11.3	18.2	4 675
6586	P-L		1960	09	26.28543	23	59	20.96	-03	35	28.6		4 675
6586	P-L		1960	09	27.34237	23	58	38.71	-03	48	01.6		4 675
6586	P-L		1960	09	28.33822	23	57	59.39	-03	59	43.6		4 675
6586	P-L		1960	10	17.22501	23	48	08.36	-07	04	22.6		4 675
6586	P-L		1960	10	22.16324	23	46	45.69	-07	37	43.8		4 675
6586	P-L		1960	10	24.23753	23	46	21.88	-07	49	37.6		4 675
6586	P-L		1960	10	26.27157	23	46	05.27	-08	00	05.3		4 675
6670	P-L	*	1960	09	24.35002	23	50	45.40	-02	23	52.9	19.2	4 675
6670	P-L		1960	09	26.28543	23	49	03.02	-02	32	13.0		4 675
6670	P-L		1960	09	27.34237	23	48	07.44	-02	36	41.5		4 675
6670	P-L		1960	10	17.22501	23	32	55.02	-03	44	59.2		4 675
6670	P-L		1960	10	22.16324	23	30	10.86	-03	55	07.3		4 675
6670	P-L		1960	10	26.27157	23	28	19.31	-04	00	58.1		4 675
7082	P-L		1990	10	22.14306	23	34	07.79	-00	25	12.0	17.8	9 675
7082	P-L		1990	10	22.17517	23	34	07.57	-00	25	59.4		9 675
9538	P-L		1960	09	24.35002	23	48	27.54	-02	21	02.0		4 675
9538	P-L	*	1960	10	17.22501	23	31	19.87	-04	25	27.6	18.7	4 675
9538	P-L		1960	10	22.16324	23	29	13.28	-04	40	39.9		4 675
9538	P-L		1960	10	24.23753	23	28	32.88	-04	45	33.2		4 675
9538	P-L		1960	10	26.27157	23	28	00.66	-04	49	28.4		4 675
1053	T-2		1990	10	22.14306	23	27	04.07	-03	29	35.4	18.2	9 675
1053	T-2		1990	10	22.17517	23	27	03.37	-03	29	40.8		9 675
1125	T-2		1990	10	22.14306	23	40	56.47	-01	55	20.5	18.5	9 675
1125	T-2		1990	10	22.17517	23	40	56.00	-01	55	25.4		9 675
1136	T-2		1973	09	19.18611	00	14	03.81	+00	52	20.6		4 675
1136	T-2		1973	09	19.23785	00	14	01.21	+00	51	59.8		4 675
1136	T-2		1973	09	20.22847	00	13	12.29	+00	45	31.1		4 675
1136	T-2		1973	09	24.34688	00	09	46.07	+00	18	11.7		4 675
1136	T-2		1973	09	24.41597	00	09	42.35	+00	17	44.3		4 675
1136	T-2		1973	09	25.24375	00	09	00.79	+00	12	10.8		4 675
1136	T-2		1973	09	25.30729	00	08	57.61	+00	11	48.0		4 675
1136	T-2	*	1973	09	29.25330	00	05	38.99	-00	14	21.6	18.2	4 675
1136	T-2		1973	09	29.31806	00	05	35.63	-00	14	48.4		4 675
1136	T-2		1973	09	30.21007	00	04	51.17	-00	20	37.1		4 675
1136	T-2		1973	09	30.27431	00	04	47.85	-00	21	02.5		4 675
1136	T-2		1973	10	04.28958	00	01	30.43	-00	46	57.0		4 675
1136	T-2		1973	10	04.31493	00	01	29.26	-00	47	02.6		4 675
1136	T-2		1973	10	04.35208	00	01	27.34	-00	47	19.1		4 675
1136	T-2		1973	10	04.37674	00	01	26.13	-00	47	27.5		4 675
1136	T-2		1973	10	05.31684	00	00	41.08	-00	53	21.5		4 675
1136	T-2		1973	10	05.34167	00	00	39.91	-00	53	29.7		4 675
1136	T-2		1973	10	05.37917	00	00	37.99	-00	53	45.7		4 675
1136	T-2		1973	10	05.40347	00	00	36.90	-00	53	53.7		4 675
1402	T-2		1973	09	24.34688	00	01	25.18	+02	05	57.0		4 675
1402	T-2		1973	09	24.41597	00	01	21.28	+02	05	38.2		4 675
1402	T-2	*	1973	09	29.25330	23	57	05.50	+01	45	00.4	19.4	4 675
1402	T-2		1973	09	29.31806	23	57	02.00	+01	44	45.7		4 675
1402	T-2		1973	09	30.21007	23	56	15.76	+01	40	57.0		4 675
1402	T-2		1973	09	30.27431	23	56	12.36	+01	40	38.9		4 675
1402	T-2		1973	10	04.28958	23	52	50.34	+01	23	56.6		4 675
1402	T-2		1973	10	04.35208	23	52	47.12	+01	23	41.1		4 675
1402	T-2		1973	10	05.31684	23	52	00.38	+01	19	47.1		4 675
1402	T-2		1973	10	05.37917	23	51	57.24	+01	19	32.3		4 675
2030	T-2		1973	09	19.19948	00	29	50.66	+02	42	56.6		4 675
2030	T-2		1973	09	19.25006	00	29	48.10	+02	42	43.1		4 675
2030	T-2		1973	09	24.36181	00	25	24.45	+02	21	56.7		4 675
2030	T-2		1973	09	24.42847	00	25	20.73	+02	21	38.6		4 675
2030	T-2		1973	09	25.25642	00	24	37.50	+02	18	07.5		4 675

2030	T-2		1973	09	25.32031	00	24	33.78	+02	17	52.7	4 675
2030	T-2		1973	09	29.26632	00	21	02.46	+02	01	06.0	4 675
2030	T-2		1973	09	29.29219	00	21	01.05	+02	00	56.2	4 675
2030	T-2	*	1973	09	29.33073	00	20	58.79	+02	00	48.5	19.3 4 675
2030	T-2		1973	09	29.35694	00	20	57.47	+02	00	39.5	4 675
2030	T-2		1973	09	30.21007	00	20	11.93	+01	57	03.6	4 675
2030	T-2		1973	09	30.22257	00	20	11.21	+01	56	59.5	4 675
2030	T-2		1973	09	30.27431	00	20	08.34	+01	56	47.1	4 675
2030	T-2		1973	09	30.28785	00	20	07.50	+01	56	41.9	4 675
2030	T-2		1973	10	04.28958	00	16	34.33	+01	39	44.5	4 675
2030	T-2		1973	10	04.30208	00	16	33.51	+01	39	43.3	4 675
2030	T-2		1973	10	04.32708	00	16	32.08	+01	39	39.5	4 675
2030	T-2		1973	10	04.35208	00	16	30.93	+01	39	28.5	4 675
2030	T-2		1973	10	04.36476	00	16	30.06	+01	39	25.9	4 675
2030	T-2		1973	10	04.38889	00	16	28.63	+01	39	23.5	4 675
2030	T-2		1973	10	05.31684	00	15	40.21	+01	35	32.0	4 675
2030	T-2		1973	10	05.32917	00	15	39.50	+01	35	29.2	4 675
2030	T-2		1973	10	05.35382	00	15	38.02	+01	35	23.4	4 675
2030	T-2		1973	10	05.37917	00	15	36.80	+01	35	15.3	4 675
2030	T-2		1973	10	05.39132	00	15	36.23	+01	35	13.1	4 675
2030	T-2		1973	10	05.41597	00	15	34.80	+01	35	08.7	4 675
2127	T-2		1973	09	20.26458	00	36	24.58	+06	12	57.4	4 675
2127	T-2		1973	09	24.36181	00	32	53.96	+05	54	11.0	4 675
2127	T-2		1973	09	24.42847	00	32	50.50	+05	53	53.0	4 675
2127	T-2		1973	09	25.25642	00	32	07.38	+05	49	55.4	4 675
2127	T-2		1973	09	25.32031	00	32	03.82	+05	49	37.3	4 675
2127	T-2		1973	09	29.26632	00	28	34.10	+05	30	08.0	4 675
2127	T-2	*	1973	09	29.33073	00	28	30.59	+05	29	48.0	19.7 4 675
2127	T-2		1973	09	30.22257	00	27	43.00	+05	25	15.8	4 675
2127	T-2		1973	09	30.28785	00	27	39.31	+05	24	56.2	4 675
2127	T-2		1973	10	04.30208	00	24	05.00	+05	04	22.9	4 675
2127	T-2		1973	10	04.36476	00	24	01.80	+05	04	03.5	4 675
2127	T-2		1973	10	05.32917	00	23	10.64	+04	59	06.2	4 675
2127	T-2		1973	10	05.39132	00	23	07.40	+04	58	48.8	4 675
2244	T-2		1973	09	19.19948	00	46	24.72	+04	37	00.3	4 675
2244	T-2		1973	09	19.25006	00	46	22.38	+04	36	45.0	4 675
2244	T-2		1973	09	20.26458	00	45	35.54	+04	31	08.7	4 675
2244	T-2		1973	09	24.36181	00	42	17.05	+04	07	53.4	4 675
2244	T-2		1973	09	24.42847	00	42	13.63	+04	07	30.1	4 675
2244	T-2		1973	09	25.25642	00	41	32.67	+04	02	36.5	4 675
2244	T-2		1973	09	25.32031	00	41	29.38	+04	02	13.9	4 675
2244	T-2		1973	09	29.26632	00	38	08.65	+03	38	43.7	4 675
2244	T-2	*	1973	09	29.33073	00	38	05.19	+03	38	20.5	18.7 4 675
2244	T-2		1973	09	30.22257	00	37	19.47	+03	32	55.5	4 675
2244	T-2		1973	09	30.28785	00	37	16.01	+03	32	32.8	4 675
2244	T-2		1973	10	04.30208	00	33	49.00	+03	08	23.5	4 675
2244	T-2		1973	10	04.36476	00	33	45.63	+03	08	01.0	4 675
2244	T-2		1973	10	05.32917	00	32	56.40	+03	02	14.8	4 675
2244	T-2		1973	10	05.39132	00	32	53.16	+03	01	52.8	4 675
2280	T-2		1973	09	25.25642	00	44	48.01	+03	41	11.2	4 675
2280	T-2		1973	09	25.32031	00	44	44.45	+03	40	42.6	4 675
2280	T-2		1973	09	29.26632	00	41	03.25	+03	10	04.1	4 675
2280	T-2	*	1973	09	29.33073	00	40	59.43	+03	09	34.2	18.4 4 675
2280	T-2		1973	09	30.22257	00	40	08.77	+03	02	34.1	4 675
2280	T-2		1973	09	30.28785	00	40	04.73	+03	02	02.0	4 675
2280	T-2		1973	10	04.30208	00	36	13.69	+02	30	27.1	4 675
2280	T-2		1973	10	04.36476	00	36	09.91	+02	29	56.6	4 675
2280	T-2		1973	10	05.32917	00	35	14.43	+02	22	22.5	4 675
2280	T-2		1973	10	05.39132	00	35	10.84	+02	21	52.5	4 675

3111	T-2		1973	09	19.18611	00	12	52.62	+00	20	41.2		4 675
3111	T-2		1973	09	19.23785	00	12	50.11	+00	20	09.0		4 675
3111	T-2		1973	09	20.22847	00	12	04.64	+00	10	19.3		4 675
3111	T-2		1973	09	24.34688	00	08	52.58	-00	30	55.4		4 675
3111	T-2		1973	09	24.41597	00	08	49.22	-00	31	36.3		4 675
3111	T-2		1973	09	25.24375	00	08	10.41	-00	39	54.1		4 675
3111	T-2		1973	09	25.26875	00	08	09.35	-00	40	06.2		4 675
3111	T-2		1973	09	25.30729	00	08	07.45	-00	40	32.3		4 675
3111	T-2		1973	09	25.33299	00	08	06.12	-00	40	45.1		4 675
3111	T-2		1973	09	29.27986	00	05	01.01	-01	20	10.0		4 675
3111	T-2		1973	09	29.34375	00	04	57.88	-01	20	48.3		4 675
3111	T-2		1973	09	30.23524	00	04	16.47	-01	29	38.0		4 675
3111	T-2	*	1973	09	30.30174	00	04	13.33	-01	30	16.8	19.1	4 675
3111	T-2		1973	10	04.31493	00	01	09.51	-02	09	21.0		4 675
3111	T-2		1973	10	04.37674	00	01	06.59	-02	09	58.6		4 675
3111	T-2		1973	10	05.34167	00	00	23.41	-02	19	08.3		4 675
3111	T-2		1973	10	05.40347	00	00	20.49	-02	19	44.4		4 675
3290	T-2		1990	10	22.14306	23	42	11.04	-06	14	39.1	18.8	9 675
3290	T-2		1990	10	22.17517	23	42	10.21	-06	14	40.7		9 675
4272	T-2		1973	09	20.30278	00	46	44.19	+00	30	08.1		4 675
4272	T-2		1973	09	24.38750	00	43	03.55	+00	02	03.1		4 675
4272	T-2		1973	09	24.45434	00	42	59.52	+00	01	34.3		4 675
4272	T-2		1973	09	25.28125	00	42	13.51	-00	04	12.2		4 675
4272	T-2		1973	09	25.34601	00	42	09.61	-00	04	41.1		4 675
4272	T-2	*	1973	09	29.29219	00	38	22.69	-00	32	18.5	18.5	4 675
4272	T-2		1973	09	29.35694	00	38	18.73	-00	32	45.3		4 675
4272	T-2		1973	09	30.24826	00	37	26.77	-00	38	57.0		4 675
4272	T-2		1973	09	30.31476	00	37	22.74	-00	39	25.1		4 675
4272	T-2		1973	10	04.32708	00	33	25.21	-01	07	00.0		4 675
4272	T-2		1973	10	04.38889	00	33	21.31	-01	07	24.8		4 675
4272	T-2		1973	10	05.35382	00	32	24.20	-01	13	54.2		4 675
4272	T-2		1973	10	05.41597	00	32	20.44	-01	14	18.3		4 675
5200	T-2		1973	09	24.40035	00	25	54.83	+14	06	48.0		4 675
5200	T-2		1973	09	24.47986	00	25	50.93	+14	06	30.9		4 675
5200	T-2	*	1973	09	25.29375	00	25	12.23	+14	03	42.7	18.5	4 675
5200	T-2		1973	09	25.35903	00	25	08.98	+14	03	27.9		4 675
5200	T-2		1973	09	29.24062	00	22	02.55	+13	48	54.9		4 675
5200	T-2		1973	09	29.30486	00	21	59.36	+13	48	40.7		4 675
5200	T-2		1973	09	30.19722	00	21	16.52	+13	45	03.8		4 675
5200	T-2		1973	09	30.35295	00	21	08.84	+13	44	26.8		4 675
5200	T-2		1973	10	04.27708	00	18	00.39	+13	27	42.1		4 675
5200	T-2		1973	10	04.33906	00	17	57.34	+13	27	24.3		4 675
5200	T-2		1973	10	05.36632	00	17	08.52	+13	22	46.5		4 675
5200	T-2		1973	10	05.42847	00	17	05.56	+13	22	30.0		4 675
3164	T-3		1990	10	22.14306	23	32	07.35	+00	17	16.1	17.5	9 675
3164	T-3		1990	10	22.17517	23	32	06.92	+00	16	58.3		9 675
4019	T-3		1977	10	11.30000	01	16	04.45	+03	15	54.8		4 675
4019	T-3		1977	10	11.36771	01	16	00.99	+03	15	26.9		4 675
4019	T-3		1977	10	12.29826	01	15	16.14	+03	08	58.5		4 675
4019	T-3		1977	10	12.36441	01	15	12.73	+03	08	30.5		4 675
4019	T-3	*	1977	10	16.28368	01	12	03.99	+02	41	58.6	18.1	4 675
4019	T-3		1977	10	16.34931	01	12	00.76	+02	41	32.5		4 675
4019	T-3		1977	10	17.28628	01	11	16.28	+02	35	22.4		4 675
4019	T-3		1977	10	17.35313	01	11	13.01	+02	34	56.9		4 675
4019	T-3		1977	10	21.38698	01	08	05.18	+02	09	28.2		4 675
4019	T-3		1977	10	21.44705	01	08	02.38	+02	09	07.8		4 675
38			1990	09	13.32951	22	31	40.27	-00	52	48.7		9 675
38			1990	09	17.21997	22	28	32.68	-01	08	33.3		9 675
38			1990	09	17.25417	22	28	31.04	-01	08	41.4		9 675

58	1977	09	09.40313	23	56	01.58	-02	20	41.2		6	675
58	1977	09	10.28316	23	55	22.52	-02	26	38.5		6	675
184	1977	09	09.40313	23	46	58.19	-00	46	10.8		6	675
184	1977	09	10.28316	23	46	21.55	-00	49	54.8		6	675
208	1977	09	09.40313	00	03	12.01	-00	05	31.7		6	675
208	1977	09	10.28316	00	02	33.43	-00	09	13.9		6	675
242	1990	09	17.21997	22	35	51.72	+03	01	19.8		9	675
242	1990	09	17.25417	22	35	50.22	+03	01	04.2		9	675
242	1990	09	18.23889	22	35	10.77	+02	53	42.5		9	675
242	1990	09	18.27049	22	35	09.46	+02	53	27.8		9	675
242	1990	09	20.31778	22	33	48.83	+02	38	01.4		9	675
242	1990	09	20.34896	22	33	47.55	+02	37	47.9		9	675
313	1990	10	22.14306	23	23	54.80	-06	10	56.6		9	675
313	1990	10	22.17517	23	23	53.94	-06	11	09.4		9	675
320	1990	09	13.32951	22	06	23.94	+01	52	39.6		9	675
320	1990	09	14.25503	22	05	50.62	+01	46	10.3	15.0	9	675
320	1990	09	14.29497	22	05	49.15	+01	45	52.7	15.5	9	675
320	1990	09	18.18142	22	03	37.83	+01	18	19.8	15.0	9	675
320	1990	09	18.21476	22	03	36.70	+01	18	06.0	15.2	9	675
374	1990	09	14.25503	21	58	18.36	+00	23	32.6		9	675
374	1990	09	14.29497	21	58	16.86	+00	23	16.0		9	675
374	1990	09	18.18142	21	56	03.82	-00	04	00.6		9	675
374	1990	09	18.21476	21	56	02.69	-00	04	14.3		9	675
382	1990	09	19.32757	23	24	19.86	+03	39	24.3		9	675
382	1990	09	19.35885	23	24	18.35	+03	39	16.0		9	675
388	1990	10	22.14306	23	22	46.76	-02	32	18.5		9	675
388	1990	10	22.17517	23	22	45.96	-02	32	20.5		9	675
565	1990	09	18.23889	22	48	05.18	+07	51	40.2	15.2	9	675
565	1990	09	18.27049	22	48	03.62	+07	51	24.2		9	675
565	1990	09	20.31778	22	46	26.71	+07	34	19.5	15.2	9	675
565	1990	09	20.34896	22	46	25.19	+07	34	03.0		9	675
608	1990	09	17.28889	23	10	25.06	+08	37	13.9		9	675
608	1990	09	17.32274	23	10	23.33	+08	37	07.1		9	675
608	1990	09	19.32757	23	08	47.07	+08	30	07.2		9	675
608	1990	09	19.35885	23	08	45.48	+08	30	00.2		9	675
637	1977	09	09.40313	23	53	18.64	-00	43	46.6		6	675
637	1977	09	10.28316	23	52	42.99	-00	47	36.6		6	675
657	1990	09	13.32951	22	33	27.51	+03	10	34.5		9	675
657	1990	09	17.21997	22	30	12.65	+02	55	04.2		9	675
657	1990	09	17.25417	22	30	10.94	+02	54	55.8		9	675
707	1990	09	18.23889	22	59	33.96	+02	23	41.4	15.2	9	675
707	1990	09	18.27049	22	59	32.14	+02	23	30.8		9	675
707	1990	09	20.31778	22	57	41.35	+02	12	41.0	15.0	9	675
707	1990	09	20.34896	22	57	39.59	+02	12	30.3		9	675
738	1990	10	22.14306	23	43	15.50	-05	58	01.0		9	675
738	1990	10	22.17517	23	43	14.56	-05	58	05.8		9	675
767	1990	10	22.14306	23	29	24.23	-07	08	23.2		9	675
767	1990	10	22.17517	23	29	23.60	-07	08	24.8		9	675
775	1990	09	18.23889	22	58	20.03	+05	11	55.1		9	675
775	1990	09	18.27049	22	58	18.53	+05	11	47.8		9	675
775	1990	09	20.31778	22	56	44.38	+05	03	53.7		9	675
775	1990	09	20.34896	22	56	42.88	+05	03	45.8		9	675
817	1991	02	14.20868	07	00	48.43	+21	02	39.1	16.3	2	675
817	1991	02	14.24271	07	00	47.79	+21	02	50.7		2	675
817	1991	02	18.34201	06	59	54.82	+21	27	03.6		2	675
817	1991	02	18.37292	06	59	54.50	+21	27	14.1		2	675
817	1991	02	20.26337	06	59	41.58	+21	37	46.4		2	675
828	1990	10	22.14306	23	38	04.52	-02	17	43.5		9	675
828	1990	10	22.17517	23	38	03.68	-02	17	48.3		9	675

851	1977	09	09.40313	00	11	31.72	-01	16	09.4			6 675
851	1977	09	10.28316	00	10	47.48	-01	22	08.9			6 675
904	1990	09	17.28889	23	16	57.06	+05	56	41.0			9 675
904	1990	09	17.32274	23	16	55.59	+05	56	23.5			9 675
904	1990	09	19.32757	23	15	33.73	+05	38	36.8			9 675
904	1990	09	19.35885	23	15	32.35	+05	38	19.9			9 675
937	1990	09	18.23889	23	02	50.41	+02	24	21.4			9 675
937	1990	09	18.27049	23	02	48.97	+02	24	06.6			9 675
937	1990	09	20.31778	23	01	21.62	+02	09	09.2			9 675
937	1990	09	20.34896	23	01	20.14	+02	08	55.5			9 675
962	1990	10	22.14306	23	23	33.99	-06	28	59.3		16.0	9 675
962	1990	10	22.17517	23	23	33.36	-06	29	03.0			9 675
1118	1990	09	19.32757	23	29	33.79	+10	44	38.1			9 675
1118	1990	09	19.35885	23	29	32.19	+10	44	33.9			9 675
1183	1990	10	22.14306	23	29	09.21	-04	09	01.1			9 675
1183	1990	10	22.17517	23	29	08.28	-04	09	04.9			9 675
1280	1990	09	20.31778	23	03	32.08	+02	28	38.0			9 675
1280	1990	09	20.34896	23	03	30.72	+02	28	30.8			9 675
1405	1990	09	17.28889	23	26	19.82	+06	38	41.3			9 675
1405	1990	09	17.32274	23	26	17.60	+06	38	36.8			9 675
1405	1990	09	19.32757	23	24	11.76	+06	33	46.5			9 675
1405	1990	09	19.35885	23	24	09.66	+06	33	41.6			9 675
1422	1990	10	22.14306	23	33	19.70	-01	51	49.8			9 675
1422	1990	10	22.17517	23	33	19.26	-01	51	57.3			9 675
1542	1990	10	22.14306	23	13	40.26	-02	48	57.0			9 675
1542	1990	10	22.17517	23	13	39.75	-02	49	05.0			9 675
1560	1990	09	18.23889	22	59	40.61	+04	39	53.6			9 675
1560	1990	09	18.27049	22	59	38.96	+04	39	46.4			9 675
1560	1990	09	20.31778	22	57	58.81	+04	31	57.5			9 675
1560	1990	09	20.34896	22	57	57.08	+04	31	50.0			9 675
1650	1990	10	22.14306	23	35	25.10	-01	38	04.0			9 675
1650	1990	10	22.17517	23	35	24.19	-01	38	12.5			9 675
1691	1990	10	22.14306	23	40	16.90	-02	29	33.8		16.5	9 675
1691	1990	10	22.17517	23	40	16.11	-02	29	38.6			9 675
1935	1990	09	17.21997	22	38	43.36	+01	38	27.6		16.2	9 675
1935	1990	09	17.25417	22	38	41.92	+01	38	07.6			9 675
1935	1990	09	18.23889	22	38	02.99	+01	27	55.8			9 675
1935	1990	09	18.27049	22	38	01.68	+01	27	35.2			9 675
1998	1977	09	09.40313	23	55	14.37	-00	00	56.9			6 675
1998	1977	09	10.28316	23	54	23.81	-00	03	16.4			6 675
2095	1990	10	22.14306	23	20	01.25	-01	15	43.8			9 675
2095	1990	10	22.17517	23	20	00.47	-01	15	48.3			9 675
2112	1991	02	19.30677	10	11	31.47	+04	56	38.3		15.0	2 675
2112	1991	02	19.34705	10	11	29.01	+04	56	52.5			2 675
2112	1991	02	20.45347	10	10	20.44	+05	03	12.6			2 675
2115	1990	09	17.28889	23	25	39.99	+09	24	29.6			9 675
2115	1990	09	17.32274	23	25	38.44	+09	24	18.0			9 675
2115	1990	09	19.32757	23	24	10.63	+09	12	35.1			9 675
2115	1990	09	19.35885	23	24	09.19	+09	12	23.7			9 675
2192	1990	09	18.23889	22	52	28.64	+01	39	42.4		16.5	9 675
2192	1990	09	18.27049	22	52	27.39	+01	39	28.4			9 675
2192	1990	09	20.31778	22	51	11.02	+01	23	52.1		16.2	9 675
2192	1990	09	20.34896	22	51	09.84	+01	23	37.1			9 675
2207	1977	09	09.40313	00	11	28.73	-01	56	44.9			6 675
2207	1977	09	10.28316	00	11	06.10	-02	00	04.6		16.2	6 675
2257	1990	09	14.25503	22	04	02.94	-01	26	00.2		15.5	9 675
2257	1990	09	14.29497	22	04	01.48	-01	26	15.4		15.2	9 675
2257	1990	09	18.18142	22	02	04.59	-01	51	24.6		15.8	9 675
2257	1990	09	18.21476	22	02	03.58	-01	51	37.4		15.5	9 675

2279	1977	09	09.40313	00	04	26.58	-02	26	11.1		6	675
2279	1977	09	10.28316	00	03	43.49	-02	31	48.5		6	675
2295	1977	09	09.40313	00	02	39.88	+03	12	27.3	16.0	6	675
2295	1977	09	10.28316	00	02	01.39	+03	09	16.5	16.0	6	675
2345	1990	09	13.32951	22	19	46.99	-01	39	16.5	16.0	9	675
2345	1990	09	17.21997	22	16	57.26	-01	51	00.0	16.0	9	675
2345	1990	09	17.25417	22	16	55.75	-01	51	06.9		9	675
2394	1990	10	22.14306	23	31	03.87	-05	14	30.0		9	675
2394	1990	10	22.17517	23	31	03.09	-05	14	34.3		9	675
2521	1990	09	14.25503	21	57	58.82	-02	23	32.4	16.5	9	675
2521	1990	09	14.29497	21	57	57.14	-02	23	42.0		9	675
2521	1990	09	18.18142	21	55	25.43	-02	39	10.8	16.5	9	675
2521	1990	09	18.21476	21	55	24.16	-02	39	17.9		9	675
2537	1990	09	17.28889	23	22	34.47	+04	21	09.4		9	675
2537	1990	09	17.32274	23	22	32.28	+04	21	13.0		9	675
2537	1990	09	19.32757	23	20	26.48	+04	23	45.3		9	675
2537	1990	09	19.35885	23	20	24.39	+04	23	47.4		9	675
2564	1977	09	09.40313	23	53	46.86	-01	57	45.2		6	675
2564	1977	09	10.28316	23	53	01.12	-02	03	52.1	16.2	6	675
2580	1990	10	22.14306	23	28	19.47	-06	43	31.6	16.8	9	675
2580	1990	10	22.17517	23	28	19.33	-06	43	30.3		9	675
2601	1990	09	13.32951	22	15	51.95	+00	52	15.5	16.8	9	675
2601	1990	09	14.25503	22	15	13.50	+00	48	54.4	16.8	9	675
2601	1990	09	14.29497	22	15	11.79	+00	48	46.8		9	675
2601	1990	09	17.21997	22	13	14.49	+00	38	01.3	17.0	9	675
2601	1990	09	17.25417	22	13	13.17	+00	37	53.7		9	675
2601	1990	09	18.18142	22	12	37.27	+00	34	27.8	17.0	9	675
2601	1990	09	18.21476	22	12	35.93	+00	34	20.4	16.5	9	675
2618	1990	09	17.28889	23	00	06.78	+08	32	17.1		9	675
2618	1990	09	17.32274	23	00	05.15	+08	32	08.0		9	675
2648	1990	09	17.28889	23	20	40.98	+05	50	37.4		9	675
2648	1990	09	17.32274	23	20	38.90	+05	50	27.7		9	675
2648	1990	09	19.32757	23	18	43.14	+05	40	33.0		9	675
2648	1990	09	19.35885	23	18	41.22	+05	40	23.1		9	675
2730	1990	10	22.14306	23	43	03.10	-01	22	33.5		9	675
2730	1990	10	22.17517	23	43	02.08	-01	22	35.2		9	675
2915	1977	09	09.40313	00	10	32.21	+02	27	02.2		6	675
2915	1977	09	10.28316	00	09	39.36	+02	30	13.0		6	675
2986	1977	09	09.40313	00	06	44.39	-02	54	11.4		6	675
2986	1977	09	10.28316	00	06	08.53	-02	57	51.7		6	675
3084	1977	09	09.40313	00	04	21.53	+02	25	10.9		6	675
3084	1977	09	10.28316	00	03	47.87	+02	18	19.1		6	675
3311	1990	10	22.14306	23	31	39.96	-03	42	37.1		9	675
3311	1990	10	22.17517	23	31	39.07	-03	42	42.5		9	675
3366	1990	10	22.14306	23	16	48.81	-05	00	07.3		9	675
3366	1990	10	22.17517	23	16	48.32	-05	00	16.1		9	675
3369	1990	09	18.23889	22	36	47.02	+04	10	50.9	16.8	9	675
3369	1990	09	18.27049	22	36	45.67	+04	10	40.8		9	675
3369	1990	09	20.31778	22	35	20.23	+04	00	31.3	17.0	9	675
3369	1990	09	20.34896	22	35	18.82	+04	00	22.1		9	675
3435	1977	09	09.40313	00	11	48.65	-00	02	03.8		6	675
3435	1977	09	10.28316	00	11	10.10	-00	10	03.0		6	675
3438	1990	10	22.14306	23	35	33.53	-00	28	02.9	16.5	9	675
3438	1990	10	22.17517	23	35	32.40	-00	27	56.1		9	675
3443	1990	09	18.23889	22	46	18.00	+00	08	44.3		9	675
3443	1990	09	18.27049	22	46	17.17	+00	08	11.2		9	675
3557	1977	09	09.40313	00	06	05.79	+02	05	11.5	15.8	6	675
3557	1977	09	10.28316	00	05	36.74	+02	00	43.9		6	675
3580	1990	10	22.14306	23	23	25.13	-02	51	33.7	18.2	9	675

3580	1990	10	22.17517	23	23	24.07	-02	51	39.4		9	675
3645	1990	09	17.28889	23	25	19.55	+09	11	17.1		9	675
3645	1990	09	17.32274	23	25	17.80	+09	11	06.2		9	675
3645	1990	09	19.32757	23	23	39.30	+09	00	02.1		9	675
3645	1990	09	19.35885	23	23	37.70	+08	59	51.5		9	675
3738	1977	09	09.40313	23	55	57.89	-00	36	33.3		6	675
3738	1977	09	10.28316	23	55	06.68	-00	41	25.3	15.5	6	675
3814	1977	09	09.40313	23	58	51.43	-01	25	55.6		6	675
3814	1977	09	10.28316	23	58	15.61	-01	30	08.6		6	675
3874	1990	09	17.28889	23	07	21.91	+06	59	27.3		9	675
3874	1990	09	19.32757	23	05	40.84	+06	48	56.6		9	675
3874	1990	09	19.35885	23	05	39.19	+06	48	46.7		9	675
3888	1991	02	18.38698	10	12	30.81	-03	44	52.2	16.5	2	675
3888	1991	02	18.41285	10	12	29.36	-03	44	33.9		2	675
3888	1991	02	19.43333	10	11	34.98	-03	32	32.5		2	675
3888	1991	02	20.35451	10	10	45.64	-03	21	30.5		2	675
3888	1991	02	20.38606	10	10	43.93	-03	21	07.5		2	675
4110	1990	10	22.14306	23	22	03.21	-03	23	41.5		9	675
4110	1990	10	22.17517	23	22	02.53	-03	23	47.2		9	675
4164	1990	09	17.28889	23	12	55.83	+10	59	52.9		9	675
4164	1990	09	17.32274	23	12	54.13	+10	59	33.5		9	675
4164	1990	09	19.32757	23	11	20.97	+10	41	16.8		9	675
4164	1990	09	19.35885	23	11	19.37	+10	40	59.0		9	675
4176	1990	10	22.14306	23	37	28.31	-06	03	20.6		9	675
4176	1990	10	22.17517	23	37	27.29	-06	03	25.8		9	675
4222	1990	10	22.14306	23	14	25.31	-02	28	50.9		9	675
4222	1990	10	22.17517	23	14	24.80	-02	29	01.2		9	675
4266	1990	09	13.32951	22	30	06.91	-00	50	16.8	17.8	9	675
4266	1990	09	17.21997	22	27	07.98	-00	57	47.0	17.5	9	675
4266	1990	09	17.25417	22	27	06.44	-00	57	51.4		9	675
4346	1990	09	13.32951	22	25	35.05	+05	00	52.3	17.0	9	675
4346	1990	09	17.21997	22	23	08.06	+04	32	53.1	17.8	9	675
4346	1990	09	17.25417	22	23	06.82	+04	32	39.1		9	675
4385	1977	09	09.40313	23	51	06.85	-01	53	53.0		6	675
4385	1977	09	10.28316	23	50	30.44	-01	57	49.2	16.0	6	675
4404	1991	02	18.48194	09	22	52.10	+13	24	03.1	16.0	2	675
4404	1991	02	18.52847	09	22	49.53	+13	25	10.4		2	675
4404	1991	02	19.31997	09	22	07.26	+13	44	30.3		2	675
4404	1991	02	20.30174	09	21	14.60	+14	08	27.7		2	675
4404	1991	02	20.32760	09	21	13.08	+14	09	04.2		2	675
4419	1977	09	09.40313	00	10	08.83	+01	35	02.5	16.5	6	675
4419	1977	09	10.28316	00	09	34.00	+01	31	15.8		6	675
4598	1990	09	14.25503	22	09	24.24	-02	45	34.6	17.0	9	675
4598	1990	09	14.29497	22	09	22.76	-02	45	53.2		9	675
4598	1990	09	18.18142	22	07	12.57	-03	15	59.7		9	675
4598	1990	09	18.21476	22	07	11.46	-03	16	13.9		9	675
4621	1990	10	22.14306	23	30	12.87	-02	42	12.8		9	675
4621	1990	10	22.17517	23	30	12.42	-02	42	19.8		9	675
4645	1990	10	22.14306	23	45	30.05	-03	32	11.2		9	675
4645	1990	10	22.17517	23	45	29.05	-03	32	23.2		9	675
4647	1990	10	22.14306	23	46	13.97	-03	04	20.5		9	675
4647	1990	10	22.17517	23	46	13.39	-03	04	30.0		9	675
4648	1990	09	17.21997	22	38	04.08	-00	16	13.4	16.8	9	675
4648	1990	09	17.25417	22	38	01.96	-00	16	17.7		9	675
4676	1990	09	13.32951	22	33	37.59	+04	22	01.4	16.8	9	675
4676	1990	09	17.21997	22	30	36.30	+03	49	19.8	17.0	9	675
4676	1990	09	17.25417	22	30	34.73	+03	49	03.2		9	675
4690	1991	02	14.15556	05	22	19.52	+25	41	34.5	16.0	2	675
4690	1991	02	14.27587	05	22	25.11	+25	40	11.1		2	675

4690 1991 02 19.17865 05 26 43.30 +24 46 03.6 2 675
4690 1991 02 20.21007 05 27 42.91 +24 35 19.1 2 675

688 Lowell Observatory, Anderson Mesa Station
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observer H. R. Miller
Measurer S. J. Bus
1.1-m reflector + CCD
1990 YY 1991 02 19.13326 03 27 11.91 +18 42 21.0 688
1990 YY 1991 02 19.18281 03 27 13.13 +18 42 26.4 688

691 Kitt Peak, Steward Observatory
T. Gehrels, Space Sciences Building, University of Arizona,
Tucson, AZ 85721, U.S.A.
Observers T. Gehrels, D. Rabinowitz, J. V. Scotti
0.91-m SPACEWATCH telescope
SAOC 1984
See also MPC 9198, MPC 10373 and Astron. J. 91, 1242, 1986

1991 AM		1991 02 19.49816	17 57 34.91	+17 17 55.1		18.1V	691
1991 AM		1991 02 19.51002	17 57 41.02	+17 17 48.9			691
1991 AM		1991 02 19.52126	17 57 46.88	+17 17 42.8			691
1991 CZ		1991 02 19.20559	09 25 43.81	+07 39 14.4		16.1V	691
1991 CZ		1991 02 19.22794	09 25 42.38	+07 39 49.2			691
1991 CZ		1991 02 19.26182	09 25 40.20	+07 40 42.3			691
1991 CB1		1991 02 20.24505	09 15 28.41	+13 24 42.9			691
1991 CB1		1991 02 20.25567	09 15 27.32	+13 24 44.8			691
1991 CB1		1991 02 20.26670	09 15 26.26	+13 24 47.2		21.8V	691
1991 CB1		1991 02 22.25086	09 12 13.82	+13 31 07.4			691
1991 CB1		1991 02 22.26257	09 12 12.66	+13 31 09.4		21.3V	691
1991 CB1		1991 02 22.27332	09 12 11.70	+13 31 11.2			691
1991 DF	*	1991 02 19.19852	09 15 31.30	+07 34 43.4			691
1991 DF		1991 02 19.22087	09 15 29.84	+07 34 49.1			691
1991 DF		1991 02 19.25476	09 15 27.59	+07 34 58.6		19.6V	691
1991 DF		1991 02 20.28300	09 14 21.93	+07 39 59.3		19.7V	691
1991 DF		1991 02 20.29172	09 14 21.23	+07 40 02.3			691
1991 DF		1991 02 20.30213	09 14 20.56	+07 40 06.3			691
1991 DF		1991 02 21.16359	09 13 28.03	+07 44 17.1		19.5V	691
1991 DF		1991 02 21.17413	09 13 27.33	+07 44 20.3			691
1991 DF		1991 02 21.18483	09 13 26.71	+07 44 24.4			691
1991 DK1	*	1991 02 21.35388	11 21 34.64	+10 23 49.4			691
1991 DK1		1991 02 21.37097	11 21 34.06	+10 23 52.9		19.5V	691
1991 DK1		1991 02 21.39671	11 21 33.48	+10 23 57.9			691
1991 DK1		1991 02 22.31620	11 21 07.22	+10 26 33.8		19.5V	691
1991 DK1		1991 02 22.33866	11 21 06.55	+10 26 37.3			691
1991 DK1		1991 02 22.36109	11 21 05.89	+10 26 41.1			691
1991 DK1		1991 03 10.41744	11 12 56.35	+11 10 58.8			691
1991 DK1		1991 03 10.43025	11 12 55.94	+11 11 00.7		19.7V	691
1991 DK1		1991 03 10.44306	11 12 55.52	+11 11 02.5			691
1991 EE	*	1991 03 13.17987	11 00 01.41	+06 09 49.1		19.3V	691
1991 EE		1991 03 13.20103	10 59 59.37	+06 10 11.2			691
1991 EE		1991 03 13.22219	10 59 57.32	+06 10 33.2			691
1991 EE		1991 03 13.38703	10 59 41.37	+06 13 24.4			691
1991 EE		1991 03 13.39725	10 59 40.38	+06 13 34.7			691
1991 EE		1991 03 13.40792	10 59 39.38	+06 13 45.7			691
1991 EE		1991 03 13.41311	10 59 38.93	+06 13 51.0			691
1991 EE		1991 03 14.26666	10 58 19.20	+06 28 40.5			691
1991 EE		1991 03 14.27917	10 58 17.94	+06 28 53.2			691
1991 EE		1991 03 14.30961	10 58 15.00	+06 29 25.1		19.2V	691

1991	EE	1991	03	14.31600	10	58	14.36	+06 29 32.2		691
1991	EE	1991	03	14.32340	10	58	13.65	+06 29 39.2		691
1991	EE	1991	03	15.41149	10	56	30.17	+06 48 44.6	19.4V	691
1991	EE	1991	03	15.41593	10	56	29.75	+06 48 49.3		691
1991	EE	1991	03	15.42845	10	56	28.52	+06 49 02.4		691
3594		1991	02	22.09981	08	51	22.71	+27 29 54.7		691
3594		1991	02	22.11383	08	51	21.86	+27 29 51.4	16.9V	691
3594		1991	02	22.12769	08	51	21.00	+27 29 48.1		691

760 Goethe Link
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observers P. R. Davis, F. F. Johns, S. F. Strother, Y. Terzian
Measurer C. M. Olmstead
0.25-m refractor
PDS scanning microdensitometer
AGK3 and Perth 70 secondary nets, global solutions

255		1951	09	30.13544	22	24	40.20	-17 32 02.9		760
255		1951	09	30.23472	22	24	36.62	-17 31 56.4		760
288		1951	09	30.13544	22	35	17.44	-13 24 39.8	15.3	760
288		1951	09	30.23472	22	35	14.00	-13 24 56.1		760
501		1951	09	30.13544	22	36	03.24	-16 00 55.7		760
501		1951	09	30.23472	22	35	58.57	-16 00 19.5		760
534		1960	11	17.11171	02	03	34.75	+08 14 25.7	15.0	760
534		1960	11	17.15338	02	03	32.89	+08 14 19.4		760
993		1960	11	17.11171	01	49	19.75	+09 42 08.8		760
993		1960	11	17.15338	01	49	18.13	+09 42 00.2		760
2831		1960	11	17.11171	01	45	38.66	+05 03 29.7		760
2831		1960	11	17.15338	01	45	37.22	+05 03 34.3		760

801 Oak Ridge
R. E. McCrosky, Harvard-Smithsonian Center for Astrophysics,
60 Garden Street, Cambridge, MA 02138, U.S.A.
Observers R. E. McCrosky, C.-Y. Shao, O. C. Dahl
1.5-m reflector + CCD

1948	AG	1991	02	09.35432	13	54	13.44	+27 00 22.6		801
1948	AG	1991	02	09.36531	13	54	14.23	+27 00 34.2	t	801
1948	AG	1991	02	10.42867	13	55	26.26	+27 19 38.0		801
1948	AG	1991	02	10.43581	13	55	26.68	+27 19 45.0	S	801
1955	QN	1991	02	16.34270	11	41	21.90	-09 31 35.5		801
1955	QN	1991	02	16.37102	11	41	20.68	-09 31 33.2		801
1973	ST	1991	02	13.04542	04	00	00.45	+20 33 41.9		801
1973	ST	1991	02	13.08032	04	00	01.13	+20 33 43.9		801
1973	SH1	1991	02	11.34201	12	36	21.25	+00 24 29.2		801
1973	SH1	1991	02	11.39014	12	36	20.67	+00 24 34.7		801
1974	VS	1991	02	09.29405	11	31	29.06	+06 55 11.4		801
1974	VS	1991	02	09.31613	11	31	28.35	+06 55 16.5		801
1974	VS	1991	02	11.33316	11	30	22.85	+07 03 15.7		801
1974	VS	1991	02	11.35123	11	30	22.21	+07 03 20.0		801
1975	TH6	1991	02	09.34740	13	19	12.50	+06 07 10.9	r	801
1975	TH6	1991	02	09.37661	13	19	12.99	+06 07 18.5	r	801
1977	RR7	1991	02	09.27552	11	07	52.45	+18 26 43.5		801
1977	RR7	1991	02	09.28742	11	07	51.95	+18 26 46.0		801
1977	RR7	1991	02	11.28226	11	06	30.29	+18 34 35.3		801
1977	RR7	1991	02	11.30796	11	06	29.17	+18 34 41.0		801
1978	RW	1991	02	11.03443	03	20	28.34	+16 59 47.4		801
1978	RW	1991	02	17.01591	03	24	48.12	+17 19 00.9		801
1978	RW	1991	02	17.03046	03	24	48.82	+17 19 03.9		801
1978	TV8	1991	02	16.21347	09	15	09.79	+18 23 54.2		801

1978	TV8	1991	02	16.23668	09	15	08.62	+18	23	57.9		801
1978	VL11	1991	02	11.43648	11	42	02.11	+12	38	01.5		801
1978	VL11	1991	02	11.44499	11	42	01.89	+12	38	04.8		801
1978	VL11	1991	02	12.33306	11	41	39.87	+12	43	46.5		801
1978	VL11	1991	02	12.35037	11	41	39.39	+12	43	53.4		801
1979	OD15	1991	02	11.07168	06	43	25.60	+17	06	17.7		801
1979	OD15	1991	02	11.11486	06	43	24.57	+17	06	27.1		801
1979	SN	1991	02	11.33873	12	27	00.45	-05	44	41.7		801
1979	SN	1991	02	11.36898	12	26	59.76	-05	44	47.7		801
1979	SN	1991	02	12.35413	12	26	38.57	-05	48	02.6		801
1979	SN	1991	02	12.38881	12	26	37.77	-05	48	08.3		801
1979	SA8	1991	02	10.04498	06	21	06.07	+30	55	12.6		801
1979	SA8	1991	02	10.07906	06	21	05.04	+30	55	10.2		801
1979	SA8	1991	02	11.10197	06	20	38.03	+30	53	04.8		801
1979	VS2	1991	02	16.18534	06	15	39.12	+53	53	08.5		801
1980	TP	1991	02	09.15069	07	29	49.19	+20	14	09.6		801
1980	TP	1991	02	09.16588	07	29	48.41	+20	14	12.1		801
1980	TP	1991	02	10.11984	07	29	03.63	+20	16	46.9		801
1980	TP	1991	02	10.14843	07	29	02.22	+20	16	51.4		801
1980	VX1	1991	02	11.27931	11	06	07.31	+11	02	45.0		801
1980	VX1	1991	02	11.29865	11	06	06.35	+11	02	48.0		801
1980	VX1	1991	02	16.29471	11	01	53.81	+11	16	40.0		801
1980	VX1	1991	02	16.31054	11	01	52.97	+11	16	42.7		801
1981	ER17	1991	01	14.10053	06	04	33.35	+16	37	35.5		801
1981	ER17	1991	01	14.11976	06	04	32.52	+16	37	36.8	I	801
1981	ER17	1991	01	16.12535	06	03	10.21	+16	39	12.3		801
1981	ER17	1991	01	16.14758	06	03	09.30	+16	39	13.2		801
1981	EY26	1990	12	17.21155	05	52	24.17	+30	24	12.4		801
1981	EY26	1990	12	17.23248	05	52	22.97	+30	24	11.8		801
1981	EZ46	1991	02	17.08340	08	14	00.15	+23	18	36.2		801
1981	EZ46	1991	02	17.11374	08	13	58.95	+23	18	38.0		801
1981	GN1	1991	02	11.07537	06	52	54.66	+10	08	47.4		801
1981	GN1	1991	02	11.09848	06	52	53.95	+10	08	52.7		801
1981	JX1	1991	02	09.09716	06	48	27.23	+29	16	35.8		801
1981	JX1	1991	02	09.12502	06	48	26.29	+29	16	33.9		801
1981	JX1	1991	02	10.13736	06	47	54.93	+29	15	22.9		801
1981	RQ	1991	02	09.11229	07	17	36.50	+34	18	58.9		801
1981	RQ	1991	02	09.13280	07	17	35.53	+34	18	51.7		801
1981	RQ	1991	02	11.08355	07	16	10.11	+34	08	22.3		801
1981	RQ	1991	02	11.11861	07	16	08.50	+34	08	11.6		801
1982	SC6	1991	02	12.32057	11	36	18.30	+09	54	57.1		801
1982	SC6	1991	02	12.33959	11	36	17.53	+09	54	59.3		801
1983	BM	1991	02	10.02966	03	51	13.11	+32	57	32.4		801
1983	BM	1991	02	10.04866	03	51	13.89	+32	57	28.2		801
1983	BM	1991	02	11.04411	03	51	57.49	+32	54	00.8		801
1983	BM	1991	02	11.06500	03	51	58.43	+32	53	57.7		801
1983	CC	1991	02	10.16687	08	34	48.49	+18	11	26.8		801
1983	CC	1991	02	10.17855	08	34	47.64	+18	11	41.5		801
1983	CC	1991	02	17.09057	08	27	30.69	+20	31	16.1		801
1983	CC	1991	02	17.10671	08	27	29.70	+20	31	34.5		801
1984	DC1	1991	02	09.22069	09	54	06.44	+11	23	33.2		801
1984	DC1	1991	02	09.23097	09	54	05.80	+11	23	37.2		801
1984	EY	1991	02	16.22649	09	05	16.47	+28	36	21.8		801
1984	EY	1991	02	16.24488	09	05	15.22	+28	36	23.4		801
1984	UB3	1991	02	09.15450	07	34	24.32	+20	47	54.2		801
1984	UB3	1991	02	09.17458	07	34	23.49	+20	47	56.0		801
1984	UB3	1991	02	10.12380	07	33	46.86	+20	49	18.8		801
1984	UB3	1991	02	10.15215	07	33	45.74	+20	49	21.3		801
1985	KC	1991	02	11.22236	10	17	09.56	+13	49	27.6		801

1985	KC	1991	02	11.23913	10	17	08.45	+13	49	30.4	801
1986	QQ2	1991	02	17.01061	03	07	34.19	+10	31	52.6	801
1986	QQ2	1991	02	17.02616	03	07	35.54	+10	32	02.8	801
1986	RJ	1991	02	09.07738	07	02	22.25	+20	26	04.1	801
1986	RJ	1991	02	09.09392	07	02	21.50	+20	26	05.0	801
1986	RJ	1991	02	10.11188	07	01	39.44	+20	27	00.6	801
1986	RJ	1991	02	10.14094	07	01	38.22	+20	27	02.3	801
1986	RU2	1991	02	10.16964	08	35	42.39	+21	00	37.6	801
1986	RU2	1991	02	10.18459	08	35	41.43	+21	00	39.3	801
1986	RU2	1991	02	17.15056	08	29	02.56	+21	11	41.2	801
1986	RU2	1991	02	17.16791	08	29	01.61	+21	11	42.4	801
1986	RB5	1991	02	10.01196	05	42	21.34	+20	59	48.5	t 801
1986	RB5	1991	02	10.06478	05	42	21.15	+20	59	48.0	801
1986	RB5	1991	02	11.05104	05	42	20.51	+21	02	31.5	801
1986	RB5	1991	02	11.10844	05	42	20.44	+21	02	39.4	801
1986	RC7	1991	02	10.10205	06	35	20.66	+29	34	11.4	801
1986	RC7	1991	02	10.12807	06	35	20.01	+29	34	06.2	801
1986	RC7	1991	02	11.06867	06	34	59.38	+29	31	06.4	801
1986	RC7	1991	02	11.11178	06	34	58.38	+29	30	58.2	801
1986	TK1	1991	02	09.14646	07	28	23.46	+18	53	21.5	801
1986	TK1	1991	02	09.16197	07	28	22.66	+18	53	22.4	801
1986	TK1	1991	02	11.13939	07	26	49.05	+18	55	12.2	801
1986	TK1	1991	02	11.16359	07	26	47.91	+18	55	12.8	801
1986	TZ1	1991	02	09.27199	10	58	50.93	+14	56	43.8	r 801
1986	TZ1	1991	02	09.28517	10	58	50.21	+14	56	49.8	801
1986	TZ1	1991	02	12.30890	10	56	06.33	+15	20	08.7	801
1986	TZ1	1991	02	12.32403	10	56	05.45	+15	20	15.5	801
1986	TJ2	1991	02	09.21166	09	46	37.80	+17	39	58.7	801
1986	TJ2	1991	02	09.22266	09	46	37.13	+17	40	04.8	801
1986	TJ2	1991	02	16.25788	09	39	39.86	+18	42	10.4	801
1986	TJ2	1991	02	16.27936	09	39	38.53	+18	42	20.3	r 801
1986	TO3	1991	02	09.29669	11	41	29.76	+01	45	47.9	801
1986	TO3	1991	02	09.31910	11	41	28.96	+01	45	52.1	801
1986	TO3	1991	02	16.35443	11	36	47.70	+02	11	44.9	801
1986	TK4	1991	02	09.11562	07	22	09.96	+33	40	49.9	801
1986	TK4	1991	02	09.13896	07	22	08.91	+33	40	47.2	801
1986	TK4	1991	02	13.08645	07	19	38.36	+33	32	05.9	W 801
1986	TK4	1991	02	13.11221	07	19	37.50	+33	32	03.7	801
1986	TS6	1991	02	11.34601	12	49	14.74	-09	51	45.4	801
1986	TS6	1991	02	11.41694	12	49	13.91	-09	51	46.0	801
1986	VG1	1991	02	11.36446	14	13	20.36	+10	47	53.6	801
1986	VG1	1991	02	11.42495	14	13	20.49	+10	48	03.2	801
1987	DF	1991	02	10.40270	15	16	11.70	-00	31	09.4	801
1987	DF	1991	02	10.40755	15	16	12.14	-00	31	06.5	801
1987	DF	1991	02	11.37400	15	17	55.79	-00	22	51.5	801
1987	DF	1991	02	11.38339	15	17	56.77	-00	22	47.4	801
1987	FF1	1991	02	09.29056	11	24	18.51	+25	14	24.2	801
1987	FF1	1991	02	09.30649	11	24	17.94	+25	14	35.1	801
1987	FF1	1991	02	11.31111	11	23	07.33	+25	37	12.4	801
1987	FF1	1991	02	11.32595	11	23	06.75	+25	37	22.7	801
1987	GC	1991	02	16.21990	09	13	02.74	-01	13	08.0	801
1987	GC	1991	02	16.24062	09	13	01.68	-01	12	57.9	801
1988	FJ	1991	02	09.41674	14	56	24.94	-22	00	51.3	801
1988	FJ	1991	02	09.43520	14	56	26.40	-22	01	10.3	801
1988	JO	1991	02	09.31339	12	04	33.32	+35	29	58.0	801
1988	JO	1991	02	09.32779	12	04	32.90	+35	30	09.8	801
1988	JO	1991	02	10.38939	12	04	03.41	+35	44	31.3	t 801
1988	JO	1991	02	10.39683	12	04	03.17	+35	44	37.9	801
1988	JU	1991	02	16.02991	07	20	01.49	-08	18	15.1	801

1988	JU	1991	02	16.04878	07	20	00.81	-08	18	03.5	801
1988	JA1	1991	02	10.16388	08	25	18.93	+24	28	31.6	801
1988	JA1	1991	02	10.17630	08	25	18.11	+24	28	41.1	801
1988	JA1	1991	02	13.14069	08	22	13.61	+25	05	37.1	801
1988	JA1	1991	02	13.15160	08	22	12.89	+25	05	45.4	801
1988	PH1	1991	02	09.21568	09	49	02.75	+11	14	27.3	801
1988	PH1	1991	02	09.22890	09	49	02.07	+11	14	27.9	801
1988	PH1	1991	02	16.26250	09	43	03.02	+11	21	14.8	801
1988	PH1	1991	02	16.28431	09	43	02.04	+11	21	16.0	801
1988	RR4	1991	02	11.24911	10	25	49.53	+09	01	32.9	801
1988	RR4	1991	02	11.26551	10	25	48.77	+09	01	39.7	801
1988	RR4	1991	02	12.29560	10	25	01.15	+09	08	18.0	801
1988	RR4	1991	02	12.31333	10	25	00.29	+09	08	24.9	801
1988	RX11	1991	02	11.14389	07	45	34.49	+21	35	38.0	801
1988	RX11	1991	02	11.16706	07	45	33.51	+21	35	40.1	801
1988	RX11	1991	02	13.10527	07	44	16.04	+21	38	50.3	801
1988	RX11	1991	02	13.12425	07	44	15.35	+21	38	51.4	801
1989	AL2	1991	02	09.37311	13	59	40.19	+29	16	21.3	801
1989	AL2	1991	02	09.40066	13	59	40.27	+29	16	31.1	801
1989	AL2	1991	02	12.39637	13	59	47.26	+29	34	33.2	801
1989	AL2	1991	02	12.42797	13	59	47.26	+29	34	44.8	801
1989	AN2	1991	02	12.36277	13	02	59.58	-03	19	11.7	801
1989	AN2	1991	02	12.40992	13	02	59.27	-03	19	06.0	801
1989	BQ	1991	02	11.37688	15	30	43.18	+01	43	25.6	W 801
1989	BQ	1991	02	11.41310	15	30	43.87	+01	43	31.2	801
1989	CK1	1991	02	09.38828	14	42	45.40	+02	15	45.7	801
1989	CK1	1991	02	09.44766	14	42	46.12	+02	15	50.3	801
1989	CH2	1991	02	09.38367	14	18	03.62	+20	37	38.2	801
1989	CH2	1991	02	09.41072	14	18	03.89	+20	37	47.3	801
1989	CH2	1991	02	16.36668	14	18	57.13	+21	18	15.2	801
1989	CH2	1991	02	16.40014	14	18	57.24	+21	18	28.2	801
1989	LU	1990	12	15.22369	05	51	23.71	+25	20	16.3	801
1989	LU	1990	12	15.23542	05	51	22.93	+25	20	16.3	801
1989	LU	1990	12	17.20675	05	49	02.26	+25	18	05.8	801
1989	NJ	1991	02	10.03372	03	45	20.29	+13	03	47.0	801
1989	NJ	1991	02	10.05208	03	45	20.97	+13	03	50.1	801
1989	NJ	1991	02	11.03968	03	45	58.76	+13	06	35.8	801
1989	NJ	1991	02	11.05628	03	45	59.40	+13	06	38.6	801
1989	NX	1991	02	09.14299	07	25	05.03	+12	31	43.4	801
1989	NX	1991	02	09.15795	07	25	04.25	+12	31	53.4	801
1989	NX	1991	02	13.09718	07	22	08.45	+13	14	47.8	801
1989	NX	1991	02	13.10853	07	22	07.94	+13	14	54.0	801
1989	PC	1991	02	09.06045	06	04	31.48	+09	00	50.1	801
1989	PC	1991	02	09.08104	06	04	31.09	+09	01	00.9	801
1989	PC	1991	02	10.04052	06	04	13.82	+09	09	03.5	801
1989	PC	1991	02	10.06096	06	04	13.45	+09	09	13.7	801
1989	RB	1991	02	09.18248	07	50	24.36	+45	15	34.8	801
1989	RB	1991	02	09.19199	07	50	23.67	+45	15	32.7	801
1989	RH	1991	02	10.11602	07	18	54.35	+04	16	44.8	801
1989	RH	1991	02	10.13453	07	18	53.76	+04	16	55.7	801
1989	RH	1991	02	11.09031	07	18	25.85	+04	26	08.5	801
1989	RH	1991	02	11.12152	07	18	24.90	+04	26	26.5	801
1989	RM2	1991	02	09.10565	07	04	25.63	+21	49	13.0	801
1989	RM2	1991	02	09.12921	07	04	24.74	+21	49	12.7	801
1989	RM2	1991	02	10.10918	07	03	49.67	+21	49	04.2	801
1989	RM2	1991	02	10.14447	07	03	48.39	+21	49	03.8	801
1989	SJ	1991	02	09.33764	12	15	33.22	-03	02	05.9	801
1989	SJ	1991	02	09.36873	12	15	32.49	-03	02	03.7	801
1989	SG5	1991	02	11.15627	07	56	04.24	+16	23	55.6	801

1989	SG5	1991	02	11.16985	07	56	03.54	+16	23	59.9	801
1989	SG5	1991	02	16.07941	07	52	15.00	+16	50	07.5	801
1989	SG5	1991	02	16.16972	07	52	10.97	+16	50	35.0	801
1989	TC1	1991	02	17.15979	08	45	00.63	+17	07	08.6	801
1989	TC1	1991	02	17.17491	08	44	59.79	+17	07	11.3	801
1989	TG17	1991	02	13.06968	06	47	51.16	+10	20	51.2	801
1989	TG17	1991	02	13.09431	06	47	50.57	+10	20	57.3	801
1989	TG17	1991	02	16.02410	06	46	55.47	+10	34	28.5	801
1989	TG17	1991	02	16.05399	06	46	55.07	+10	34	38.6	801
1989	UD	1991	02	09.10916	07	20	32.05	+23	39	13.2	801
1989	UD	1991	02	09.13604	07	20	31.03	+23	39	15.0	801
1989	UD	1991	02	11.08711	07	19	22.78	+23	41	44.9	801
1989	UD	1991	02	11.15147	07	19	20.47	+23	41	49.5	801
1989	UE8	1991	02	09.26861	10	58	27.36	+11	38	45.6	801
1989	UE8	1991	02	09.28244	10	58	26.70	+11	38	51.2	801
1989	UE8	1991	02	11.27586	10	56	50.02	+11	52	07.4	801
1989	UE8	1991	02	11.28889	10	56	49.58	+11	52	12.6	801
1989	UK8	1991	02	16.20888	08	48	25.88	+29	02	00.9	801
1989	UK8	1991	02	16.23262	08	48	24.72	+29	02	06.1	801
1989	VM	1991	02	10.16066	08	19	35.95	+02	53	18.6	801
1989	VM	1991	02	10.18164	08	19	35.05	+02	53	24.6	801
1989	VM	1991	02	17.08781	08	15	03.70	+03	27	27.8	801
1989	VM	1991	02	17.12038	08	15	02.46	+03	27	37.8	801
1989	WF	1991	02	09.35056	13	22	16.01	-02	12	49.3	801
1989	WF	1991	02	09.39235	13	22	16.54	-02	12	49.8	801
1989	WF	1991	02	11.36134	13	22	41.52	-02	12	40.0	801
1989	WF	1991	02	11.42171	13	22	42.07	-02	12	39.6	801
1989	XC1	1991	02	09.25015	10	32	11.54	+19	05	58.0	801
1989	XC1	1991	02	09.26502	10	32	10.81	+19	06	04.7	801
1989	XC1	1991	02	11.26913	10	30	34.36	+19	20	56.2	801
1989	XC1	1991	02	11.28675	10	30	33.47	+19	21	03.9	801
1989	XC1	1991	02	12.29944	10	29	43.62	+19	28	30.7	801
1989	XC1	1991	02	12.31630	10	29	42.76	+19	28	38.3	801
1990	BG	1991	02	10.99304	02	37	35.43	-14	29	24.9	801
1990	BG	1991	02	11.00002	02	37	35.79	-14	29	16.9	801
1990	SP	1991	02	11.39444	16	12	12.57	+01	45	54.4	801
1990	SP	1991	02	11.40611	16	12	13.16	+01	45	45.7	801
1990	SQ	1991	02	10.09293	04	14	21.68	+54	43	10.0	801
1990	SQ	1991	02	10.09483	04	14	22.35	+54	43	07.9	801
1990	SQ	1991	02	13.05685	04	31	20.77	+53	44	53.6	801
1990	SQ	1991	02	13.05943	04	31	21.61	+53	44	50.5	801
1990	TR	1991	02	09.99965	03	34	36.11	+29	20	42.7	801
1990	TR	1991	02	10.00627	03	34	36.92	+29	20	45.1	801
1990	TR	1991	02	12.04248	03	38	24.22	+29	25	21.5	801
1990	TR	1991	02	12.05362	03	38	25.47	+29	25	22.0	801
1990	TZ	1991	02	11.99477	01	59	04.48	+11	42	13.8	801
1990	TZ	1991	02	12.00454	01	59	05.65	+11	42	14.5	801
1990	UO2	1991	02	17.00655	03	08	26.73	+07	44	45.3	801
1990	UO2	1991	02	17.02007	03	08	28.23	+07	44	46.1	801
1990	VB	1991	02	11.01918	03	28	45.93	+14	53	56.7	W 801
1990	VU1	1991	02	12.03933	03	33	04.60	+17	26	26.4	801
1990	VU1	1991	02	12.07388	03	33	05.11	+17	26	31.8	801
1990	VX2	1991	02	13.03389	03	39	49.83	+45	50	26.0	801
1990	VX2	1991	02	13.04046	03	39	50.57	+45	50	27.2	I 801
1990	VX2	1991	02	17.03983	03	47	44.85	+46	13	28.5	I 801
1990	VX2	1991	02	17.05108	03	47	46.22	+46	13	32.1	I 801
1990	WW2	1991	02	09.05705	05	12	22.07	+26	49	42.1	r 801
1990	WW2	1991	02	10.01603	05	12	46.01	+26	54	15.0	801
1990	WW2	1991	02	10.03707	05	12	46.52	+26	54	21.0	801

1990	WW2	1991	02	17.04288	05	16	28.30	+27 25 45.6	801
1990	WW2	1991	02	17.06611	05	16	29.15	+27 25 52.0	801
1990	WZ2	1991	02	16.99771	02	26	30.78	+41 17 40.8	801
1990	WZ2	1991	02	17.00066	02	26	31.30	+41 17 43.8	801
1990	XJ	1991	02	10.02003	03	39	18.85	+02 16 38.2	801
1990	XJ	1991	02	10.02515	03	39	19.40	+02 16 36.2	801
1990	XJ	1991	02	12.04674	03	42	54.07	+02 05 28.8	801
1991	BB	1991	02	09.06396	06	37	16.49	-16 54 13.5	801
1991	BB	1991	02	09.06653	06	37	15.86	-16 54 19.7	801
1991	BB	1991	02	10.05574	06	33	21.33	-17 32 14.3	801
1991	BB	1991	02	10.05741	06	33	20.93	-17 32 18.1	801
1991	CA1	1991	02	17.12523	09	55	40.94	+34 28 51.1	801
1991	CA1	1991	02	17.12988	09	55	40.62	+34 28 58.3	801
1991	CA1	1991	02	17.13345	09	55	40.37	+34 29 04.0	801
7618	P-L	1991	02	09.26234	10	33	54.61	+11 23 01.8	801
7618	P-L	1991	02	09.27873	10	33	53.94	+11 23 07.6	801
7618	P-L	1991	02	11.27340	10	32	33.53	+11 35 07.1	801
7618	P-L	1991	02	11.29584	10	32	32.59	+11 35 15.0	801
4265	T-2	1991	02	17.07884	08	12	30.53	+35 22 02.4	801
4265	T-2	1991	02	17.10975	08	12	29.09	+35 22 00.8	801
165		1991	02	09.34465	13	14	56.12	-21 19 20.6	801
165		1991	02	09.37913	13	14	56.24	-21 19 32.0	801
165		1991	02	12.36758	13	15	04.17	-21 35 32.4	801
165		1991	02	12.40097	13	15	04.17	-21 35 42.4	801
348		1991	02	09.20904	09	32	10.56	+26 27 19.0	801
348		1991	02	09.22409	09	32	09.74	+26 27 24.5	801
348		1991	02	16.24923	09	26	04.63	+27 07 08.3	801
348		1991	02	16.26767	09	26	03.67	+27 07 14.0	801
951		1991	02	09.43942	15	48	52.19	-22 26 55.9	801
951		1991	02	09.45091	15	48	53.00	-22 26 58.4	801
951		1991	02	16.42087	15	56	50.12	-22 50 21.5	801
951		1991	02	16.44086	15	56	51.36	-22 50 25.4	801
2212		1990	12	17.14861	06	39	58.40	+42 55 46.3	801
2212		1990	12	17.15375	06	39	57.73	+42 55 51.1	801
4724		1991	01	14.13970	06	37	31.05	+25 24 43.1	801
4724		1991	01	14.16191	06	37	29.52	+25 24 47.6	801
4724		1991	01	16.15116	06	35	16.85	+25 31 40.1	801
4724		1991	01	16.16646	06	35	15.80	+25 31 43.1	801
4734		1991	01	14.14304	06	41	57.20	+24 47 43.3	801
4734		1991	01	14.16880	06	41	55.50	+24 47 44.0	801
4734		1991	01	15.18154	06	40	54.12	+24 48 19.1	801
4734		1991	01	15.19928	06	40	53.01	+24 48 19.1	801
4746		1991	01	18.26175	08	30	24.94	+17 48 25.0	801
4746		1991	01	18.27755	08	30	24.14	+17 48 28.3	801
4747		1991	01	14.37081	11	38	04.50	+19 00 32.2	801
4747		1991	01	14.41091	11	38	04.50	+19 00 43.4	801
4747		1991	01	16.35383	11	38	05.11	+19 09 58.3	801
4747		1991	01	16.38669	11	38	05.02	+19 10 08.0	801
4747		1991	02	11.33012	11	29	30.86	+21 43 30.0	801
4747		1991	02	11.34899	11	29	30.13	+21 43 36.9	801
4748		1991	02	11.28473	11	06	32.40	+30 12 25.2	801
4748		1991	02	11.30528	11	06	31.49	+30 12 36.8	801
4748		1991	02	16.29780	11	02	43.79	+30 58 08.7	801
4748		1991	02	16.31319	11	02	43.01	+30 58 16.5	801

809 European Southern Observatory
H. Debehogne, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180 Brussels, Belgium (3)

E. W. Elst, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180
Brussels, Belgium (4)
Observers H. Debehogne, E. W. Elst, G. Pizarro, O. Pizarro
Measurers H. Debehogne, J. Dumoulin, E. W. Elst
GPO 0.4-m astrograph and 1-m Schmidt
SAOC

1975 SE2	1990	09	15.18333	00	47	48.86	-03	41	56.1	19.0 4 809
1975 SE2	1990	09	15.19653	00	47	48.12	-03	41	58.3	4 809
1975 SE2	1990	09	15.20972	00	47	47.47	-03	42	01.3	4 809
1979 MA6	1990	09	14.18611	00	14	23.01	-05	34	52.2	19.0 4 809
1979 MA6	1990	09	14.19931	00	14	22.36	-05	34	59.4	4 809
1979 MA6	1990	09	14.21250	00	14	21.63	-05	35	06.4	4 809
1988 BT3	1990	10	19.23819	02	50	25.29	+06	45	13.5	4 809
1988 BT3	1990	10	19.26458	02	50	23.92	+06	45	02.1	4 809
1988 BT3	1990	10	24.25417	02	46	24.09	+06	09	52.0	18.5 4 809
1988 BT3	1990	10	24.26736	02	46	23.37	+06	09	46.1	4 809
1988 BT3	1990	10	24.28056	02	46	22.61	+06	09	41.0	4 809
1988 GH	1990	09	14.18611	00	24	36.94	-03	12	18.9	18.5 4 809
1988 GH	1990	09	14.19931	00	24	36.38	-03	12	21.5	4 809
1988 GH	1990	09	14.21250	00	24	35.72	-03	12	24.0	4 809
1989 EL2	1990	09	15.18333	00	31	53.52	-00	00	58.9	18.2 4 809
1989 EL2	1990	09	15.19653	00	31	52.68	-00	01	02.4	4 809
1989 EL2	1990	09	15.20972	00	31	51.94	-00	01	05.2	4 809
1989 FH	1990	09	15.18333	00	41	41.46	-00	23	39.5	19.0 4 809
1989 FH	1990	09	15.19653	00	41	40.70	-00	23	45.0	4 809
1989 FH	1990	09	15.20972	00	41	40.05	-00	23	49.4	4 809
1990 DU4	1990	03	04.22639	11	31	36.98	+01	28	38.5	18.0 4 809
1990 DU4	1990	03	04.23958	11	31	36.26	+01	28	44.2	4 809
1990 DU4	1990	03	04.25278	11	31	35.50	+01	28	49.9	4 809
1990 QS2	1990	09	21.11771	23	47	31.29	-03	45	50.9	17.6 3 809
1990 QS2	1990	09	21.13089	23	47	30.69	-03	45	55.1	3 809
1990 QS2	1990	09	21.14410	23	47	30.08	-03	45	59.7	3 809
1990 QS2	1990	09	22.14063	23	46	44.44	-03	51	36.4	3 809
1990 QS2	1990	09	22.15381	23	46	43.83	-03	51	40.9	3 809
1990 QS2	1990	09	22.16702	23	46	43.22	-03	51	45.7	3 809
1990 SW4	1990	09	15.18333	00	30	49.58	-01	04	20.5	18.5 4 809
1990 SW4	1990	09	15.19653	00	30	48.95	-01	04	27.1	4 809
1990 SW4	1990	09	15.20972	00	30	48.27	-01	04	32.9	4 809
1990 SZ4	1990	09	15.18333	00	30	48.79	+00	11	07.7	18.7 4 809
1990 SZ4	1990	09	15.19653	00	30	48.13	+00	11	04.0	4 809
1990 SZ4	1990	09	15.20972	00	30	47.54	+00	11	00.0	4 809
1990 SB5	1990	09	15.18333	00	30	50.06	-01	53	19.2	18.7 4 809
1990 SB5	1990	09	15.19653	00	30	49.47	-01	53	26.3	4 809
1990 SB5	1990	09	15.20972	00	30	48.87	-01	53	33.8	4 809
1990 SC5	1990	09	15.18333	00	31	13.45	-01	42	52.1	19.2 4 809
1990 SC5	1990	09	15.19653	00	31	12.80	-01	42	56.2	4 809
1990 SC5	1990	09	15.20972	00	31	12.17	-01	43	01.1	4 809
1990 SD5	1990	09	15.18333	00	32	41.69	+00	13	32.9	19.0 4 809
1990 SD5	1990	09	15.19653	00	32	40.90	+00	13	28.5	4 809
1990 SD5	1990	09	15.20972	00	32	40.20	+00	13	25.5	4 809
1990 SE5	1990	09	15.18333	00	30	58.08	-02	00	51.9	18.6 4 809
1990 SE5	1990	09	15.19653	00	30	57.57	-02	00	54.6	4 809
1990 SE5	1990	09	15.20972	00	30	57.06	-02	00	57.1	4 809
1990 SF5	1990	09	15.18333	00	32	27.55	-00	25	01.4	18.6 4 809
1990 SF5	1990	09	15.19653	00	32	26.89	-00	25	06.8	4 809
1990 SF5	1990	09	15.20972	00	32	26.36	-00	25	13.4	4 809
1990 SG5	1990	09	15.18333	00	32	00.69	-01	29	58.9	18.6 4 809
1990 SG5	1990	09	15.19653	00	32	00.07	-01	30	06.4	4 809
1990 SG5	1990	09	15.20972	00	31	59.63	-01	30	12.3	4 809

1990	SH5	1990	09	15.18333	00	34	18.20	-03	15	54.3	19.3	4 809
1990	SH5	1990	09	15.19653	00	34	17.38	-03	15	54.6		4 809
1990	SH5	1990	09	15.20972	00	34	16.56	-03	15	55.5		4 809
1990	SJ5	1990	09	15.18333	00	34	03.14	-01	15	29.7	18.6	4 809
1990	SJ5	1990	09	15.19653	00	34	02.39	-01	15	29.5		4 809
1990	SJ5	1990	09	15.20972	00	34	01.70	-01	15	27.8		4 809
1990	SL5	1990	09	15.18333	00	34	10.50	-02	08	06.3	19.4	4 809
1990	SL5	1990	09	15.19653	00	34	09.79	-02	08	09.5		4 809
1990	SL5	1990	09	15.20972	00	34	09.02	-02	08	12.5		4 809
1990	SN5	1990	09	15.18333	00	35	52.76	-01	06	52.2	19.2	4 809
1990	SN5	1990	09	15.19653	00	35	52.05	-01	06	54.9		4 809
1990	SN5	1990	09	15.20972	00	35	51.33	-01	06	57.8		4 809
1990	SP5	1990	09	15.18333	00	36	33.23	-00	20	00.6	18.7	4 809
1990	SP5	1990	09	15.19653	00	36	32.48	-00	20	04.2		4 809
1990	SP5	1990	09	15.20972	00	36	31.74	-00	20	07.7		4 809
1990	SQ5	1990	09	15.18333	00	36	20.07	-02	45	42.0	18.7	4 809
1990	SQ5	1990	09	15.19653	00	36	19.38	-02	45	47.4		4 809
1990	SQ5	1990	09	15.20972	00	36	18.70	-02	45	54.2		4 809
1990	SR5	1990	09	15.18333	00	35	54.97	+00	52	41.8	18.9	4 809
1990	SR5	1990	09	15.19653	00	35	54.32	+00	52	37.5		4 809
1990	SR5	1990	09	15.20972	00	35	53.82	+00	52	32.9		4 809
1990	SS5	1990	09	15.18333	00	36	36.89	+00	20	16.3	18.6	4 809
1990	SS5	1990	09	15.19653	00	36	36.29	+00	20	12.3		4 809
1990	SS5	1990	09	15.20972	00	36	35.65	+00	20	07.5		4 809
1990	ST5	1990	09	15.18333	00	37	10.12	-00	43	58.8	18.8	4 809
1990	ST5	1990	09	15.19653	00	37	09.49	-00	44	00.6		4 809
1990	ST5	1990	09	15.20972	00	37	08.88	-00	44	01.8		4 809
1990	SU5	1990	09	15.18333	00	38	14.19	-02	37	36.3	19.5	4 809
1990	SU5	1990	09	15.19653	00	38	13.40	-02	37	39.5		4 809
1990	SU5	1990	09	15.20972	00	38	12.72	-02	37	43.4		4 809
1990	SV5	1990	09	15.18333	00	37	06.02	-03	12	09.5	18.6	4 809
1990	SV5	1990	09	15.19653	00	37	05.44	-03	12	15.2		4 809
1990	SV5	1990	09	15.20972	00	37	04.82	-03	12	22.1		4 809
1990	SX5	1990	09	15.18333	00	37	41.16	+00	05	55.7	18.7	4 809
1990	SX5	1990	09	15.19653	00	37	40.58	+00	05	52.9		4 809
1990	SX5	1990	09	15.20972	00	37	39.89	+00	05	49.3		4 809
1990	SZ5	1990	09	15.18333	00	36	54.57	-02	28	51.4	18.7	4 809
1990	SZ5	1990	09	15.19653	00	36	54.00	-02	28	58.1		4 809
1990	SZ5	1990	09	15.20972	00	36	53.45	-02	29	04.1		4 809
1990	SA6	1990	09	15.18333	00	39	11.62	-02	03	15.1	18.6	4 809
1990	SA6	1990	09	15.19653	00	39	10.95	-02	03	17.7		4 809
1990	SA6	1990	09	15.20972	00	39	10.29	-02	03	20.4		4 809
1990	SB6	1990	09	15.18333	00	38	38.91	-00	35	03.3	18.7	4 809
1990	SB6	1990	09	15.19653	00	38	38.30	-00	35	07.1		4 809
1990	SB6	1990	09	15.20972	00	38	37.79	-00	35	11.8		4 809
1990	SE6	1990	09	15.18333	00	39	18.05	-00	53	59.6	18.7	4 809
1990	SE6	1990	09	15.19653	00	39	17.51	-00	54	07.8		4 809
1990	SE6	1990	09	15.20972	00	39	16.97	-00	54	15.9		4 809
1990	SF6	1990	09	15.18333	00	37	12.12	-00	43	50.9	18.8	4 809
1990	SF6	1990	09	15.19653	00	37	11.79	-00	44	05.4		4 809
1990	SF6	1990	09	15.20972	00	37	11.51	-00	44	18.4		4 809
1990	SG6	1990	09	15.18333	00	40	18.74	-02	40	04.6	19.1	4 809
1990	SG6	1990	09	15.19653	00	40	18.02	-02	40	07.5		4 809
1990	SG6	1990	09	15.20972	00	40	17.43	-02	40	09.8		4 809
1990	SK6	1990	09	15.18333	00	42	11.47	-01	51	35.4	18.6	4 809
1990	SK6	1990	09	15.19653	00	42	10.69	-01	51	38.5		4 809
1990	SK6	1990	09	15.20972	00	42	09.99	-01	51	40.7		4 809
1990	SM6	1990	09	15.18333	00	42	05.15	+00	32	45.3	18.3	4 809
1990	SM6	1990	09	15.19653	00	42	04.46	+00	32	42.9		4 809

1990	SM6	1990	09	15.20972	00	42	03.75	+00	32	39.8		4 809
1990	SN6	1990	09	15.18333	00	41	24.71	-03	32	48.6	18.6	4 809
1990	SN6	1990	09	15.19653	00	41	24.08	-03	32	54.4		4 809
1990	SN6	1990	09	15.20972	00	41	23.44	-03	33	00.3		4 809
1990	SO6	1990	09	15.18333	00	42	05.21	-02	06	37.9	18.8	4 809
1990	SO6	1990	09	15.19653	00	42	04.54	-02	06	42.7		4 809
1990	SO6	1990	09	15.20972	00	42	03.78	-02	06	47.5		4 809
1990	SP6	1990	09	15.18333	00	40	16.95	-00	10	13.0	18.5	4 809
1990	SP6	1990	09	15.19653	00	40	16.47	-00	10	22.8		4 809
1990	SP6	1990	09	15.20972	00	40	16.01	-00	10	29.8		4 809
1990	SQ6	1990	09	15.18333	00	41	25.93	-01	14	03.7	19.0	4 809
1990	SQ6	1990	09	15.19653	00	41	25.48	-01	14	10.6		4 809
1990	SQ6	1990	09	15.20972	00	41	24.96	-01	14	16.3		4 809
1990	SR6	1990	09	15.18333	00	42	00.36	+00	32	04.6	18.4	4 809
1990	SR6	1990	09	15.19653	00	41	59.79	+00	32	01.7		4 809
1990	SR6	1990	09	15.20972	00	41	59.22	+00	31	58.1		4 809
1990	SS6	1990	09	15.18333	00	42	15.15	-00	02	56.2	18.5	4 809
1990	SS6	1990	09	15.19653	00	42	14.67	-00	03	02.2		4 809
1990	SS6	1990	09	15.20972	00	42	14.11	-00	03	08.7		4 809
1990	ST6	1990	09	15.18333	00	43	12.85	-02	54	09.7	18.7	4 809
1990	ST6	1990	09	15.19653	00	43	12.33	-02	54	14.1		4 809
1990	ST6	1990	09	15.20972	00	43	11.77	-02	54	18.5		4 809
1990	SU6	1990	09	15.18333	00	45	01.74	-01	40	42.7	18.7	4 809
1990	SU6	1990	09	15.19653	00	45	01.10	-01	40	47.5		4 809
1990	SU6	1990	09	15.20972	00	45	00.41	-01	40	52.0		4 809
1990	SV6	1990	09	15.18333	00	46	18.16	-01	53	38.4	18.6	4 809
1990	SV6	1990	09	15.19653	00	46	17.42	-01	53	38.0		4 809
1990	SV6	1990	09	15.20972	00	46	16.63	-01	53	37.8		4 809
1990	SW6	1990	09	15.18333	00	45	42.54	-03	35	34.0	18.6	4 809
1990	SW6	1990	09	15.19653	00	45	41.85	-03	35	33.9		4 809
1990	SW6	1990	09	15.20972	00	45	41.16	-03	35	34.0		4 809
1990	SX6	1990	09	15.18333	00	45	42.83	-03	40	03.6	19.1	4 809
1990	SX6	1990	09	15.19653	00	45	42.22	-03	40	07.8		4 809
1990	SX6	1990	09	15.20972	00	45	41.62	-03	40	12.7		4 809
1990	SY6	1990	09	15.18333	00	47	15.98	-00	25	31.0	19.2	4 809
1990	SY6	1990	09	15.19653	00	47	15.24	-00	25	31.4		4 809
1990	SY6	1990	09	15.20972	00	47	14.60	-00	25	32.6		4 809
1990	SZ6	1990	09	15.18333	00	51	30.69	-00	53	50.2	18.5	4 809
1990	SZ6	1990	09	15.19653	00	51	29.50	-00	53	47.8		4 809
1990	SZ6	1990	09	15.20972	00	51	28.39	-00	53	44.6		4 809
1990	SA7	1990	09	15.18333	00	48	22.20	-03	24	55.9	19.6	4 809
1990	SA7	1990	09	15.19653	00	48	21.38	-03	24	58.8		4 809
1990	SA7	1990	09	15.20972	00	48	20.63	-03	25	01.9		4 809
1990	SF7	1990	09	15.18333	00	49	13.99	-01	20	43.9	19.2	4 809
1990	SF7	1990	09	15.19653	00	49	13.37	-01	20	45.8		4 809
1990	SF7	1990	09	15.20972	00	49	12.77	-01	20	47.6		4 809
1990	SG7	1990	09	15.18333	00	51	26.27	-02	04	21.6	19.6	4 809
1990	SG7	1990	09	15.19653	00	51	25.53	-02	04	21.4		4 809
1990	SG7	1990	09	15.20972	00	51	24.69	-02	04	21.6		4 809
1990	SH7	1990	09	14.18611	00	08	38.70	-04	21	42.1	19.5	4 809
1990	SH7	1990	09	14.19931	00	08	38.08	-04	21	46.5		4 809
1990	SH7	1990	09	14.21250	00	08	37.43	-04	21	51.5		4 809
1990	SL7	1990	09	14.18611	00	10	52.53	-05	03	46.2	18.6	4 809
1990	SL7	1990	09	14.19931	00	10	51.86	-05	03	50.5		4 809
1990	SL7	1990	09	14.21250	00	10	51.18	-05	03	54.6		4 809
1990	SM7	1990	09	14.18611	00	12	37.94	-07	13	40.3	19.8	4 809
1990	SM7	1990	09	14.19931	00	12	37.16	-07	13	44.3		4 809
1990	SM7	1990	09	14.21250	00	12	36.14	-07	13	48.8		4 809
1990	SN7	1990	09	14.18611	00	12	04.97	-07	10	38.5	18.2	4 809

1990	SN7	1990	09	14.19931	00	12	04.17	-07	10	41.2		4 809
1990	SN7	1990	09	14.21250	00	12	03.38	-07	10	43.9		4 809
1990	SO7	1990	09	14.18611	00	10	35.23	-04	16	01.8	19.0	4 809
1990	SO7	1990	09	14.19931	00	10	34.66	-04	16	08.6		4 809
1990	SO7	1990	09	14.21250	00	10	33.98	-04	16	17.2		4 809
1990	SP7	1990	09	14.18611	00	11	40.07	-03	27	16.8	18.5	4 809
1990	SP7	1990	09	14.19931	00	11	39.41	-03	27	21.3		4 809
1990	SP7	1990	09	14.21250	00	11	38.74	-03	27	25.5		4 809
1990	SQ7	1990	09	14.18611	00	12	18.82	-05	25	40.4	18.8	4 809
1990	SQ7	1990	09	14.19931	00	12	18.14	-05	25	44.9		4 809
1990	SQ7	1990	09	14.21250	00	12	17.38	-05	25	50.5		4 809
1990	SS7	1990	09	14.18611	00	12	11.03	-04	12	24.3	18.6	4 809
1990	SS7	1990	09	14.19931	00	12	10.73	-04	12	29.6		4 809
1990	SS7	1990	09	14.21250	00	12	10.09	-04	12	33.9		4 809
1990	ST7	1990	09	14.18611	00	13	12.10	-05	17	39.4	18.8	4 809
1990	ST7	1990	09	14.19931	00	13	11.53	-05	17	42.6		4 809
1990	ST7	1990	09	14.21250	00	13	10.81	-05	17	47.5		4 809
1990	SV7	1990	09	14.18611	00	14	44.29	-06	50	47.8	18.2	4 809
1990	SV7	1990	09	14.19931	00	14	43.51	-06	50	50.3		4 809
1990	SV7	1990	09	14.21250	00	14	42.75	-06	50	51.7		4 809
1990	SW7	1990	09	14.18611	00	13	02.36	-04	39	11.1	18.3	4 809
1990	SW7	1990	09	14.19931	00	13	01.77	-04	39	19.8		4 809
1990	SW7	1990	09	14.21250	00	13	01.14	-04	39	27.7		4 809
1990	SY7	1990	09	14.18611	00	15	27.36	-06	32	09.7	19.5	4 809
1990	SY7	1990	09	14.19931	00	15	26.62	-06	32	14.0		4 809
1990	SY7	1990	09	14.21250	00	15	25.76	-06	32	18.4		4 809
1990	SZ7	1990	09	14.18611	00	16	19.01	-06	33	11.5	18.5	4 809
1990	SZ7	1990	09	14.19931	00	16	18.29	-06	33	14.5		4 809
1990	SZ7	1990	09	14.21250	00	16	17.38	-06	33	18.9		4 809
1990	SA8	1990	09	14.18611	00	15	25.70	-04	16	28.0	19.0	4 809
1990	SA8	1990	09	14.19931	00	15	24.97	-04	16	33.9		4 809
1990	SA8	1990	09	14.21250	00	15	24.29	-04	16	37.7		4 809
1990	SB8	1990	09	14.18611	00	15	18.13	-06	22	19.4	19.1	4 809
1990	SB8	1990	09	14.19931	00	15	17.42	-06	22	23.9		4 809
1990	SB8	1990	09	14.21250	00	15	16.76	-06	22	26.9		4 809
1990	SC8	1990	09	14.18611	00	15	27.46	-05	58	53.8	19.2	4 809
1990	SC8	1990	09	14.19931	00	15	26.86	-05	59	03.2		4 809
1990	SC8	1990	09	14.21250	00	15	26.28	-05	59	10.9		4 809
1990	SD8	1990	09	14.18611	00	15	30.88	-05	44	13.3	18.9	4 809
1990	SD8	1990	09	14.19931	00	15	30.25	-05	44	18.2		4 809
1990	SD8	1990	09	14.21250	00	15	29.71	-05	44	23.9		4 809
1990	SE8	1990	09	14.18611	00	16	09.56	-02	50	02.5	18.8	4 809
1990	SE8	1990	09	14.19931	00	16	08.99	-02	50	06.8		4 809
1990	SE8	1990	09	14.21250	00	16	08.43	-02	50	13.1		4 809
1990	SF8	1990	09	14.18611	00	17	52.12	-05	31	33.0	18.6	4 809
1990	SF8	1990	09	14.19931	00	17	51.41	-05	31	35.3		4 809
1990	SF8	1990	09	14.21250	00	17	50.63	-05	31	38.3		4 809
1990	SG8	1990	09	14.18611	00	17	35.46	-04	22	30.1	18.4	4 809
1990	SG8	1990	09	14.19931	00	17	34.84	-04	22	35.0		4 809
1990	SG8	1990	09	14.21250	00	17	34.07	-04	22	40.7		4 809
1990	SH8	1990	09	14.18611	00	17	29.12	-05	43	01.2	18.7	4 809
1990	SH8	1990	09	14.19931	00	17	28.43	-05	43	08.7		4 809
1990	SH8	1990	09	14.21250	00	17	27.71	-05	43	15.6		4 809
1990	SJ8	1990	09	14.18611	00	16	35.11	-03	21	20.2	20.0	4 809
1990	SJ8	1990	09	14.19931	00	16	34.27	-03	21	23.3		4 809
1990	SJ8	1990	09	14.21250	00	16	33.64	-03	21	28.9		4 809
1990	SK8	1990	09	14.18611	00	17	13.09	-06	36	35.8	18.6	4 809
1990	SK8	1990	09	14.19931	00	17	12.45	-06	36	42.4		4 809
1990	SK8	1990	09	14.21250	00	17	11.84	-06	36	47.7		4 809

1990	SM8	1990	09	14.18611	00	19	38.09	-05	31	25.7	19.0	4 809
1990	SM8	1990	09	14.19931	00	19	37.30	-05	31	28.7		4 809
1990	SM8	1990	09	14.21250	00	19	36.55	-05	31	33.8		4 809
1990	SN8	1990	09	14.18611	00	19	41.41	-04	01	43.1	18.7	4 809
1990	SN8	1990	09	14.19931	00	19	40.85	-04	01	46.8		4 809
1990	SN8	1990	09	14.21250	00	19	40.15	-04	01	50.8		4 809
1990	SO8	1990	09	14.18611	00	19	23.95	-05	19	55.1	18.8	4 809
1990	SO8	1990	09	14.19931	00	19	23.47	-05	20	00.9		4 809
1990	SO8	1990	09	14.21250	00	19	22.79	-05	20	08.8		4 809
1990	SP8	1990	09	14.18611	00	19	23.71	-05	47	38.0	18.8	4 809
1990	SP8	1990	09	14.19931	00	19	23.12	-05	47	44.8		4 809
1990	SP8	1990	09	14.21250	00	19	22.59	-05	47	51.5		4 809
1990	SQ8	1990	09	14.18611	00	20	03.63	-07	26	44.0	18.6	4 809
1990	SQ8	1990	09	14.19931	00	20	02.99	-07	26	50.7		4 809
1990	SQ8	1990	09	14.21250	00	20	02.35	-07	26	58.6		4 809
1990	SR8	1990	09	14.18611	00	21	41.17	-07	16	34.1	19.7	4 809
1990	SR8	1990	09	14.19931	00	21	40.51	-07	16	39.1		4 809
1990	SR8	1990	09	14.21250	00	21	39.78	-07	16	45.8		4 809
1990	SS8	1990	09	14.18611	00	19	33.83	-02	41	57.6	18.6	4 809
1990	SS8	1990	09	14.19931	00	19	33.33	-02	42	05.6		4 809
1990	SS8	1990	09	14.21250	00	19	32.76	-02	42	12.8		4 809
1990	ST8	1990	09	14.18611	00	21	41.45	-04	06	05.9	18.5	4 809
1990	ST8	1990	09	14.19931	00	21	40.79	-04	06	09.1		4 809
1990	ST8	1990	09	14.21250	00	21	40.02	-04	06	13.2		4 809
1990	SU8	1990	09	14.18611	00	21	43.00	-03	22	11.3	17.8	4 809
1990	SU8	1990	09	14.19931	00	21	42.27	-03	22	20.8		4 809
1990	SU8	1990	09	14.21250	00	21	41.64	-03	22	29.4		4 809
1990	SV8	1990	09	14.18611	00	22	07.42	-04	15	43.9	19.5	4 809
1990	SV8	1990	09	14.19931	00	22	06.71	-04	15	51.3		4 809
1990	SV8	1990	09	14.21250	00	22	06.00	-04	15	58.3		4 809
1990	SW8	1990	09	14.18611	00	21	39.90	-04	34	38.3	18.5	4 809
1990	SW8	1990	09	14.19931	00	21	39.43	-04	34	48.2		4 809
1990	SW8	1990	09	14.21250	00	21	38.90	-04	34	57.2		4 809
1990	SX8	1990	09	14.18611	00	21	59.81	-03	25	15.2	18.5	4 809
1990	SX8	1990	09	14.19931	00	21	59.29	-03	25	23.8		4 809
1990	SX8	1990	09	14.21250	00	21	58.71	-03	25	34.0		4 809
1990	SY8	1990	09	14.18611	00	24	37.14	-04	53	54.0	18.7	4 809
1990	SY8	1990	09	14.19931	00	24	36.42	-04	53	59.0		4 809
1990	SY8	1990	09	14.21250	00	24	35.60	-04	54	02.1		4 809
1990	SZ8	1990	09	14.18611	00	24	06.24	-05	36	23.7	19.6	4 809
1990	SZ8	1990	09	14.19931	00	24	05.56	-05	36	26.7		4 809
1990	SZ8	1990	09	14.21250	00	24	04.84	-05	36	29.1		4 809
1990	SB9	1990	09	14.18611	00	24	26.26	-05	36	08.9	18.7	4 809
1990	SB9	1990	09	14.19931	00	24	25.68	-05	36	14.5		4 809
1990	SB9	1990	09	14.21250	00	24	25.05	-05	36	19.6		4 809
1990	SE9	1990	09	14.18611	00	25	00.49	-06	34	45.9	19.3	4 809
1990	SE9	1990	09	14.19931	00	24	59.81	-06	34	50.4		4 809
1990	SE9	1990	09	14.21250	00	24	59.22	-06	34	54.0		4 809
1990	SK9	1990	09	14.18611	00	09	23.38	-05	35	40.1	18.8	4 809
1990	SK9	1990	09	14.19931	00	09	22.56	-05	35	38.0		4 809
1990	SK9	1990	09	14.21250	00	09	21.57	-05	35	34.0		4 809
1990	SM9	1990	09	14.18611	00	07	44.36	-04	13	51.7	18.0	4 809
1990	SM9	1990	09	14.19931	00	07	43.72	-04	13	56.1		4 809
1990	SM9	1990	09	14.21250	00	07	43.08	-04	14	01.1		4 809
1990	SN9	1990	09	14.18611	00	09	56.29	-05	14	41.2	18.7	4 809
1990	SN9	1990	09	14.19931	00	09	55.49	-05	14	44.1		4 809
1990	SN9	1990	09	14.21250	00	09	54.57	-05	14	49.0		4 809
1990	SP9	1990	09	14.18611	00	08	26.71	-04	56	50.2	18.7	4 809
1990	SP9	1990	09	14.19931	00	08	26.05	-04	56	58.6		4 809

1990	SP9	1990	09	14.21250	00	08	25.37	-04	57	06.1		4 809
1990	SS9	1990	09	14.18611	00	09	30.86	-05	50	28.8	18.0	4 809
1990	SS9	1990	09	14.19931	00	09	30.14	-05	50	35.0		4 809
1990	SS9	1990	09	14.21250	00	09	29.38	-05	50	39.6		4 809
1990	ST9	1990	09	14.18611	00	09	56.76	-04	11	45.7	18.7	4 809
1990	ST9	1990	09	14.19931	00	09	56.06	-04	11	49.2		4 809
1990	ST9	1990	09	14.21250	00	09	55.32	-04	11	51.8		4 809
1990	SU9	1990	09	14.18611	00	10	44.78	-05	54	25.2	18.7	4 809
1990	SU9	1990	09	14.19931	00	10	43.96	-05	54	29.1		4 809
1990	SU9	1990	09	14.21250	00	10	43.19	-05	54	34.0		4 809
1990	SW9	1990	09	14.18611	00	07	52.47	-04	44	36.3	19.3	4 809
1990	SW9	1990	09	14.19931	00	07	51.69	-04	44	40.9		4 809
1990	SW9	1990	09	14.21250	00	07	50.78	-04	44	45.6		4 809
4874	P-L	1990	09	14.18611	00	13	35.26	-03	45	37.7	19.2	4 809
4874	P-L	1990	09	14.19931	00	13	34.52	-03	45	42.6		4 809
4874	P-L	1990	09	14.21250	00	13	33.93	-03	45	45.4		4 809
5568	P-L	1990	09	15.18333	00	37	27.08	-03	32	38.4	18.5	4 809
5568	P-L	1990	09	15.19653	00	37	26.34	-03	32	39.9		4 809
5568	P-L	1990	09	15.20972	00	37	25.60	-03	32	42.0		4 809
6792	P-L	1990	09	15.18333	00	47	31.39	-00	19	04.9	18.6	4 809
6792	P-L	1990	09	15.19653	00	47	30.86	-00	19	09.2		4 809
6792	P-L	1990	09	15.20972	00	47	30.36	-00	19	13.3		4 809
3276	T-2	1990	09	15.18333	00	40	53.27	-03	34	30.6	19.4	4 809
3276	T-2	1990	09	15.19653	00	40	52.63	-03	34	36.0		4 809
3276	T-2	1990	09	15.20972	00	40	51.95	-03	34	39.8		4 809
3290	T-2	1990	09	14.18611	00	08	13.70	-04	33	42.8	19.1	4 809
3290	T-2	1990	09	14.19931	00	08	13.06	-04	33	47.0		4 809
3290	T-2	1990	09	14.21250	00	08	12.39	-04	33	51.3		4 809
4170	T-2	1990	09	15.18333	00	32	40.55	-02	50	37.5	18.5	4 809
4170	T-2	1990	09	15.19653	00	32	39.94	-02	50	44.5		4 809
4170	T-2	1990	09	15.20972	00	32	39.25	-02	50	51.9		4 809
4086	T-3	1990	09	15.18333	00	48	06.37	-02	48	32.4	18.8	4 809
4086	T-3	1990	09	15.19653	00	48	05.65	-02	48	38.3		4 809
4086	T-3	1990	09	15.20972	00	48	05.01	-02	48	44.7		4 809
601		1990	09	15.18333	00	51	29.66	-01	29	13.7	16.8	4 809
601		1990	09	15.19653	00	51	29.17	-01	29	22.1		4 809
601		1990	09	15.20972	00	51	28.69	-01	29	30.6		4 809
738		1990	09	14.18611	00	08	15.16	-03	05	21.6	17.0	4 809
738		1990	09	14.19931	00	08	14.53	-03	05	26.4		4 809
738		1990	09	14.21250	00	08	13.94	-03	05	31.0		4 809
820		1990	09	14.18611	00	21	54.60	-06	00	37.1	17.0	4 809
820		1990	09	14.19931	00	21	54.02	-06	00	42.4		4 809
820		1990	09	14.21250	00	21	53.43	-06	00	47.5		4 809
1586		1990	09	14.18611	00	14	01.69	-04	03	26.6	17.7	4 809
1586		1990	09	14.19931	00	14	01.00	-04	03	32.3		4 809
1586		1990	09	14.21250	00	14	00.30	-04	03	37.4		4 809
1809		1990	09	15.18333	00	36	01.64	-01	39	59.6	17.9	4 809
1809		1990	09	15.19653	00	36	01.05	-01	40	03.6		4 809
1809		1990	09	15.20972	00	36	00.41	-01	40	08.2		4 809
1961		1990	09	15.18333	00	42	07.37	+00	02	15.1	17.7	4 809
1961		1990	09	15.19653	00	42	06.75	+00	02	13.2		4 809
1961		1990	09	15.20972	00	42	06.21	+00	02	10.6		4 809
1972		1990	09	15.18333	00	44	12.08	-00	47	17.0	18.4	4 809
1972		1990	09	15.19653	00	44	11.41	-00	47	20.2		4 809
1972		1990	09	15.20972	00	44	10.74	-00	47	23.6		4 809
1993		1990	09	15.18333	00	51	05.04	-02	47	55.7	18.5	4 809
1993		1990	09	15.19653	00	51	04.56	-02	48	02.0		4 809
1993		1990	09	15.20972	00	51	04.10	-02	48	08.1		4 809
2082		1990	09	15.18333	00	32	10.08	-01	21	49.0	18.7	4 809

2082		1990	09	15.19653	00	32	09.49	-01	21	52.7	4 809
2082		1990	09	15.20972	00	32	08.83	-01	21	56.7	4 809
2130		1990	04	16.98715	11	13	08.84	+02	57	21.3	4 809
2130		1990	04	17.00451	11	13	08.16	+02	57	24.5	4 809
2130		1990	04	17.02188	11	13	07.47	+02	57	26.9	4 809
2176		1990	09	14.18611	00	16	10.23	-03	15	54.3	18.4 4 809
2176		1990	09	14.19931	00	16	09.65	-03	15	58.8	4 809
2176		1990	09	14.21250	00	16	09.04	-03	16	02.8	4 809
2886		1990	09	15.18333	00	36	40.16	+01	31	03.3	18.2 4 809
2886		1990	09	15.19653	00	36	39.46	+01	30	58.8	4 809
2886		1990	09	15.20972	00	36	38.87	+01	30	54.6	4 809
2998		1990	09	15.18333	00	35	04.47	+01	09	44.1	18.4 4 809
2998		1990	09	15.19653	00	35	03.88	+01	09	39.0	4 809
2998		1990	09	15.20972	00	35	03.35	+01	09	33.5	4 809
3117		1990	09	15.18333	00	35	43.93	-01	38	34.2	18.5 4 809
3117		1990	09	15.19653	00	35	43.30	-01	38	37.9	4 809
3117		1990	09	15.20972	00	35	42.71	-01	38	42.3	4 809
3457		1990	09	14.18611	00	07	51.63	-04	31	51.6	17.8 4 809
3457		1990	09	14.19931	00	07	50.96	-04	31	56.2	4 809
3457		1990	09	14.21250	00	07	50.33	-04	32	00.9	4 809
3557		1990	04	16.98715	11	12	25.24	+03	41	33.5	18.5 4 809
3557		1990	04	17.00451	11	12	24.84	+03	41	37.4	4 809
3557		1990	04	17.02188	11	12	24.44	+03	41	41.0	4 809
3835		1990	09	15.18333	00	34	04.73	+01	08	07.2	18.0 4 809
3835		1990	09	15.19653	00	34	04.26	+01	07	58.7	4 809
3835		1990	09	15.20972	00	34	03.77	+01	07	50.4	4 809
3853		1990	09	14.18611	00	23	03.55	-06	45	03.6	18.3 4 809
3853		1990	09	14.19931	00	23	03.00	-06	45	10.9	4 809
3853		1990	09	14.21250	00	23	02.40	-06	45	17.6	4 809
4635		1990	09	15.18333	00	40	50.87	+01	13	58.9	18.5 4 809
4635		1990	09	15.19653	00	40	50.20	+01	13	56.0	4 809
4635		1990	09	15.20972	00	40	49.54	+01	13	52.7	4 809
4639		1990	09	14.18611	00	23	56.08	-06	00	00.7	17.7 4 809
4639		1990	09	14.19931	00	23	55.28	-06	00	03.2	4 809
4639		1990	09	14.21250	00	23	54.48	-06	00	05.9	4 809
4654		1990	09	15.18333	00	37	14.73	-00	17	17.0	18.3 4 809
4654		1990	09	15.19653	00	37	13.95	-00	17	18.9	4 809
4654		1990	09	15.20972	00	37	13.09	-00	17	22.3	4 809
4741		1990	09	23.23193	23	08	24.76	-08	10	41.5	16.3 3 809
4741		1990	09	23.24445	23	08	24.25	-08	10	44.2	3 809
4741		1990	09	23.25696	23	08	23.76	-08	10	46.8	3 809
4741		1990	09	24.17221	23	07	47.72	-08	14	01.0	3 809
4741		1990	09	24.18472	23	07	47.22	-08	14	03.6	3 809
4741		1990	09	24.19724	23	07	46.71	-08	14	06.3	3 809

875 Yorii
M. Arai, 2695, Tomita, Saitama, 369-12 Japan
Observers M. Arai, H. Mori
Measurer H. Mori
0.30-m f/3.8 reflector

1991 AJ		1991	02	10.55845	07	46	45.77	+24	39	03.1	17 875
1991 AJ		1991	02	10.58056	07	46	44.85	+24	39	08.9	875
1991 AJ		1991	02	20.53102	07	41	53.99	+25	21	31.3	17 875
1991 AJ		1991	02	20.55174	07	41	53.51	+25	21	35.8	875
1991 AK		1991	02	10.59063	07	51	33.44	+22	23	50.1	18 875
1991 AK		1991	02	17.51875	07	46	50.54	+22	28	49.0	17.5 875
1991 AK		1991	02	17.54444	07	46	49.55	+22	28	50.4	875
1991 CG		1991	02	12.57581	09	33	46.20	+19	51	55.1	16.5 875
1991 CG		1991	02	12.59549	09	33	45.25	+19	52	06.6	875

1991	CG		1991	02	17.56476	09	29	53.65	+20	37	26.0	16.5	875
1991	CG		1991	02	17.58229	09	29	52.73	+20	37	35.8		875
1991	CG		1991	02	20.63299	09	27	35.41	+21	03	50.7	16.5	875
1991	CG		1991	02	20.65000	09	27	34.68	+21	03	59.6		875
1991	CH		1991	02	12.57581	09	31	22.88	+19	18	32.9	17	875
1991	CH		1991	02	12.59549	09	31	21.44	+19	18	32.3		875
1991	CH		1991	02	17.55764	09	25	38.48	+19	12	38.0	17	875
1991	CH		1991	02	20.63299	09	22	12.18	+19	07	46.2	17	875
1991	CH		1991	02	20.65000	09	22	11.01	+19	07	44.8		875
1991	CK		1991	02	12.61262	09	47	25.05	+18	06	09.2	17	875
1991	CK		1991	02	12.63194	09	47	23.85	+18	06	11.5		875
1991	CK		1991	02	17.64340	09	41	52.01	+18	24	26.4	17	875
1991	CK		1991	02	17.66042	09	41	50.84	+18	24	31.8		875
1991	CK		1991	02	20.59861	09	38	40.59	+18	34	02.4	17	875
1991	CK		1991	02	20.61597	09	38	39.64	+18	34	05.7		875
1991	CL		1991	02	12.64063	09	51	51.53	+19	37	53.3	16	875
1991	CL		1991	02	12.66019	09	51	50.65	+19	38	05.6		875
1991	CL		1991	02	17.61400	09	47	51.33	+20	33	31.9	16	875
1991	CL		1991	02	17.63160	09	47	50.46	+20	33	44.2		875
1991	CL		1991	02	20.57095	09	45	28.74	+21	05	18.8	16	875
1991	CL		1991	02	20.58889	09	45	27.71	+21	05	30.9		875
1991	CM		1991	02	12.64063	09	52	09.39	+20	13	06.1	17	875
1991	CM		1991	02	12.66019	09	52	08.54	+20	13	14.7		875
1991	CM		1991	02	17.61400	09	48	19.23	+20	55	25.2	16.5	875
1991	CM		1991	02	17.63160	09	48	18.39	+20	55	34.2		875
1991	CM		1991	02	20.57095	09	46	02.38	+21	19	37.7	16.5	875
1991	CM		1991	02	20.58889	09	46	01.52	+21	19	45.5		875
1991	CN		1991	02	12.61262	09	50	13.62	+17	55	05.6	16	875
1991	CN		1991	02	12.63194	09	50	12.38	+17	55	09.9		875
1991	CN		1991	02	17.64340	09	44	42.78	+18	11	42.9	16	875
1991	CN		1991	02	17.66042	09	44	41.50	+18	11	47.2		875
1991	CN		1991	02	20.59861	09	41	31.05	+18	20	12.7	16.5	875
1991	CN		1991	02	20.61597	09	41	29.84	+18	20	14.2		875
1991	CP1		1991	02	07.63611	09	54	18.41	+17	41	20.1	17.5	875
1991	CP1		1991	02	07.65347	09	54	17.54	+17	41	29.7		875
1991	CP1	*	1991	02	12.61262	09	49	46.97	+18	20	24.3	17	875
1991	CP1		1991	02	17.64340	09	45	07.43	+18	57	51.8	17	875
1991	CP1		1991	02	17.66042	09	45	06.50	+18	57	57.8		875
1991	CP1		1991	02	20.59861	09	42	26.29	+19	18	21.4	17.5	875
1991	CP1		1991	02	20.61597	09	42	25.17	+19	18	28.4		875
1991	CQ1		1991	02	07.63611	10	00	26.07	+19	28	51.0	17.5	875
1991	CQ1		1991	02	07.65347	10	00	25.27	+19	29	00.1		875
1991	CQ1	*	1991	02	12.64063	09	56	33.04	+20	08	39.8	17.5	875
1991	CQ1		1991	02	12.66019	09	56	32.18	+20	08	49.5		875
1991	CQ1		1991	02	17.61400	09	52	35.82	+20	46	30.3	17	875
1991	CQ1		1991	02	17.63160	09	52	34.87	+20	46	38.1		875
1991	CQ1		1991	02	20.57095	09	50	15.11	+21	07	49.4	17	875
1991	CQ1		1991	02	20.58889	09	50	14.15	+21	07	57.1		875
1991	CR1		1991	02	07.63611	10	00	52.25	+18	48	58.1	17.5	875
1991	CR1		1991	02	07.65347	10	00	51.44	+18	49	04.3		875
1991	CR1	*	1991	02	12.64063	09	57	01.54	+19	20	04.1	17.5	875
1991	CR1		1991	02	12.66019	09	57	00.70	+19	20	11.4		875
1991	CR1		1991	02	17.61400	09	53	07.50	+19	49	32.1	17	875
1991	CR1		1991	02	20.57095	09	50	48.89	+20	06	05.8	17	875
1991	CR1		1991	02	20.58889	09	50	48.01	+20	06	10.6		875
1991	DC		1991	02	07.63542	09	56	30.86	+18	18	38.2	17.5	875
1991	DC		1991	02	07.65278	09	56	29.73	+18	18	42.4		875
1991	DC		1991	02	12.61262	09	51	11.17	+18	39	45.6	17.5	875
1991	DC		1991	02	12.63194	09	51	09.87	+18	39	51.2		875

1991 DC	*	1991 02 17.64340	09 45 46.60	+18 58 39.8		17	875
1991 DC		1991 02 17.66042	09 45 45.29	+18 58 45.7			875
1991 DC		1991 02 20.59861	09 42 40.77	+19 08 17.7		17.5	875
1991 DC		1991 02 20.61597	09 42 39.52	+19 08 20.8			875

877 Okutama
S. Hayakawa, 1-31-33, Nagano, Gyoda-Shi, Saitama-Ken, 361 Japan
Observer T. Hioki
Measurer S. Hayakawa
0.30-m f/3.8 hyperboloid astrocamera
AGK3, SAOC, GSC

1991 AN		1991 02 19.67639	07 21 34.27	+30 13 39.8		17.0	877
1991 AN		1991 02 19.71603	07 21 33.50	+30 13 30.6			877
1991 BJ		1991 02 19.73310	08 02 23.44	+27 35 26.2		17.0	877
1991 BJ		1991 02 19.76088	08 02 22.29	+27 35 30.7			877
1991 BK		1991 02 19.67639	07 17 22.39	+31 23 54.5		16.5	877
1991 BK		1991 02 19.71603	07 17 22.58	+31 23 48.8			877
1991 CO		1991 02 17.68571	09 21 15.17	+11 04 16.1		16.5	877
1991 CO		1991 02 17.71528	09 21 13.31	+11 04 19.4			877

881 Toyota
T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan
Observers K. Suzuki, T. Urata
Measurer T. Urata
0.31-m f/5.7 reflector
AGK3

1991 DD		1991 02 08.55035	10 12 41.19	+15 41 23.5		17	881

886 Susono
T. Furuta, 17-2 Mitsuike, Kagiya, Tokai 477, Japan
Observers M. Akiyama, T. Furuta
Measurer T. Furuta
0.25-m f/4.2 Wright-Schmidt camera
AGK3

1991 CF		1991 02 12.56163	09 46 01.9	+07 17 48			886
1991 CF		1991 02 12.57344	09 46 01.4	+07 17 51			886
1991 CF		1991 02 16.60000	09 42 09.8	+07 53 46			886
1991 CF		1991 02 16.61372	09 42 09.1	+07 53 53			886
1991 CF		1991 02 21.53576	09 37 27.16	+08 39 15.3		15.5	886
1991 CF		1991 02 21.54705	09 37 26.35	+08 39 23.1			886
1991 CT1		1991 02 23.62708	10 47 27.33	+10 01 38.5		16.0	886
1991 CT1		1991 02 24.77795	10 46 11.06	+10 04 18.9			886

887 Ojima
T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan
Observers T. Niijima, T. Urata
Measurer T. Urata
0.30-m f/5.8 reflector
AGK3

1991 DD		1991 03 09.55671	09 46 24.87	+17 30 37.1		17	887
1991 DD		1991 03 09.56623	09 46 24.51	+17 30 37.3			887
1991 DE		1991 03 09.59358	09 50 34.23	+36 51 17.6		16.5	887
1991 DE		1991 03 09.60394	09 50 33.73	+36 51 16.1			887
1991 DS		1991 03 06.61771	10 29 44.73	+12 02 52.4		16	887
1991 DS		1991 03 06.63218	10 29 44.21	+12 02 56.0			887
1991 EG	*	1991 03 09.66257	11 45 37.37	+11 47 03.2		16.5	887
1991 EG		1991 03 09.67118	11 45 36.68	+11 47 07.5			887
1991 EG		1991 03 12.61296	11 42 40.38	+11 57 41.0		16.5	887
1991 EG		1991 03 12.61956	11 42 40.01	+11 57 42.0			887

4744 1991 03 09.55671 09 47 18.40 +17 55 27.6 15 887
4744 1991 03 09.56623 09 47 17.88 +17 55 25.8 887

889 Karasuyama
T. Urata, 6-1, Muramatsubara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan
Observers S. Inoda, T. Urata
Measurer T. Urata
0.31-m f/5.6 reflector
AGK3

1990 BL2 1990 01 25.55341 08 00 51.36 +14 20 12.4 16 889
1990 BL2 1990 01 25.58204 08 00 49.53 +14 20 22.5 889
1990 WW2 1991 02 19.51111 05 18 04.91 +27 36 04.7 17.5 889
1990 WW2 1991 02 19.53333 05 18 05.92 +27 36 09.4 889
1991 AK1 1991 02 08.62292 07 39 09.30 +17 32 16.5 16.5 889
1991 AK1 1991 02 08.64479 07 39 08.58 +17 32 15.1 889
1991 AM1 1991 02 08.59028 07 41 54.00 +16 26 17.2 17 889
1991 AM1 1991 02 08.61111 07 41 53.14 +16 26 18.3 889
1991 BD 1991 02 08.53542 07 35 09.69 +18 04 31.2 16.5 889
1991 BD 1991 02 08.55764 07 35 08.69 +18 04 32.2 889
1991 BE 1991 02 19.56597 07 19 49.58 +11 52 56.9 16.5 889
1991 BE 1991 02 19.58681 07 19 48.71 +11 52 45.6 889
1991 BF 1991 02 08.63333 07 56 23.22 +18 07 37.0 16.5 889
1991 BF 1991 02 08.65660 07 56 21.87 +18 07 38.1 889
1991 BO 1991 02 08.57986 07 41 53.51 +17 18 01.4 17.5 889
1991 BO 1991 02 08.59931 07 41 52.81 +17 18 09.6 889
1991 DO * 1991 02 19.59757 10 19 17.6 +11 30 26 16.5 G 889
1991 DO 1991 02 19.61597 10 19 16.45 +11 30 27.5 889
1991 DO 1991 02 21.61181 10 17 20.55 +11 34 24.4 16.5 889
1991 DO 1991 02 21.63229 10 17 19.51 +11 34 28.4 889
1991 DO 1991 02 23.66285 10 15 21.08 +11 38 25.8 16 889
1991 DO 1991 02 23.68229 10 15 19.80 +11 38 27.9 889
1991 DP 1991 02 19.59757 10 18 33.3 +11 44 25 16.5 G 889
1991 DP 1991 02 19.61597 10 18 32.39 +11 44 33.8 889
1991 DP * 1991 02 21.61181 10 17 03.75 +12 00 09.0 16.5 889
1991 DP 1991 02 21.63229 10 17 02.96 +12 00 19.3 889
1991 DP 1991 02 23.66285 10 15 32.20 +12 16 07.4 16.5 889
1991 DP 1991 02 23.68229 10 15 31.42 +12 16 15.6 889
1991 DQ * 1991 02 21.62222 10 16 02.32 +12 43 44.9 16 889
1991 DQ 1991 02 21.64236 10 16 01.26 +12 43 54.9 889
1991 DQ 1991 02 23.67257 10 14 25.02 +12 59 51.2 16.5 889
1991 DQ 1991 02 23.69201 10 14 24.00 +12 59 59.8 889
1991 DR * 1991 02 21.62222 10 16 08.4 +13 40 42 17 F 889
1991 DR 1991 02 21.64236 10 16 07.9 +13 40 47 F 889
1991 DR 1991 02 23.70174 10 14 29.48 +13 50 05.7 17 889
1991 DR 1991 02 23.72118 10 14 28.65 +13 50 10.9 889
1991 DS * 1991 02 21.65313 10 39 39.32 +10 56 28.5 16 889
1991 DS 1991 02 21.67257 10 39 38.50 +10 56 33.7 889
1991 DS 1991 02 23.71146 10 38 04.86 +11 07 23.6 16 889
1991 DS 1991 02 23.73090 10 38 03.97 +11 07 30.1 889
1991 DT * 1991 02 21.65313 10 42 33.9 +11 34 54 16.5 N 889
1991 DT 1991 02 21.67257 10 42 33.0 +11 34 58 N 889
1991 DT 1991 02 23.71146 10 40 59.77 +11 45 48.0 16.5 889
1991 DT 1991 02 23.73090 10 40 58.69 +11 45 54.5 889
1991 DU 1991 02 21.65313 10 39 50.51 +11 29 40.4 17 889
1991 DU 1991 02 21.67257 10 39 49.4 +11 29 47 F 889
1991 DU * 1991 02 23.74063 10 38 05.4 +11 39 20 17 F 889

894 Kiyosato and Otomo
S. Miyasaka, 3-8-501, 4 Chome, Nagayama, Tama, Tokyo 206, Japan

Observers S. Miyasaka, S. Otomo, O. Muramatsu
Measurers S. Miyasaka, O. Muramatsu
0.25-m reflector

1991	BY		1991	02	20.64861	10	20	32.02	+12	24	10.2	16.5	894
1991	BY		1991	02	20.68194	10	20	30.16	+12	24	11.2		894
1991	CX		1991	02	20.63194	10	18	48.89	+04	59	36.6		894
1991	CX		1991	02	23.72049	10	15	44.85	+05	18	20.7		894
1991	CX		1991	03	03.47743	10	08	12.16	+06	07	38.4		894
1991	CS1	*	1991	02	11.76354	10	59	21.32	+07	30	44.9	17.5	894
1991	CS1		1991	02	11.79826	10	59	19.77	+07	30	57.3		894
1991	CS1		1991	02	17.66736	10	55	30.79	+08	00	04.3		894
1991	CS1		1991	02	17.69861	10	55	29.3	+08	00	12	W	894
1991	CS1		1991	02	20.73194	10	53	20.32	+08	16	05.8		894
1991	CT1	*	1991	02	11.76354	10	59	23.54	+09	35	12.6	17.0	894
1991	CT1		1991	02	11.79826	10	59	21.55	+09	35	16.1		894
1991	CT1		1991	02	17.68229	10	53	45.11	+09	47	46.2		894
1991	CT1		1991	02	17.71354	10	53	43.14	+09	47	49.3		894
1991	CT1		1991	02	20.73194	10	50	34.58	+09	54	50.5		894
1991	CT1		1991	02	23.75590	10	47	18.53	+10	01	57.5		894
1991	CT1		1991	02	23.78646	10	47	16.51	+10	02	02.2		894
1991	CT1		1991	03	05.47708	10	36	34.32	+10	23	13.8		894
1991	CT1		1991	03	05.49792	10	36	32.87	+10	23	17.2		894
4742			1991	01	18.64616	08	04	45.96	-21	16	28.6		894
4742			1991	01	18.66961	08	04	44.37	-21	16	46.7		894
4744			1991	01	18.76406	10	30	32.87	+17	54	37.1		894
4744			1991	01	18.79110	10	30	32.09	+17	54	36.7		894
4744			1991	02	10.63509	10	13	40.86	+18	13	13.0		894
4744			1991	02	10.65854	10	13	39.43	+18	13	13.4		894

896 Yatsugatake South Base Observatory
O. Muramatsu, 119-1, 2-8 Sakurazutsumi, Musashino, Tokyo 180, Japan
Observers Y. Kushida, R. Kushida
Measurer O. Muramatsu
0.20-m f/4.0 reflector
AGK3

1991	AL		1991	02	09.58681	07	58	46.61	+24	33	51.3		896
1991	AB1		1991	02	09.60417	08	28	00.07	+18	52	42.8		896
1991	BY		1991	02	17.58958	10	23	17.62	+12	21	42.9		896
1991	BY		1991	02	17.62014	10	23	15.83	+12	21	43.2		896
1991	DJ	*	1991	02	19.75417	11	11	29.30	+10	43	42.6	16.5	896
1991	DJ		1991	02	19.79097	11	11	27.24	+10	44	04.4		896
1991	DJ		1991	02	20.71250	11	10	40.22	+10	51	44.3		896
1991	DJ		1991	02	20.74167	11	10	38.64	+10	51	56.2		896
1991	DJ		1991	02	23.77292	11	07	57.10	+11	17	23.6		896
1991	DJ		1991	03	06.51111	10	57	34.20	+12	47	25.1	D	896

898 Fujieda
M. Kizawa, 1458-10, Minami Numagami, Shizuoka-Ken 420, Japan
Observers H. Shiozawa, M. Kizawa
Measurer M. Kizawa
0.20-m f/4.0 hyperboloid astro-camera, 0.20-m f/4.9 reflector

1991	AJ1		1991	02	05.52253	08	21	58.89	+32	15	57.9		898
1991	AJ1		1991	02	05.54892	08	21	57.41	+32	16	08.8		898
1991	CT2	*	1991	02	05.58864	10	20	53.70	+10	32	23.7	16.5	898
1991	CT2		1991	02	05.60608	10	20	52.95	+10	32	31.1		898
1991	CT2		1991	02	20.66561	10	09	29.21	+12	20	16.8	17	898
1991	CT2		1991	02	20.68728	10	09	27.72	+12	20	28.6		898
1991	DJ		1991	02	09.64656	11	18	54.43	+09	24	49.0	16.5	898
1991	DJ		1991	02	09.67127	11	18	53.59	+09	25	00.6		898

1991	DJ		1991	02	20.71186	11	10	40.18	+10	51	42.0	16.5	898
1991	DJ		1991	02	20.72250	11	10	39.56	+10	51	47.5		898
1121			1991	02	09.64656	11	21	54.32	+07	32	48.2		898
2025			1991	02	05.58864	10	17	47.29	+11	03	48.8		898
2025			1991	02	05.60608	10	17	46.47	+11	03	52.0		898
2025			1991	02	20.66561	10	05	52.52	+11	43	48.4		898
2025			1991	02	20.68728	10	05	51.55	+11	43	53.2		898
2240			1991	02	09.64656	11	15	50.27	+06	04	19.2	16	898
2240			1991	02	09.67127	11	15	49.52	+06	04	25.0		898
2274			1991	02	09.64656	11	13	58.51	+06	11	52.3		898
3121			1991	02	09.64656	11	20	15.13	+10	21	41.8		898
3121			1991	02	09.67127	11	20	14.27	+10	21	57.3		898
4360			1991	02	20.66561	10	11	14.26	+11	12	02.1		898
4360			1991	02	20.68728	10	11	13.04	+11	12	08.7		898
4398			1991	02	09.64656	11	17	44.66	+10	34	52.0		898
4398			1991	02	09.67127	11	17	43.91	+10	35	05.1		898
4398			1991	02	20.71186	11	09	35.72	+11	59	45.3	16.5	898
4398			1991	02	20.72250	11	09	35.25	+11	59	49.8		898

The following discoveries were observed on one night only:

1990	BK3	*	1990	01	24.87014	06	55	30.21	+15	32	56.3	19.7	033
1990	BK3		1990	01	24.97083	06	55	25.22	+15	33	22.8		033
1990	BL3	*	1990	01	24.87014	06	56	42.94	+14	10	24.0	18.4	033
1990	BL3		1990	01	24.97083	06	56	36.82	+14	11	31.3		033
1990	BM3	*	1990	01	24.87014	06	57	53.48	+15	09	30.6	18.6	033
1990	BM3		1990	01	24.97083	06	57	49.00	+15	09	49.6		033
1990	BN3	*	1990	01	24.87014	06	58	34.18	+14	51	57.6	19.0	033
1990	BN3		1990	01	24.97083	06	58	29.32	+14	51	53.6		033
1990	BO3	*	1990	01	24.87014	06	59	14.18	+15	36	32.5	19.9	033
1990	BO3		1990	01	24.97083	06	59	08.96	+15	36	47.0		033
1990	BP3	*	1990	01	24.87014	07	00	17.33	+15	57	34.9	19.5	033
1990	BP3		1990	01	24.97083	07	00	12.17	+15	57	37.9		033
1990	BQ3	*	1990	01	24.87014	07	00	52.00	+15	52	17.8	19.1	033
1990	BQ3		1990	01	24.97083	07	00	48.08	+15	52	19.9		033
1990	BR3	*	1990	01	24.87014	07	01	10.89	+14	53	30.0	20.2	033
1990	BR3		1990	01	24.97083	07	01	05.73	+14	54	05.9		033
1990	BS3	*	1990	01	24.87014	07	03	06.71	+15	24	44.9	20.3	033
1990	BS3		1990	01	24.97083	07	03	00.93	+15	24	55.6		033
1990	BT3	*	1990	01	24.87014	07	03	45.33	+15	34	49.9	20.0 V	033
1990	BT3		1990	01	24.97083	07	03	40.95	+15	35	01.3		033
1990	BU3	*	1990	01	24.87014	07	04	41.33	+16	51	02.0	19.6	033
1990	BU3		1990	01	24.97083	07	04	36.06	+16	51	20.8		033
1990	BV3	*	1990	01	24.87014	07	05	56.16	+14	28	13.1	19.2	033
1990	BV3		1990	01	24.97083	07	05	51.36	+14	28	29.5		033
1990	BW3	*	1990	01	24.87014	07	06	41.27	+16	31	46.9	19.3	033
1990	BW3		1990	01	24.97083	07	06	35.36	+16	31	57.2		033
1990	BX3	*	1990	01	24.87014	07	06	45.14	+16	00	16.6	19.8	033
1990	BX3		1990	01	24.97083	07	06	39.55	+16	00	17.6		033
1990	BY3	*	1990	01	24.87014	07	06	53.86	+15	41	52.9	19.9	033
1990	BY3		1990	01	24.97083	07	06	48.81	+15	42	03.2		033
1990	BZ3	*	1990	01	24.87014	07	07	02.38	+14	29	14.4	19.6	033
1990	BZ3		1990	01	24.97083	07	06	56.59	+14	29	21.5		033
1990	BA4	*	1990	01	24.87014	07	07	39.91	+16	02	54.8	19.8	033
1990	BA4		1990	01	24.97083	07	07	34.93	+16	03	33.9		033
1990	BB4	*	1990	01	24.89583	06	20	45.47	+21	57	57.8	19.0	033
1990	BB4		1990	01	24.94618	06	20	43.76	+21	57	56.7		033
1990	BC4	*	1990	01	24.89583	06	20	50.81	+22	46	27.2	17.5	033
1990	BC4		1990	01	24.94618	06	20	49.18	+22	46	40.4		033

1990	BD4	*	1990	01	24.89583	06	24	25.37	+23	07	17.3	19.3	033
1990	BD4		1990	01	24.94618	06	24	23.44	+23	07	21.1		033
1990	BE4	*	1990	01	24.89583	06	29	05.36	+21	47	06.2	19.1	033
1990	BE4		1990	01	24.94618	06	29	02.71	+21	47	19.0		033
1990	BF4	*	1990	01	24.92188	07	52	00.96	+16	52	15.0	20.4	033
1990	BF4		1990	01	25.00347	07	51	55.95	+16	52	19.6		033
1990	BG4	*	1990	01	24.92188	07	52	19.04	+16	34	36.3	19.5	033
1990	BG4		1990	01	25.00347	07	52	13.90	+16	35	12.6		033
1990	BH4	*	1990	01	24.92188	07	52	27.83	+17	19	59.5	18.2	033
1990	BH4		1990	01	25.00347	07	52	21.45	+17	19	39.9		033
1990	BJ4	*	1990	01	24.92188	07	53	26.33	+18	31	30.0	18.6	033
1990	BJ4		1990	01	25.00347	07	53	21.42	+18	31	42.7		033
1990	BK4	*	1990	01	24.92188	07	53	30.57	+16	29	30.2	19.4	033
1990	BK4		1990	01	25.00347	07	53	25.99	+16	29	55.2		033
1990	BL4	*	1990	01	24.92188	07	53	35.29	+16	45	15.3	19.6	033
1990	BL4		1990	01	25.00347	07	53	29.98	+16	45	25.9		033
1990	BM4	*	1990	01	24.92188	07	55	29.53	+18	19	16.1	20.0	033
1990	BM4		1990	01	25.00347	07	55	24.78	+18	19	15.3		033
1990	BN4	*	1990	01	24.92188	07	55	32.72	+17	11	40.4	18.9	033
1990	BN4		1990	01	25.00347	07	55	27.79	+17	11	56.5		033
1990	BO4	*	1990	01	24.92188	07	56	04.68	+18	20	55.6	19.7	033
1990	BO4		1990	01	25.00347	07	55	59.49	+18	21	08.4		033
1990	BP4	*	1990	01	24.92188	07	57	29.59	+19	12	20.6	19.8	033
1990	BP4		1990	01	25.00347	07	57	24.06	+19	12	21.2		033
1990	BQ4	*	1990	01	24.92188	07	58	13.32	+17	48	38.0	19.3	033
1990	BQ4		1990	01	25.00347	07	58	08.34	+17	48	59.2		033
1990	BR4	*	1990	01	24.92188	07	58	39.91	+18	13	11.7	19.7	033
1990	BR4		1990	01	25.00347	07	58	35.36	+18	13	28.0		033
1990	BS4	*	1990	01	24.92188	08	00	05.07	+17	28	33.4	19.8	033
1990	BS4		1990	01	25.00347	08	00	00.03	+17	28	53.4		033
1990	BT4	*	1990	01	24.92188	08	01	05.49	+18	39	28.3	19.5	033
1990	BT4		1990	01	25.00347	08	01	00.88	+18	39	41.4		033
1990	BU4	*	1990	01	24.92188	08	01	35.63	+17	40	39.8	19.4	033
1990	BU4		1990	01	25.00347	08	01	30.58	+17	41	01.4		033
1990	BV4	*	1990	01	24.92188	08	02	14.44	+17	56	50.8	19.1	033
1990	BV4		1990	01	25.00347	08	02	08.86	+17	57	06.5		033
1990	BW4	*	1990	01	24.92188	08	02	39.59	+17	12	48.4	20.1	033
1990	BW4		1990	01	25.00347	08	02	35.41	+17	13	06.9		033
1990	BX4	*	1990	01	24.92188	08	02	48.65	+18	07	52.3	18.7	033
1990	BX4		1990	01	25.00347	08	02	44.22	+18	08	05.1		033
1990	BY4	*	1990	01	24.92188	08	02	55.75	+19	02	10.4	20.2	033
1990	BY4		1990	01	25.00347	08	02	50.53	+19	02	30.5		033
1990	BZ4	*	1990	01	24.92188	08	03	08.15	+18	32	31.1	19.9	033
1990	BZ4		1990	01	25.00347	08	03	03.14	+18	32	33.8		033
1990	BA5	*	1990	01	24.92188	08	03	14.34	+16	47	18.0	20.2	033
1990	BA5		1990	01	25.00347	08	03	09.51	+16	47	28.4		033
1990	BB5	*	1990	01	24.92188	08	03	36.43	+18	02	59.6	20.3	033
1990	BB5		1990	01	25.00347	08	03	31.51	+18	03	13.2	U	033
1990	BC5	*	1990	01	24.92188	08	04	50.15	+17	05	44.9	19.5	033
1990	BC5		1990	01	25.00347	08	04	44.37	+17	05	53.8		033
1990	BD5	*	1990	01	24.92188	08	04	53.50	+16	55	58.0	20.1	033
1990	BD5		1990	01	25.00347	08	04	48.07	+16	56	17.2		033
1990	BE5	*	1990	01	29.74618	03	13	12.88	+12	49	17.8	19.4	033
1990	BE5		1990	01	29.79479	03	13	14.66	+12	49	36.9		033
1990	BF5	*	1990	01	29.74618	03	14	58.74	+14	21	37.7	20.1	033
1990	BF5		1990	01	29.79479	03	15	02.50	+14	22	13.8		033
1990	BG5	*	1990	01	29.74618	03	19	10.81	+14	56	18.0	19.1	033
1990	BG5		1990	01	29.79479	03	19	12.85	+14	56	26.1		033
1990	BH5	*	1990	01	29.74618	03	19	46.63	+14	58	12.8	19.9	033

1990	BH5		1990	01	29.79479	03	19	49.77	+14	58	36.3			033
1990	BJ5	*	1990	01	29.74618	03	20	12.20	+15	12	11.7		19.6	033
1990	BJ5		1990	01	29.79479	03	20	13.56	+15	12	20.4			033
1990	BK5	*	1990	01	29.87083	08	47	42.04	+16	02	46.2		16.8	046
1990	BK5		1990	01	29.88495	08	47	41.05	+16	02	49.0			046
1990	BL5	*	1990	01	30.88753	08	44	44.15	+31	51	54.2		16.7	046
1990	BL5		1990	01	30.90166	08	44	43.04	+31	51	56.3			046
1990	BM5	*	1990	01	30.88753	08	52	25.90	+30	29	54.4		16.5	046
1990	BM5		1990	01	30.90166	08	52	24.97	+30	29	58.8			046
1990	BN5	*	1990	01	30.88753	08	58	20.06	+29	20	22.9		16.6	046
1990	BN5		1990	01	30.90166	08	58	19.47	+29	20	25.7			046
1990	BO5	*	1990	01	26.01696	09	39	14.76	+12	31	28.4			071
1990	BO5		1990	01	26.04690	09	39	14.77	+12	31	26.9			071
1990	BP5	*	1990	01	17.52951	08	29	28.20	+22	46	45.3		18	372
1990	BP5		1990	01	17.54271	08	29	27.70	+22	46	47.0			372
1990	BQ5	*	1990	01	21.65382	08	31	20.18	+21	23	31.3		18.5	372
1990	BQ5		1990	01	21.66493	08	31	20.02	+21	23	33.0			372
1990	BR5	*	1990	01	21.65382	08	31	26.44	+21	32	54.2		18.5	372
1990	BR5		1990	01	21.66493	08	31	26.09	+21	32	59.9			372
1990	BS5	*	1990	01	21.67812	08	35	38.19	+21	16	36.9		18	372
1990	BS5		1990	01	21.68993	08	35	37.59	+21	16	42.6			372
1990	BT5	*	1990	01	21.67812	08	40	52.50	+21	11	55.6		17	372
1990	BT5		1990	01	21.68993	08	40	52.02	+21	12	04.5			372
1990	BU5	*	1990	01	25.58611	08	36	52.43	+22	06	57.8		18	372
1990	BU5		1990	01	25.59583	08	36	51.83	+22	06	56.2			372
1990	BV5	*	1990	01	25.58611	08	37	06.62	+22	25	03.3		18	372
1990	BV5		1990	01	25.59583	08	37	06.08	+22	25	08.6			372
1990	BW5	*	1990	01	25.63125	08	14	00.55	+23	12	38.0		19	372
1990	BW5		1990	01	25.64236	08	14	00.28	+23	12	41.6			372
1990	BX5	*	1990	01	29.76111	09	32	53.35	+16	49	44.1		16	372
1990	BY5	*	1990	01	21.62431	09	00	47.64	+09	55	05.7		17.0	402
1990	BY5		1990	01	21.64167	09	00	47.20	+09	55	12.2			402
1990	BZ5	*	1990	01	21.62431	09	05	02.87	+09	39	32.0		16.5	402
1990	BZ5		1990	01	21.64167	09	05	02.30	+09	39	26.9			402
1990	BA6	*	1990	01	21.68472	09	12	23.81	+30	12	31.3		16.5	402
1990	BA6		1990	01	21.70208	09	12	22.99	+30	12	35.5			402
1990	BB6	*	1990	01	23.60012	07	47	48.47	+24	37	43.8		16.5	403
1990	BB6		1990	01	23.61076	07	47	47.81	+24	37	46.2			403
1990	BC6	*	1990	01	30.58352	10	45	59.36	-13	35	46.8		18.1	t 474
1990	BC6		1990	01	30.60215	10	45	58.71	-13	35	46.7			t 474
1990	BD6	*	1990	01	29.33524	09	25	34.43	+48	08	55.6		16	675
1990	BD6		1990	01	29.34079	09	25	31.74	+48	07	44.3			675
1990	BD6		1990	01	29.36805	09	25	16.40	+48	00	07.8			675
1990	BD6		1990	01	29.37361	09	25	13.70	+47	58	27.5			675
1990	BE6	*	1990	01	21.66354	09	34	06.66	+17	39	30.9		17	875
1990	BE6		1990	01	21.68403	09	34	05.59	+17	39	31.4			875
1990	BF6	*	1990	01	27.71137	08	12	30.0	+20	31	46		17.5	V 887
1990	CJ	*	1990	02	01.69583	08	08	29.36	+24	17	31.0		17.5	372
1990	CJ		1990	02	01.70625	08	08	28.71	+24	17	29.7			372
1990	CK	*	1990	02	01.72049	09	07	39.83	+19	47	32.0		18	372
1990	CK		1990	02	01.72951	09	07	39.30	+19	47	36.5			372
1990	CL	*	1990	02	01.72049	09	07	43.80	+19	45	11.1		18.5	372
1990	CL		1990	02	01.72951	09	07	43.17	+19	45	15.7			372
1990	CM	*	1990	02	01.74201	09	38	56.76	+30	13	22.7		17.5	372
1990	CM		1990	02	01.75312	09	38	55.92	+30	13	28.5			372
1990	CN	*	1990	02	01.65868	09	06	19.97	+15	29	34.8		16.5	399
1990	CN		1990	02	01.67431	09	06	19.19	+15	29	36.8			399
1990	CN		1990	02	01.69109	09	06	18.27	+15	29	39.4			399
1990	CO	*	1990	02	15.50764	10	17	52.47	+07	48	28.0		16.0	400

1990	CO		1990	02	15.52569	10	17	51.43	+07	48	32.0	400
1990	CP	*	1990	02	15.55313	10	15	37.38	+15	12	54.1	16.0 400
1990	CP		1990	02	15.57149	10	15	36.35	+15	13	05.4	400
1990	CP		1990	02	15.58229	10	15	35.62	+15	13	12.0	400
1990	CQ	*	1990	02	01.60972	08	48	16.91	+13	32	04.6	17.5 402
1990	CQ		1990	02	01.62431	08	48	16.03	+13	32	01.7	402
1990	CR	*	1990	02	01.63854	08	37	01.00	+23	29	42.7	16.0 402
1990	CR		1990	02	01.65313	08	36	59.92	+23	29	45.1	402
1990	CS	*	1990	02	01.78472	10	06	44.28	+27	04	44.7	16.5 402
1990	CS		1990	02	01.80069	10	06	43.23	+27	04	50.2	402
1990	CT	*	1990	02	02.62986	08	46	47.52	+14	06	29.9	17.5 402
1990	CT		1990	02	02.64005	08	46	47.18	+14	06	27.1	402
1990	CU	*	1990	02	02.62986	09	02	00.91	+11	51	19.8	17.0 402
1990	CU		1990	02	02.64005	09	02	00.27	+11	51	18.6	402
1990	CV	*	1990	02	02.65000	10	18	12.55	+23	59	02.9	17.0 402
1990	CV		1990	02	02.67431	10	18	11.40	+23	59	14.5	402
1990	CW	*	1990	02	01.61458	09	43	34.5	+19	51	34	16.0 403
1990	CW		1990	02	01.62731	09	43	33.9	+19	51	34	403
1990	CX	*	1990	02	01.61458	09	44	04.3	+20	37	41	16.5 403
1990	CX		1990	02	01.62731	09	44	03.7	+20	37	47	403
1990	DA5	*	1990	02	22.98877	09	07	43.88	+12	57	03.9	19.1 033
1990	DB5	*	1990	02	22.98877	09	16	28.43	+13	23	24.6	18.8 033
1990	DC5	*	1990	02	22.98877	09	19	10.38	+15	30	00.6	18.9 033
1990	DD5	*	1990	02	22.98877	09	20	07.16	+14	19	03.3	19.2 033
1990	DE5	*	1990	02	23.81563	07	28	37.41	+20	03	20.9	19.2 033
1990	DE5		1990	02	23.86944	07	28	36.69	+20	03	31.3	033
1990	DF5	*	1990	02	23.81563	07	28	58.74	+20	25	16.9	18.8 033
1990	DF5		1990	02	23.86944	07	28	58.94	+20	25	26.2	033
1990	DG5	*	1990	02	23.81563	07	30	12.53	+20	38	37.5	18.5 033
1990	DG5		1990	02	23.86944	07	30	11.47	+20	38	43.5	033
1990	DH5	*	1990	02	23.81563	07	32	02.98	+19	56	46.1	18.9 033
1990	DH5		1990	02	23.86944	07	32	02.21	+19	56	40.8	033
1990	DJ5	*	1990	02	23.81563	07	34	26.43	+18	52	41.7	19.1 033
1990	DJ5		1990	02	23.86944	07	34	25.43	+18	52	55.2	033
1990	DK5	*	1990	02	23.81563	07	35	08.61	+18	02	56.7	18.4 033
1990	DK5		1990	02	23.86944	07	35	07.76	+18	03	07.8	033
1990	DL5	*	1990	02	23.81563	07	35	36.42	+18	29	28.9	18.6 033
1990	DL5		1990	02	23.86944	07	35	35.06	+18	29	18.9	033
1990	DM5	*	1990	02	23.81563	07	36	36.98	+18	32	17.4	19.0 033
1990	DM5		1990	02	23.86944	07	36	36.26	+18	32	23.9	033
1990	DN5	*	1990	02	23.81563	07	39	04.96	+19	08	59.4	19.3 033
1990	DN5		1990	02	23.86944	07	39	03.92	+19	09	05.2	033
1990	DO5	*	1990	02	23.83889	08	32	06.48	+21	31	48.7	033
1990	DO5		1990	02	23.89167	08	32	04.26	+21	32	09.8	16.1V 033
1990	DP5	*	1990	02	23.83889	08	37	40.54	+19	59	47.2	033
1990	DP5		1990	02	23.89167	08	37	38.52	+19	59	53.8	16.4V 033
1990	DQ5	*	1990	02	23.83889	08	38	44.89	+18	57	04.6	033
1990	DQ5		1990	02	23.89167	08	38	42.02	+18	56	56.1	15.3V 033
1990	DR5	*	1990	02	23.83889	08	40	44.19	+19	42	41.0	V 033
1990	DR5		1990	02	23.89167	08	40	41.05	+19	42	44.7	16.5V 033
1990	DS5	*	1990	02	23.91528	08	59	26.57	+15	21	09.9	18.8 033
1990	DS5		1990	02	23.97014	08	59	24.19	+15	21	21.3	033
1990	DT5	*	1990	02	23.91528	09	00	46.80	+14	45	23.3	19.3 033
1990	DT5		1990	02	23.97014	09	00	44.31	+14	45	23.7	033
1990	DU5	*	1990	02	23.91528	09	01	17.37	+13	13	39.8	18.9 033
1990	DU5		1990	02	23.97014	09	01	14.56	+13	13	48.5	033
1990	DV5	*	1990	02	23.91528	09	03	40.41	+14	21	17.7	17.9 033
1990	DV5		1990	02	23.97014	09	03	37.96	+14	21	34.7	033
1990	DW5	*	1990	02	23.91528	09	03	51.49	+15	32	15.4	19.1 033

1990	DW5		1990	02	23.97014	09	03	48.89	+15	32	24.2		033
1990	DX5	*	1990	02	23.91528	09	04	32.04	+14	32	45.3	18.4	033
1990	DX5		1990	02	23.97014	09	04	30.08	+14	32	57.4		033
1990	DY5	*	1990	02	23.91528	09	06	04.73	+14	45	51.8	18.9	033
1990	DY5		1990	02	23.97014	09	06	02.28	+14	46	13.7		033
1990	DZ5	*	1990	02	23.91528	09	06	09.36	+13	19	54.3	18.2	033
1990	DZ5		1990	02	23.97014	09	06	06.75	+13	20	07.0		033
1990	DA6	*	1990	02	23.91528	09	06	53.76	+13	02	57.3	18.6	033
1990	DA6		1990	02	23.97014	09	06	50.78	+13	03	18.5		033
1990	DB6	*	1990	02	23.91528	09	08	49.27	+14	08	48.9	18.7	033
1990	DB6		1990	02	23.97014	09	08	47.34	+14	09	14.7		033
1990	DC6	*	1990	02	23.91528	09	11	08.00	+15	15	53.8	18.3	033
1990	DC6		1990	02	23.97014	09	11	05.42	+15	16	04.8		033
1990	DD6	*	1990	02	24.01806	10	23	08.76	+07	46	53.4	18.6	033
1990	DE6	*	1990	02	24.01806	10	26	08.21	+07	30	31.0	19.6	033
1990	DF6	*	1990	02	24.01806	10	28	46.83	+06	33	28.8	18.4	033
1990	DG6	*	1990	02	24.01806	10	33	33.23	+09	33	11.0	18.7	033
1990	DH6	*	1990	02	17.82743	08	35	35.08	+15	44	03.3	16.8	046
1990	DH6		1990	02	17.84155	08	35	34.34	+15	44	04.7		046
1990	DJ6	*	1990	02	17.79404	09	14	55.88	+22	45	01.2	17.0	046
1990	DJ6		1990	02	17.80822	09	14	55.42	+22	45	10.2		046
1990	DK6	*	1990	02	20.80955	08	36	42.18	+17	32	27.5		046
1990	DL6	*	1990	02	20.84520	08	41	27.68	+19	04	25.6	16.8	046
1990	DL6		1990	02	20.85990	08	41	26.76	+19	04	23.1		046
1990	DM6	*	1990	02	20.84520	08	43	08.12	+19	40	48.3		046
1990	DM6		1990	02	20.85990	08	43	07.38	+19	40	49.6		046
1990	DN6	*	1990	02	20.85990	08	48	28.74	+17	43	36.3		046
1990	DO6	*	1990	02	20.91354	09	34	04.58	+20	32	24.2	16.8	046
1990	DO6		1990	02	20.92778	09	34	03.72	+20	32	28.3		046
1990	DP6	*	1990	02	20.91354	09	37	23.38	+19	04	46.1	17.2	046
1990	DP6		1990	02	20.92778	09	37	22.72	+19	04	49.5		046
1990	DQ6	*	1990	02	20.94844	09	45	31.13	+11	40	19.0	16.9	046
1990	DQ6		1990	02	20.96273	09	45	30.34	+11	40	24.8		046
1990	DR6	*	1990	02	21.84670	09	36	09.99	+18	05	42.7	U	046
1990	DR6		1990	02	21.86082	09	36	09.50	+18	06	03.3		046
1990	DS6	*	1990	02	21.91470	09	49	55.64	+13	04	15.6		046
1990	DS6		1990	02	21.92882	09	49	54.96	+13	04	24.9		046
1990	DT6	*	1990	02	23.84549	10	32	21.22	+22	34	28.5		046
1990	DT6		1990	02	23.85968	10	32	20.17	+22	34	32.1		046
1990	DU6	*	1990	02	23.92020	10	36	19.82	+06	20	03.9		046
1990	DU6		1990	02	23.93472	10	36	18.79	+06	20	10.9		046
1990	DV6	*	1990	02	23.92020	10	39	25.34	+09	11	47.8	16.9 U	046
1990	DV6		1990	02	23.93472	10	39	24.64	+09	11	58.2	U	046
1990	DW6	*	1990	02	24.88461	10	11	34.55	+09	24	49.7	16.7	046
1990	DW6		1990	02	24.89902	10	11	33.88	+09	25	00.1		046
1990	DX6	*	1990	02	24.92031	10	39	58.71	+09	07	56.4	U	046
1990	DX6		1990	02	24.93449	10	39	57.66	+09	08	01.7	U	046
1990	DY6	*	1990	02	16.46076	07	57	29.60	+15	24	04.0	18	372
1990	DY6		1990	02	16.47187	07	57	29.08	+15	24	07.9		372
1990	DZ6	*	1990	02	16.48576	08	00	16.74	+15	12	09.6	17.5	372
1990	DZ6		1990	02	16.49687	08	00	16.08	+15	12	11.9		372
1990	DA7	*	1990	02	20.60208	08	29	01.71	+18	12	58.8	18	372
1990	DA7		1990	02	20.61181	08	29	01.54	+18	13	01.8		372
1990	DB7	*	1990	02	20.62256	08	46	19.66	+21	04	06.5	18.5	372
1990	DB7		1990	02	20.63299	08	46	19.13	+21	04	07.2		372
1990	DC7	*	1990	02	20.62256	08	49	22.19	+21	16	43.9	18	372
1990	DC7		1990	02	20.63299	08	49	21.85	+21	16	48.4		372
1990	DD7	*	1990	02	20.68819	09	15	36.96	+32	12	08.4	17	372
1990	DD7		1990	02	20.69792	09	15	36.37	+32	12	14.4		372

1990	DE7	*	1990	02	20.72951	09	58	20.82	+11	12	49.8		18.5	372
1990	DE7		1990	02	20.74063	09	58	20.12	+11	12	54.2			372
1990	DF7	*	1990	02	20.75382	11	05	29.48	+18	16	56.1		18.5	372
1990	DF7		1990	02	20.76423	11	05	28.99	+18	16	58.8			372
1990	DG7	*	1990	02	20.75382	11	06	50.51	+18	24	56.5		19	372
1990	DG7		1990	02	20.76423	11	06	49.96	+18	24	57.1			372
1990	DH7	*	1990	02	20.75382	11	08	23.68	+18	23	34.1		18	372
1990	DH7		1990	02	20.76423	11	08	23.18	+18	23	39.4			372
1990	DJ7	*	1990	02	20.77604	11	20	11.56	+12	48	13.1		18.5	372
1990	DJ7		1990	02	20.78576	11	20	10.96	+12	48	15.5			372
1990	DK7	*	1990	02	20.77604	11	22	06.29	+13	53	27.2		18.5	372
1990	DK7		1990	02	20.78576	11	22	05.33	+13	53	31.7			372
1990	DL7	*	1990	02	20.77604	11	25	47.02	+12	18	34.9		18.5	372
1990	DL7		1990	02	20.78576	11	25	46.67	+12	18	38.3			372
1990	DM7	*	1990	02	20.79792	13	17	30.40	-08	41	48.4		18	372
1990	DM7		1990	02	20.80938	13	17	30.65	-08	41	48.4			372
1990	DN7	*	1990	02	20.79792	13	18	04.79	-08	44	22.7		18	372
1990	DN7		1990	02	20.80938	13	18	04.97	-08	44	21.4			372
1990	DO7	*	1990	02	20.79792	13	18	31.67	-08	02	33.0		18.5	372
1990	DO7		1990	02	20.80938	13	18	32.19	-08	02	31.9			372
1990	DP7	*	1990	02	27.72639	10	40	05.86	-07	53	47.7		18	372
1990	DP7		1990	02	27.73715	10	40	05.57	-07	53	48.3			372
1990	DQ7	*	1990	02	27.75104	10	26	59.32	+22	25	55.8		17	372
1990	DQ7		1990	02	27.76458	10	26	58.86	+22	25	54.9			372
1990	DR7	*	1990	02	20.57396	10	33	35.5	+11	42	43		16.5	p 385
1990	DR7		1990	02	20.59213	10	33	34.2	+11	42	28			p 385
1990	DS7	*	1990	02	25.59213	09	31	31.0	+14	56	54		16	F 385
1990	DS7		1990	02	25.62396	09	31	30.2	+14	57	00			F 385
1990	DT7	*	1990	02	18.49797	09	01	57.71	+18	07	42.0		16.5	399
1990	DT7		1990	02	18.51528	09	01	56.82	+18	07	45.4			399
1990	DT7		1990	02	18.60347	09	01	52.41	+18	07	59.5			399
1990	DU7	*	1990	02	18.53762	10	24	50.77	+09	54	40.0		16.5	399
1990	DU7		1990	02	18.55318	10	24	49.69	+09	54	44.3			399
1990	DU7		1990	02	18.57187	10	24	48.51	+09	54	51.2			399
1990	DV7	*	1990	02	18.62711	09	45	52.86	+03	58	40.9		16.5	399
1990	DV7		1990	02	18.64392	09	45	52.03	+03	58	47.1			399
1990	DV7		1990	02	18.66163	09	45	50.84	+03	58	54.5			399
1990	DW7	*	1990	02	18.62711	09	46	03.17	+04	05	01.0		16.5	399
1990	DW7		1990	02	18.64392	09	46	02.33	+04	05	06.6			399
1990	DW7		1990	02	18.66163	09	46	01.55	+04	05	12.4			399
1990	DX7	*	1990	02	18.64589	11	10	02.39	+05	18	01.6		16.5	399
1990	DX7		1990	02	18.66667	11	10	01.33	+05	18	03.3			399
1990	DY7	*	1990	02	16.51910	09	31	24.39	+18	06	16.7		16.0	403
1990	DY7		1990	02	16.52986	09	31	23.83	+18	06	18.0			403
1990	DZ7	*	1990	02	27.58333	11	12	28.75	+14	32	01.1		16.5	403
1990	DZ7		1990	02	27.59444	11	12	28.15	+14	32	04.6			403
1990	DA8	*	1990	02	27.58333	11	13	10.35	+16	09	29.9		16.5	403
1990	DA8		1990	02	27.59444	11	13	09.75	+16	09	35.0			403
1990	DB8	*	1990	02	24.16666	09	55	33.48	+13	29	05.3		17.7	809
1990	DB8		1990	02	24.17917	09	55	33.11	+13	29	05.2			809
1990	DB8		1990	02	24.19167	09	55	32.74	+13	29	05.0			809
1990	DC8	*	1990	02	24.16666	09	56	58.43	+13	34	02.1		17.8	809
1990	DC8		1990	02	24.17917	09	56	57.87	+13	34	00.9			809
1990	DC8		1990	02	24.19167	09	56	57.34	+13	33	59.6			809
1990	DD8	*	1990	02	24.16666	09	57	00.45	+14	29	50.6		17.8	809
1990	DD8		1990	02	24.17917	09	56	59.69	+14	29	54.7			809
1990	DD8		1990	02	24.19167	09	56	58.93	+14	29	58.8			809
1990	DE8	*	1990	02	24.16666	09	59	24.32	+14	55	04.7		17.7	809
1990	DE8		1990	02	24.17917	09	59	23.46	+14	55	09.6			809

1990	DE8		1990	02	24.19167	09	59	22.60	+14	55	15.0		809
1990	DF8	*	1990	02	24.20556	11	21	36.69	-08	08	59.5		809
1990	DF8		1990	02	24.21875	11	21	35.99	-08	08	57.0		809
1990	DF8		1990	02	24.23194	11	21	35.22	-08	08	55.7		809
1990	DG8	*	1990	02	24.20556	11	21	51.79	-05	42	54.7	19.0	809
1990	DG8		1990	02	24.21875	11	21	51.41	-05	42	49.7		809
1990	DG8		1990	02	24.23194	11	21	50.85	-05	42	46.2		809
1990	DH8	*	1990	02	24.20556	11	22	12.36	-07	56	08.2		809
1990	DH8		1990	02	24.21875	11	22	11.75	-07	56	06.6		809
1990	DH8		1990	02	24.23194	11	22	11.13	-07	56	05.7		809
1990	DJ8	*	1990	02	24.20556	11	24	35.34	-08	41	59.3	18.5	809
1990	DJ8		1990	02	24.21875	11	24	34.71	-08	41	58.3		809
1990	DJ8		1990	02	24.23194	11	24	34.14	-08	41	57.8		809
1990	DK8	*	1990	02	24.20556	11	24	41.60	-05	27	38.6	18.8	809
1990	DK8		1990	02	24.21875	11	24	40.99	-05	27	32.5		809
1990	DK8		1990	02	24.23194	11	24	40.46	-05	27	27.6		809
1990	DL8	*	1990	02	24.20556	11	26	33.71	-06	18	32.7	19.7	809
1990	DL8		1990	02	24.21875	11	26	33.30	-06	18	31.9		809
1990	DL8		1990	02	24.23194	11	26	32.94	-06	18	32.0		809
1990	DM8	*	1990	02	24.20556	11	27	48.63	-06	50	38.7	19.6	809
1990	DM8		1990	02	24.21875	11	27	47.95	-06	50	36.5		809
1990	DM8		1990	02	24.23194	11	27	47.25	-06	50	34.7		809
1990	DN8	*	1990	02	24.20556	11	28	40.29	-06	36	06.7		809
1990	DN8		1990	02	24.21875	11	28	39.69	-06	36	02.7		809
1990	DN8		1990	02	24.23194	11	28	39.03	-06	35	59.5		809
1990	DO8	*	1990	02	24.20556	11	30	38.15	-08	43	17.3		809
1990	DO8		1990	02	24.21875	11	30	37.54	-08	43	12.7		809
1990	DO8		1990	02	24.23194	11	30	36.99	-08	43	10.5		809
1990	DP8	*	1990	02	24.20556	11	30	44.71	-07	47	03.5		809
1990	DP8		1990	02	24.21875	11	30	44.02	-07	47	01.8		809
1990	DP8		1990	02	24.23194	11	30	43.29	-07	46	59.1		809
1990	DQ8	*	1990	02	24.20556	11	31	02.33	-07	47	54.1	18.6	809
1990	DQ8		1990	02	24.21875	11	31	01.52	-07	47	51.6		809
1990	DQ8		1990	02	24.23194	11	31	00.78	-07	47	47.9		809
1990	DR8	*	1990	02	24.20556	11	32	00.88	-07	56	20.4	19.5	809
1990	DR8		1990	02	24.21875	11	32	00.18	-07	56	20.0		809
1990	DR8		1990	02	24.23194	11	31	59.48	-07	56	20.5		809
1990	DS8	*	1990	02	24.20556	11	32	04.48	-08	01	28.0		809
1990	DS8		1990	02	24.21875	11	32	03.97	-08	01	22.4		809
1990	DS8		1990	02	24.23194	11	32	03.46	-08	01	18.1		809
1990	DT8	*	1990	02	24.20556	11	33	13.17	-07	30	45.7	19.3	809
1990	DT8		1990	02	24.21875	11	33	12.72	-07	30	44.9		809
1990	DT8		1990	02	24.23194	11	33	12.32	-07	30	44.6		809
1990	DU8	*	1990	02	24.20556	11	33	55.29	-05	26	17.6	18.5	809
1990	DU8		1990	02	24.21875	11	33	54.77	-05	26	17.8		809
1990	DU8		1990	02	24.23194	11	33	54.32	-05	26	17.7		809
1990	DV8	*	1990	02	24.20556	11	34	24.52	-07	08	12.6		809
1990	DV8		1990	02	24.21875	11	34	23.97	-07	08	06.4		809
1990	DV8		1990	02	24.23194	11	34	23.42	-07	08	01.5		809
1990	DW8	*	1990	02	25.17014	09	58	41.20	+14	59	07.8	17.7	809
1990	DW8		1990	02	25.18264	09	58	40.56	+14	59	11.7		809
1990	DW8		1990	02	25.19514	09	58	39.91	+14	59	15.7		809
1990	DX8	*	1990	02	25.29583	11	02	43.43	+07	36	01.2	17.5	809
1990	DX8		1990	02	25.30833	11	02	42.53	+07	36	04.0		809
1990	DX8		1990	02	25.32083	11	02	41.62	+07	36	06.9		809
1990	DY8	*	1990	02	25.29583	11	02	53.54	+08	01	23.6	17.4	809
1990	DY8		1990	02	25.30833	11	02	52.73	+08	01	26.6		809
1990	DY8		1990	02	25.32083	11	02	51.89	+08	01	29.5		809
1990	DZ8	*	1990	02	25.36528	11	59	36.21	-05	06	20.9	17.0	809

1990	DZ8		1990	02	25.37500	11	59	35.83	-05	06	17.5			809
1990	DZ8		1990	02	25.38472	11	59	35.47	-05	06	14.3			809
1990	DA9	*	1990	02	26.13541	09	55	49.81	+14	03	05.6	17.3		809
1990	DA9		1990	02	26.14514	09	55	49.77	+14	03	07.2			809
1990	DA9		1990	02	26.15486	09	55	49.56	+14	03	08.6			809
1990	DB9	*	1990	02	27.04688	09	36	19.33	+12	58	52.7	17.7		809
1990	DB9		1990	02	27.05938	09	36	18.87	+12	58	56.1			809
1990	DB9		1990	02	27.07153	09	36	18.40	+12	58	59.5			809
1990	DC9	*	1990	02	27.08681	09	42	35.91	+18	21	59.7	17.3		809
1990	DC9		1990	02	27.09930	09	42	35.21	+18	22	03.1			809
1990	DC9		1990	02	27.11250	09	42	34.51	+18	22	06.5			809
1990	DD9	*	1990	02	28.05209	09	28	23.78	+11	39	29.9	17.5		809
1990	DD9		1990	02	28.06458	09	28	23.15	+11	39	35.9			809
1990	DD9		1990	02	28.07708	09	28	22.54	+11	39	41.9			809
1990	DE9	*	1990	02	28.05209	09	28	48.57	+11	28	55.9	17.1		809
1990	DE9		1990	02	28.06458	09	28	47.99	+11	29	00.4			809
1990	DE9		1990	02	28.07708	09	28	47.41	+11	29	04.5			809
1990	DF9	*	1990	02	16.52847	07	39	43.9	+14	14	20	17	V	881
1990	DF9		1990	02	16.57361	07	39	42.4	+14	14	26		V	881
1990	DG9	*	1990	02	27.59688	11	36	43.4	-00	49	18	17.5	V	881
1990	DG9		1990	02	27.62049	11	36	42.8	-00	49	17		V	881
1990	DH9	*	1990	02	20.63877	11	10	47.82	+19	45	20.0	16.5		887
1990	DH9		1990	02	20.65243	11	10	48.47	+19	45	11.1			887
1990	DJ9	*	1990	02	20.63877	11	12	05.93	+21	01	37.6	13	N	887
1990	DJ9		1990	02	20.65243	11	12	05.76	+21	01	40.1		N	887
1990	DK9	*	1990	02	20.63877	11	12	48.82	+20	24	48.5	16.5		887
1990	DK9		1990	02	20.65243	11	12	47.86	+20	24	44.9			887
1990	EQ8	*	1990	03	15.83507	10	21	34.50	+25	03	38.2	16.7		046
1990	EQ8		1990	03	15.84913	10	21	33.38	+25	03	43.1			046
1990	ER8	*	1990	03	15.87245	10	35	49.83	+10	26	53.2	16.7		046
1990	ER8		1990	03	15.88657	10	35	49.13	+10	26	55.5			046
1990	ES8	*	1990	03	04.76562	13	17	49.99	-08	21	15.4	18		372
1990	ES8		1990	03	04.77812	13	17	50.96	-08	21	16.1			372
1990	ET8	*	1990	03	04.73045	15	10	03.29	-35	58	25.7	18 V		413
1990	ET8		1990	03	04.77559	15	10	04.81	-35	58	48.5			413
1990	EU8	*	1990	03	04.73045	15	13	17.38	-31	15	44.2		V	413
1990	EU8		1990	03	04.77559	15	13	18.76	-31	16	05.3		V	413
1990	EV8	*	1990	03	07.71049	15	15	32.80	-31	49	46.4			413
1990	EV8		1990	03	07.75215	15	15	34.59	-31	50	15.1			413
1990	EW8	*	1990	03	01.14201	09	47	26.30	+12	05	04.3	17.2		809
1990	EW8		1990	03	01.15243	09	47	25.78	+12	05	07.1			809
1990	EW8		1990	03	01.16285	09	47	25.24	+12	05	10.3			809
1990	EX8	*	1990	03	02.04479	09	50	10.21	+13	29	38.6	17.0		809
1990	EX8		1990	03	02.05521	09	50	09.75	+13	29	43.2			809
1990	EX8		1990	03	02.06562	09	50	09.31	+13	29	47.9			809
1990	EY8	*	1990	03	02.14548	10	25	18.47	+12	26	26.9	17.5		809
1990	EY8		1990	03	02.15590	10	25	17.79	+12	26	27.7			809
1990	EY8		1990	03	02.16632	10	25	17.09	+12	26	28.5			809
1990	EZ8	*	1990	03	02.18750	11	07	59.93	-03	11	40.5	18.8		809
1990	EZ8		1990	03	02.20069	11	07	59.21	-03	11	34.3			809
1990	EZ8		1990	03	02.21389	11	07	58.46	-03	11	28.4			809
1990	EA9	*	1990	03	02.18750	11	09	51.06	-04	58	25.6			809
1990	EA9		1990	03	02.20069	11	09	50.34	-04	58	21.7			809
1990	EA9		1990	03	02.21389	11	09	49.54	-04	58	16.9			809
1990	EB9	*	1990	03	02.18750	11	14	32.70	-04	38	00.4			809
1990	EB9		1990	03	02.20069	11	14	32.11	-04	37	57.8			809
1990	EB9		1990	03	02.21389	11	14	31.46	-04	37	55.1			809
1990	EC9	*	1990	03	02.18750	11	24	38.67	-06	45	27.7	19.5		809
1990	EC9		1990	03	02.20069	11	24	38.10	-06	45	28.2			809

1990	EC9		1990	03	02.21389	11	24	37.52	-06	45	29.4		809
1990	ED9	*	1990	03	02.18750	11	26	14.29	-02	48	45.2	19.5	809
1990	ED9		1990	03	02.20069	11	26	13.62	-02	48	41.1		809
1990	ED9		1990	03	02.21389	11	26	12.97	-02	48	38.2		809
1990	EE9	*	1990	03	02.23889	11	28	58.96	-03	41	46.9	18.7	809
1990	EE9		1990	03	02.25208	11	28	57.94	-03	41	45.6		809
1990	EE9		1990	03	02.26528	11	28	57.12	-03	41	44.9		809
1990	EF9	*	1990	03	02.23889	11	32	56.26	+01	02	42.7	20.0	809
1990	EF9		1990	03	02.25208	11	32	55.79	+01	02	46.7		809
1990	EF9		1990	03	02.26528	11	32	55.24	+01	02	50.0		809
1990	EG9	*	1990	03	02.23889	11	33	42.00	-04	01	27.3	17.8	809
1990	EG9		1990	03	02.25208	11	33	41.29	-04	01	23.3		809
1990	EG9		1990	03	02.26528	11	33	40.54	-04	01	18.2		809
1990	EH9	*	1990	03	02.23889	11	35	50.54	-00	53	20.6	20.5	809
1990	EH9		1990	03	02.25208	11	35	49.82	-00	53	16.4		809
1990	EH9		1990	03	02.26528	11	35	49.22	-00	53	11.2		809
1990	EJ9	*	1990	03	02.23889	11	37	34.31	-02	09	33.7	19.7	809
1990	EJ9		1990	03	02.25208	11	37	33.70	-02	09	28.8		809
1990	EJ9		1990	03	02.26528	11	37	33.18	-02	09	25.2		809
1990	EK9	*	1990	03	02.23889	11	38	29.42	-00	35	27.2	20.0	809
1990	EK9		1990	03	02.25208	11	38	28.83	-00	35	22.5		809
1990	EK9		1990	03	02.26528	11	38	28.06	-00	35	17.4		809
1990	EL9	*	1990	03	02.23889	11	38	36.79	-01	30	57.2	20.0	809
1990	EL9		1990	03	02.25208	11	38	36.20	-01	30	52.1		809
1990	EL9		1990	03	02.26528	11	38	35.61	-01	30	47.4		809
1990	EM9	*	1990	03	02.23889	11	43	40.11	-03	31	27.4	19.5	809
1990	EM9		1990	03	02.25208	11	43	39.52	-03	31	23.7		809
1990	EM9		1990	03	02.26528	11	43	38.98	-03	31	20.6		809
1990	EN9	*	1990	03	02.23889	11	44	19.52	-00	45	58.7	19.7	809
1990	EN9		1990	03	02.25208	11	44	18.73	-00	45	54.8		809
1990	EN9		1990	03	02.26528	11	44	17.96	-00	45	50.9		809
1990	EO9	*	1990	03	03.08333	10	17	51.58	+14	21	32.9	17.2	809
1990	EO9		1990	03	03.09167	10	17	51.20	+14	21	38.9		809
1990	EO9		1990	03	03.10000	10	17	50.81	+14	21	44.8		809
1990	EP9	*	1990	03	04.18056	11	17	06.70	-02	40	17.9	19.5	809
1990	EP9		1990	03	04.19375	11	17	05.73	-02	40	15.7		809
1990	EP9		1990	03	04.20694	11	17	04.92	-02	40	12.6		809
1990	EQ9	*	1990	03	04.18056	11	23	37.36	-02	56	59.2	19.4	809
1990	EQ9		1990	03	04.19375	11	23	36.32	-02	57	03.2		809
1990	EQ9		1990	03	04.20694	11	23	35.40	-02	57	04.8		809
1990	ER9	*	1990	03	04.18056	11	24	01.59	-07	07	09.9	18.8	809
1990	ER9		1990	03	04.19375	11	24	00.92	-07	07	05.7		809
1990	ER9		1990	03	04.20694	11	24	00.15	-07	07	02.0		809
1990	ES9	*	1990	03	04.22326	10	31	43.74	+05	53	37.2	17.5	809
1990	ES9		1990	03	04.23368	10	31	43.19	+05	53	44.6		809
1990	ES9		1990	03	04.24410	10	31	42.65	+05	53	51.7		809
1990	ET9	*	1990	03	04.22639	11	22	55.66	-00	15	19.9	19.2	809
1990	ET9		1990	03	04.23958	11	22	55.07	-00	15	17.1		809
1990	ET9		1990	03	04.25278	11	22	54.28	-00	15	13.7		809
1990	EU9	*	1990	03	04.22639	11	23	07.89	+00	40	51.4	19.2	809
1990	EU9		1990	03	04.23958	11	23	07.28	+00	40	53.7		809
1990	EU9		1990	03	04.25278	11	23	06.59	+00	40	57.2		809
1990	EV9	*	1990	03	04.22639	11	25	05.57	-01	40	05.4	18.7	809
1990	EV9		1990	03	04.23958	11	25	04.69	-01	40	00.0		809
1990	EV9		1990	03	04.25278	11	25	03.86	-01	39	57.3		809
1990	EW9	*	1990	03	04.22639	11	28	30.30	-00	03	23.5	20.0	809
1990	EW9		1990	03	04.23958	11	28	29.67	-00	03	20.2		809
1990	EW9		1990	03	04.25278	11	28	29.15	-00	03	17.7		809
1990	EX9	*	1990	03	04.22639	11	30	13.21	-00	26	18.0	19.6	809

1990	EX9		1990	03	04.23958	11	30	12.43	-00	26	15.9	809
1990	EX9		1990	03	04.25278	11	30	11.76	-00	26	14.5	809
1990	EY9	*	1990	03	04.22639	11	32	40.89	+01	03	57.9	19.0 809
1990	EY9		1990	03	04.23958	11	32	40.18	+01	04	01.7	809
1990	EY9		1990	03	04.25278	11	32	39.37	+01	04	05.2	809
1990	EZ9	*	1990	03	04.22639	11	33	54.06	+00	49	38.5	19.4 809
1990	EZ9		1990	03	04.23958	11	33	53.58	+00	49	41.6	809
1990	EZ9		1990	03	04.25278	11	33	53.02	+00	49	47.2	809
1990	EA10	*	1990	03	04.25590	10	41	00.38	+09	18	51.1	809
1990	EA10		1990	03	04.26632	10	40	59.91	+09	19	00.6	809
1990	EA10		1990	03	04.27674	10	40	59.44	+09	19	10.1	809
1990	EB10	*	1990	03	04.25590	10	43	54.02	+10	24	11.2	17.5 809
1990	EB10		1990	03	04.26632	10	43	53.58	+10	24	12.8	809
1990	EB10		1990	03	04.27674	10	43	53.13	+10	24	14.4	809
1990	EC10	*	1990	03	04.35382	11	41	32.35	-01	19	32.1	17.7 809
1990	EC10		1990	03	04.36424	11	41	31.89	-01	19	27.2	809
1990	EC10		1990	03	04.37465	11	41	31.43	-01	19	22.8	809
1990	ED10	*	1990	03	06.24132	10	18	45.71	+11	35	44.0	17.7 809
1990	ED10		1990	03	06.25174	10	18	45.25	+11	35	50.7	809
1990	ED10		1990	03	06.26215	10	18	44.78	+11	35	57.4	809
1990	EE10	*	1990	03	06.27465	10	47	29.54	+05	40	47.3	17.0 809
1990	EE10		1990	03	06.28507	10	47	29.00	+05	40	53.2	809
1990	EE10		1990	03	06.29549	10	47	28.47	+05	40	59.0	809
1990	EF10	*	1990	03	06.30695	10	46	38.05	+05	49	56.5	809
1990	EF10		1990	03	06.31389	10	46	37.69	+05	49	59.6	809
1990	EF10		1990	03	06.32083	10	46	37.34	+05	50	02.6	809
1990	EG10	*	1990	03	06.30903	11	09	14.65	+07	11	28.0	17.8 809
1990	EG10		1990	03	06.31736	11	09	14.25	+07	11	28.3	809
1990	EG10		1990	03	06.32569	11	09	13.85	+07	11	28.7	809
1990	EH10	*	1990	03	06.37083	11	50	37.40	-00	00	54.7	17.4 809
1990	EH10		1990	03	06.37917	11	50	37.09	-00	00	53.7	809
1990	EH10		1990	03	06.38750	11	50	36.78	-00	00	52.6	809
1990	EJ10	*	1990	03	07.33125	11	03	38.68	+05	04	59.0	17.7 809
1990	EJ10		1990	03	07.33820	11	03	38.15	+05	04	59.8	809
1990	EJ10		1990	03	07.34514	11	03	37.62	+05	05	00.2	809
1990	EK10	*	1990	03	08.32951	10	29	48.76	+04	23	52.9	17.5 809
1990	EK10		1990	03	08.33576	10	29	48.38	+04	23	54.3	809
1990	EK10		1990	03	08.34201	10	29	48.01	+04	23	55.9	809
1990	EL10	*	1990	03	08.32951	10	32	39.71	+04	22	22.3	17.8 809
1990	EL10		1990	03	08.33576	10	32	39.25	+04	22	25.3	809
1990	EL10		1990	03	08.34201	10	32	38.77	+04	22	28.4	809
1990	EM10	*	1990	03	08.35035	11	29	22.87	+07	50	09.1	17.8 809
1990	EM10		1990	03	08.35660	11	29	22.54	+07	50	10.8	809
1990	EM10		1990	03	08.36285	11	29	22.21	+07	50	11.9	809
1990	FG3	*	1990	03	17.91493	11	34	29.64	+06	15	27.9	18.4 033
1990	FH3	*	1990	03	18.99479	10	10	59.88	+09	48	39.7	19.1 033
1990	FJ3	*	1990	03	17.92703	11	55	51.15	+05	55	36.1	046
1990	FJ3		1990	03	17.94207	11	55	50.20	+05	55	42.9	046
1990	FK3	*	1990	03	17.92703	12	00	55.39	+05	55	30.9	16.5 046
1990	FK3		1990	03	17.94207	12	00	54.53	+05	55	32.3	046
1990	FL3	*	1990	03	24.87402	11	46	59.12	+10	30	15.4	16.9 046
1990	FL3		1990	03	24.88796	11	46	58.42	+10	30	18.4	046
1990	FM3	*	1990	03	24.87402	11	55	08.61	+08	49	59.4	16.7 046
1990	FM3		1990	03	24.88796	11	55	07.82	+08	50	02.1	046
1990	FN3	*	1990	03	24.87402	11	56	44.77	+11	01	27.0	17.0 046
1990	FN3		1990	03	24.88796	11	56	43.64	+11	01	26.7	046
1990	FO3	*	1990	03	24.90752	11	58	19.72	+09	30	12.8	046
1990	FO3		1990	03	24.92164	11	58	19.02	+09	30	21.6	046
1990	FP3	*	1990	03	20.85816	10	39	45.09	-00	55	36.5	16.5V E 095

1990	FP3		1990	03	20.87853	10	39	44.32	-00	55	33.3	16.5V	E 095
1990	FQ3	*	1990	03	20.85816	10	44	17.59	-02	19	38.1	16.5V	095
1990	FQ3		1990	03	20.87853	10	44	16.69	-02	19	29.9	16.5V	095
1990	FR3	*	1990	03	20.94488	12	52	11.51	-01	32	17.6	16.5V	095
1990	FR3		1990	03	20.96875	12	52	10.41	-01	32	15.0	16.5V	095
1990	FS3	*	1990	03	20.94488	12	59	24.21	+02	35	46.7	15.5V	095
1990	FS3		1990	03	20.96875	12	59	23.74	+02	35	39.4	15.5V	095
1990	FT3	*	1990	03	20.94488	13	03	34.55	+01	57	33.0	16.8V	095
1990	FT3		1990	03	20.96875	13	03	34.15	+01	57	33.2	16.8V	095
1990	FU3	*	1990	03	30.83505	11	28	59.90	-01	28	56.9	16.0V	095
1990	FU3		1990	03	30.84894	11	28	59.44	-01	28	49.1	16.0V	095
1990	FV3	*	1990	03	30.83505	11	41	35.02	-02	11	15.7	16.5V	095
1990	FV3		1990	03	30.84894	11	41	34.62	-02	11	08.4	16.5V	095
1990	FW3	*	1990	03	30.91142	12	10	34.66	+02	55	22.5	16.0V	095
1990	FW3		1990	03	30.92531	12	10	33.70	+02	55	17.1	16.0V	095
1990	FX3	*	1990	03	30.91142	12	25	51.59	+00	58	53.5	16.0V	095
1990	FX3		1990	03	30.92531	12	25	50.71	+00	58	51.6	16.0V	095
1990	FY3	*	1990	03	30.91142	12	34	54.57	+02	35	32.9	16.0V	095
1990	FY3		1990	03	30.92531	12	34	53.64	+02	35	26.4	16.0V	095
1990	FZ3	*	1990	03	30.99341	14	49	04.43	-10	20	31.9	16.0V	095
1990	FA4	*	1990	03	18.52396	10	12	01.97	-23	19	45.5	17.5	372
1990	FA4		1990	03	18.53611	10	12	01.31	-23	19	46.6		372
1990	FB4	*	1990	03	20.69549	11	50	27.41	+22	13	03.3	18	372
1990	FB4		1990	03	20.70799	11	50	26.79	+22	13	06.5		372
1990	FC4	*	1990	03	18.61962	11	57	39.47	-04	41	31.5	16.5	399
1990	FC4		1990	03	18.63403	11	57	38.41	-04	41	25.8		399
1990	FC4		1990	03	18.64942	11	57	37.59	-04	41	21.7		399
1990	FD4	*	1990	03	18.61962	12	01	36.74	-05	22	10.0	16.5	399
1990	FD4		1990	03	18.63403	12	01	35.69	-05	22	03.0		399
1990	FD4		1990	03	18.64942	12	01	34.82	-05	21	59.1		399
1990	FE4	*	1990	03	26.69311	12	57	34.59	+20	10	34.6	17.5	402
1990	FE4		1990	03	26.71111	12	57	33.38	+20	10	39.9		402
1990	FF4	*	1990	03	25.53299	11	00	44.90	+09	50	09.2	17.5V	413
1990	FF4		1990	03	25.54734	11	00	44.04	+09	50	09.0		413
1990	FG4	*	1990	03	25.53299	11	03	19.80	+11	07	31.6	17.5V	413
1990	FG4		1990	03	25.54734	11	03	19.17	+11	07	35.8		413
1990	FH4	*	1990	03	25.53299	11	11	57.95	+11	01	22.0	17.5V	413
1990	FH4		1990	03	25.54734	11	11	57.38	+11	01	23.6		413
1990	FK4	*	1990	03	24.29028	12	52	10.43	+31	16	28.0	16	675
1990	FK4		1990	03	24.34236	12	52	02.26	+31	15	14.2		675
1990	FL4	*	1990	03	19.09028	10	20	43.97	+04	06	22.7	17.2	809
1990	FL4		1990	03	19.10278	10	20	43.15	+04	06	25.7		809
1990	FL4		1990	03	19.11528	10	20	42.35	+04	06	28.7		809
1990	GY	*	1990	04	04.24792	10	59	23.36	+02	03	24.6	20.5	809
1990	GY		1990	04	04.26111	10	59	22.73	+02	03	25.3		809
1990	GY		1990	04	04.27431	10	59	22.16	+02	03	26.4		809
1990	GZ	*	1990	04	04.24792	11	01	37.95	+04	36	01.8	19.2	809
1990	GZ		1990	04	04.26111	11	01	37.49	+04	36	00.7		809
1990	GZ		1990	04	04.27431	11	01	36.68	+04	35	59.0		809
1990	GA1	*	1990	04	04.24792	11	02	51.63	+04	33	23.8	19.3	809
1990	GA1		1990	04	04.26111	11	02	51.24	+04	33	20.7		809
1990	GA1		1990	04	04.27431	11	02	50.83	+04	33	15.8		809
1990	GB1	*	1990	04	04.24792	11	03	20.09	+01	21	57.1	19.8	809
1990	GB1		1990	04	04.26111	11	03	19.32	+01	21	59.4		809
1990	GB1		1990	04	04.27431	11	03	18.44	+01	22	04.0		809
1990	GC1	*	1990	04	04.24792	11	05	57.69	+01	15	15.9	18.7	809
1990	GC1		1990	04	04.26111	11	05	57.07	+01	15	21.8		809
1990	GC1		1990	04	04.27431	11	05	56.26	+01	15	28.4		809
1990	GD1	*	1990	04	04.24792	11	06	16.36	+05	02	11.7	18.7	809

1990	GD1		1990	04	04.26111	11	06	15.91	+05	02	16.3		809
1990	GD1		1990	04	04.27431	11	06	15.35	+05	02	20.9		809
1990	GE1	*	1990	04	04.24792	11	07	15.90	+04	29	07.1	19.7	809
1990	GE1		1990	04	04.26111	11	07	15.42	+04	29	10.3		809
1990	GE1		1990	04	04.27431	11	07	14.88	+04	29	14.3		809
1990	GF1	*	1990	04	04.24792	11	11	30.51	+04	52	42.0	19.5	809
1990	GF1		1990	04	04.26111	11	11	30.02	+04	52	45.4		809
1990	GF1		1990	04	04.27431	11	11	29.72	+04	52	47.9		809
1990	GG1	*	1990	04	04.24792	11	13	18.80	+02	19	45.6	18.2	809
1990	GG1		1990	04	04.26111	11	13	18.50	+02	19	46.3		809
1990	GG1		1990	04	04.27431	11	13	18.22	+02	19	47.5		809
1990	GH1	*	1990	04	04.24792	11	14	46.24	+05	42	55.5	19.6	809
1990	GH1		1990	04	04.26111	11	14	45.77	+05	43	00.6		809
1990	GH1		1990	04	04.27431	11	14	45.11	+05	43	04.7		809
1990	GJ1	*	1990	04	04.24792	11	15	04.26	+05	07	27.3	19.3	809
1990	GJ1		1990	04	04.26111	11	15	03.65	+05	07	31.1		809
1990	GJ1		1990	04	04.27431	11	15	03.07	+05	07	35.4		809
1990	GK1	*	1990	04	04.24792	11	16	21.90	+01	07	44.1	18.6	809
1990	GK1		1990	04	04.26111	11	16	21.59	+01	07	47.1		809
1990	GK1		1990	04	04.27431	11	16	21.28	+01	07	49.4		809
1990	GL1	*	1990	04	04.24792	11	16	53.33	+01	31	13.4	19.5	809
1990	GL1		1990	04	04.26111	11	16	52.75	+01	31	13.9		809
1990	GL1		1990	04	04.27431	11	16	52.37	+01	31	13.8		809
1990	GM1	*	1990	04	15.99826	10	54	21.86	+00	59	25.2	19.7	809
1990	GM1		1990	04	16.01563	10	54	21.34	+00	59	30.8		809
1990	GM1		1990	04	16.03299	10	54	20.80	+00	59	36.3		809
1990	GN1	*	1990	04	15.99826	10	56	48.09	+01	58	35.6	19.5	809
1990	GN1		1990	04	16.01563	10	56	47.50	+01	58	34.8		809
1990	GN1		1990	04	16.03299	10	56	46.97	+01	58	36.5		809
1990	GO1	*	1990	04	15.99826	11	04	25.53	+02	54	07.8	19.6	809
1990	GO1		1990	04	16.01563	11	04	24.84	+02	54	12.0		809
1990	GO1		1990	04	16.03299	11	04	24.17	+02	54	15.9		809
1990	GP1	*	1990	04	15.99826	11	05	50.51	+04	25	32.1	19.1	809
1990	GP1		1990	04	16.01563	11	05	49.86	+04	25	34.2		809
1990	GP1		1990	04	16.03299	11	05	49.33	+04	25	35.7		809
1990	GQ1	*	1990	04	15.99826	11	09	11.03	+02	41	14.8	20.0	809
1990	GQ1		1990	04	16.01563	11	09	10.69	+02	41	18.6		809
1990	GQ1		1990	04	16.03299	11	09	10.37	+02	41	22.1		809
1990	HQ3	*	1990	04	17.91528	13	03	53.83	-10	05	04.7	16.8	046
1990	HQ3		1990	04	17.92951	13	03	52.95	-10	05	03.9		046
1990	HR3	*	1990	04	17.91528	13	04	14.50	-11	34	32.5	16.9	046
1990	HR3		1990	04	17.92951	13	04	13.89	-11	34	25.0		046
1990	HS3	*	1990	04	17.91528	13	07	41.84	-13	52	29.9	16.8	046
1990	HS3		1990	04	17.92951	13	07	41.29	-13	52	23.3		046
1990	HT3	*	1990	04	17.91528	13	07	54.05	-10	43	58.4	17.0	046
1990	HT3		1990	04	17.92951	13	07	53.72	-10	45	36.4		046
1990	HU3	*	1990	04	17.91528	13	09	14.45	-11	48	36.8		046
1990	HU3		1990	04	17.92951	13	09	14.10	-11	48	17.5		046
1990	HV3	*	1990	04	24.57361	14	08	40.48	-10	10	38.8	16.5	364
1990	HV3		1990	04	24.59097	14	08	39.31	-10	10	36.1		364
1990	HW3	*	1990	04	18.64931	13	00	26.22	-02	38	43.5	18	372
1990	HW3		1990	04	18.66111	13	00	25.69	-02	38	40.2		372
1990	HX3	*	1990	04	30.66632	14	18	59.50	-04	54	59.3	18.5	372
1990	HY3	*	1990	04	29.46536	12	03	31.08	+16	22	22.9	18 V V	413
1990	HY3		1990	04	29.50703	12	03	30.02	+16	22	09.8	V	413
1990	HZ3	*	1990	04	30.77705	20	03	28.85	-22	37	29.8	18 V	413
1990	HZ3		1990	04	30.79441	20	03	29.90	-22	37	27.3		413
1990	HA4	*	1990	04	30.78573	19	52	05.09	-23	16	05.5	18.5V	413
1990	HB4	*	1990	04	30.78573	19	53	13.10	-24	00	00.0	18.5V	413

1990	HC4	*	1990	04	16.98715	10	56	55.69	+01	41	29.9	20.0	809
1990	HC4		1990	04	17.00451	10	56	54.99	+01	41	26.9		809
1990	HC4		1990	04	17.02188	10	56	54.38	+01	41	24.9		809
1990	HD4	*	1990	04	16.98715	11	00	56.06	+03	04	47.3	19.5	809
1990	HD4		1990	04	17.00451	11	00	55.41	+03	04	52.1		809
1990	HD4		1990	04	17.02188	11	00	54.84	+03	04	56.6		809
1990	HE4	*	1990	04	16.98715	11	03	26.72	+02	03	25.7	20.0	809
1990	HE4		1990	04	17.00451	11	03	26.25	+02	03	29.9		809
1990	HE4		1990	04	17.02188	11	03	25.76	+02	03	32.5		809
1990	HF4	*	1990	04	16.98715	11	07	52.84	+03	59	32.3	19.6	809
1990	HF4		1990	04	17.00451	11	07	52.52	+03	59	34.2		809
1990	HF4		1990	04	17.02188	11	07	52.20	+03	59	36.0		809
1990	HG4	*	1990	04	16.98715	11	13	20.36	+02	22	53.5		809
1990	HG4		1990	04	17.00451	11	13	19.76	+02	23	00.1		809
1990	HG4		1990	04	17.02188	11	13	19.20	+02	23	06.7		809
1990	JL1	*	1990	05	14.93663	14	39	38.20	-15	23	39.4	17.0	046
1990	JL1		1990	05	14.95110	14	39	37.90	-15	23	31.4		046
1990	JM1	*	1990	05	15.61701	14	08	52.10	-03	31	25.9	18.5	372
1990	JM1		1990	05	15.62743	14	08	51.93	-03	31	22.2		372
1990	KQ1	*	1990	05	20.88611	13	57	10.67	+12	00	55.6	18.5	033
1990	KQ1		1990	05	20.92708	13	57	09.12	+12	00	40.6		033
1990	KR1	*	1990	05	20.88611	13	57	45.79	+12	42	28.9	17.8	033
1990	KR1		1990	05	20.92708	13	57	44.45	+12	42	23.7		033
1990	KS1	*	1990	05	20.88611	13	59	53.91	+11	51	24.5	18.2	033
1990	KS1		1990	05	20.92708	13	59	52.69	+11	51	16.8		033
1990	KT1	*	1990	05	29.96530	15	59	55.42	-16	39	45.3	15.8	046
1990	KU1	*	1990	05	29.96530	16	04	37.22	-13	06	16.9	16.8	046
1990	KU1		1990	05	29.97815	16	04	36.82	-13	05	58.1		046
1990	KV1	*	1990	05	29.96530	16	06	54.52	-13	35	20.8	16.7	046
1990	KV1		1990	05	29.97815	16	06	54.07	-13	35	12.0		046
1990	KW1	*	1990	05	26.53021	13	39	28.54	-00	51	30.9	17 F	385
1990	KW1		1990	05	26.56007	13	39	27.76	-00	51	37.1	F	385
1990	KX1	*	1990	05	26.41212	11	55	32.99	+16	13	01.4	18.5V F	413
1990	KX1		1990	05	26.45409	11	55	33.76	+16	12	41.3	F	413
1990	KY1	*	1990	05	26.41212	12	03	45.72	+17	33	44.1	18 V	413
1990	KY1		1990	05	26.45409	12	03	45.79	+17	33	16.7		413
1990	KZ1	*	1990	05	26.41212	12	16	21.93	+19	35	15.8	18 V	413
1990	KZ1		1990	05	26.45409	12	16	22.38	+19	35	03.3		413
1990	KA2	*	1990	05	26.41212	12	18	58.36	+19	41	46.2	18 V	413
1990	KA2		1990	05	26.45409	12	18	58.99	+19	41	31.8		413
1990	KB2	*	1990	05	29.76574	21	52	29.02	-13	23	27.3	17.5V t	413
1990	KB2		1990	05	29.80741	21	52	30.71	-13	23	09.8	t	413
1990	KC2	*	1990	05	29.76574	21	57	49.18	-14	32	26.1	18.5V t	413
1990	KC2		1990	05	29.80741	21	57	50.94	-14	32	12.2	t	413
1990	KD2	*	1990	05	29.76574	21	57	59.18	-13	25	47.7	17.5V t	413
1990	KD2		1990	05	29.80741	21	58	01.91	-13	25	35.1	t	413
1990	KE2	*	1990	05	29.76574	22	09	42.95	-09	45	49.6	17.5V t	413
1990	KE2		1990	05	29.80741	22	09	45.02	-09	45	43.8	t	413
1990	KF2	*	1990	05	27.27534	15	36	43.50	+13	01	32.6	18.0	675
1990	KF2		1990	05	27.32222	15	36	41.20	+13	01	36.6		675
1990	LD	*	1990	06	13.39057	05	06	34.32	-69	16	20.6	15 V	413
1990	LD		1990	06	13.39456	05	06	29.28	-69	16	38.5		413
1990	LE	*	1990	06	14.54825	17	35	26.84	-27	16	08.2	17 V	413
1990	LF	*	1990	06	14.54825	17	36	11.63	-27	39	35.9	17 V	413
1990	MA1	*	1990	06	19.90616	15	34	41.12	-04	54	13.0		046
1990	MA1		1990	06	19.91750	15	34	40.57	-04	54	08.9		046
1990	MB1	*	1990	06	19.90616	15	45	36.81	-02	33	41.2	16.9	046
1990	MB1		1990	06	19.91750	15	45	36.01	-02	33	25.5		046
1990	MC1	*	1990	06	19.93677	16	27	14.91	-23	23	55.5	16.7	046

1990	MC1		1990	06	19.94950	16	27	13.63	-23	23	55.4	046
1990	MD1	*	1990	06	19.96806	16	53	44.70	-14	03	25.3	16.6 046
1990	MD1		1990	06	19.98090	16	53	44.10	-14	03	24.4	046
1990	ME1	*	1990	06	21.90347	15	41	09.45	-00	22	18.5	16.5 046
1990	ME1		1990	06	21.91493	15	41	08.88	-00	22	19.1	046
1990	MF1	*	1990	06	24.90000	15	48	56.01	-08	16	15.4	046
1990	MF1		1990	06	24.91030	15	48	56.27	-08	16	12.3	046
1990	MG1	*	1990	06	24.92847	16	23	29.69	-20	09	15.4	16.7 046
1990	MG1		1990	06	24.95174	16	23	28.85	-20	09	07.8	046
1990	MH1	*	1990	06	19.80711	02	31	42.60	-01	36	16.0	13.5V a 413
1990	MH1		1990	06	19.81058	02	31	41.58	-01	36	30.3	a 413
1990	MJ1	*	1990	06	29.52111	16	42	13.54	-02	39	58.9	17 V 413
1990	MJ1		1990	06	29.58361	16	42	11.60	-02	40	30.2	413

* * * * *

ORBITAL ELEMENTS.

Orbital elements have been computed by the following contributors:

C. M. Bardwell, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A.
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff, AZ 86001, U.S.A. (E)
K. Ichikawa, 45 Shiromae Kamiwada-cho, Okazaki-shi, Aichi, 444-02 Japan
H. Kaneda, 2-15-2H, Kawazoe 8 Jo 2 Chome, Minami-ku, Sapporo 005, Japan
T. Kobayashi, 1717-2 Shimo-Koizumi, Oizumi-machi, Ora-gun, Gunma-ken, 370-05 Japan
B. G. Marsden, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A. (M)
R. Nagata, 1-8-6 Nishi-Koizumi, Oizumi-machi, Ora-gun, Gunma-ken, 370-05 Japan
S. Nakano, 3-19, 1 chome, Takenokuchi, Sumoto, Hyogo-ken 656, Japan (N)
L. D. Schmadel, Astronomisches Rechen-Institut, Monchhofstrasse 12-14, W-6900 Heidelberg, Federal Republic of Germany
B. Todorovic-Juchniewicz, Center for Space Research, Ul. Bartycka 18, PL-00716 Warsaw, Poland
T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan (U)
G. V. Williams, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A. (W)

The name of the orbit computer is shown on the line giving T for a comet and Epoch for a displayed minor-planet orbit; for many of the minor planets (O-C) residuals are shown in full (in R.A. and Decl.); observations are identified by date and observatory code, X referring to an approximate and Y to a semiaccurate position. For displayed minor planets "Id." shows those involved in establishing the identifications (generally with the principal contributors first), "k" indicating key identifications and "d" (only) double (or multiple) designations; no identifier is shown if only the orbit computer is involved and the results were not previously published. J-P indicates that only the perturbations by the outer planets were considered, and a and n are then related by a gravitational constant augmented by the masses of the inner planets. For the one-opposition orbits, equinox 1950.0 is used, and the columns headed Arc and O show the time span in days covered by the observations and the number of observations utilized in the computation (0 = 10 or more). In the note column N, D means that there are double (or multiple) designations, E means that the value of the eccentricity was assumed, F means both; the double designations are listed at the end; the codes for the orbit computers (column C) are as listed above.

Comet Cernis (1983 XII)
Epoch 1983 July 5.0 ET = JDE 2445520.5

T 1983 July 21.21984 ET				Todorovic-Juchniewicz
q 3.3179076		(1950.0)	P	Q
z -0.0005954	Peri.	186.21904	+0.90725681	+0.24293648
+/-0.0000018	Node	208.88389	+0.40996693	-0.32863547
e 1.0019756	Incl.	134.70410	+0.09387334	-0.91267771

From 225 observations 1983 July 21-1989 Apr. 6, mean residual 1".0.

Comet Wilson (1987 VII)
Epoch 1987 May 5.0 ET = JDE 2446920.5

T 1987 Apr. 20.78093 ET				Todorovic-Juchniewicz
q 1.1996510		(1950.0)	P	Q
z -0.0002601	Peri.	238.29640	-0.47925944	-0.71646673
+/-0.0000028	Node	110.95848	-0.50094971	+0.69757034
e 1.0003120	Incl.	147.12194	-0.72066620	-0.00842861

From 642 observations 1986 Aug. 5-1989 Apr. 11, mean residual 1".1. Non-gravitational parameters A1 = +1.7692 +/- 0.0654, A2 = +0.0515 +/- 0.0276, A3 = +0.0265 +/- 0.0182.

Comet Rudenko (1987 XXIII)
Epoch 1987 Oct. 12.0 ET = JDE 2447080.5

T 1987 Oct. 9.52812 ET				Todorovic-Juchniewicz
q 0.6026027		(1950.0)	P	Q
z -0.0007248	Peri.	143.83958	-0.59683576	+0.02431026
+/-0.0000072	Node	297.87356	+0.33533488	+0.91561790
e 1.0004367	Incl.	114.87151	+0.72892908	-0.40131392

From 90 observations 1987 Aug. 22-1988 Jan. 25, mean residual 1".6.

Comet Jensen-Shoemaker (1988 II)
Epoch 1987 Dec. 31.0 ET = JDE 2447160.5

T 1988 Jan. 18.80948 ET				Todorovic-Juchniewicz
q 3.3328193		(1950.0)	P	Q
z -0.0014302	Peri.	194.73899	+0.90387456	-0.30977869
+/-0.0000062	Node	197.64647	+0.41857097	+0.49793758
e 1.0047666	Incl.	76.72191	-0.08836928	-0.80999712

From 33 observations 1987 Sept. 24-1990 Apr. 29, mean residual 1".0.

Comet Furuyama (1988 IV)
Epoch 1988 Mar. 20.0 ET = JDE 2447240.5

T 1988 Mar. 3.06469 ET				Todorovic-Juchniewicz
q 1.6795509		(1950.0)	P	Q
z -0.0002003	Peri.	233.63297	+0.55510663	-0.01478200
+/-0.0000105	Node	250.05874	+0.67737089	-0.57222925
e 1.0003365	Incl.	117.78642	-0.48272696	-0.81996047

From 135 observations 1987 Nov. 21-1988 Aug. 12, mean residual 0".8.

Periodic Comet Shoemaker-Levy 4 (1991f)

T 1990 July 16.80082 ET				Marsden
q 2.0087185		(1950.0)	P	Q
n 0.14795629	Peri.	302.46409	-0.07117218	-0.99496945
a 3.5403572	Node	151.36457	+0.95738324	-0.08797599
e 0.4326227	Incl.	8.45952	+0.27991403	+0.04791682
P 6.66				

From 11 observations 1991 Feb. 9-25.

Comet McNaught-Russell (1991g)
T 1990 Oct. 18.30489 ET Nakano

		(1950.0)	P	Q
q 4.7763979	Peri.	320.90534	-0.81543997	-0.49593875
	Node	161.01572	+0.24438221	+0.17250760
e 1.0	Incl.	113.42361	-0.52472373	+0.85104987

From 17 observations 1991 Jan. 26-Mar. 14.

Comet McNaught-Hughes (1990g)
Epoch 1991 Mar. 5.0 ET = JDE 2448320.5
T 1991 Feb. 27.66545 ET Marsden

		(1950.0)	P	Q
q 2.6822543	Peri.	18.17892	-0.74633747	-0.32213274
z -0.0004470	Node	232.51276	-0.66444981	+0.30992148
+/-0.0000114	Incl.	132.77750	-0.03855942	+0.89452735
e 1.0011990				

From 22 observations 1990 June 20-1991 Feb. 12, mean residual 0".8.

Periodic Comet Takamizawa (1991h)
Epoch 1991 Aug. 12.0 ET = JDE 2448480.5
T 1991 Aug. 17.88914 ET Marsden

		(1950.0)	P	Q
q 1.5896944				
n 0.13643033	Peri.	147.64304	+0.03909156	+0.98991136
a 3.7370488	Node	124.25069	-0.94824393	+0.07973300
e 0.5746123	Incl.	9.48335	-0.31512744	-0.11712451
P 7.22				

From 117 observations 1984-1991, mean residual 1".2.

Periodic Comet Kowal 1 (1991i)
Epoch 1992 Feb. 28.0 ET = JDE 2448680.5 Marsden
T 1992 Mar. 10.35418 ET

		(1950.0)	P	Q
q 4.6691224				
n 0.06563837	Peri.	174.42915	-0.92341736	+0.38210184
a 6.0864516	Node	28.11994	-0.35499715	-0.81466559
e 0.2328662	Incl.	4.38495	-0.14586777	-0.43625470
P 15.02				

From 15 observations 1977-1991, mean residual 0".6.

One-opposition minor planets

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1977 QW	12.0	770825	31.37	310.21	343.28	7.07	0.2934	3.1271	22	6		W
1977 RZ1	14.0	770825	316.03	61.07	359.66	13.47	0.2823	2.4302	2	4	E	W
1977 RX2	15.5	770825	315.68	72.29	345.78	3.86	0.2831	2.2250	1	3	E	W
1977 SL	15.0	770914	354.69	213.52	149.25	2.76	0.2123	2.3766	10	3		W
1990 BL2	13.5	900129	332.13	357.92	165.91	4.32	0.1879	2.2793	4	6		N
1990 DU4	13.5	900218	177.44	164.90	182.68	3.69	0.0798	2.2906	4	9	E	W
1990 FD3	11.7	900310	276.54	92.29	157.92	15.60	0.0402	3.1501	27	0		N
1990 QR2	12.5	900906	50.57	322.36	334.72	4.42	0.0633	2.7664	59	0	D	W
1990 QV2	12.4	900926	36.75	133.30	177.22	10.38	0.1052	3.0013	59	0		E
1990 RC2	12.4	900926	166.34	354.86	192.00	6.53	0.1501	2.6971	38	0		E
1990 RE2	14.1	900926	340.64	193.03	194.66	3.53	0.1962	2.4559	38	0		E
1990 RG2	12.9	900926	6.61	162.20	185.55	10.65	0.2342	3.1478	38	0		E
1990 RJ2	15.3	900926	353.91	196.91	172.59	3.58	0.1569	2.1613	38	7		E
1990 RK2	14.6	900926	20.32	161.41	176.25	2.36	0.0689	2.1299	38	7		E
1990 RC3	14.4	900926	353.36	148.04	219.17	2.16	0.1156	2.2217	38	6		E
1990 RH3	12.7	900926	24.90	150.95	176.30	10.29	0.1053	2.9925	38	0		E
1990 RJ3	14.4	900926	45.87	313.52	351.67	6.37	0.0835	2.2448	38	0		E
1990 RN3	13.6	900926	62.65	93.63	179.53	5.53	0.2066	2.3848	38	6		E
1990 RR3	13.5	900926	70.02	234.02	35.80	2.73	0.1637	2.5649	38	6		E
1990 RS3	14.2	900926	336.04	246.77	142.86	3.29	0.1236	2.3883	38	6		E

1990	RC4	15.0	900926	17.00	149.26	190.62	4.63	0.1031	2.1602	38	6	E
1990	RO6	13.4	900906	397.10	301.67	355.42	1.71	0.0886	2.9239	28	0 D	N
1990	RB7	15.0	900906	345.08	213.08	151.55	5.09	0.1692	2.6044	26	0 D	N
1990	RC7	16.6	900817	349.95	208.91	141.80	2.63	0.2283	2.3414	26	0 D	N
1990	RL7	15.3	900906	80.40	251.00	354.85	3.27	0.1596	2.3014	21	0 D	N
1990	RA8	15.4	900906	350.29	352.53	6.71	2.52	0.1882	2.3907	37	0 D	N
1990	RW8	15.0	900906	9.66	44.09	281.39	6.45	0.1858	2.2872	5	5	W
1990	RX8	14.5	900926	354.85	110.26	246.76	4.96	0.1930	2.1944	5	7	E
1990	SW1	14.4	900926	345.29	194.30	193.77	25.41	0.2946	2.3528	35	0	E
1990	SC4	13.6	900926	312.71	245.50	189.89	21.99	0.2825	2.3818	34	0	E
1990	SZ4	14.0	900906	32.42	257.02	57.19	2.22	0.1700	3.1091	10	9	M
1990	SB5	16.0	900906	355.92	211.16	149.94	4.89	0.1755	2.3574	10	9	M
1990	SC5	16.0	900906	347.30	275.30	99.37	2.36	0.2013	2.4416	10	9	M
1990	SD5	15.0	900906	77.10	224.97	37.61	3.01	0.1637	2.4129	10	9	M
1990	SE5	13.0	900906	355.41	316.24	50.15	4.69	0.1344	3.9193	10	9	M
1990	SF5	15.0	900906	9.91	191.81	153.87	4.63	0.1047	2.5950	10	9	M
1990	SG5	16.5	900906	349.96	232.70	136.43	2.92	0.2075	2.1628	10	9	M
1990	SH5	16.5	900906	355.70	340.28	21.46	8.63	0.1721	2.4529	10	9	M
1990	SL5	14.0	900906	103.07	209.42	27.32	8.33	0.1946	2.7697	10	9	M
1990	SN5	16.5	900906	25.53	244.02	66.41	2.25	0.2707	2.3023	10	9	M
1990	SQ5	14.5	900906	255.74	351.04	128.29	4.64	0.1567	2.3291	10	9	M
1990	SR5	16.5	900906	337.01	257.37	131.40	1.71	0.1851	2.1920	10	9	M
1990	SS5	15.0	900906	308.57	327.08	99.43	1.76	0.1750	2.2839	10	9	M
1990	ST5	15.5	900906	323.75	27.55	25.52	5.25	0.2329	2.4595	10	9	M
1990	SU5	15.0	900906	69.64	231.32	42.98	5.39	0.1269	2.4120	10	9	M
1990	SV5	14.0	900906	315.08	272.73	138.56	5.82	0.0914	2.5587	10	9	M
1990	SX5	15.5	900906	335.47	339.20	51.01	2.35	0.1589	2.2967	10	9	M
1990	SZ5	13.0	900906	104.19	82.88	166.60	14.73	0.0720	3.1232	10	9	M
1990	SA6	13.5	900906	295.14	79.23	22.77	11.12	0.3157	3.1251	10	9	M
1990	SB6	14.0	900906	332.88	268.44	124.97	3.29	0.1038	2.9454	10	9	M
1990	SF6	16.5	900906	349.84	203.44	169.74	12.14	0.2620	2.4686	10	9	M
1990	SG6	15.5	900906	328.52	358.92	42.45	5.52	0.1656	2.6304	10	9	M
1990	SK6	14.5	900906	105.35	216.53	31.00	7.13	0.0582	2.3585	10	9	M
1990	SM6	13.5	900906	256.22	88.38	28.73	4.87	0.1271	2.3034	10	9	M
1990	SN6	14.0	900906	45.56	183.76	121.46	4.84	0.0834	2.3781	10	9	M
1990	SO6	16.0	900906	44.04	194.73	95.76	3.29	0.2352	2.4130	10	9	M
1990	SQ6	17.0	900906	6.70	201.71	144.56	4.44	0.1955	2.3903	10	9	M
1990	SR6	15.0	900906	342.21	314.81	68.69	2.16	0.1704	2.5585	10	9	M
1990	SS6	15.5	900906	348.58	227.60	144.09	3.39	0.1490	2.1701	10	9	M
1990	ST6	14.0	900906	31.30	215.35	104.94	4.61	0.1305	3.0944	10	9	M
1990	SU6	15.0	900906	48.08	169.49	114.86	3.82	0.2594	2.6704	10	9	M
1990	SV6	15.0	900906	0.94	339.35	17.73	12.50	0.1261	2.5212	10	9	M
1990	SW6	16.0	900906	358.67	327.15	30.88	7.32	0.2370	2.4899	10	9	M
1990	SX6	15.0	900906	41.14	211.43	94.60	4.56	0.1358	2.5337	10	9	M
1990	SY6	15.5	900906	331.77	13.87	23.12	7.56	0.1563	2.4764	10	9	M
1990	SZ6	14.5	900906	52.16	258.73	11.03	18.83	0.3248	2.2764	10	9	M
1990	SA7	15.5	900906	135.90	178.30	39.51	7.64	0.0769	2.2292	10	9	M
1990	SF7	14.5	900906	38.57	276.00	32.90	8.05	0.1657	3.0717	10	9	M
1990	SG7	16.5	900906	14.06	311.43	26.45	7.91	0.1503	2.2307	10	9	M
1990	SH7	14.5	900906	15.00	244.85	92.46	3.09	0.0757	2.9171	11	9	M
1990	SL7	15.5	900906	324.80	342.32	61.41	3.21	0.1955	2.4027	11	9	M
1990	SM7	15.5	900906	233.15	83.78	44.81	6.04	0.0946	2.2263	11	9	M
1990	SN7	16.0	900906	16.91	275.79	49.00	4.13	0.2054	2.1624	11	9	M
1990	SO7	15.5	900906	6.61	192.17	153.28	7.35	0.1423	2.7928	11	9	M
1990	SP7	13.0	900906	159.30	133.98	59.72	3.29	0.0879	2.7866	11	0	M
1990	SQ7	16.0	900906	318.03	335.84	77.56	3.21	0.2018	2.3555	11	9	M
1990	SS7	14.0	900906	286.12	353.59	87.21	3.32	0.0985	2.9326	11	9	M
1990	ST7	15.0	900906	323.90	343.78	59.36	3.88	0.1653	2.5927	11	9	M
1990	SV7	16.0	900906	345.82	339.43	32.50	5.96	0.1722	2.2458	11	9	M

1990	SW7	15.0	900906	22.96	164.99	153.92	7.95	0.2062	2.6703	11	9	M
1990	SY7	15.5	900906	92.14	198.54	53.37	5.18	0.0890	2.3127	11	9	M
1990	SZ7	15.0	900906	222.61	98.12	40.58	6.44	0.0967	2.2391	11	9	M
1990	SA8	15.0	900906	280.86	353.55	99.86	3.28	0.1674	2.4307	11	9	M
1990	SB8	17.0	900906	353.64	285.44	76.48	3.34	0.2312	2.3461	11	9	M
1990	SC8	15.5	900906	6.10	197.39	147.31	7.68	0.1738	2.5523	11	9	M
1990	SD8	15.0	900906	343.41	266.30	113.45	4.58	0.1964	3.0693	11	9	M
1990	SE8	14.5	900906	323.43	257.60	142.52	4.45	0.1008	2.7808	11	9	M
1990	SF8	16.0	900906	322.27	12.38	33.95	5.41	0.1870	2.2472	11	9	M
1990	SG8	14.5	900906	264.32	18.05	90.54	3.39	0.1598	2.3257	11	9	M
1990	SH8	15.0	900906	263.35	323.39	136.93	6.09	0.0814	2.2268	11	9	M
1990	SJ8	16.5	900906	353.77	250.24	113.71	2.66	0.2492	2.6442	11	9	M
1990	SK8	16.0	900906	345.23	265.80	108.82	4.22	0.1872	2.4268	11	9	M
1990	SM8	15.5	900906	17.92	267.35	63.38	4.32	0.1399	2.6061	11	9	M
1990	SN8	14.0	900906	168.32	128.59	58.69	4.19	0.0499	2.6451	11	9	M
1990	SO8	15.5	900906	329.16	274.63	128.63	5.01	0.2341	2.7075	11	9	M
1990	SP8	13.5	900906	165.78	41.55	149.40	10.13	0.0239	3.0642	11	9	M
1990	SQ8	15.5	900906	319.27	306.45	116.69	5.47	0.2907	2.6079	11	9	M
1990	SR8	16.5	900906	277.48	5.61	79.09	4.90	0.0685	2.2215	11	9	M
1990	SS8	14.0	900906	29.61	158.51	163.44	10.62	0.0895	2.9720	11	9	M
1990	ST8	16.0	900906	15.68	279.04	51.20	3.55	0.1886	2.3486	11	9	M
1990	SU8	14.0	900906	38.72	143.16	153.26	6.28	0.2093	2.1935	11	0	M
1990	SV8	17.0	900906	11.42	228.38	108.13	3.16	0.1862	2.3278	11	9	M
1990	SW8	14.5	900906	351.82	206.99	159.83	11.89	0.1379	2.7797	11	9	M
1990	SX8	14.0	900906	284.04	278.57	167.46	16.69	0.1099	2.7630	11	9	M
1990	SY8	15.5	900906	43.27	241.00	55.97	4.27	0.1575	2.3041	11	9	M
1990	SZ8	15.0	900906	26.20	287.63	33.12	8.15	0.1504	2.9711	11	9	M
1990	SB9	16.5	900906	349.53	275.22	92.37	3.43	0.1695	2.1672	11	9	M
1990	SE9	15.5	900906	1.08	291.91	61.43	5.28	0.1426	2.6054	11	9	M
1990	SK9	17.0	900906	12.86	313.00	12.07	8.43	0.3088	2.4291	11	9	M
1990	SL9	12.8	900926	71.95	171.32	98.68	2.57	0.1522	3.1582	38	0	E
1990	SM9	13.5	900906	327.17	284.33	108.03	3.17	0.0712	2.8908	11	9	M
1990	SN9	15.5	900906	285.14	52.20	29.14	5.64	0.1181	2.2050	11	9	M
1990	SP9	16.0	900906	310.55	267.47	147.38	5.96	0.1304	2.2667	11	9	M
1990	SS9	15.0	900906	314.48	324.93	92.42	3.30	0.1988	2.3642	11	9	M
1990	ST9	16.0	900906	26.64	264.18	49.34	3.09	0.1934	2.4362	11	9	M
1990	SU9	15.0	900906	253.38	60.48	51.96	4.55	0.1144	2.2860	11	9	M
1990	SW9	15.5	900906	93.63	215.62	31.17	5.12	0.1175	2.2990	11	9	M
1990	SG12	13.7	900926	334.40	192.63	206.23	5.42	0.2042	2.8128	4	6	E
1990	SA15	13.5	900906	310.01	159.87	251.74	4.52	0.1340	2.2872	8	6	W
1990	SQ15	13.4	900926	335.82	166.68	235.87	6.03	0.2968	2.4478	2	6	E
1990	SR15	14.9	900926	359.66	59.24	299.33	5.54	0.1500	2.4132	2	6	E E
1990	TC	12.0	900926	281.49	223.91	207.99	11.69	0.0506	3.0345	23	8	W
1990	TD	14.0	900926	16.58	73.85	253.89	5.01	0.1807	2.2760	23	7	W
1990	TX4	13.5	900926	36.67	88.19	212.50	8.23	0.1484	2.9769	23	7	W
1990	TM5	14.5	900926	17.57	82.25	245.55	6.11	0.1331	2.3646	23	6	W
1990	TR5	15.0	900926	11.99	97.82	234.55	5.83	0.2547	2.2677	23	6	W
1990	XU	12.2	901215	55.52	264.66	131.96	10.64	0.1308	3.0192	30	8	N
1990	WN2	12.8	901215	352.12	1.10	78.57	14.61	0.1348	2.6556	53	8	N
1990	XV	12.5	901215	45.94	102.06	294.43	11.94	0.1844	2.6266	29	9	W
1990	YY	11.2	910124	319.00	42.42	67.08	3.84	0.0674	5.2965	62	9	E
1991	AL	13.0	910124	25.47	339.11	105.44	5.52	0.1888	2.4351	31	9	N
1991	AB1	11.1	910124	80.77	256.52	130.26	11.27	0.1648	3.0407	27	0	N
1991	AH1	14.5	910124	332.96	256.35	266.43	1.17	0.1394	2.3977	40	0	W
1991	AK1	13.8	910124	9.07	194.87	268.10	3.31	0.2802	2.6754	24	8	N
1991	AM1	11.3	910124	186.13	15.56	278.37	8.66	0.0582	3.0201	24	6	N
1991	AR1	11.5	910124	350.66	89.33	21.19	0.77	0.2374	3.3845	34	6	W
1991	AS1	12.5	910124	31.81	122.69	317.20	30.61	0.2263	2.5965	35	9	W
1991	AU1	13.0	910124	31.20	137.89	334.16	22.30	0.0556	1.8565	38	8	W

1991	AD2	13.0	910124	33.38	279.06	146.26	2.15	0.3331	2.6730	37	6		W
1991	AF3	14.5	910104	321.74	74.71	91.49	3.63	0.2841	2.6819	7	4		W
1991	AH3	14.5	910104	85.32	260.76	93.17	8.53	0.1967	2.3601	7	4		W
1991	AJ3	12.0	910104	196.30	337.89	288.37	14.80	0.0562	3.1918	7	4		W
1991	AL3	13.0	910104	142.21	351.93	315.71	2.40	0.2055	2.4386	7	4		W
1991	AM3	13.0	910104	57.52	74.92	293.90	1.99	0.3141	2.7479	7	4		W
1991	AO3	13.5	910104	104.64	247.03	90.10	8.26	0.2059	2.4230	7	4		W
1991	AP3	14.0	910104	11.52	132.77	313.94	1.49	0.1567	2.6636	7	4		W
1991	BD	13.2	910124	64.20	122.52	282.25	5.78	0.0938	2.3586	43	0		N
1991	BE	12.0	910213	320.54	246.01	293.19	26.92	0.1652	2.5968	35	0		U
1991	BF	11.5	910124	94.33	60.72	293.31	8.53	0.3219	2.4814	21	6		N
1991	BK	13.0	910124	1.32	46.73	67.15	5.75	0.2849	2.6237	31	0		W
1991	BV	12.1	910213	39.14	308.03	143.10	12.96	0.1377	2.6118	46	0		N
1991	BD1	12.0	910124	320.48	50.16	114.87	6.59	0.0902	2.5886	32	6		M
1991	BG2	11.9	910213	11.40	57.43	62.93	2.83	0.1905	3.1705	28	7		N
1991	BJ2	13.1	910213	16.31	88.50	28.29	3.59	0.1666	2.5976	22	6		N
1991	BP2	12.6	910213	343.17	214.49	303.40	22.25	0.2035	2.3286	27	0	D	N
1991	CB	11.5	910124	48.28	301.05	128.07	19.14	0.1534	2.9163	17	9		M
1991	CD	13.2	910213	19.97	132.81	347.26	8.36	0.0431	2.3043	10	6		N
1991	CF	12.3	910213	288.11	62.72	169.16	7.80	0.1353	2.2846	13	0		N
1991	CG	12.0	910213	44.13	308.57	128.73	15.53	0.2056	3.1188	15	0		W
1991	CL	12.5	910124	331.50	48.61	128.15	13.97	0.1550	2.7695	35	0		W
1991	CM	11.5	910124	272.76	113.14	127.60	17.03	0.1147	3.1241	35	0		W
1991	CN	14.0	910124	336.09	163.65	0.70	3.99	0.0732	2.2748	35	0		W
1991	CU		910213	130.11	214.94	140.00	9.95	0.0912	2.5842	14	5		W
1991	CW	13.0	910213	63.44	307.05	117.71	4.97	0.1625	2.2662	12	0		U
1991	CX	13.3	910213	343.55	301.46	227.64	2.77	0.0682	2.2005	22	7		N
1991	CY	12.5	910213	358.71	224.00	288.88	9.21	0.1298	2.6267	8	5		U
1991	CZ	13.3	910213	222.10	128.03	153.51	23.17	0.0138	1.8330	28	0		N
1991	CA1	14.5	910213	63.81	305.46	123.25	25.20	0.1047	1.8395	12	0		W
1991	CC1	12.5	910213	332.30	53.69	148.65	6.90	0.1580	2.3761	6	5		W
1991	CG1	13.5	910213	16.26	131.91	346.32	4.60	0.1985	2.5559	47	9		N
1991	CJ1	13.9	910213	95.90	269.29	126.30	11.30	0.0731	2.5626	13	6		N
1991	CM1	14.5	910213	39.91	164.04	294.21	3.04	0.1452	2.4667	10	6		N
1991	CN1	13.9	910213	354.54	327.66	189.42	2.27	0.1147	2.4150	30	0		N
1991	CP1	14.5	910124	13.72	6.86	111.94	5.09	0.1294	2.4327	35	0		W
1991	CR1	12.4	910213	70.34	314.38	110.64	7.89	0.0815	3.1503	13	0		N
1991	CY1	13.0	910213	11.87	128.28	11.18	5.09	0.1424	2.6337	21	8		N
1991	CU2	13.6	910213	1.77	143.91	9.79	2.12	0.1577	2.3460	19	6		N
1991	CW2	12.5	910213	238.72	292.45	10.87	9.50	0.1333	2.3157	6	6		W
1991	CX2	14.0	910213	259.46	96.20	166.25	5.33	0.1492	2.1975	10	5		W
1991	CA3	14.0	910213	45.65	106.03	340.61	17.06	0.1011	1.9071	6	5		W
1991	CC3	13.4	910213	303.86	42.75	179.27	4.57	0.1139	2.7441	22	8		N
1991	CK3	12.5	910213	6.31	33.36	107.09	17.47	0.3091	3.0690	6	5		W
1991	CL3	11.0	910213	37.22	75.79	24.45	17.16	0.1860	3.2335	6	4		W
1991	DD	13.5	910213	14.58	91.84	35.06	2.48	0.1317	2.4383	29	9		U
1991	DE	13.0	910305	352.65	80.76	81.90	13.13	0.2275	2.6056	23	0		U
1991	DK	11.6	910305	148.39	19.23	356.57	15.66	0.1438	2.5776	25	8		N
1991	DO	12.0	910213	267.72	283.66	335.13	10.23	0.1455	2.7836	13	8	E	N
1991	DP	12.3	910213	20.93	338.13	147.16	9.86	0.0846	3.0651	13	8		N
1991	DG1	12.9	910213	42.36	273.48	174.79	4.63	0.2344	3.2085	7	7		N
1991	DJ1	12.5	910213	10.16	35.62	96.43	5.27	0.1398	2.1610	2	5	E	M
1991	DK1	12.5	910213	86.21	48.79	27.92	6.75	0.0028	5.1341	17	9	E	M
1991	DL1	11.1	910305	57.89	330.41	134.70	5.94	0.0455	3.4218	17	6		N

1990 QR2 = 1990 RV8 (G. V. Williams)
1990 RO6 = 1990 QD9 (S. Nakano)
1990 RO6 = 1990 RU5 (G. V. Williams, MPC 17796)
1990 RB7 = 1990 QH6 (S. Nakano)
1990 RC7 = 1990 QF6 (S. Nakano)

1990 RL7 = 1990 QZ9 (S. Nakano)
1990 RA8 = 1990 QF7 = 1990 SN14 (S. Nakano)
1991 BP2 = 1991 BH (G. V. Williams)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
(517) Edith Obs. 71 M 259.15128 Peri. 138.01675
H 9.35 G 0.15 Opp. 27 n 0.17714134 Node 274.38630
rms res. 1".02 (M-P) 1903-1987 e 0.1973416 Incl. 3.21242

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
(579) Sidonia Obs. 91 M 259.01192 Peri. 233.74517
H 7.85 G 0.15 Opp. 24 n 0.18846508 Node 82.39967
rms res. 0".83 (M-P) 1907-1990 e 0.0767423 Incl. 11.00262

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
(619) Triberga Obs. 49 M 132.51665 Peri. 177.63382
H 9.95 G 0.15 Opp. 17 n 0.24616309 Node 186.97682
rms res. 0".87 (M-P) 1906-1990 e 0.0744351 Incl. 13.76056

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
(697) Galilea Obs. 39 M 50.14281 Peri. 332.29534
H 9.63 G 0.15 Opp. 20 n 0.20160247 Node 15.26905
rms res. 0".95 (M-P) 1910-1989 e 0.1556000 Incl. 15.13896

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
(718) Erida Obs. 51 M 141.12434 Peri. 176.30807
H 9.8 G 0.15 Opp. 15 n 0.18444425 Node 38.09684
rms res. 0".84 (M-P) 1902-1989 e 0.1996901 Incl. 6.92888

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
(830) Petropolitana Obs. 82 M 338.21116 Peri. 69.36748
H 9.10 G 0.15 Opp. 17 n 0.17118863 Node 341.33549
rms res. 0".87 (M-P) 1930-1990 e 0.0634458 Incl. 3.82237

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
(866) Fatme Obs. 58 M 339.27862 Peri. 261.51290
H 9.2 G 0.15 Opp. 22 n 0.17867909 Node 90.88622
rms res. 1".01 (M-P) 1920-1986 e 0.0668061 Incl. 8.65436

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
(924) Toni Obs. 45 M 120.08395 Peri. 219.45453
H 9.37 G 0.15 Opp. 17 n 0.19521839 Node 150.10622
rms res. 0".95 (M-P) 1919-1989 e 0.1530216 Incl. 8.99844

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
(987) Wallia Obs. 56 M 180.91216 Peri. 13.45703
H 9.3 G 0.15 Opp. 15 n 0.17444633 Node 322.87852
rms res. 0".76 (M-P) 1922-1986 e 0.2169105 Incl. 8.86591

(4755)* 1931 TE4 = 1969 TM3 = 1982 JO1
Discovered 1931 Oct. 6 by C. W. Tombaugh at the Lowell Observatory.
Id. S. Nakano (MPC 9471)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano
M 151.68310 (1950.0) P Q
n 0.28545045 Peri. 275.47262 +0.95390559 -0.29543953
a 2.2844530 Node 101.71940 +0.29222838 +0.87442805
e 0.2499659 Incl. 3.08655 +0.06831327 +0.38482603
P 3.45 H 14.2 G 0.15

Residuals in seconds of arc

311006	690	1.4-	0.9-		820516	675	0.3-	1.2-		901220	801	0.5-	0.1+
311007	690	0.1-	0.9-		820516	675	0.5-	0.4+		910114	801	0.1-	0.5-
311009	690	2.5+	0.4-		820517	675	0.0	0.5-		910114	801	0.3+	0.2-
691009	095	0.8-	1.9+		820518	675	0.5+	0.5+		910116	801	0.5+	0.0
820515	675	0.1+	0.3+		901220	801	0.6-	0.0		910116	801	0.5+	0.1-

(4756)* 1950 HJ = 1976 FD = 1983 RH9

Discovered 1950 Apr. 21 at La Plata.

Id. B. G. Marsden (MPC 14342), S. Nakano (ibid.)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	306.60762		(1950.0)	P	Q
n	0.18756626	Peri.	353.85801	-0.59882944	+0.78905023
a	3.0224995	Node	239.27158	-0.72779603	-0.60760633
e	0.0587851	Incl.	9.17910	-0.33423980	-0.09063261
P	5.25	H	12.0	G 0.15	

Residuals in seconds of arc

500421	839	1.2-	0.1-		500507	839	1.0+	0.3+		891023	095	2.4+	2.2-
500421	839	0.2-	0.1-		500507	839	1.0+	0.3+		901220	801	0.1-	0.3+
500421	839	0.6+	0.2-		500605	839	1.4-	0.5-		901220	801	0.0	0.2+
500426	839	0.5-	0.4+		500711	839	(12.7-	1.2+)		910116	801	0.1-	0.4+
500426	839	0.3-	0.0		760331	095	0.0	2.4-		910116	801	0.2-	0.6+
500426	839	0.4-	0.5-		830911	095	0.7-	0.3+		910118	801	0.0	0.4+
500506	839	1.0+	0.4+		891023	095	1.0-	0.4-		910118	801	0.2-	0.4+

(4757)* 1973 ST = 1988 RF10

Discovered 1973 Sept. 19 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. B. G. Marsden (MPC 15401)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M	296.52080		(1950.0)	P	Q
n	0.12570125	Peri.	102.73724	-0.99460048	+0.10372972
a	3.9467806	Node	83.21681	-0.09640439	-0.91220794
e	0.0789544	Incl.	0.18268	-0.03841967	-0.39637964
P	7.84	H	12.7	G 0.15	

Residuals in seconds of arc

730919	675	0.3-	1.4-		731004	675	0.1-	0.6-		881008	807	1.3-	0.4+
730919	675	0.3+	1.3+		731004	675	0.2+	0.4+		881103	807	0.5+	0.4-
730920	675	0.1-	0.0		731005	675	1.6+	1.1-		881105	807	0.5+	0.6-
730924	675	0.0	0.4-		731005	675	1.1-	1.2+		891004	807	0.9-	0.3+
730924	675	0.7-	0.3+		880914	807	0.7-	0.6-		891005	807	0.9+	1.3+
730925	675	0.6+	0.8-		880915	807	0.7+	0.2+		891030	807	0.2-	0.0
730925	675	0.8-	0.1-		880916	807	0.7+	0.2-		891101	807	0.3-	0.5-
730929	675	0.8+	0.2+		881004	807	0.2-	0.9+		910114	801	0.1+	0.0
730929	675	0.2-	0.0		881005	807	0.5-	0.6+		910114	801	0.2-	0.3-
730930	675	0.1+	0.4-		881007	807	0.4+	0.3-		910213	801	0.1+	0.2-
730930	675	0.2-	1.0+		881008	807	0.3+	0.9-		910213	801	0.2+	0.2-

(4758)* 1978 SN4 = 1949 OR = 1972 RF3 = 1977 LE1 = 1984 UU3

Discovered 1978 Sept. 27 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Id. E. Bowell (k, MPC 11051), W. Landgraf (ibid.), B. G. Marsden (ibid.)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M	133.98437		(1950.0)	P	Q
n	0.17168042	Peri.	277.55370	+0.92887179	+0.36956935
a	3.2061871	Node	60.76010	-0.32761831	+0.85099110
e	0.1758080	Incl.	1.62950	-0.17281040	+0.37313892
P	5.74	H	12.3	G 0.15	

Residuals in seconds of arc

490728	024	3.4-	0.6+		780927	095	0.9-	0.6+		841031	017	0.3-	0.2-
490730	024	2.0+	4.0+		780930	049	0.6-	1.1-		841031	017	1.7-	0.8+
720904	095	2.3+	3.5-		780930	049	0.7+	0.5-		901116	801	0.3+	0.0
770612	675	0.2+	0.5-		781001	049	0.8-	0.2+		901116	801	0.3+	0.1-
770613	675	1.0-	0.2+		781002	095	(7.5-	5.7+)		910114	801	0.6+	0.4-
770613	675	0.4+	1.3-		781003	095	0.9+	1.0+		910114	801	0.5+	0.4-
770614	675	0.0	1.3-		781101	049	0.3+	0.4-					
780926	095	(7.8-	5.8+)		781101	049	0.3+	0.0					

(4759)* 1978 VG10 = 1977 RO1 = 1989 UU4

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

Id. T. Kobayashi (MPC 15701)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	170.58057	(1950.0)	P	Q	
n	0.17204533	Peri.	201.10080	+0.95626994	+0.29236274
a	3.2016520	Node	141.89648	-0.26633132	+0.88237148
e	0.1605403	Incl.	0.78697	-0.12089431	+0.36870665
P	5.73	H	11.7	G 0.15	

Residuals in seconds of arc

770908	095	0.0	0.1-		891025	046	0.5-	0.5-		891201	675	0.7-	0.7-
781105	675	0.7-	0.1-		891025	046	1.2+	0.1-		901217	675	0.3-	1.2-
781106	675	1.7+	0.3+		891026	046	(5.4+	1.5+)		901217	675	0.2-	1.1-
781107	675	1.1-	1.1+		891026	046	(0.6+	3.4+)		910114	675	0.7-	0.7+
781108	675	0.4+	0.6-		891027	046	0.4-	1.6+		910114	675	0.2+	1.8+
781129	675	0.7+	0.2-		891027	046	0.7+	0.8+		910115	675	0.9+	0.3-
781130	675	0.9-	0.3-		891129	675	0.5-	1.3-					

(4760)* 1981 GN1 = 1981 GP1 = 1982 SE5

Discovered 1981 Apr. 1 at the Agassiz Station of the Harvard College Observatory.

Id. K. Hurukawa (d, JAM 1902), S. Nakano (MPC 13604)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	249.84345	(1950.0)	P	Q	
n	0.27779871	Peri.	130.11876	+0.60920859	+0.79297129
a	2.3262117	Node	177.37620	-0.76964655	+0.59361280
e	0.1275948	Incl.	9.85848	-0.19107349	+0.13718738
P	3.55	H	13.6	G 0.15	

Residuals in seconds of arc

810209	413	1.3-	0.5+		810329	413	0.5+	0.2+		810503	413	0.4-	0.8-
810213	413	0.4+	0.9-		810329	413	1.2+	0.4-		820916	095	0.5+	1.9-
810302	413	2.0-	1.7+		810401	801	1.8+	1.8+		890901	511	1.2+	0.3-
810302	413	0.5-	0.3-		810407	801	1.2-	2.1-		890901	511	1.3+	0.2+
810303	413	1.4-	0.9+		810407	413	0.8-	0.4+		890903	511	2.1-	0.2-
810303	413	0.5+	0.6-		810407	413	1.9+	1.0-		890903	511	0.2-	0.3-
810307	413	0.7-	0.8+		810408	413	0.6-	1.0+		910118	801	0.1-	0.0
810307	413	0.4+	0.1-		810408	413	1.6+	0.8-		910118	801	0.1+	1.1-
810311	413	0.1+	0.6+		810411	413	0.9-	0.7+		910119	801	0.2-	0.2+
810311	413	0.3-	0.5+		810411	413	1.3+	1.5-		910119	801	0.4+	0.1-
810316	413	0.4+	0.8-		810426	413	0.3-	2.0-		910211	801	0.4-	1.1+
810316	413	0.2-	0.1+		810502	413	0.1-	0.8-		910211	801	0.1+	1.7-

(4761)* 1981 QC

Discovered 1981 Aug. 27 by H.-E. Schuster at the European Southern Observatory.

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	282.06811	(1950.0)	P	Q
n	0.27541368	Peri. 332.07746	+0.75013999	-0.53206246
a	2.3396221	Node 65.56523	+0.65805312	+0.54203155
e	0.2162816	Incl. 25.55098	+0.06523863	+0.65047009
P	3.58	H 13.5	G 0.15	

Residuals in seconds of arc

810827	809(10.6+	2.9+)Y	811020	474	1.7+	0.9+	830403 675	0.0 0.4+
810828	809(21.7-	21.8+)Y	811020	474	0.4+	1.0-	840704 474	0.9+ 1.4-
810831	474	0.7- 1.9-	811020	474	0.6+	0.9+	840718 474	0.3+ 1.0+
810831	474	1.4- 1.1-	811028	474	0.5-	0.8-	840718 474	0.8+ 0.4+
810901	809(38.7-	47.2+)Y	811028	474	1.1-	0.5+	880812 474	0.2- 0.4+
810901	474	0.2- 0.1-	811030	474	1.5-	1.0+	880812 474	0.7- 0.2+
810901	474	0.2- 0.1+	811030	474	1.7-	1.7+	880914 474	0.4+ 0.1-
810902	474	0.9+ 0.1-	820121	801	0.3+	2.0+	880914 474	0.2+ 1.4-
810902	474	0.1+ 0.8-	820122	801	2.1+	1.2-		
811020	474	2.1+ 0.9+	830402	675	0.3-	0.6+		

(4762)* 1982 SC6 = 1964 TE1 = 1964 UL = 1980 BJ1 = 1980 DE2 = 1986 XL2

Discovered 1982 Sept. 16 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Id. S. Nakano (MPC 13605)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	132.26862	(1950.0)	P	Q
n	0.27216000	Peri. 75.39223	+0.05784772	-0.99804265
a	2.3582320	Node 11.37128	+0.86323496	+0.03805105
e	0.2003440	Incl. 6.92118	+0.50147687	+0.04962840
P	3.62	H 13.5	G 0.15	

Residuals in seconds of arc

641008	330	2.6- 0.2-	820920	095	0.2+	1.3+	910114 801	0.6- 0.6+
641030	330	0.7- 0.7+	820926	095	(5.7+	2.9+)	910119 801	1.0- 0.5+
641109	330	(6.0- 3.5+)	821022	095	1.2+	1.7+	910119 801	0.2- 0.3-
800123	095	2.4+ 2.0+	861201	010	1.3-	0.9-	910212 801	1.4- 1.4+
800220	095	3.0+ 1.3-	861202	010	0.7+	2.3-	910212 801	0.4+ 0.5+
820916	095	(0.0 4.4+)	910114	801	0.6-	0.4+		

(4763)* 1983 BM = A918 EM = 1972 TS5 = 1989 QA

Discovered 1983 Jan. 22 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. K. Ichikawa (MPC 15065), T. Furuta (ibid.), S. Nakano (MPC 15244)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	340.50302	(1950.0)	P	Q
n	0.22732213	Peri. 210.90470	-0.99316610	+0.07388103
a	2.6589382	Node 332.88648	-0.01182628	-0.83384724
e	0.1017879	Incl. 11.43391	-0.11610876	-0.54702868
P	4.34	H 12.2	G 0.15	

Residuals in seconds of arc

180308	024(25.3+	17.2-)Y	830218	330	0.4+	1.0-	910114 801	0.3- 0.8+
721006	095	0.7+ 1.1-	830219	688	1.0+	1.4-	910114 801	0.3- 0.6+
830115	095	(0.9+ 3.5+)	830219	688	0.1+	0.4-	910116 801	0.1- 0.8+
830122	688	0.3+ 1.7-	830305	330	2.3-	1.4+	910116 801	0.2- 0.8+
830122	688	0.2+ 0.8-	830305	095	0.5-	2.2+	910210 801	0.3+ 0.1-
830208	330	(3.4- 2.0+)	830315	095	1.4-	1.8+	910210 801	0.1+ 0.3-
830210	095	1.4+ 1.7+	890822	403	1.4-	0.1-	910211 801	0.3- 1.3-
830211	688	0.0 1.8-	890822	403	1.1+	0.1+	910211 801	0.2+ 0.0
830211	688	0.1- 0.9-	890828	403	0.3+	0.3+		

(4764)* 1983 CC = 1989 MA

Discovered 1983 Feb. 11 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. B. G. Marsden (MPC 15065)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M 294.29818	(1950.0)	P	Q	
n 0.36714724	Peri. 176.55978	+0.65056217	+0.69613295	
a 1.9315644	Node 133.72222	-0.70639605	+0.70145316	
e 0.0470583	Incl. 24.83964	-0.27887898	-0.15284757	
P 2.68	H 13.6	G 0.15		

Residuals in seconds of arc

810726	413	0.8+	1.2+	890703	675	0.6-	0.4-	910115	801	0.6-	0.7+
830211	688	0.7+	0.4-	890808	675	1.2-	0.3-	910115	801	0.6-	0.7+
830211	688	(1.4+	2.7+)	890809	675	0.8-	1.0-	910207	413	0.1+	0.7+
830215	688	0.1+	1.2-	890809	675	0.8-	1.0-	910207	413	1.4+	0.5+
830215	688	(6.0+	3.7-)	901214	801	0.1+	0.3-	910209	413	0.4+	0.3+
830219	688	(1.1+	3.6-)	901214	801	0.1-	0.7-	910210	801	0.2+	0.2+
830219	688	0.9-	2.5-	901217	801	0.1-	0.6-	910210	801	0.3-	0.2+
830220	675	0.4+	0.6+	901217	801	0.3-	0.8-	910210	413	0.1+	0.5-
830221	675	0.5-	0.1+	901219	894	0.3-	1.5-	910210	413	1.2+	0.7+
890630	675	0.9+	0.3+	901219	894	0.5-	0.3-	910217	801	0.2+	0.7+
890630	675	0.6+	0.8+	910114	801	0.5-	0.9+	910217	801	0.1+	0.3+
890703	675	0.3+	0.2-	910114	801	0.6-	0.7+				

(4765)* 1986 JN1 = 1986 LF = 1983 EA1

Discovered 1986 May 5 by C. S. Shoemaker at Palomar.

Id. B. G. Marsden (d, MPC 10945), S. Nakano (ibid.)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M 63.44912	(1950.0)	P	Q	
n 0.36327148	Peri. 107.98301	-0.91966032	+0.04440571	
a 1.9452788	Node 76.01341	-0.23392216	-0.86003127	
e 0.0600640	Incl. 23.71065	+0.31544463	-0.50830537	
P 2.71	H 14.1	G 0.15		

Residuals in seconds of arc

830313	675	0.2-	1.0-	860608	675	(4.4-	4.1+)	910118	801	0.2+	0.6+
830313	675	0.9-	0.6-	860608	675	(6.9-	4.1+)	910118	801	0.1+	0.6+
830315	675	0.3-	0.5-	890630	474	0.4-	0.5+	910120	675	0.7-	1.6-
830315	675	0.3+	0.5+	890630	474	0.2+	0.6+	910122	675	0.1+	0.3-
860505	675	1.3-	1.0-	890701	474	0.2+	1.0-	910211	675	0.1+	1.3+
860508	675	0.1+	1.2+	890701	474	0.2+	0.4-	910211	675	0.0	0.7+
860603	675	(4.3+	0.7+)	890729	474	0.5+	0.3+				
860603	675	2.2+	0.4+	890729	474	0.8-	0.8-				

(4766)* 1987 FF1 = 1981 WF1

Discovered 1987 Mar. 28 by E. F. Helin at Palomar.

Id. S. Nakano (MPC 12002)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M 118.93359	(1950.0)	P	Q	
n 0.23659159	Peri. 356.77530	-0.05180706	-0.96816330	
a 2.5890266	Node 96.09550	+0.92162917	-0.14079263	
e 0.1401551	Incl. 14.25821	+0.38459810	+0.20697163	
P 4.17	H 12.0	G 0.15		

Residuals in seconds of arc

811124	688	0.5+	0.1+	870403	675	(7.6-	1.7-)	890907	675	1.5+	0.3-
811124	688	1.9+	0.1-	870403	675	(5.6-	1.4-)	890907	675	1.3+	0.0
811202	688	0.4-	0.4-	870427	675	2.0+	1.2-	891004	675	1.3+	1.7+
811202	688	1.2-	1.7-	870427	675	(5.3+	0.8-)	891004	675	1.1-	0.4+
870328	675	2.5-	0.4-	890905	675	0.9-	0.0	891006	675	1.3-	0.9-
870328	675	0.5-	1.3-	890905	675	1.0-	0.8-	891006	675	1.2-	0.2+

891027	675	0.1-	0.8-	910114	801	0.2+	0.9+	910211	801	0.0 0.6+
891027	675	0.7-	0.8+	910114	675	0.5-	0.4+	910214	675	0.1- 0.2-
891029	675	1.7+	0.3+	910114	675	0.9-	0.5-	910214	675	0.0 0.3-
891029	675	0.3+	0.5+	910116	801	0.3+	1.5+	910218	675	1.1+ 0.7-
910112	675	0.3+	0.7-	910209	801	0.1+	0.4+	910218	675	0.2+ 0.5+
910112	675	0.7-	0.7-	910209	801	0.1+	0.5+	910220	675	0.0 0.2-
910114	801	0.7+	1.6+	910211	801	0.1+	0.2+			

(4767)* 1987 GC = 1983 LH

Discovered 1987 Apr. 4 by T. Niijima and T. Urata at Ojima.

Id. S. Nakano (MPC 11855)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	1.87344	(1950.0)	P	Q	
n	0.22316870	Peri.	24.77180	-0.78744280	+0.61403221
a	2.6918273	Node	193.52499	-0.59690739	-0.78142663
e	0.1059559	Incl.	13.30859	-0.15373813	-0.11107142
P	4.42	H	12.8	G 0.15	

Residuals in seconds of arc

830611	675	1.3-	0.0	870424	887	0.4+	0.9+	910119	801	0.0 0.1-
830611	675	1.4+	0.2+	870424	887	0.1+	1.6-	910119	801	0.2+ 0.1-
830613	675	0.9+	0.1-	891128	511	2.3-	0.3-	910212	887	1.3+ 0.2+
830614	675	0.7+	0.9-	891128	511	0.6-	0.5+	910212	887	1.1+ 0.5+
870327	688	0.1-	0.7-	891128	511	0.7-	1.0-	910216	801	0.1- 0.3-
870327	688	1.3-	2.5+	891128	511	2.5+	0.9-	910216	801	0.3- 0.0
870404	887	1.2-	0.4-	910114	801	0.7+	0.4+			
870404	887	1.2-	1.0-	910114	801	0.1-	0.9-			

(4768)* 1988 PH1

Discovered 1988 Aug. 11 by A. J. Noymer at Siding Spring.

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	198.43717	(1950.0)	P	Q	
n	0.17248639	Peri.	26.46686	+0.95602696	+0.19554725
a	3.1961917	Node	320.23518	-0.29053866	+0.73312535
e	0.2239635	Incl.	19.98122	+0.03999669	+0.65137431
P	5.71	H	10.9	G 0.15	

Residuals in seconds of arc

810725	413	0.0	1.6-	880811	413	1.1-	0.2-	881011	413	0.2+ 0.0
810725	413	0.4+	0.1-	880811	413	0.8+	0.2-	881109	413	0.3- 0.8+
810725	413	(2.5+	1.3-)	880819	413	1.0-	1.3+	910114	801	0.3- 0.5-
810725	413	0.7-	1.1+	880819	413	1.4+	1.3-	910114	801	0.2- 0.4-
860407	413	0.6-	0.3+	880820	413	1.0-	0.5+	910119	801	0.2- 0.1-
860407	413	0.7+	0.1+	880820	413	1.0+	0.6-	910119	801	0.0 0.1-
880808	095	0.7+	0.8+	880903	675	0.7+	1.0-	910209	801	0.1- 0.2-
880809	095	1.2+	0.7+	880906	675	0.0	1.9-	910209	801	0.0 0.4-
880809	095	(3.6-	3.7+)	880918	413	0.3-	0.5+	910216	801	1.1- 0.1+
880809	095	1.9-	0.2+	881010	413	0.2+	0.1-	910216	801	1.1+ 0.1+

(4769)* 1989 PB

Discovered 1989 Aug. 9 by E. F. Helin at Palomar.

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M	335.64515	(1950.0)	P	Q	
n	0.89908276	Peri.	121.19046	+0.05889438	-0.99434157
a	1.0631705	Node	325.09576	+0.85519232	+0.09594075
e	0.4831367	Incl.	8.88819	+0.51495393	-0.04560926
P	1.10	H	16.9	G 0.15	

Residuals in seconds of arc

890801	675	0.3+	1.4+	890808	657	0.2-	2.2-	890810	675	(0.6+ 3.9+)
890802	675	0.6-	0.3-	890808	657	(0.8-	2.5-)	890811	675	2.3- 0.4-
890802	675	(1.1-	3.5-)	890809	675	1.1+	1.3-	890811	675	1.4- 1.2-

890812 657 (0.9- 3.1-) 890817 413 0.2+ 0.1+ 890823 897 0.7+ 1.2+
890812 413 0.1- 0.0 890817 413 0.3- 0.0 890823 897 0.1+ 0.3-
890812 413 0.4+ 0.3+ 890817 474 0.4- 0.9+ 890823 897 (1.6+ 7.1+)
890812 413 0.3- 0.7- 890817 474 0.5- 1.2+ 890823 897 0.2+ 0.8-
890813 413 0.7- 1.0+ 890817 413 1.2+ 1.4- 890823 897 1.0+ 1.3+
890814 413 0.2+ 0.1+ 890818 474 0.3+ 1.9- 890823 504 1.1- 1.3+
890814 413 0.6+ 0.4+ 890818 474 0.1- 1.7- 890823 504 0.2- 0.0
890814 413 0.4+ 0.4- 890818 474 0.2+ 1.5- 890823 504 0.4- 0.0
890814 413 0.4- 0.4+ 890818 474 0.0 1.8- 890823 091 (1.0- 2.7+)
890814 413 0.3- 0.6+ 890818 413 0.1+ 0.8- 890824 657 0.4+ 1.9+
890814 413 0.1+ 0.5+ 890820 474 0.2+ 0.4+ 890824 657 0.2- 0.2+
890814 413 0.7+ 0.2+ 890820 474 1.3+ 0.9+ 890824 657 0.1- 0.4+
890814 413 0.6+ 0.2+ 890820 474 1.4+ 0.3+ 890824 392 (0.9+ 3.9+)
890814 413 0.0 0.3+ 890820 413 0.8+ 1.1- 890824 392 (2.9- 4.3-)
890814 413 0.8+ 0.3+ 890820 413 0.5- 0.4+ 890825 657 0.2+ 0.9-
890815 568 0.2- 0.0 890821 413 0.3- 0.8+ 890825 657 1.7- 0.8-
890815 413 0.1- 0.1+ 890821 413 0.1- 0.6- 890825 010(19.2+ 7.5+)
890815 413 0.5- 0.5+ 890822 376 0.8- 0.1+ 890826 010(12.4+ 3.9+)
890815 413 0.6+ 0.3- 890822 376 (2.1- 4.0-) 900503 413 0.6+ 0.0
890815 413 0.2+ 0.6+ 890822 413 0.3- 0.3- 900504 413 1.3+ 0.7+
890815 413 0.5+ 1.0+ 890822 413 0.5+ 0.2+ 900616 675 0.9- 0.3+
890815 413 0.1+ 1.0+ 890822 413 0.4- 0.3+ 900616 675 0.3- 0.5+
890817 503 0.2+ 0.5+ 890822 413 0.9- 0.3+ 900616 675 0.1- 0.6+
890817 494 0.1- 0.8+ 890822 592 0.4- 1.3- 900617 675 0.1+ 0.0
890817 494 0.7- 0.2- 890822 592 (3.2- 8.5-) 900617 675 0.0 0.0
890817 809 (2.0- 3.2-) 890822 592 2.0+ 2.1- 900617 675 0.2- 0.3-
890817 809 1.1- 0.7+ 890823 568 (2.5- 0.2+)

(4770)* 1989 PC = 1950 LF
Discovered 1989 Aug. 9 by E. F. Helin at Palomar.
Id. B. G. Marsden
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M	162.54427		(1950.0)	P	Q
n	0.20286635	Peri.	201.57768	+0.84594577	+0.41938906
a	2.8685518	Node	129.22935	-0.40551389	+0.90702640
e	0.3040618	Incl.	25.16392	-0.34631522	-0.03762874
P	4.86	H	12.3	G 0.15	

Residuals in seconds of arc
500610 024 0.4+ 0.8+ 890729 675 0.9+ 0.6- 890905 675 1.1- 1.3-
840626 675 1.5- 0.4- 890729 675 (0.6- 3.4-) 890905 675 0.9+ 0.6+
840626 675 0.7+ 0.5- 890729 675 0.3+ 0.5+ 890907 675 0.9+ 0.3-
840801 413 0.1+ 0.3+ 890729 675 0.2- 2.0- 890907 675 0.3- 0.8+
840801 413 0.3+ 0.9+ 890801 675 0.2+ 0.5- 910114 801 0.2+ 1.7-
851215 413 0.1+ 0.2+ 890801 675 (5.8+ 3.5+) 910114 801 0.3- 0.8+
851215 413 0.9- 0.8+ 890801 675 1.0- 1.9+ 910116 801 0.3- 0.2-
890708 675 0.9- 0.1+ 890801 675 (6.2+ 6.1+) 910116 801 0.3- 0.2-
890708 675 1.1+ 0.8- 890809 675 0.5+ 0.7+ 910209 801 0.2+ 0.4-
890708 675 1.6+ 2.2- 890809 675 1.2+ 0.5+ 910209 801 0.5+ 0.1+
890710 675 0.8- 0.7+ 890811 675 1.2- 0.3+ 910210 801 0.5+ 0.2+
890710 675 0.9- 0.7+ 890811 675 0.9- 0.3- 910210 801 0.6+ 0.2+

(4771)* 1989 RM2 = 1967 RD1 = 1979 FQ = 1980 RA3
Discovered 1989 Sept. 7 by M. Yanai and K. Watanabe at Kitami.
Id. S. Nakano (MPC 15420)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M 199.03515	(1950.0)		P	Q
n 0.22370584	Peri.	43.96896	+0.88692820	+0.45508061
a 2.6875167	Node	288.80742	-0.44350208	+0.79113069
e 0.1552893	Incl.	4.79454	-0.12909020	+0.40867330
P 4.41	H 12.5		G 0.15	

Residuals in seconds of arc

670912 095 (0.7+ 5.6+)	890907 400(10.6+ 3.9-)	890929 400 0.1+ 1.4+
671003 095 0.4- 0.8+	890907 400(11.4+ 4.8-)	890929 400 0.3- 2.0-
790323 414 (2.6+ 4.3+)	890907 400(11.4+ 4.1-)	910117 046 0.6+ 0.3-
790323 414 0.3+ 0.9+	890907 046 1.5- 1.0-	910117 046 0.7+ 0.6-
800904 095 0.5+ 0.6-	890907 046 0.5+ 0.6+	910118 046 2.3- 1.2-
890831 046 1.3+ 1.2-	890909 046 1.1- 0.5+	910118 046 2.0+ 0.0
890831 046 0.7+ 1.4-	890909 046 0.7- 0.1-	910209 801 0.4- 0.3+
890901 071 0.2- 0.8-	890920 400 0.4- 2.0+	910209 801 0.3- 0.2+
890902 071 (3.9+ 0.5-)	890920 400 1.7+ 1.4+	910210 801 0.4- 0.3+
890902 071 1.8+ 0.7-	890920 400 0.3+ 0.7+	910210 801 0.3- 0.3+
890902 071 0.4+ 0.6-	890926 400 1.8- 0.8+	
890903 071 0.3+ 0.9-	890926 400 1.5- 1.1+	

(4772)* 1989 VM = 1971 QD1 = 1980 DH = 1986 GL2

Discovered 1989 Nov. 2 by T. Hioki and N. Kawasato at Okutama.

Id. S. Nakano (MPC 15569)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M 131.96644	(1950.0)		P	Q
n 0.17499230	Peri.	195.23165	+0.71172730	-0.69548002
a 3.1656052	Node	209.60597	+0.66355028	+0.71176738
e 0.0604582	Incl.	11.53041	+0.23053261	+0.09846188
P 5.63	H 11.7		G 0.15	

Residuals in seconds of arc

710819 095 0.1+ 0.7-	891012 809 0.8+ 1.2-	891120 399 0.3- 1.4+
800219 046 0.4+ 0.2-	891012 809 1.1+ 1.0-	891120 399 1.8+ 1.5+
800219 046 1.0- 0.8-	891012 809 1.5+ 0.9-	891120 399 0.6- 0.4+
800220 046 0.1- 0.8+	891024 095 (3.0+ 1.5-)	891125 399 0.4+ 2.2-
800220 046 0.6+ 1.0-	891024 095 1.3- 1.9+	891125 399 1.6- 0.7-
800221 046 (9.1- 38.2-)	891026 095 (0.2+ 3.5+)	891125 399 0.4- 0.2-
800221 046(15.8- 25.6-)	891026 095 0.3- 1.3+	910118 801 0.1+ 0.2-
800223 046 0.6- 1.4-	891101 877 1.8- 2.2-	910118 801 0.2- 0.3-
800223 046 0.2- 1.3-	891101 877 (4.4- 0.6-)	910210 801 0.5+ 1.1+
860404 095 (4.5- 5.3-)	891102 877 2.4+ 0.5-	910210 801 0.6+ 1.2+
891010 809 0.1- 0.9+	891102 877 1.3+ 1.3-	910217 801 0.0 0.8+
891010 809 0.1- 0.8+	891104 877 2.7- 0.1-	910217 801 0.3- 0.8+
891010 809 0.1+ 0.8+	891104 877 (4.4- 0.3-)	

(4773)* 1989 WF = 1970 GH2 = 1974 FF1 = 1987 HV1

Discovered 1989 Nov. 17 by K. Endate and K. Watanabe at Kitami.

Id. S. Nakano (MPC 15722)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M 119.49756	(1950.0)		P	Q
n 0.23379546	Peri.	59.36796	-0.48868769	-0.86915048
a 2.6096284	Node	60.07478	+0.76744926	-0.46962113
e 0.1172293	Incl.	5.02459	+0.41497708	-0.15502725
P 4.22	H 12.5		G 0.15	

Residuals in seconds of arc

700413 805 0.8+ 0.2+	870428 046 0.0 0.0	891117 400 0.6- 2.0+
700413 805 1.6+ 0.4+	870429 046 1.3- 2.4+	891117 400 0.7+ 1.9+
700413 805 1.1+ 0.1-	870429 046 2.2- 0.6-	891117 400 2.4- 1.7+
740321 095 2.8- 0.5+	891102 400 0.0 1.1-	891126 400 1.0+ 1.8-
870428 046 1.2+ 0.0	891102 400 (1.2- 3.3+)	891126 400 1.1+ 1.1-

910116 801 0.0 0.1+ 910119 801 0.6- 0.1- 910211 801 0.8+ 0.4-
910116 801 0.2+ 0.1+ 910209 801 0.9+ 0.1- 910211 801 0.5+ 0.9-
910119 801 0.2- 0.1- 910209 801 0.8+ 0.4-

(4774)* 1991 CV1 = 1951 GJ1 = 1951 JH = 1964 CJ = 1973 YD4 = 1976 YJ
= 1986 XH1 = 1989 TB2

Discovered 1991 Feb. 14 by S. Ueda and H. Kaneda at Kushiro.

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	92.24730	(1950.0)	P	Q
n	0.29456621	Peri. 236.57577	-0.94920344	-0.30869522
a	2.2370761	Node 285.37952	+0.30559751	-0.85818052
e	0.0854236	Incl. 3.62683	+0.07498668	-0.41016271
P	3.35	H 12.7	G 0.15	

Residuals in seconds of arc

510409 711 (2.2+ 4.6-) 861130 381 (3.6- 0.7-) 910214 399 1.4+ 0.6+
510409 711 0.3+ 0.1- Y 861201 381 0.3+ 0.2+ 910218 399 0.3- 0.6-
510508 094(30.7+ 11.2+)X 861201 381 0.0 0.8- 910218 399 0.7+ 0.1+
640215 033(71.9- 0.9-) 861204 688 0.2- 0.9+ 910307 399 0.7- 0.3-
640215 033 1.0+ 0.9- 861204 688 0.4- 0.5+ 910307 399 0.1- 0.5+
640215 033 0.4+ 0.1- 891003 046 0.8+ 0.4- 910307 399 1.1+ 0.1-
731226 095 0.2+ 1.6- 891003 046 0.1+ 1.2+ 910310 399 0.2+ 0.2-
761216 095 (6.7- 0.3+) 891005 046 (4.9+ 1.6-) 910310 399 1.1- 1.0+
761218 095 0.2- 0.6+ 891005 046 (4.7+ 0.9-)
761220 095 0.5- 0.3- 910214 399 0.3+ 0.5+

1938 DM1 = 1938 EW = 1989 EM2 = 1990 QS9
Id. H. Oishi (MPC 17622), G. V. Williams

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	242.47480	(1950.0)	P	Q
n	0.27138249	Peri. 220.87053	-0.78152445	+0.62386032
a	2.3627340	Node 357.71562	-0.54123378	-0.68135221
e	0.1061871	Incl. 6.08230	-0.31029909	-0.38282825
P	3.63	H 13.0	G 0.15	

Residuals in seconds of arc

380220 024 0.2- 1.1+ 890327 400 0.1+ 1.0- 900828 675 0.5+ 1.0-
380223 024 0.2- 0.1- 890327 400 1.2+ 0.6- 900828 675 (3.4- 4.3-)
380305 024 0.7+ 0.3- 890406 400 3.1+ 0.4+ 900923 809 0.4- 0.1-
890312 400 (4.7+ 9.4-) 890406 400 1.2+ 0.2+ 900923 809 0.0 0.2-
890312 400 (3.7+ 10.5-) 890406 400 0.9+ 2.6+ 900923 809 0.6+ 0.3-
890312 400 (3.6+ 8.9-) 890406 400 0.6+ 2.3+ 900924 809 0.7- 0.9+
890326 400 3.5- 0.6- 890412 400 0.8- 1.3- 900924 809 0.4- 0.9+
890326 400 2.9- 0.3- 890412 400 0.1+ 1.7- 900924 809 0.1- 0.5+

1942 EM = 1978 EK6 = 1986 TV14 = 1991 BO2

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M	88.76680	(1950.0)	P	Q
n	0.29953325	Peri. 8.38745	-0.62292491	-0.77965505
a	2.2122763	Node 120.16798	+0.71332585	-0.59972087
e	0.0637040	Incl. 4.24869	+0.32113983	-0.18020235
P	3.29	H 13.1	G 0.15	

Residuals in seconds of arc

420323 024 1.1- 0.0 780306 095 0.4- 1.6- 910119 046 0.6+ 0.3+
420411 024 0.2+ 1.9- 861006 095 0.1+ 0.2- 910120 046 1.2- 0.5+
420413 024 1.2+ 2.6+ 910119 046 0.3- 0.2+ 910120 046 1.0+ 0.0

1943 DF = 1990 FD
Id. F. N. Bowman

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M 197.10283	(1950.0)	P	Q	
n 0.27332040	Peri. 129.59333	-0.62475521	-0.78079173	
a 2.3515526	Node 358.99518	+0.54556759	-0.43034727	
e 0.3391922	Incl. 22.54190	+0.55860266	-0.45295198	
P 3.61	H 13.5	G 0.15		

Residuals in seconds of arc

430223 062	0.3-	0.5-	430311 062	0.1-	1.1-	900330 095	1.6-	1.5-
430223 062	0.3-	0.2+	430313 062	0.3+	1.4+	900330 095	0.6+	0.4-
430223 062	0.9+	1.4-	900322 675	0.3+	0.9+	900426 675	0.5+	1.6+
430226 062	0.8+	1.6+	900322 675	1.1-	0.2+	900426 675	0.2+	0.1-
430226 062	0.1-	0.1-	900322 095	0.7+	0.4+	900427 675	0.9+	0.8-
430301 062	1.3-	0.4+	900325 675	0.3-	0.5-	900427 675	0.0	0.1-
430309 062	0.1+	0.0	900325 675	0.1-	0.1-			

1949 PN = 1949 QR = 1991 CF1
Id. K. Reinmuth (d, MPC 383), T. Kobayashi

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M 233.60746	(1950.0)	P	Q	
n 0.22513266	Peri. 7.07495	+0.88379443	+0.45267889	
a 2.6761495	Node 325.21612	-0.43876665	+0.71411565	
e 0.1738622	Incl. 11.96572	-0.16245379	+0.53396692	
P 4.38	H 10.5	G 0.15		

Residuals in seconds of arc

490802 024	0.2+	0.6+	490822 024	(6.8+	2.7-)	910207 220	0.7+	0.2-
490818 690	(6.6+	3.6-)	490824 690	0.9+	0.5-	910207 220	(3.8+	1.0+)
490820 690	(1.0+	4.3-)	490826 690	(4.8+	1.9-)	910208 220	0.8-	0.1-
490821 024	0.3-	1.4-	490831 024	0.7-	1.2+			

1953 FK1 = 1958 FH = 1968 DV

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 132.88974	(1950.0)	P	Q	
n 0.19534522	Peri. 307.01457	+0.71481556	+0.69795431	
a 2.9417167	Node 9.01909	-0.52010577	+0.57225270	
e 0.2183161	Incl. 16.13761	-0.46747054	+0.43056547	
P 5.05	H 11.5	G 0.15		

Residuals in seconds of arc

530321 760	1.6+	0.1+	530405 760	0.5+	0.2+	580324 024	0.9-	1.4-
530321 760	0.3+	0.1+	530411 760	(3.1+	1.1+)	680227 095	0.1+	0.2+
530405 760	0.8-	0.7+	530411 760	0.8-	0.1+	790804 413	0.0	0.0

1967 HA = 1991 CH
Id. H. Kaneda, R. Nagata

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M 21.47069	(1950.0)	P	Q	
n 0.24193366	Peri. 224.38100	-0.95346431	+0.27777553	
a 2.5507732	Node 331.13136	-0.16096301	-0.79777153	
e 0.0446675	Incl. 14.05445	-0.25494456	-0.53516478	
P 4.07	H 13.1	G 0.15		

Residuals in seconds of arc

670427 808	0.1-	0.6-	910207 875	1.3+	0.0	910217 046	(6.0-	1.5-)
670428 808	0.3+	0.4-	910207 875	0.7+	0.6+	910217 046	(5.6-	2.1-)
670429 808	0.2-	1.0+	910212 875	0.8+	0.0	910220 875	0.2-	0.1-
910205 875	0.5-	0.6-	910212 875	0.4+	0.5+	910220 875	0.4-	0.3+
910205 875	2.0-	0.0	910217 875	0.1-	0.7-			

1972 HL1 = 1972 JF1 = 1990 RR8
Id. B. G. Marsden (d, MPC 9064), H. Kaneda, R. Nagata

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	209.62613		(1950.0)		P		Q				
n	0.28605188	Peri.	243.40249		-0.22751899		+0.97370442				
a	2.2812498	Node	13.46170		-0.87469454		-0.19911495				
e	0.1268131	Incl.	2.85877		-0.42795394		-0.11069296				
P	3.45	H	14.4	G	0.15						

Residuals in seconds of arc

720419	805	0.9-	0.3+	720514	805	0.2-	1.6-	900922	809	0.1+	0.0
720419	805	1.0+	0.4-	900915	809	0.9-	0.0	900922	809	0.6+	0.0
720512	805	0.3-	1.7+	900915	809	0.3-	0.0	900922	809	1.1+	0.4-
720512	805	0.7+	1.1+	900915	809	0.1+	0.1+	900923	809	0.6-	0.2-
720512	805	0.5+	0.4+	900921	809	0.0	0.4+	900923	809	0.2-	0.2-
720514	805	0.9-	0.9-	900921	809	0.1+	0.2+	900923	809	0.1+	0.3-
720514	805	0.0	0.7-	900921	809	0.0	0.2+				

1974 ST = 1980 VE = 1989 EJ9
Id. B. G. Marsden (MPC 7838; unpublished)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M	59.27595		(1950.0)		P		Q				
n	0.17483459	Peri.	191.92640		+0.44589001		+0.89419836				
a	3.1675086	Node	104.56477		-0.81776040		+0.42508546				
e	0.2293107	Incl.	2.36222		-0.36393685		+0.14039815				
P	5.64	H	12.5	G	0.15						

Residuals in seconds of arc

740919	095	(2.6-	4.8-)	741019	808	0.2+	1.0-	850815	688	0.0	1.0+
740921	808	1.3-	0.5+	741019	808	0.3+	0.2-	850815	688	0.6+	1.2+
740921	808	0.7-	0.5+	801008	095	1.6+	2.3+	850918	801	1.9-	1.5-
740921	095	(0.5+	6.0-)	801106	801	1.5+	0.2+	890305	033	1.9-	2.2+
741010	808	0.7-	0.0	840329	095	2.0+	0.9-	890305	033	1.8-	1.2+
741010	808	0.3+	0.9-	840404	095	1.7+	0.3-				

1978 TR2 = 1983 VL1
Id. B. G. Marsden (MPC 8391)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M	278.19748		(1950.0)		P		Q				
n	0.20484418	Peri.	78.39778		+0.99329663		-0.11436019				
a	2.8500576	Node	288.16721		+0.09793946		+0.90999398				
e	0.0868709	Incl.	1.01546		+0.06139755		+0.39853822				
P	4.81	H	13.0	G	0.15						

Residuals in seconds of arc

730919	675	0.9+	1.1-	730930	675	0.6-	1.1+	831106	046	1.2-	1.3+
730919	675	0.6+	1.2-	730930	675	0.7-	2.0+	831106	046	0.4+	0.1-
730920	675	0.6+	0.9+	731004	675	0.6+	0.3-	831107	046	3.5+	0.2-
730924	675	0.8-	0.2+	731004	675	0.7+	0.5+	831107	046	0.8+	1.2-
730924	675	1.1-	0.5-	731005	675	1.9+	1.6-	831108	046	0.9+	0.3+
730925	675	1.4-	0.7-	731005	675	1.4+	2.4-	831108	046	0.2-	0.7+
730925	675	1.2-	0.4+	780927	095	0.1+	0.6+	831109	046	2.6-	1.9-
730929	675	0.0	0.9+	781003	095	0.4-	0.8+	831109	046	1.2-	0.0
730929	675	0.2-	0.0	781007	095	0.8-	1.1+				

1978 VJ8 = 1988 TY4 = 1991 AB3
Id. S. Nakano (MPC 15405), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	298.07869		(1950.0)		P		Q
n	0.17730853	Peri.	71.46369		-0.23064047		+0.97303808
a	3.1379760	Node	185.20210		-0.89829669		-0.21346431
e	0.1030675	Incl.	0.86442		-0.37398934		-0.08734921
P	5.56	H	13.0	G	0.15		

Residuals in seconds of arc

781105 675	0.1-	0.4+	881004 807	0.3-	0.3-	910115 033	0.4-	0.1-
781106 675	1.8-	0.7-	881005 807	0.5+	1.2-	910116 033	0.3+	0.5+
781107 675	0.4+	1.6+	881008 807	0.6+	0.4-	910207 413	0.2+	0.4+
781108 675	0.3-	0.2+	910112 494	2.3-	1.2-	910207 413	1.5+	0.2-
781129 675	0.7+	0.6+	910113 494	0.2-	0.5-	910209 413	0.3-	1.1-
781130 675	0.8+	0.0	910115 033	0.0	0.3+	910210 413	0.7+	0.2-

1979 ML1 = 1990 RY8

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5				Bowell	
M 140.36090		(1950.0)		P	Q
n 0.27420602	Peri.	47.99439		+0.78690763	+0.60724484
a 2.3464865	Node	274.32249		-0.59365609	+0.69649466
e 0.1196774	Incl.	6.31500		-0.16837111	+0.38229425
P 3.59	H	13.8	G	0.15	

Residuals in seconds of arc

790623 413	0.5+	0.2+	790724 413	0.4+	0.8+	900917 675	0.4-	0.4+
790624 413	0.9+	0.4-	790725 675	0.1+	0.6-	900917 675	0.4+	0.1-
790625 413	1.4-	0.2+	790823 675	0.4-	0.7+			
790724 675	0.2-	0.6-	900913 675	0.1+	0.5-			

1979 MH7 = 1982 BH10 = 1991 DZ

Id. G. V. Williams, H. Kaneda

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5				Williams	
M 43.52369		(1950.0)		P	Q
n 0.22605237	Peri.	52.55137		-0.98042717	+0.06920285
a 2.6688859	Node	130.62374		-0.11332799	-0.96390778
e 0.1149599	Incl.	14.05447		+0.16099484	-0.25708512
P 4.36	H	13.0	G	0.15	

Residuals in seconds of arc

790624 413	1.2-	0.2-	790725 675	0.3+	0.2+	910218 675	0.2+	0.3-
790625 413	0.6+	0.0	790727 675	1.7+	0.1+	910218 675	0.9-	0.3+
790629 413	1.1-	0.2+	790823 675	0.5-	0.7-	910219 675	0.7+	0.1-
790724 675	0.8+	0.2+	820119 095	(0.1+	9.9-)			
790724 413	0.8-	0.8-	820120 095	0.0	0.7-			

1979 QX2 = 1990 SR14

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5				Kaneda	
M 165.91410		(1950.0)		P	Q
n 0.27182813	Peri.	315.67286		+0.35782050	+0.93355064
a 2.3601510	Node	335.27059		-0.84201810	+0.31277542
e 0.1986872	Incl.	2.89917		-0.40369544	+0.17508496
P 3.63	H	14.5	G	0.15	

Residuals in seconds of arc

790822 809	0.6+	0.3+	790826 809	0.1+	0.1-	900925 809	0.2+	0.1+
790822 809	0.3-	0.5+	790826 809	0.1+	0.2-	900926 809	0.0	0.0
790822 809	0.0	0.2+	790830 809	0.4+	0.2+	900926 809	0.2+	0.1-
790823 809	0.1-	1.0-	790830 809	0.1-	0.1+	900926 809	0.4+	0.1-
790823 809	0.1+	0.2+	900925 809	0.6-	0.1-			
790826 809	0.8-	0.1-	900925 809	0.2-	0.2+			

1979 YN = 1991 CQ1

Id. H. Kaneda, R. Nagata

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5				Kaneda	
M 98.01880		(1950.0)		P	Q
n 0.18874744	Peri.	337.75155		-0.13763847	-0.97552913
a 3.0098764	Node	119.78519		+0.93587202	-0.18477235
e 0.0667007	Incl.	11.39424		+0.32434428	+0.11917257
P 5.22	H	12.8	G	0.15	

Residuals in seconds of arc

791223	809	0.5-	1.1+	791229	809	1.0+	0.7-	910212	875	0.7-	0.7-
791225	809	0.5+	0.5+	910117	033	0.7+	0.1-	910212	875	0.7+	0.2-
791225	809	0.4-	1.1-	910117	033	0.0	0.2-	910216	372	1.8+	0.4-
791226	809	0.0	0.1+	910118	033	0.0	0.8-	910216	372	0.9-	0.2+
791226	809	0.5+	0.5+	910207	875	0.5-	0.1+	910217	875	0.8+	0.5-
791226	809	0.6-	0.5+	910207	875	0.2-	0.8+	910217	875	0.3-	0.4-
791228	809	0.6+	0.5-	910212	372	1.1-	2.3+	910220	875	0.1+	0.4-
791228	809	1.0-	0.4-	910212	372	0.9+	0.7+	910220	875	1.1-	0.3-

1980 RD1 = 1949 XC = 1972 YS = 1976 UV3 = 1982 BH9 = 1991 AK3
Id. G. V. Williams; 1972 YS = 1973 AB1 (MPC 6840) is invalid
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	151.68495		(1950.0)	P	Q
n	0.21749767	Peri.	76.02268	+0.98225767	-0.17723902
a	2.7384174	Node	294.15733	+0.13539167	+0.89633396
e	0.1190311	Incl.	3.85147	+0.12976503	+0.40641328
P	4.53	H	12.5	G 0.15	

Residuals in seconds of arc

491214	760	0.9-	0.9-	800906	046	0.0	0.1+	800910	323	0.2-	0.9+
491214	760	0.2+	1.2-	800907	046	1.3+	1.3+	820119	095	2.7+	0.4-
721229	095	1.4+	5.0+	800907	046	0.4+	0.5-	910109	033	1.1-	0.3-
761026	095	1.2+	0.2-	800908	323	(1.5-	3.6+)	910115	033	0.5-	0.8-
800903	046	0.1+	0.2+	800908	046	1.4-	1.1+	910115	033	0.4-	0.3-
800903	046	0.6-	0.2+	800908	046	2.1-	0.5+	910116	033	1.0-	0.2-
800906	046	(3.3-	1.9-)	800909	323	1.5+	2.1-				

1980 TC5 = 1989 NS1
Id. C. S. Shoemaker (1991 obs.), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	139.08761		(1950.0)	P	Q
n	0.20927019	Peri.	137.94796	+0.98863841	-0.10421988
a	2.8097292	Node	228.37186	+0.06667973	+0.94989733
e	0.1705325	Incl.	8.33204	+0.13471420	+0.29467485
P	4.71	H	13.0	G 0.15	

Residuals in seconds of arc

801007	675	0.0	0.5+	801015	095	0.3-	0.1-	890707	675	0.4+	0.1-
801008	675	0.6-	0.5+	801105	675	2.0-	0.9-	910117	675	0.7-	0.0
801010	675	2.7+	1.1+	801107	675	0.0	1.3-	910122	675	0.8+	0.4+
801010	095	(4.1-	3.9+)	890707	675	0.5-	0.2+				

1980 TO5 = 1990 RF9
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	23.36460		(1950.0)	P	Q
n	0.18952618	Peri.	182.65576	+0.66874754	-0.73380649
a	3.0016260	Node	225.40988	+0.68516367	+0.67071621
e	0.0871295	Incl.	9.66844	+0.28866498	+0.10801762
P	5.20	H	12.4	G 0.15	

Residuals in seconds of arc

801008	675	0.6-	0.8-	801107	675	0.0	0.1-	900918	675	0.3+	0.1-
801009	675	0.2+	0.2-	900914	675	0.7-	0.1-	900918	675	0.2+	0.4+
801010	675	0.5+	1.1+	900914	675	0.3+	0.1-				

1981 XM2 = 1981 YK = 1991 CN2
Id. S. Nakano (d, MPC 10752), G. V. Williams

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 148.84072	(1950.0)	P	Q	
n 0.23541184	Peri. 172.61081	+0.33161490	-0.92537406	
a 2.5976692	Node 257.88644	+0.85563025	+0.37699148	
e 0.1099988	Incl. 10.82421	+0.39740212	-0.03950028	
P 4.19	H 13.0	G 0.15		

Residuals in seconds of arc

811203 330	0.7+	1.6-	811231 801	0.7-	2.3+	910211 413	0.5+	0.3+
811230 801	0.7-	0.7+	820119 095	1.9+	1.8-	910212 413	0.6-	0.3-
811231 801	0.5-	0.4+	820120 095	0.6-	0.3-			

1982 BA = 1991 DH

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 84.51030	(1950.0)	P	Q	
n 0.22397333	Peri. 340.83415	-0.54723974	-0.82273870	
a 2.6853765	Node 141.90749	+0.79674406	-0.56833076	
e 0.1129759	Incl. 14.42824	+0.25637389	+0.01005892	
P 4.40	H 12.5	G 0.15		

Residuals in seconds of arc

820117 879	0.4+	0.8+	820120 046	0.7-	0.2+	910218 675	0.0	0.5-
820117 879	0.3+	1.2-	820120 046	0.9-	0.2+	910218 675	0.5+	0.2+
820119 046	1.0+	0.0	820121 046	1.5+	0.3-	910219 675	0.6-	0.3+
820119 046	0.4+	0.0	820121 046	2.1-	0.4+			

1982 SO4 = 1982 TL = 1991 CV2

Id. M. Kretlow (d, MPC 9019), G. V. Williams

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 147.27220	(1950.0)	P	Q	
n 0.26660694	Peri. 54.00930	+0.37721911	-0.92558221	
a 2.3908652	Node 13.93386	+0.80168445	+0.30921862	
e 0.2909233	Incl. 7.55859	+0.46368932	+0.21836074	
P 3.70	H 13.5	G 0.15		

Residuals in seconds of arc

820920 095	(1.5-	6.4-)	821024 688	0.4-	0.6-	910214 675	0.3-	0.2-
820922 095	0.5+	0.7+	821109 095	0.6+	0.5+	910216 675	0.0	0.6-
821013 688	0.9+	0.8-	821111 095	0.4-	0.9+	910216 675	0.0	0.0
821013 688	0.2-	0.3-	821114 095	0.8-	0.0			
821024 688	0.1+	0.5-	910214 675	0.0	0.3+			

1983 GU = 1991 DN

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M 303.35373	(1950.0)	P	Q	
n 0.23533284	Peri. 177.08024	+0.38293002	+0.89582846	
a 2.5982505	Node 115.34476	-0.85248448	+0.43672587	
e 0.1775546	Incl. 14.44972	-0.35585784	-0.08223063	
P 4.19	H 12.2	G 0.15		

Residuals in seconds of arc

830410 095	0.5+	0.6+	910219 376	0.4-	0.3+	910223 376	1.1+	0.7-
830412 095	0.4-	0.4+	910219 376	0.2-	2.0+			
830501 095	0.0	0.9-	910223 376	0.5-	1.8-			

1984 DB = 1991 DL

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 120.50678	(1950.0)	P	Q	
n 0.28667462	Peri. 310.12513	-0.26831298	-0.95087781	
a 2.2779449	Node 154.15738	+0.95590998	-0.28266094	
e 0.1879102	Incl. 20.74507	+0.11934933	+0.12623070	
P 3.44	H 14.5	G 0.15		

Residuals in seconds of arc

840224	675	0.6-	1.1-	840307	675	0.9+	0.3+	910220 413	0.2+	1.2-
840224	675	1.6+	1.7-	840307	675	0.1+	0.9-	910222 413	0.4+	0.7-
840225	675	0.3-	1.4+	840327	801	0.4-	0.3+			
840225	675	1.3-	1.9+	910220	413	0.6-	1.9+			

1984 YY1 = 1977 RM16

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	62.33594	(1950.0)		P	Q
n	0.29488902	Peri.	23.64052	+0.80181137	-0.59749419
a	2.2354433	Node	13.06449	+0.54096936	+0.71867458
e	0.1719650	Incl.	2.52549	+0.25387138	+0.35567897
P	3.34	H	15.3	G 0.15	

Residuals in seconds of arc

770909	675	0.4-	0.1-	841119	675	0.2+	0.5-	841223 095	0.0	0.1+
770910	675	0.4+	0.2+	841121	675	0.2-	0.4+			

1986 TW9 = 1986 WP3 = 1982 UM11 = 1990 SB15

Id. H. Oishi (d, MPC 17178), E. Bowell (k), G. V. Williams

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	96.62932	(1950.0)		P	Q
n	0.23843342	Peri.	70.03821	+0.98027268	-0.17703978
a	2.5756764	Node	300.07029	+0.12081345	+0.88859147
e	0.2293678	Incl.	5.82807	+0.15642754	+0.42315733
P	4.13	H	13.5	G 0.15	

Residuals in seconds of arc

821016	095	0.1-	0.4+	861125	010	0.5+	0.1+	900919 675	0.4+	0.2+
861002	095	0.5+	0.5-	861127	010	(4.1+	2.5+)	900919 675	0.1+	0.2+
861008	095	0.3-	0.3-	900917	675	0.0	0.2-			
861125	010	0.5-	0.1+	900917	675	0.7-	0.1+			

1986 UV = 1981 RO4 = 1990 RZ5

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	38.13714	(1950.0)		P	Q
n	0.21614379	Peri.	58.83906	+0.72484262	-0.68860086
a	2.7498407	Node	344.64700	+0.60229499	+0.64806359
e	0.0580792	Incl.	4.50258	+0.33443074	+0.32533433
P	4.56	H	12.8	G 0.15	

Residuals in seconds of arc

810905	095	0.1-	0.3+	900909	809	0.1-	1.0-	900914 809	0.0	0.1-
861028	046	0.3-	1.6-	900909	809	0.1+	0.9-	900915 809	0.2+	0.2-
861028	046	0.6+	1.7-	900909	809	0.6+	0.7-	900915 809	0.0	0.1+
861103	046	2.4+	0.9-	900910	809	0.8+	0.5-	900915 809	1.5-	1.3+
861103	046	(4.6+	0.4+)	900910	809	1.1+	0.5-	900916 809	1.2-	1.4+
861107	046	2.6-	4.0+	900912	809	0.2+	0.4+	900916 809	0.9-	1.4+
861107	046	(4.2-	2.1+)	900912	809	0.3+	0.2+			
900908	809	0.5-	1.2-	900912	809	0.7+	0.4+			

1986 VY = 1962 CC1 = 1975 TC1 = 1991 AP

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	141.54417	(1950.0)		P	Q
n	0.27218241	Peri.	73.47777	+0.62392937	-0.78104145
a	2.3581025	Node	337.85448	+0.68783692	+0.56476898
e	0.2225302	Incl.	3.98536	+0.37093466	+0.26647750
P	3.62	H	14.3	G 0.15	

Residuals in seconds of arc

620210	033	1.3+	2.6+	751003	095	0.5-	1.8+	861104 046	0.1+	0.3-
620210	033	0.8+	1.4+	861103	046	1.1+	0.2+	861107 046	1.5-	0.1+

861107 046 1.0- 0.2- 910109 372 0.1- 2.7- 910112 372 1.3+ 1.3+
861109 046 1.5+ 0.2- 910109 372 0.8+ 2.3- 910121 372 (7.0- 0.2+)
861109 046 0.4+ 0.7- 910112 372 0.1- 0.9- 910121 372 2.9- 1.4+

1986 XF1 = 1975 XQ1 = 1982 RV
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 (J-P) Ichikawa

M	163.17367	(1950.0)	P	Q
n	0.26950713	Peri. 94.25230	+0.93228426	-0.35922845
a	2.3736868	Node 286.80480	+0.31178345	+0.85750029
e	0.1947992	Incl. 2.54082	+0.18340433	+0.36830447
P	3.66	H 13.5	G 0.15	

Residuals in seconds of arc
751201 095 0.5- 2.2+ 861130 381 0.2+ 0.3- 861204 688 0.1+ 0.1+
820912 095 0.5- 1.1+ 861130 381 0.5+ 0.4- 861204 688 0.1+ 0.3-
820915 688 0.1- 0.8- 861201 381 0.2- 0.8-
820915 688 0.6+ 0.5- 861201 381 0.3- 0.4-

1987 BS1 = 1991 AT
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	92.20001	(1950.0)	P	Q
n	0.23733334	Peri. 150.75395	+0.07349810	-0.97831788
a	2.5836293	Node 294.44621	+0.86862914	+0.15818737
e	0.1299158	Incl. 12.28046	+0.48998107	-0.13368201
P	4.15	H 13.0	G 0.15	

Residuals in seconds of arc
870122 809 1.1+ 1.0+ 870127 809 0.1+ 0.1- 910114 675 0.5+ 0.7+
870122 809 0.2+ 1.4+ 870205 809 1.2- 0.1- 910114 675 0.4- 0.2+
870123 809 1.1- 1.8- 870205 809 1.0- 0.3- 910214 675 0.8- 0.8+
870123 809 0.8+ 0.2- 870206 809 0.7+ 0.1- 910214 675 1.1- 0.3-
870125 809 0.8- 0.8- 870206 809 0.3- 1.1+ 910219 675 1.8+ 0.1+
870125 809 0.1+ 0.5- 910111 675 0.8+ 0.4- 910219 675 0.2- 0.6-
870127 809 1.3+ 0.4+ 910111 675 0.6- 0.6-

1987 DH6 = 1983 GG2 = 1991 BB1
Id. H. Kaneda; 1987 DH6 = 1952 FC = 1985 YD2 (MPC 13307) is invalid
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	312.31573	(1950.0)	P	Q
n	0.22267961	Peri. 343.45493	-0.39645756	+0.91773504
a	2.6957674	Node 263.18294	-0.83947466	-0.37305186
e	0.1045079	Incl. 1.39437	-0.37162306	-0.13636240
P	4.43	H 13.1	G 0.15	

Residuals in seconds of arc
830410 095 0.2+ 0.6+ 870227 809 0.3+ 0.5+ 870304 809 0.2+ 0.9-
870223 809 0.6- 0.2+ 870227 809 0.3+ 0.5+ 870304 809 0.3+ 0.8-
870223 809 0.1- 0.2+ 870228 809 0.3- 0.2- 870304 809 0.2+ 0.8-
870223 809 0.0 0.1- 870228 809 0.2- 0.1- 870305 809 0.0 0.4+
870224 809 0.7- 0.6- 870228 809 0.1- 0.2- 870305 809 0.0 0.4+
870224 809 0.6- 0.5- 870301 809 0.4+ 0.1+ 870305 809 0.2+ 0.6+
870224 809 0.4- 0.4- 870301 809 0.5+ 0.1+ 870306 809 0.3- 0.0
870225 809 0.1+ 0.2- 870301 809 0.6+ 0.3- 870306 809 0.0 0.4-
870225 809 0.3+ 0.2- 870302 809 0.2- 0.4+ 870306 809 0.1- 0.4-
870225 809 0.1+ 0.2- 870302 809 0.3- 0.8+ 870307 809 1.0- 0.9-
870226 809 0.1- 0.7+ 870302 809 0.4- 0.9+ 870307 809 0.8- 0.1-
870226 809 0.1+ 0.5+ 870303 809 0.7+ 0.2- 870307 809 0.3- 0.4-
870226 809 0.2+ 0.3+ 870303 809 0.7+ 0.2- 910118 511 0.6- 0.7+
870227 809 0.1+ 0.9+ 870303 809 1.0+ 0.3- 910118 511 0.8+ 0.1+

1988 BO4 = 1990 RL9
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 149.33683 (1950.0) P Q
n 0.18824675 Peri. 348.81970 -0.05827680 +0.98534380
a 3.0152111 Node 277.69412 -0.90294505 -0.12051947
e 0.0690380 Incl. 9.30983 -0.42578638 +0.12071727
P 5.24 H 11.5 G 0.15
Residuals in seconds of arc

880122 809	0.5-	0.0	880124 809	0.4+	0.1-	880129 809	0.9-	0.2-
880122 809	0.5-	0.0	880124 809	0.3+	0.1-	900914 675	0.3+	0.0
880122 809	0.6-	0.1-	880125 809	0.7+	0.5+	900914 675	0.1-	0.4-
880123 809	0.1-	0.2-	880125 809	1.0+	0.4+	900918 675	0.5+	0.5+
880123 809	0.3-	0.3-	880127 809	0.4+	0.2+	900918 675	0.6-	0.1-
880123 809	0.0	0.1-	880127 809	0.4+	0.1+			
880124 809	0.3+	0.1-	880129 809	0.6-	0.1-			

1988 JQ = 1981 OJ
Id. C. S. Shoemaker (1991 obs.), B. G. Marsden, G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 348.03681 (1950.0) P Q
n 0.27117316 Peri. 119.80137 -0.21820551 +0.93374256
a 2.3639498 Node 134.57252 -0.97481710 -0.19483524
e 0.2175547 Incl. 23.47290 -0.04602156 -0.30027333
P 3.63 H 12.5 G 0.15
Residuals in seconds of arc

810726 688	0.3+	0.3+	880616 675	(1.4-	3.2+)	910207 675	0.1+	0.7-
810726 688	0.2-	0.6+	880619 675	1.2+	0.0	910208 675	0.0	0.6+
880512 675	0.3+	0.2+	880619 675	0.2+	1.3-	910211 675	0.7+	0.6+
880515 675	0.3+	1.5+	880621 688	0.3-	1.6-	910214 675	1.4+	0.6-
880608 675	1.9-	0.3+	880621 688	0.6-	0.2-	910214 675	1.1+	1.2-
880610 675	0.0	0.5+	910118 675	1.9-	1.0-	910219 675	0.6-	1.6+
880612 675	0.3+	0.4-	910118 675	1.7-	0.1-	910219 675	1.0+	0.7+
880616 675	0.6+	0.8+	910122 675	0.4-	0.5+			

1988 QY
Id. C. S. Shoemaker (1989 obs.)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 117.13300 (1950.0) P Q
n 0.08491100 Peri. 93.42599 +0.62364378 +0.70782226
a 5.1265683 Node 221.94167 -0.75185109 +0.65929897
e 0.0658968 Incl. 29.75878 +0.21398217 +0.25359913
P 11.61 H 10.5 G 0.15
Residuals in seconds of arc

880818 675	0.1-	0.2+	880912 675	0.0	0.4-	891102 675	0.6-	0.5-
880818 675	0.1+	0.3-	880913 675	0.5+	0.2-			
880910 675	0.5-	0.6+	891101 675	0.6+	0.5+			

1988 RA1
Id. C. S. Shoemaker (1989 obs.)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 116.62325 (1950.0) P Q
n 0.08306059 Peri. 15.59383 +0.87505412 +0.44534760
a 5.2024275 Node 316.31335 -0.46823083 +0.67961157
e 0.1080443 Incl. 15.93160 -0.12263840 +0.58291820
P 11.87 H 10.0 G 0.15
Residuals in seconds of arc

880908 054	0.6-	0.0	880909 054	0.8-	0.1-	880911 675	0.3+	1.3-
880909 054	0.7+	1.7+	880911 675	0.8+	2.1-	880916 054	0.7-	0.9+

880920 054 0.3+ 0.6+ 881010 054 0.6- 2.0- 891122 675 0.9+ 0.9-
881002 054 0.2+ 1.2+ 891101 675 0.9- 0.9+ 891122 675 0.6- 0.1-
881010 054 0.4+ 1.1+ 891101 675 0.6+ 0.1+

1988 TU1
Id. C. S. Shoemaker (1991 obs.)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 117.92854	(1950.0)	P	Q	
n 0.08253719	Peri. 207.88794	+0.93514430	+0.26683279	
a 5.2243983	Node 134.56606	-0.23227145	+0.95848230	
e 0.1409525	Incl. 19.09246	-0.26749787	+0.10055813	
P 11.94	H 9.5	G 0.15		

Residuals in seconds of arc
880916 675 0.2- 1.5+ 881012 675 0.7+ 1.2- 910116 675 0.1- 0.9-
880916 675 0.3+ 1.3- 881105 675 0.1+ 0.4+ 910120 675 0.1+ 0.9+
881012 675 0.9- 0.0 881107 675 0.0 0.7+

1989 GS4 = 1990 RX6
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M 155.57842	(1950.0)	P	Q	
n 0.21549888	Peri. 95.65038	+0.02286280	+0.99973378	
a 2.7553242	Node 175.65604	-0.93267563	+0.02244825	
e 0.1518656	Incl. 2.35119	-0.35999092	+0.00533285	
P 4.57	H 13.6	G 0.15		

Residuals in seconds of arc
890403 809 0.8- 0.6+ 890411 809 1.1- 0.1- 900914 809 0.2+ 0.4+
890403 809 (6.0- 2.8+) 890411 809 0.6+ 0.5- 900914 809 0.3+ 0.4+
890403 809 0.3- 2.5+ 890412 809 0.5+ 0.8- 900915 809 0.4+ 0.7+
890405 809 0.0 0.4- 890412 809 0.1- 0.0 900915 809 0.7+ 0.8+
890405 809 0.4+ 0.4- 890412 809 0.2- 0.5- 900915 809 1.1+ 0.7+
890405 809 0.7+ 0.4- 900913 809 0.5- 0.2- 900918 675 1.2- 0.1-
890409 809 0.2- 0.4- 900913 809 0.0 0.2- 900918 675 1.2- 2.3-
890409 809 0.3+ 0.2- 900913 809 0.3+ 0.5-
890409 809 0.4+ 0.7+ 900914 809 0.1- 0.4+

1989 NR = 1986 RD10
Id. C. M. Bardwell (MPC 15071)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M 229.96839	(1950.0)	P	Q	
n 0.30068793	Peri. 27.63171	+0.92620989	+0.35609262	
a 2.2066090	Node 310.95165	-0.36902776	+0.78908525	
e 0.0841432	Incl. 9.43642	-0.07716060	+0.50054222	
P 3.28	H 13.2	G 0.15		

Residuals in seconds of arc
860908 095 0.4- 0.5+ 890704 675 1.8+ 0.4- 910111 675 1.3+ 0.3+
860911 095 0.3+ 0.2- 890809 675 1.4- 0.2+ 910111 675 0.3- 1.3-
890702 675 1.6+ 0.6- 890809 675 (3.4- 0.0) 910115 675 1.3- 1.6-
890702 675 1.1+ 1.4+ 890811 675 1.3- 1.0- 910115 675 1.3- 1.5-
890704 675 1.3+ 0.7- 890811 675 1.3- 2.2-

1989 SG1 = 1991 CJ2
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M 84.42190	(1950.0)	P	Q	
n 0.23823023	Peri. 329.72703	-0.71670776	-0.69659018	
a 2.5771407	Node 165.96270	+0.66401395	-0.69613771	
e 0.1452032	Incl. 7.83070	+0.21310904	-0.17365024	
P 4.14	H 14.2	G 0.15		

Residuals in seconds of arc

890926	809	0.2-	0.3+	891007	809	0.6-	0.5+	910219 372	1.6-	0.4-
890926	809	0.0	0.3+	891008	809	0.4-	0.7+	910219 372	2.0+	2.9-
890926	809	0.0	0.1-	891008	809	1.0-	0.7+	910219 372	(3.6+	0.4-)
890928	809	2.2+	0.5-	891008	809	1.1-	0.1-	910220 372	0.1-	0.5-
890928	809	1.2+	0.8-	910212	372	0.2+	0.8+	910220 372	0.9-	0.7-
890928	809	1.9+	1.8-	910212	372	0.3-	2.0+	910306 372	1.1-	1.5-
891007	809	1.4-	0.3-	910216	372	1.4-	1.1+	910306 372	1.9+	0.5+
891007	809	0.4-	0.7+	910216	372	1.0+	1.2+			

1989 SE2 = 1991 AV

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5				Kaneda	
M 300.41094		(1950.0)		P	Q
n	0.20894848	Peri.	162.81485	-0.52297393	+0.84772946
a	2.8126125	Node	75.57248	-0.79233964	-0.44519886
e	0.0471799	Incl.	5.25008	-0.31415946	-0.28836217
P	4.72	H	12.9	G 0.15	

Residuals in seconds of arc

890926	809	0.3+	0.3-	891003	809	1.3-	1.3-	891008 809	0.2-	1.1+
890926	809	1.2+	0.8+	891003	809	1.2-	1.2-	910111 675	1.8+	1.1-
890926	809	0.9+	1.2+	891007	809	1.0+	0.1-	910111 675	0.1-	0.1-
890928	809	0.1+	0.5-	891007	809	0.7+	0.4+	910114 675	0.3-	0.4-
890928	809	0.3-	0.1-	891007	809	0.2+	0.4+	910114 675	1.3-	1.5+
890928	809	1.4-	1.7-	891008	809	0.7+	0.8+			
891003	809	0.4-	0.9-	891008	809	0.4-	1.4+			

1989 TX15 = 1986 WP10 = 1991 CZ1

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5				Williams	
M 81.51498		(1950.0)		P	Q
n	0.28929134	Peri.	146.68001	-0.95149120	-0.30652447
a	2.2641877	Node	15.53664	+0.25610322	-0.83694075
e	0.0847844	Incl.	5.69802	+0.17051578	-0.45340152
P	3.41	H	13.5	G 0.15	

Residuals in seconds of arc

861130	381	0.7-	0.1+	891004	809	0.2-	0.1-	891007 809	0.4+	0.1+
861130	381	1.1+	0.4-	891006	809	0.1+	0.0	910214 400	0.6-	0.0
861201	381	0.5-	0.0	891006	809	0.5+	0.3-	910214 400	1.2+	0.2-
861201	381	0.1+	0.2+	891006	809	0.7+	0.0	910220 400	0.5-	0.9+
891004	809	1.1-	0.3-	891007	809	0.1+	0.5+	910220 400	0.1-	0.7-
891004	809	0.7-	0.2-	891007	809	0.2+	0.3+			

1990 BG

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5				Bardwell	
M 310.08155		(1950.0)		P	Q
n	0.54383535	Peri.	135.66989	-0.28621109	+0.77906375
a	1.4864755	Node	109.85670	-0.95747195	-0.25470639
e	0.5698347	Incl.	36.37462	+0.03647844	-0.57287375
P	1.81	H	14.0	G 0.15	

Residuals in seconds of arc

900121	675	0.5-	0.4+	900203	685	(13.6+	16.7-)	900301 675	1.1-	0.9+
900122	675	(1.3+	3.5-)	900220	675	1.0+	0.1+	900301 675	1.2-	1.4+
900124	675	1.0+	1.1-	900220	675	0.1-	0.8-	900322 801	0.3+	1.0+
900124	675	0.9+	0.8-	900223	675	0.6+	0.1+	900322 801	0.1+	0.8+
900125	675	0.1+	0.9-	900223	675	0.4+	0.1+	900322 675	0.9-	1.2+
900126	675	0.9-	1.2+	900227	801	2.6+	0.7+	900322 675	1.3-	1.7+
900126	675	2.5-	1.0+	900228	801	1.6+	1.1+	900324 675	2.5-	1.1+
900126	657	0.7+	2.7+	900228	801	0.9+	0.4+	900324 675	2.4-	1.3+
900130	675	1.6-	0.2-	900228	675	0.6+	0.8+	900327 801	0.5+	1.5+
900203	685	(4.7+	9.8-)	900228	675	0.5+	1.6+	900327 801	0.9+	1.5+

900621 413 1.3- 0.2+ 900919 474 0.7+ 1.1- 910211 801 1.0- 0.8-
900917 474 0.3- 0.3+ 900919 474 0.9+ 0.8-
900917 474 0.7+ 0.7- 910210 801 0.6- 0.8-

1990 GE = 1977 RK13 = 1983 EY1
Id. E. Bowell (k), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 163.85406 (1950.0) P Q
n 0.27650601 Peri. 191.92821 -0.99058248 +0.13667642
a 2.3334563 Node 355.90119 -0.11441339 -0.85887937
e 0.1688535 Incl. 6.52125 -0.07520584 -0.49360489
P 3.56 H 15.0 G 0.15
Residuals in seconds of arc
770909 675 1.3- 0.1+ 900301 809 0.8- 0.6+ 900415 809 0.6+ 0.2-
770910 675 0.6+ 1.2+ 900301 809 0.2- 0.4+ 900416 809 0.1+ 0.3+
830311 381 0.0 0.1- 900302 809 0.2- 0.4+ 900416 809 1.4- 0.1+
830311 381 0.2- 0.1- 900302 809 0.3+ 0.4+ 900416 809 0.6+ 0.5+
900228 809 0.2- 0.1- 900302 809 0.7+ 0.0 900417 809 1.0- 0.5+
900228 809 0.2+ 0.5- 900404 809 1.2+ 0.4+ 900417 809 (2.6- 0.9+)
900228 809 0.4+ 0.5- 900404 809 0.4+ 0.2-
900301 809 1.4- 0.4+ 900404 809 1.5+ 1.1-

1990 QS1 = 1977 RB18 = 1986 TU10
Id. C. M. Olmstead (k), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 236.46675 (1950.0) P Q
n 0.22598298 Peri. 211.01317 -0.84231650 +0.53898057
a 2.6694322 Node 1.60407 -0.48128659 -0.75073418
e 0.0068780 Incl. 3.46017 -0.24262343 -0.38196615
P 4.36 H 13.5 G 0.15
Residuals in seconds of arc
770909 675 0.3+ 0.8- 900828 675 0.0 0.4- 900919 675 0.5- 1.5-
770910 675 0.5+ 0.7- 900828 675 0.0 1.1- 900923 809 0.5- 0.1-
861003 095 0.0 0.1+ 900914 809 1.9- 0.3+ 900923 809 0.2- 0.1-
900820 809 1.8+ 0.5- 900914 809 1.4- 0.6+ 900923 809 0.3+ 0.1-
900820 809 1.5+ 0.5+ 900914 809 1.0- 0.4+ 900924 809 0.1- 0.6-
900820 809 0.4+ 0.4- 900914 675 0.5- 0.7- 900924 809 0.1- 0.7-
900822 675 0.8- 0.4+ 900915 809 0.9- 0.2+ 900924 809 0.2- 0.8-
900822 675 0.1- 0.5- 900915 809 0.4- 0.1+ 900925 809 0.2+ 0.8+
900826 809 0.6+ 1.0+ 900915 809 0.1+ 0.0 900925 809 0.6+ 1.0+
900826 809 0.5- 0.6+ 900916 809 0.0 0.8+ 900925 809 1.0+ 1.2+
900826 809 0.6+ 0.9+ 900916 809 0.0 0.8+ 900926 809 0.1+ 0.1+
900827 675 0.7- 0.6- 900916 809 0.1+ 0.7+ 900926 809 0.4+ 0.1+
900827 675 (2.1- 2.0-) 900919 675 0.8+ 1.4- 900926 809 0.6+ 0.3+

1990 QE6 = 1977 RK18
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
M 125.93327 (1950.0) P Q
n 0.22669357 Peri. 319.02142 +0.66526475 +0.74534457
a 2.6638509 Node 352.31769 -0.57178855 +0.47124458
e 0.2234992 Incl. 18.94853 -0.48008403 +0.47158247
P 4.35 H 14.3 G 0.15
Residuals in seconds of arc
770909 675 0.5- 0.1- 900825 675 0.1- 0.0 900919 675 0.1+ 0.3-
770910 675 0.5+ 0.1+ 900914 675 0.2- 0.3+ 900919 675 0.1+ 0.2-
900825 675 0.1+ 0.2- 900914 675 0.1+ 0.3+

1990 RO1 = 1976 SS1 = 1981 SK5 = 1981 UH16 = 1986 YE
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 32.67035		(1950.0)	P	Q
n 0.21146470	Peri.	260.46379	+0.46330543	-0.88584014
a 2.7902565	Node	161.87038	+0.84150565	+0.43084350
e 0.0557968	Incl.	4.64621	+0.27787824	+0.17222404
P 4.66	H 13.0	G 0.15		

Residuals in seconds of arc

760924 095	0.1+	0.0	900915 809	0.3-	0.1+	900922 809	0.1-	0.0
810925 095	1.1+	0.4-	900918 809	0.8-	0.3-	900922 809	0.2+	0.0
811024 095	1.0-	0.5-	900918 809	0.4-	0.3-	900923 809	0.1-	0.2+
861228 801	0.1+	0.3+	900918 809	0.1+	0.4-	900923 809	0.5+	0.5+
900914 675	0.4-	1.4-	900920 675	0.2-	0.5+	900923 809	0.5+	0.5+
900914 675	0.2-	0.9-	900920 675	0.8+	0.1-	900924 809	0.1-	0.6+
900914 675	0.3+	0.8-	900921 809	0.6-	0.1-	900924 809	0.1+	0.4+
900914 675	0.5-	0.1-	900921 809	0.3-	0.2-	900924 809	0.2+	0.4+
900915 809	1.0-	0.3+	900921 809	0.1-	0.1-	901022 675	1.3+	0.7+
900915 809	0.6-	0.3+	900922 809	0.0	0.1+	901022 675	1.8+	1.2+

1990 RW3 = 1979 UW4 = 1979 WK6
Id. G. V. Williams, N. S. Chernykh (d)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 133.81224		(1950.0)	P	Q
n 0.26381311	Peri.	293.79262	+0.89200312	+0.45153953
a 2.4077153	Node	39.37392	-0.40170088	+0.81316953
e 0.1920037	Incl.	1.90024	-0.20728445	+0.36724294
P 3.74	H 13.5	G 0.15		

Residuals in seconds of arc

791017 095	0.1-	0.1-	900914 675	0.2+	0.5-	901022 675	0.6-	0.5+
791117 095	0.3+	0.5-	900918 675	0.4+	0.1-	901022 675	0.5-	1.2+
900914 675	0.0	0.5-	900918 675	0.3+	0.0			

1990 RH4 = 1982 BW2
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 62.18546		(1950.0)	P	Q
n 0.30532048	Peri.	283.00023	+0.17673843	-0.98385021
a 2.1842320	Node	156.76218	+0.92854309	+0.15712012
e 0.0696864	Incl.	4.11682	+0.32645255	+0.08574399
P 3.23	H 14.0	G 0.15		

Residuals in seconds of arc

820121 046	1.4-	1.4+	900914 675	0.1-	0.1+	901022 675	1.3+	0.1+
820121 046	2.3-	0.3+	900914 675	0.8-	0.0	901022 675	1.3-	0.1-
820121 046	2.4+	0.7-	900918 675	1.2+	0.1+			
820121 046	1.3+	1.0-	900918 675	0.4-	0.2-			

1990 SW4 = 1983 UZ = 1988 AP
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 (J-P) Marsden

M 115.72094		(1950.0)	P	Q
n 0.27490834	Peri.	219.16529	+0.98548048	-0.16535958
a 2.3424930	Node	150.28529	+0.16864980	+0.92709431
e 0.0834738	Incl.	4.45799	+0.01963360	+0.33638125
P 3.59	H 14.0	G 0.15		

Residuals in seconds of arc

831030 675	0.7-	1.7-	900915 809	0.0	0.9-	900925 809	0.4-	0.2+
831104 675	0.9+	1.0+	900915 809	1.0-	0.4-	900925 809	0.2-	0.7+
880111 033	0.1-	0.2+	900922 809	1.1+	0.4+	900925 809	0.8-	0.9+
880111 033	0.1+	0.0	900922 809	0.8+	0.2+			
900915 809	0.3+	0.7-	900922 809	0.1+	0.2+			

1990 TZ
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell
M 52.21387 (1950.0) P Q
n 0.26109178 Peri. 226.57330 -0.23812014 -0.91546954
a 2.4244166 Node 239.92232 +0.96364479 -0.18101987
e 0.2681808 Incl. 22.01450 +0.12119207 -0.35937074
P 3.77 H 11.0 G 0.15
From 14 observations 1990 Oct. 14-1991 Feb. 12, mean residual 0".4.

1990 TQ12 = 1990 VW1
Id. S. Nakano (d, MPC 17406)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden
M 97.94154 (1950.0) P Q
n 0.27144302 Peri. 174.77903 +0.34111668 -0.93671232
a 2.3623827 Node 255.25821 +0.85943300 +0.34473419
e 0.2141153 Incl. 4.67377 +0.38080747 +0.06106039
P 3.63 H 14.0 G 0.15
From 11 observations 1990 Oct. 14-1991 Jan. 14, mean residual 0".7.

1990 TT12
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden
M 168.52923 (1950.0) P Q
n 0.19812361 Peri. 319.84373 +0.76981764 +0.63826385
a 2.9141500 Node 0.49397 -0.57838241 +0.69774887
e 0.0617108 Incl. 1.55533 -0.26991589 +0.32521651
P 4.97 H 12.5 G 0.15
From 13 observations 1990 Oct. 14-1991 Jan. 18, mean residual 0".8.

1990 TW12
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Schmadel
M 89.61161 (1950.0) P Q
n 0.22356966 Peri. 16.88242 +0.57359236 -0.80575691
a 2.6886079 Node 38.47582 +0.72146485 +0.41168495
e 0.1711702 Incl. 13.71078 +0.38791788 +0.42575967
P 4.41 H 13.5 G 0.15
From 10 observations 1990 Oct. 14-1991 Jan. 14, mean residual 1".1.

1990 UO2 = 1939 VL
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 105.98703 (1950.0) P Q
n 0.27040913 Peri. 162.16978 +0.75963646 -0.55654407
a 2.3684005 Node 236.44500 +0.53658458 +0.82868048
e 0.2252547 Incl. 23.81292 +0.36746352 -0.05955966
P 3.64 H 13.0 G 0.15
Residuals in seconds of arc
391113 062 0.4- 1.5+ 901025 675 0.3+ 0.3+ 901115 675 0.8- 0.9-
391113 062 0.4+ 0.4- 901026 675 0.5+ 0.1+ 910217 801 0.3- 0.1+
901022 675 0.1- 0.0 901113 675 0.2+ 0.7- 910217 801 0.3+ 0.1-

1990 UG4 = 1988 BV4
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 210.27285 (1950.0) P Q
n 0.23811441 Peri. 80.32642 +0.07070284 +0.99580251
a 2.5779764 Node 194.12568 -0.98284571 +0.05959533
e 0.1613374 Incl. 13.77837 -0.17033913 +0.06946763
P 4.14 H 13.3 G 0.15
Residuals in seconds of arc
880126 413 0.6- 0.3+ 880127 413 0.5- 0.3- 901016 809 0.1+ 0.9+
880126 413 1.1+ 0.0 880127 413 (4.3- 0.8+) 901016 809 0.3+ 0.7-

901016 809 0.3- 0.0 901020 809 0.1+ 0.5- 901024 809 0.0 0.2-
901020 809 0.7- 0.1+ 901024 809 0.2+ 0.7+
901020 809 0.4+ 0.2- 901024 809 0.1- 0.3-

1990 VB
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell
M 111.20534 (1950.0) P Q
n 0.25759301 Peri. 101.31286 +0.96731864 +0.07668159
a 2.4463204 Node 254.63620 -0.15499297 +0.93318607
e 0.5272077 Incl. 14.51589 +0.20067840 +0.35111777
P 3.83 H 16.0 G 0.15
From 21 observations 1990 Nov. 8-1991 Feb. 11, mean residual 0".6.

1990 VU1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell
M 94.19108 (1950.0) P Q
n 0.08303317 Peri. 267.97650 +0.85695165 +0.36596143
a 5.2035730 Node 70.39858 -0.16117816 +0.85911535
e 0.1639258 Incl. 22.65853 -0.48954620 +0.35776117
P 11.87 H 8.5 G 0.15
From 15 observations 1990 Nov. 11-1991 Feb. 12, mean residual 1".3.

1990 VX2
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell
M 81.47430 (1950.0) P Q
n 0.25739932 Peri. 41.67780 -0.02927138 -0.94366819
a 2.4475475 Node 52.72646 +0.77196447 -0.23081195
e 0.2937912 Incl. 24.46855 +0.63499137 +0.23709953
P 3.83 H 13.0 G 0.15
From 34 observations 1990 Nov. 11-1991 Feb. 17, mean residual 1".1.

1990 WZ2
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell
M 96.86800 (1950.0) P Q
n 0.28613586 Peri. 62.23276 +0.42098382 -0.90684885
a 2.2808034 Node 3.08456 +0.64538362 +0.28400916
e 0.3367189 Incl. 21.75576 +0.63737948 +0.31139037
P 3.44 H 13.0 G 0.15
From 8 observations 1990 Nov. 18-1991 Feb. 17, mean residual 0".7.

1990 YX = 1977 UW
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano
M 94.57290 (1950.0) P Q
n 0.24172021 Peri. 77.76793 +0.07893064 -0.99680436
a 2.5522746 Node 7.73654 +0.87540715 +0.06341001
e 0.1394073 Incl. 5.23776 +0.47689859 +0.04858229
P 4.08 H 14.3 G 0.15
Residuals in seconds of arc
771016 675 0.0 0.0 901224 372 0.4+ 0.3+ 910113 372(31.4- 0.6+)
771017 675 0.1+ 0.1- 910106 372 0.7+ 0.3+ 910123 372 1.3+ 0.7-
901224 372 0.7+ 1.4- 910106 372 0.7+ 2.5+ 910123 372 1.9- 1.3-
901224 372 1.1- 0.1+ 910107 372 0.9- 0.1+

1991 AK = 1976 SV2 = 1989 SY6
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nagata

M	66.02934	(1950.0)	P	Q
n	0.22785745	Peri. 155.94400	-0.62000522	-0.78444110
a	2.6547720	Node 332.36463	+0.71422727	-0.55601523
e	0.0463698	Incl. 1.93652	+0.32476595	-0.27477123
P	4.33	H 12.8	G 0.15	

Residuals in seconds of arc

760924 095 2.5- 1.1+	910109 875 1.3+ 0.5+	910115 875 0.9+ 0.9-
760929 095 2.3+ 0.6-	910110 875 1.8- 1.1-	910210 875 0.5+ 0.6-
890926 399 1.2+ 1.8+	910110 875 1.1- 0.3+	910217 875 0.3+ 0.1+
890926 399 1.0- 2.2-	910110 896 0.7- 0.4+	910217 875 0.1- 0.8+
890926 399 (4.1- 6.1-)	910110 896 1.1+ 0.1-	
910109 875 0.8- 0.3-	910115 875 0.8+ 1.0+	

1991 AM
Epoch 1991 Jan. 24.0 ET = JDE 2448280.5 Marsden

M	328.35145	(1950.0)	P	Q
n	0.44651693	Peri. 152.57880	+0.18113451	+0.89376241
a	1.6952904	Node 124.91678	-0.96883371	+0.23385435
e	0.6953843	Incl. 30.02808	-0.16897199	-0.38275435
P	2.21	H 16.5	G 0.15	

From 23 observations 1991 Jan. 14-Feb. 19.

1991 AW = 1928 BB = 1970 EC = 1987 EM
Id. G. V. Williams; 1977 EH7 = 1970 EC (MPC 13600) is invalid, and the identity 1977 EH7 = 1982 VW1 is therefore unsupported
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	103.17532	(1950.0)	P	Q
n	0.23505296	Peri. 324.81147	-0.04870546	-0.97813820
a	2.6003126	Node 127.11921	+0.96462506	-0.09856938
e	0.1269222	Incl. 14.68736	+0.25908737	+0.18311129
P	4.19	H 12.0	G 0.15	

Residuals in seconds of arc

280125 029(99.4+ 13.6+)X	910114 399 (5.8+ 1.9+)	910118 403 1.9- 0.6-
700307 095 0.0 1.2-	910115 033 0.5+ 0.5+	910118 403 2.2- 0.4-
870303 688 0.2- 0.2-	910115 033 0.0 0.0	910120 403 0.8- 0.2- Y
870303 688 0.4+ 0.4+	910115 896 1.2+ 1.3+	910120 403 1.5- 1.6- Y
910112 675 0.6- 0.5-	910115 896 0.8+ 2.3+	910214 675 1.2- 0.1-
910112 675 0.4- 0.9-	910115 033 0.0 0.4+	910214 675 1.0- 0.6+
910114 675 0.1- 0.4+	910115 033 0.0 0.1-	910218 675 (4.9+ 1.4-)
910114 675 0.9+ 0.7+	910116 033 0.4- 0.3+	910218 675 0.8+ 0.0
910114 399 0.3+ 0.7+	910117 896 2.0+ 0.8- Y	910220 675 0.4+ 0.7+
910114 399 0.8+ 0.3-	910117 896 2.3+ 1.7-	

1991 AP1 = 1968 UW = 1986 SK
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	124.03561	(1950.0)	P	Q
n	0.27152849	Peri. 84.57800	+0.55521573	-0.83161419
a	2.3618870	Node 331.68534	+0.75232499	+0.50851559
e	0.2149951	Incl. 1.49593	+0.35460203	+0.22322574
P	3.63	H 14.2	G 0.15	

Residuals in seconds of arc

681022 095 (2.8+ 5.6+)	861001 046 0.3+ 1.5+	910105 399 0.6+ 0.2+
681026 095 0.4- 1.5+	861003 046 1.3- 1.0-	910114 675 0.0 1.0-
860930 046 1.6+ 1.0-	861003 046 0.4- 0.6-	910114 675 1.4- 0.8-
860930 046 1.2+ 0.7-	910105 399 (5.2+ 0.8+)	910115 675 0.4+ 0.0
861001 046 0.7- 0.4+	910105 399 0.2+ 0.7+	

1991 BB
Epoch 1991 Jan. 24.0 ET = JDE 2448280.5 Marsden

M	253.89054	(1950.0)	P	Q
n	0.76333158	Peri. 322.88794	-0.10184682	+0.81794023
a	1.1857521	Node 294.34983	-0.69613355	-0.46519897
e	0.2724993	Incl. 38.42591	-0.71065133	+0.33847259
P	1.29	H 16.5	G 0.15	

From 15 observations 1991 Jan. 12-Feb. 21.

1991 BO = 1975 VY3 = 1979 OX15 = 1989 UN4
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	254.40772	(1950.0)	P	Q
n	0.21015912	Peri. 66.61062	+0.39020973	+0.92001329
a	2.8018005	Node 226.40870	-0.86192043	+0.35117120
e	0.0660290	Incl. 2.86651	-0.32377389	+0.17393775
P	4.69	H 12.1	G 0.15	

Residuals in seconds of arc

751102	095	1.8-	6.2+	891024	046	0.5+	1.2-	910118	889	0.3-	0.7+
790730	095	0.4+	1.2-	891024	046	0.7+	1.4+	910118	889	1.0-	1.0-
891022	046	(0.1-	5.1-)	891028	046	(4.4-	4.3-)	910208	889	2.0-	1.5-
891022	046	0.1-	2.0-	891028	046	0.2+	1.9-	910208	889	(0.7+	4.1+)
891023	046	(3.2+	2.0-)	910115	889	1.8+	0.1+				
891023	046	0.5+	2.0-	910115	889	1.0+	0.3-				

1991 BY = 1956 CD = 1971 TQ2 = 1974 FU = 1985 DP4
Id. S. Nakano, T. Urata
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	120.08091	(1950.0)	P	Q
n	0.17087809	Peri. 98.28524	+0.24354878	-0.96421784
a	3.2162155	Node 336.78883	+0.75186168	+0.25590788
e	0.0598968	Incl. 15.41006	+0.61268917	+0.06924677
P	5.77	H 11.0	G 0.15	

Residuals in seconds of arc

560204	024	0.3+	0.2+	850223	675	0.4-	0.7-	910217	896	1.1+	1.5+
711013	095	0.7+	1.0-	910125	885	1.0+	0.9-	910217	896	0.4-	0.2+
740320	095	1.5-	1.6-	910125	885	1.8-	0.2-	910220	894	0.6+	0.4+
850220	675	0.1-	0.2+	910126	885	(2.8-	0.4+)	910220	894	0.5+	0.1-

1991 BZ = 1980 TL5
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	107.45835	(1950.0)	P	Q
n	0.20931721	Peri. 127.28678	+0.56057248	-0.82217854
a	2.8093084	Node 288.33297	+0.72293742	+0.54412509
e	0.2462909	Incl. 5.98031	+0.40388115	+0.16718353
P	4.71	H 13.6	G 0.15	

Residuals in seconds of arc

801007	675	2.2+	0.4-	910118	511	0.8+	1.6-	910122	372	0.6-	0.1+
801008	675	0.0	1.2+	910118	046	0.4-	0.2+	910122	372	0.3+	0.2+
801009	675	1.1-	0.7+	910118	046	(3.0+	1.6+)	910123	372	2.2-	0.9-
801010	675	1.3-	1.6-	910118	511	0.0	2.4-	910123	372	1.3-	0.3-
910117	046	1.1+	1.7+	910121	372	1.2-	0.8+				
910117	046	0.9+	0.8+	910121	372	2.6+	1.4+				

1991 BH2 = 1986 EJ5
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 86.36244 (1950.0) P Q
n 0.18442208 Peri. 118.59145 -0.16500954 -0.98424944
a 3.0567560 Node 340.59465 +0.82498127 -0.10248347
e 0.0863042 Incl. 11.00806 +0.54053470 -0.14404922
P 5.34 H 11.7 G 0.15
Residuals in seconds of arc
860306 809 0.6+ 0.4+ 860311 809 0.1- 0.0 910204 400 1.8+ 1.7+
860306 809 0.5- 0.4+ 910123 400 0.2+ 0.5- 910220 400 1.8- 0.2-
860307 809 0.4- 0.2- 910123 400 0.6+ 1.1- 910220 400 0.2+ 0.3+
860307 809 0.7- 0.6- 910203 400 (5.2+ 0.1+)
860311 809 1.0+ 0.0 910204 400 1.1- 0.3-

1991 BQ2 = 1969 AB = 1978 EZ6 = 1985 VA3 = 1989 UW7
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 97.08259 (1950.0) P Q
n 0.22610608 Peri. 9.38767 -0.49536505 -0.83874607
a 2.6684632 Node 110.60478 +0.78046722 -0.54400105
e 0.1116946 Incl. 13.97778 +0.38142416 +0.02383042
P 4.36 H 11.7 G 0.15
Residuals in seconds of arc
690115 095 1.8- 3.6- 891029 399 1.4- 1.7+ 910123 399 1.7+ 0.8+
780306 095 0.1- 0.6- 891029 399 1.8- 0.9- 910208 399 0.4+ 2.0+
780411 095 1.8+ 0.4- 891029 399 0.2+ 0.3- 910208 399 0.2- 2.1+
851110 095 2.4+ 0.1+ 891030 807 0.2+ 0.7+ 910219 399 0.7- 0.7+
891029 807 0.4+ 1.0+ 910123 399 0.0 0.3+ 910219 399 0.6- 0.3-

1991 CC = 1951 EX1 = 1963 FL = 1972 WB = 1979 BD = 1986 HO = 1989 VA2
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 147.26585 (1950.0) P Q
n 0.17251707 Peri. 308.17338 +0.75198818 -0.60694817
a 3.1958128 Node 90.70977 +0.65604761 +0.65115386
e 0.0769874 Incl. 14.90237 +0.06415061 +0.45564523
P 5.71 H 10.3 G 0.15
Residuals in seconds of arc
510301 711 (1.0+ 32.8-)Y 860503 675 0.5- 1.1+ 910204 400 0.5- 0.5-
630328 760(30.1- 8.9-)X 860503 675 0.2+ 1.2+ 910206 400 1.4+ 1.7+
721130 330 0.9- 1.2- 891106 095 0.2- 2.3+ 910206 400 0.7- 1.5+
790124 688 2.3+ 2.7- 891106 095 1.0- 1.3+ 910220 400 0.2+ 0.0
790124 688 1.2+ 2.0- 891124 095 1.2- 1.4+ 910220 400 0.7- 0.1-
860429 675 1.3+ 0.6- 910204 400 0.1+ 0.1+

1991 CE = 1952 BX1 = 1969 EQ1 = 1978 WD3
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 38.61609 (1950.0) P Q
n 0.17733782 Peri. 80.41353 -0.94906555 -0.29570588
a 3.1376305 Node 82.32678 +0.22841471 -0.88352074
e 0.1060504 Incl. 6.30152 +0.21702836 -0.36324804
P 5.56 H 11.7 G 0.15
Residuals in seconds of arc
520129 711 1.2+ 2.2+ Y 781130 675 0.2- 0.0 910217 403 2.0+ 0.8+ Y
520129 711 1.0- 1.1- Y 910205 403 (3.8+ 3.1+)Y 910217 403 1.6- 0.5- Y
520131 711(19.8- 0.5-) 910205 403 (4.1+ 3.0+)Y 910223 403 0.5- 1.4-
690313 095 0.2+ 0.6+ 910208 403 0.4- 0.6- Y 910223 403 (3.5- 1.7-)
781129 675 0.2+ 0.0 910208 403 (2.7- 2.6+)Y

1991 CK = 1950 QE1 = 1950 RY = 1975 RL = 1977 DU9
Id. H. Kaneda, R. Nagata, B. G. Marsden (d)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	193.29535	(1950.0)	P	Q
n	0.27722449	Peri. 15.84180	+0.97822620	-0.20745553
a	2.3294228	Node 356.11660	+0.17953573	+0.86031774
e	0.2161501	Incl. 5.06222	+0.10411740	+0.46563460
P	3.56	H 12.9	G 0.15	

Residuals in seconds of arc

500819	711	2.4-	1.6+	Y	910117	033	1.1+	0.0	910212	875	2.0+ 1.6-
500909	711	2.3+	1.6-	Y	910117	033	0.4-	0.3-	910217	875	0.8+ 0.0
500914	839	(42.5-	4.6-)Y		910118	033	0.1-	1.3-	910217	875	0.4+ 1.9+
750902	095	2.0-	0.4+		910205	875	1.1-	0.2+	910220	875	1.5- 1.4+
750905	095	1.5+	0.2+		910205	875	0.6-	0.3+	910220	875	1.2+ 1.5+
770219	381	0.0	0.2-		910207	875	1.3-	1.0-			
770219	381	0.4-	0.5-		910212	875	0.2+	0.6+			

1991 CO = 1973 YB4 = 1979 SM2 = 1989 RD3

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nagata

M	84.01460	(1950.0)	P	Q
n	0.29167278	Peri. 205.74837	-0.82253405	-0.56189965
a	2.2518465	Node 299.78620	+0.53768475	-0.71804203
e	0.0313357	Incl. 5.80541	+0.18529123	-0.41071209
P	3.38	H 13.3	G 0.15	

Residuals in seconds of arc

731226	095	0.1+	0.7+		890907	511	0.4+	0.2+	910206	877	0.0 0.4-
790922	095	1.3+	0.6+		910205	877	3.1+	2.7-	910217	877	0.8- 0.1-
790928	095	1.1-	0.1-		910205	877	1.2-	0.6+	910217	877	0.8+ 0.5-
890907	511	0.1-	1.5-		910206	877	2.3-	1.7+			

1991 CS

Epoch 1991 Feb. 13.0 ET = JDE 2448300.5 Nakano

M	73.53083	(1950.0)	P	Q
n	0.82907903	Peri. 249.08417	+0.62690314	-0.74032464
a	1.1222047	Node 156.25456	+0.71805596	+0.66991435
e	0.1645290	Incl. 37.06819	-0.30230463	+0.05598377
P	1.19	H 17.7	G 0.15	

From 12 observations 1991 Jan. 19-Feb. 20.

1991 CB1

Epoch 1991 Feb. 13.0 ET = JDE 2448300.5 Marsden

M	235.80158	(1950.0)	P	Q
n	0.45023864	Peri. 346.83156	+0.56507868	+0.80392505
a	1.6859352	Node 317.16929	-0.73004333	+0.38250920
e	0.6219136	Incl. 15.82991	-0.38434727	+0.45540226
P	2.19	H 18.0	G 0.15	

From 14 observations 1991 Feb. 15-22.

1991 CL1 = 1986 WX10

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	131.41389	(1950.0)	P	Q
n	0.27809071	Peri. 161.71327	+0.02742801	-0.99878003
a	2.3245830	Node 286.69918	+0.91165658	+0.04184316
e	0.1412660	Incl. 2.45707	+0.41003656	-0.02622216
P	3.54	H 13.5	G 0.15	

Residuals in seconds of arc

861130	381	0.4+	0.6+		910207	372	1.2+	1.3-	910214	399	0.1+ 0.8-
861130	381	1.0-	0.3-		910210	372	1.8-	0.6-	910214	399	2.0+ 1.7-
861201	381	0.9+	0.0		910210	372	1.4+	0.5+	910214	399	0.2- 1.1+
861201	381	0.3-	0.3-		910212	372	1.8-	0.3+	910214	399	1.2+ 2.1+
910207	372	1.9-	0.4-		910212	372	0.2-	1.0+			

1991 CS1 = 1978 XY = 1984 YN4
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	61.50499	(1950.0)	P	Q
n	0.17984047	Peri. 8.46541	-0.82827675	-0.55981619
a	3.1084539	Node 137.46299	+0.51197913	-0.77335355
e	0.1324822	Incl. 2.01213	+0.22767302	-0.29754011
P	5.48	H 12.9	G 0.15	

Residuals in seconds of arc

781205	675	2.4+	0.2+	910211	894	1.9+	1.1-	910220	413	1.3-	0.4+
781206	675	2.3-	0.1+	910211	894	1.6-	1.6+	910220	894	1.4-	0.9-
781206	675	0.2-	0.1-	910217	894	2.3+	2.0+	910222	413	0.1+	1.8-
841228	095	0.0	0.3-	910217	894	0.2+	0.0	Y			

1991 CT1 = 1981 EA49 = 1986 UL3 = 1989 RH1
Id. K. Ichikawa (k), S. Nakano
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	105.16808	(1950.0)	P	Q
n	0.29845674	Peri. 146.44668	-0.69908432	-0.71472550
a	2.2175927	Node 347.85957	+0.63186589	-0.60363087
e	0.0878540	Incl. 5.77989	+0.33470376	-0.35326652
P	3.30	H 13.9	G 0.15	

Residuals in seconds of arc

810308	095	0.9+	2.2+	910211	894	1.2-	1.0-	910223	894	0.1+	0.1+
861029	801	0.0	0.0	910217	894	0.9-	1.5+	910223	894	0.8+	0.7+
890903	511	0.5-	0.9-	910217	894	0.6-	0.4+	910224	886	0.8-	2.5-
890903	511	1.0+	0.0	910220	413	0.5-	0.1-	910305	894	1.5+	0.9-
890907	511(61.7+	53.3+)		910220	894	0.2-	1.3+	910305	894	0.9+	0.0
890907	511(68.5+	53.8+)		910222	413	0.8-	0.4-				
910211	894	0.1-	0.7-	910223	886	0.1+	1.1-				

1991 CU1 = 1967 GD = 1981 JN2 = 1986 VT5
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	89.28308	(1950.0)	P	Q
n	0.28519000	Peri. 227.91738	-0.80776234	-0.58566852
a	2.2858437	Node 276.12469	+0.55882715	-0.72445239
e	0.1326935	Incl. 3.87385	+0.18770248	-0.36353972
P	3.46	H 14.0	G 0.15	

Residuals in seconds of arc

670406	095	0.2+	0.7+	910214	399	0.6-	2.0+	910218	399	2.5-	1.7-
810505	675	0.1+	0.5-	910214	399	0.5-	0.7-	910305	399	1.4-	0.3+
810506	675	0.4+	1.7+	910214	399	2.9+	1.9+	910305	399	0.5-	0.0
861105	688	0.3+	0.2+	910214	399	2.4+	0.5-				
861105	688	0.6-	1.5+	910218	399	0.1-	1.7-				

1991 DA
Epoch 1991 Feb. 13.0 ET = JDE 2448300.5 Williams

M	1.72553	(1950.0)	P	Q
n	0.02411916	Peri. 191.24673	-0.74077551	-0.20163547
a	11.8639121	Node 313.41077	+0.66418718	-0.07709164
e	0.8669226	Incl. 61.89324	+0.10053372	-0.97642205
P	40.86	H 13.5	G 0.15	

From 14 observations 1991 Feb. 18-Mar. 14.

1991 DB
Epoch 1991 Feb. 13.0 ET = JDE 2448300.5 Marsden

M	331.90544	(1950.0)	P	Q
n	0.43705237	Peri. 50.89758	-0.87111521	+0.48530975
a	1.7196777	Node 157.82416	-0.48910965	-0.84375765
e	0.4029119	Incl. 11.46904	-0.04393223	-0.22923237
P	2.26	H 18.5	G 0.15	

From 11 observations 1991 Feb. 13-Mar. 11.

1991 DC = 1975 TX4 = 1975 VB7 = 1980 BG6
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nagata

M	136.00129	(1950.0)	P	Q
n	0.27168014	Peri. 53.39375	+0.32882282	-0.94420551
a	2.3610080	Node 17.43750	+0.84521068	+0.28537526
e	0.1718952	Incl. 3.58701	+0.42130091	+0.16442904
P	3.63	H 14.2	G 0.15	

Residuals in seconds of arc

751014 095	1.0+	0.3-	910207 875	0.0	0.2-	910217 875	1.8-	0.8+
751106 095	0.7-	0.2-	910212 875	1.2+	1.1-	910220 875	0.0	0.3+
800123 095	0.4+	1.4+	910212 875	1.3+	0.2-	910220 875	1.8-	0.2+
910207 875	0.2-	0.2+	910217 875	0.8+	1.6-			

1991 DF
Epoch 1991 Feb. 13.0 ET = JDE 2448300.5 Marsden

M	28.66407	(1950.0)	P	Q
n	0.46351268	Peri. 209.23365	-0.29405366	-0.95441149
a	1.6535918	Node 257.90657	+0.88675453	-0.25239581
e	0.1063501	Incl. 3.00706	+0.35664947	-0.15935831
P	2.13	H 19.5	G 0.15	

From 9 observations 1991 Feb. 19-21.

1991 DG
Epoch 1991 Feb. 13.0 ET = JDE 2448300.5 Williams

M	303.98047	(1950.0)	P	Q
n	0.56623656	Peri. 63.40201	-0.45598498	+0.88998550
a	1.4470075	Node 179.45885	-0.87073069	-0.44568189
e	0.3740386	Incl. 11.45071	-0.18413519	-0.09640265
P	1.74	H 18.5	G 0.15	

From 5 observations 1991 Feb. 20-24.

1991 DJ = 1931 KH = 1948 NG = 1948 OD = 1975 RZ1 = 1978 JY2 = 1979 YX3 = 1985 MG = 1988 JJ2
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	340.72544	(1950.0)	P	Q
n	0.29332327	Peri. 159.01880	+0.21640877	+0.97330476
a	2.2433913	Node 123.40568	-0.90823842	+0.22943021
e	0.1784321	Incl. 5.25470	-0.35814832	+0.00629449
P	3.36	H 12.7	G 0.15	

Residuals in seconds of arc

310521 690	(5.5-	23.8+)X	850622 688	0.3-	0.1-	910219 896	1.5+	2.4+
310523 690	(80.0+	19.1-)X	850622 688	0.1-	0.3-	910220 898	1.0+	0.8+
480710 094	(1.9+	8.1-)X	880513 688	0.8-	2.8+	910220 896	(2.1+	2.9+)
480730 078	(17.0-	10.5+)X	880513 688	0.2-	0.6-	910220 898	0.3+	1.0+
750906 095	0.4+	6.3+	910209 898	(3.5-	1.5-)	910220 896	1.9+	0.3+
780509 095	1.1-	0.4-	910209 898	1.8-	0.6-	910223 896	2.3+	0.7+
791218 095	2.9-	0.5+	910219 896	(3.4+	1.3-)	910306 896	(5.1+	2.5-)

1991 DS = 1986 GK1 = 1986 HQ
Id. T. Urata, B. G. Marsden (d)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 (J-P) Urata

M	77.55127	(1950.0)	P	Q
n	0.17736220	Peri. 5.85654	-0.53060765	-0.84682662
a	3.1373492	Node 116.19513	+0.77596989	-0.50268199
e	0.1292189	Incl. 2.33826	+0.34106635	-0.17376851
P	5.56	H 11.5	G 0.15	

Residuals in seconds of arc

860414 046	1.2+	0.1+	910221 889	0.9-	0.4+	910306 887	0.7-	0.5+
860414 046	1.6-	1.1-	910221 889	0.5+	0.6-	910306 887	1.4+	0.0
860429 675	0.7+	0.5+	910223 889	0.4-	0.2-			
860429 675	0.3-	0.4+	910223 889	0.1+	0.1+			

1991 DV = 1926 RT = 1949 OS = 1968 HF = 1969 RO1 = 1971 BA2 = 1986 XL

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	68.90244	(1950.0)	P	Q
n	0.29906731	Peri. 41.51015	-0.99642335	+0.06274538
a	2.2145734	Node 141.97524	-0.07797767	-0.94082688
e	0.0608797	Incl. 5.27190	+0.03255738	-0.33302822
P	3.30	H 12.9	G 0.15	

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

260905 672	(0.09-	0.04+)Y	690913 095	3.3+	2.7-	910220 402	0.9-	1.1-
260906 672	(0.05-	0.09+)Y	710131 095	1.0+	2.5+	910221 402	0.4-	1.8-
490728 024	1.3-	0.5+	861202 688	1.7-	0.6-	910309 402	0.4-	1.8-
490730 024	0.1-	1.0-	861202 688	0.6+	0.5-	910309 402	0.3-	1.3-
680418 095	1.0+	1.9+	910220 402	0.9-	1.2-			

1991 EE

Epoch 1991 Mar. 5.0 ET = JDE 2448320.5 Marsden

M	316.31282	(1950.0)	P	Q
n	0.29484377	Peri. 116.64389	+0.26265611	+0.96423143
a	2.2356720	Node 168.41480	-0.93628403	+0.26362033
e	0.6276716	Incl. 10.21952	-0.23320375	+0.02760581
P	3.34	H 17.5	G 0.15	

From 15 observations 1991 Mar. 13-15.

2095 P-L = 1977 RR17

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	39.48354	(1950.0)	P	Q
n	0.23020959	Peri. 118.70650	+0.02989447	-0.99930208
a	2.6366579	Node 329.55552	+0.90091086	+0.03664391
e	0.1266086	Incl. 2.53348	+0.43297338	-0.00725053
P	4.28	H 15.5	G 0.15	

Residuals in seconds of arc

600924 675	0.9-	0.6+	601017 675	0.5-	0.3-	770909 675	1.4-	0.8-
600926 675	0.7+	0.0	601022 675	0.3-	0.8+	770910 675	1.5+	0.8+
600928 675	0.4-	0.0	601025 675	1.1+	0.0			
600929 675	0.8+	0.6-	601026 675	0.6-	0.5-			

2614 P-L = 1977 RC19

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	125.82744	(1950.0)	P	Q
n	0.23080296	Peri. 164.78138	+0.97988112	+0.19954897
a	2.6321369	Node 183.71379	-0.18846361	+0.91914865
e	0.1483333	Incl. 3.21561	-0.06568456	+0.33962622
P	4.27	H 16.1	G 0.15	

Residuals in seconds of arc

600924 675	0.5-	0.0	601017 675	0.1-	0.6+	770909 675	0.1+	0.2+
600926 675	0.6+	0.0	601022 675	0.7+	0.2-	770910 675	0.1-	0.1-
600928 675	0.4-	0.4-	601025 675	0.4-	0.7-			
600929 675	0.3+	0.1-	601026 675	0.1-	0.5+			

3092 P-L = 1990 SM15
Id. E. Bowell
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 135.94364	(1950.0)		P	Q
n 0.22890408	Peri.	2.38752	+0.45390124	+0.88336661
a 2.6466735	Node	294.62692	-0.81959856	+0.36248014
e 0.2395497	Incl.	7.38078	-0.34961674	+0.29710534
P 4.31	H	15.0	G 0.15	

Residuals in seconds of arc

600924 675	0.7+	0.2-	601017 675	0.9+	0.6+	900918 675	0.1-	0.3+
600926 675	0.1+	0.6-	601017 675	1.3-	0.2-	900918 675	0.1-	0.1-
600928 675	0.6+	0.2-	601022 675	0.0	1.0-	900920 675	0.5+	0.4+
600928 675	0.5-	0.3+	601022 675	1.0+	0.7+	900920 675	0.4-	0.3-
600929 675	0.8-	0.4-	601026 675	0.7-	0.7+			

4529 P-L = 1977 RV13
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M 201.41908	(1950.0)		P	Q
n 0.17270785	Peri.	330.32839	+0.84683797	+0.53183917
a 3.1934589	Node	357.53322	-0.47029489	+0.74569847
e 0.1266783	Incl.	4.72107	-0.24837103	+0.40134884
P 5.71	H	14.4	G 0.15	

Residuals in seconds of arc

600924 675	0.5+	0.2+	600928 675	0.6-	0.5-	601026 675	0.7+	0.2-
600926 675	0.4+	0.1-	601017 675	1.2-	0.5-	770909 675	0.2+	0.0
600927 675	0.8+	0.7+	601022 675	0.8-	0.3-	770910 675	0.2-	0.0
600928 675	0.3-	0.0	601024 675	0.4+	0.7+			

4582 P-L = 1977 RG13
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 222.02412	(1950.0)		P	Q
n 0.17174853	Peri.	277.30468	+0.45692155	+0.88928562
a 3.2053394	Node	19.92091	-0.79135875	+0.41659050
e 0.1562404	Incl.	3.33887	-0.40616995	+0.18874173
P 5.74	H	13.0	G 0.15	

Residuals in seconds of arc

600924 675	0.0	0.1+	601017 675	0.3-	0.1+	770909 675	0.6-	0.9-
600926 675	0.2-	0.1-	601022 675	0.2+	0.3-	770910 675	0.6+	0.7+
600927 675	0.2+	0.2+	601025 675	0.1+	0.2-			
600928 675	0.1-	0.1+	601026 675	0.1+	0.2+			

4801 P-L = 1977 RX12
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 241.85549	(1950.0)		P	Q
n 0.17179255	Peri.	178.55656	+0.12103862	+0.99195070
a 3.2047919	Node	98.39447	-0.91106819	+0.12588912
e 0.1304452	Incl.	2.15469	-0.39408680	+0.01362840
P 5.74	H	14.5	G 0.15	

Residuals in seconds of arc

600924 675	0.3+	0.4-	600928 675	0.3-	0.3+	770909 675	0.7+	0.3+
600926 675	0.6-	0.4-	601022 675	0.4+	0.3-	770910 675	0.7-	0.2-
600927 675	0.5+	0.4+	601026 675	0.4-	0.4+			

4837 P-L = 1977 RJ10
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	336.43979	(1950.0)	P	Q
n	0.17195235	Peri. 182.57579	-0.98043205	+0.19685525
a	3.2028060	Node 8.77753	-0.18048684	-0.89685108
e	0.1514958	Incl. 0.37677	-0.07859706	-0.39611380
P	5.73	H 13.4	G 0.15	

Residuals in seconds of arc

600924	675	0.5+ 0.5+	600927	675	0.4+ 0.1+	770909	675	0.0 0.3+
600924	675	0.9- 1.1-	600927	675	1.2+ 0.5+	770910	675	0.2- 0.3-
600926	675	0.3+ 0.1-	600928	675	0.6- 0.5+			
600926	675	0.2+ 0.1+	600928	675	0.6- 0.4-			

6104 P-L = 1977 RY17
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	139.70540	(1950.0)	P	Q
n	0.17421751	Peri. 208.14602	+0.68112843	-0.73187231
a	3.1749838	Node 198.94639	+0.68309412	+0.64538387
e	0.0815138	Incl. 3.64884	+0.26352700	+0.21872946
P	5.66	H 14.4	G 0.15	

Residuals in seconds of arc

600924	675	0.6- 0.3+	601017	675	0.5- 0.5+	770909	675	0.0 0.2+
600925	675	0.1+ 0.6-	601022	675	0.6+ 0.4+	770910	675	0.0 0.2-
600926	675	0.4+ 0.4+	601024	675	0.1+ 0.7-			
600928	675	0.1+ 0.2-	601026	675	0.2- 0.1-			

6547 P-L = 1979 SW9 = 1979 VJ
Id. B. G. Marsden (MPC 7602)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M	91.98551	(1950.0)	P	Q
n	0.26058139	Peri. 319.01789	+0.99833522	+0.04707582
a	2.4275813	Node 38.32267	-0.02786213	+0.89952055
e	0.2074965	Incl. 3.08081	-0.05050228	+0.43433472
P	3.78	H 14.5	G 0.15	

Residuals in seconds of arc

600924	675	0.3+ 0.0	601022	675	1.7- 0.3-	791016	095	1.2- 1.1+
600926	675	0.2+ 0.5+	601024	675	0.2+ 0.1-	791111	095	0.8+ 1.3-
600927	675	0.5+ 0.5+	601026	675	0.4- 0.3-	831204	801	0.1+ 0.1-
600928	675	0.9+ 0.1-	790922	095	0.8+ 1.0+	900430	413	0.0 0.5-
601017	675	0.3- 0.6-	790928	095	0.3- 0.7-			

6586 P-L = 1977 RJ13
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	146.25352	(1950.0)	P	Q
n	0.23179877	Peri. 154.32678	+0.82945760	+0.55775948
a	2.6245930	Node 171.57784	-0.54130657	+0.81593872
e	0.1901786	Incl. 11.84899	-0.13779439	+0.15214586
P	4.25	H 15.3	G 0.15	

Residuals in seconds of arc

600924	675	0.0 0.5-	601017	675	0.2- 0.2-	770909	675	1.4- 0.4-
600926	675	0.1- 0.5+	601022	675	0.5- 1.0-	770910	675	1.4+ 0.5+
600927	675	0.4+ 0.3+	601024	675	0.2- 0.2+			
600928	675	0.0 0.3-	601026	675	0.5+ 0.9+			

6670 P-L = 1977 RX11
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	6.53571	(1950.0)		P	Q
n	0.23218771	Peri.	119.60271	-0.63479511	-0.77259109
a	2.6216612	Node	9.82821	+0.68293106	-0.56811278
e	0.1337960	Incl.	3.94871	+0.36144203	-0.28346230
P	4.24	H	14.9	G 0.15	

Residuals in seconds of arc

600924	675	0.0	0.0	601017	675	0.1+	1.0+	770909	675	0.2-	1.2-
600926	675	0.7-	0.2-	601022	675	0.9-	0.1+	770910	675	0.4+	0.7+
600927	675	0.5+	0.6+	601026	675	0.8+	1.1-				

9538 P-L = 1977 RG15
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	127.16306	(1950.0)		P	Q
n	0.28962133	Peri.	130.23277	+0.30650688	+0.95181081
a	2.2624675	Node	157.60946	-0.88141955	+0.28795941
e	0.0365271	Incl.	1.57573	-0.35937879	+0.10552516
P	3.40	H	15.0	G 0.15	

Residuals in seconds of arc

600924	675	0.0	0.0	601024	675	1.1+	0.4-	770910	675	0.2-	0.4-
601017	675	0.1+	1.1+	601026	675	0.3+	0.4-				
601022	675	1.6-	0.2-	770909	675	0.3+	0.3+				

1136 T-2 = 1977 RM15
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	15.57922	(1950.0)		P	Q
n	0.24207013	Peri.	345.55653	-0.93370898	-0.35797961
a	2.5498145	Node	173.45735	+0.33361755	-0.87616812
e	0.0692373	Incl.	3.10715	+0.12994949	-0.32276932
P	4.07	H	14.0	G 0.15	

Residuals in seconds of arc

730919	675	0.3+	0.3+	730929	675	0.8+	1.1-	731004	675	0.0	0.2-
730919	675	0.4+	0.2-	730929	675	(0.8+	2.3-)	731005	675	0.7-	0.2+
730920	675	0.6-	1.1+	730930	675	0.1+	0.2+	731005	675	0.1+	1.3+
730924	675	0.9+	0.5-	730930	675	0.0	0.0	731005	675	1.0-	0.7-
730924	675	0.9-	0.3-	731004	675	(0.8-	2.7-)	731005	675	0.6+	0.4+
730925	675	(2.3-	3.2-)	731004	675	0.6+	1.3+	770909	675	0.1+	0.8+
730925	675	0.3-	0.7-	731004	675	0.3-	1.1-	770910	675	0.1-	0.7-

1402 T-2 = 1977 RX13
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	197.71443	(1950.0)		P	Q
n	0.24621110	Peri.	21.65472	+0.99985685	+0.00427689
a	2.5211439	Node	338.08111	-0.01097078	+0.90044931
e	0.1299038	Incl.	2.51340	+0.01288074	+0.43493994
P	4.00	H	16.4	G 0.15	

Residuals in seconds of arc

730924	675	1.7+	1.4-	730930	675	2.3-	0.4+	731005	675	1.0-	0.6+
730924	675	1.0+	2.6-	730930	675	1.2-	1.4-	731005	675	1.2-	0.8+
730929	675	0.0	0.5-	731004	675	1.6+	0.7+	770909	675	1.6+	0.8+
730929	675	0.6+	1.4+	731004	675	1.4+	0.5+	770910	675	2.4-	0.8+

2030 T-2 = 1977 RZ15
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
M 159.92716 (1950.0) P Q
n 0.24228527 Peri. 9.94578 +0.94897601 -0.31528435
a 2.5483048 Node 8.44037 +0.28625858 +0.85281640
e 0.1077614 Incl. 2.47899 +0.13228965 +0.41629312
P 4.07 H 16.2 G 0.15
Residuals in seconds of arc

730919	675	0.5-	1.3+	730930	675	1.1+	0.8+	731005	675	0.1+	0.1-
730919	675	0.2+	0.4-	730930	675	0.8+	0.1-	731005	675	0.5-	0.1+
730924	675	0.6-	0.9+	730930	675	1.1+	0.8+	731005	675	(2.5-	0.4+)
730924	675	1.3-	0.4-	730930	675	0.1-	1.0-	731005	675	0.1-	1.4-
730925	675	(2.8+	2.4-)	731004	675	(2.4+	3.1-)	731005	675	1.2+	0.6-
730925	675	0.2+	1.0-	731004	675	0.4+	1.1-	731005	675	0.3-	1.1+
730929	675	0.0	1.2+	731004	675	0.4-	1.3+	770909	675	0.3-	0.6-
730929	675	0.6+	2.0-	731004	675	(3.0+	3.4-)	770910	675	0.4+	0.3+
730929	675	0.8-	0.2+	731004	675	(0.4+	2.9-)				
730929	675	(1.4+	2.1-)	731004	675	1.2-	0.8+				

2127 T-2 = 1977 RE12
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
M 257.26672 (1950.0) P Q
n 0.24182962 Peri. 310.63345 +0.09117562 +0.99563302
a 2.5515048 Node 324.58265 -0.90285298 +0.07415180
e 0.0229825 Incl. 1.98240 -0.42017081 +0.05671332
P 4.08 H 15.4 G 0.15
Residuals in seconds of arc

730920	675	0.9+	1.6-	730929	675	0.2+	1.2+	731004	675	(3.0+	1.2-)
730924	675	(2.9-	0.5-)	730929	675	1.2+	0.6+	731005	675	0.9-	0.7-
730924	675	0.6-	0.6+	730930	675	0.6+	1.1-	731005	675	1.4+	1.2+
730925	675	0.1-	0.9+	730930	675	0.5-	0.9-	770909	675	0.1-	0.0
730925	675	1.2-	1.2+	731004	675	0.7-	1.2-	770910	675	0.1+	0.1-

2244 T-2 = 1977 RQ9
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
M 203.59602 (1950.0) P Q
n 0.24148238 Peri. 148.19477 +0.78255570 +0.62257741
a 2.5539501 Node 173.29958 -0.57469075 +0.72358438
e 0.1207033 Incl. 0.97595 -0.23945171 +0.29803190
P 4.08 H 15.7 G 0.15
Residuals in seconds of arc

730919	675	0.4-	1.0-	730925	675	0.5+	0.9-	731004	675	0.7-	0.3+
730919	675	0.5+	0.1+	730929	675	0.0	0.8+	731005	675	0.1+	0.2-
730920	675	(3.8+	2.5-)	730929	675	0.0	0.8+	731005	675	1.2+	0.1+
730924	675	0.5-	1.5+	730930	675	0.3-	1.7-	770909	675	1.1+	0.1+
730924	675	0.1+	1.6+	730930	675	0.3+	0.9-	770910	675	1.1-	0.1-
730925	675	0.3-	0.8-	731004	675	0.6-	0.3+				

2280 T-2 = 1991 CE3
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 88.14433 (1950.0) P Q
n 0.30589167 Peri. 339.48477 -0.91288812 -0.40819559
a 2.1815120 Node 176.41822 +0.38171003 -0.85655853
e 0.0513459 Incl. 3.13059 +0.14468146 -0.31572750
P 3.22 H 15.0 G 0.15
Residuals in seconds of arc

730925	675	1.3-	1.0-	730929	675	0.9+	0.1-	730930	675	1.7+	0.7+
730925	675	0.2+	0.3-	730929	675	0.9+	0.3+	730930	675	0.7-	0.6-

731004 675 0.2- 1.3+ 731005 675 0.4+ 0.8- 910219 372 2.4- 0.3-
731004 675 0.5- 0.4+ 910212 372 1.4+ 1.2+ 910219 372 1.7+ 0.4+
731005 675 1.4- 0.0 910212 372 0.7- 1.4-

3111 T-2 = 1977 RN17
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
M 39.89805 (1950.0) P Q
n 0.24327021 Peri. 328.34073 -0.82900993 -0.55914923
a 2.5414219 Node 177.59500 +0.54918698 -0.81727618
e 0.1052539 Incl. 13.40662 +0.10552816 -0.13932618
P 4.05 H 14.4 G 0.15
Residuals in seconds of arc
730919 675 0.7+ 0.4+ 730925 675 0.5- 0.1- 731004 675 (1.2+ 2.4-)
730919 675 0.5- 1.0- 730925 675 (1.7- 2.6+) 731005 675 0.1+ 0.6-
730920 675 0.7- 0.2+ 730929 675 0.4+ 1.6+ 731005 675 1.1- 1.6-
730924 675 0.3+ 1.2- 730929 675 0.1- 1.3+ 770909 675 1.1+ 1.0+
730924 675 0.2+ 0.5- 730930 675 0.7- 0.6+ 770910 675 1.1- 1.0-
730925 675 (2.6- 0.1-) 730930 675 0.3+ 1.2+
730925 675 (0.2- 2.8+) 731004 675 1.7+ 0.2-

4272 T-2 = 1991 DC1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 105.75680 (1950.0) P Q
n 0.30207994 Peri. 2.65979 -0.51752769 -0.85474690
a 2.1998250 Node 118.50956 +0.78418438 -0.49232910
e 0.1164582 Incl. 2.58673 +0.34237399 -0.16437698
P 3.26 H 15.0 G 0.15
Residuals in seconds of arc
730920 675 0.4+ 1.9+ 730929 675 0.3+ 1.1- 731005 675 1.2- 0.7-
730924 675 2.1+ 2.9+ 730930 675 1.5+ 0.1- 910217 372 2.5+ 0.7+
730924 675 0.3- 2.0+ 730930 675 2.1+ 0.4- 910217 372 0.2+ 0.8+
730925 675 0.5- 1.5+ 731004 675 0.2+ 1.4- 910222 372 0.8- 1.2-
730925 675 1.9- 0.3- 731004 675 1.2- 1.2- 910222 372 1.9- 0.0
730929 675 0.5+ 1.4- 731005 675 1.9- 1.5-

5200 T-2 = 1991 AZ2
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 9.61897 (1950.0) P Q
n 0.19028951 Peri. 242.45646 -0.99117946 +0.06720720
a 2.9935935 Node 301.19374 -0.00752978 -0.88904076
e 0.0281522 Incl. 7.67341 -0.13231243 -0.45286832
P 5.18 H 12.8 G 0.15
Residuals in seconds of arc
730924 675 1.5+ 0.3+ 730930 675 0.1+ 0.4- 910115 033 0.4- 0.4-
730924 675 1.2+ 0.3- 730930 675 0.9+ 0.5+ 910115 033 0.0 0.0
730925 675 1.0- 0.2+ 731004 675 0.4- 1.3+ 910115 033 0.3+ 0.4-
730925 675 1.5- 0.8- 731004 675 0.4- 0.1+ 910115 033 0.4+ 0.7+
730929 675 0.9- 0.2- 731005 675 0.3+ 1.0- 910116 033 0.3- 0.1+
730929 675 0.9- 0.9+ 731005 675 1.2+ 0.4-

4019 T-3 = 1990 SL14
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 108.24085 (1950.0) P Q
n 0.22407081 Peri. 176.43158 +0.95038383 +0.31035152
a 2.6845975 Node 165.43378 -0.28744976 +0.90227846
e 0.1117255 Incl. 4.85201 -0.11892524 +0.29929168
P 4.40 H 13.7 G 0.15

Residuals in seconds of arc

771011	675	1.1+	0.1+	771017	675	0.8-	0.3-	900924	809	0.9+	0.5+
771011	675	0.4+	0.5+	771017	675	0.1-	0.4+	900925	809	0.4-	0.1-
771012	675	0.3+	0.9-	771021	675	1.4+	0.1-	900925	809	0.4-	0.3-
771012	675	0.7-	1.4-	771021	675	1.7+	1.5+	900925	809	0.4-	0.6-
771016	675	1.9-	0.1+	900924	809	0.2-	0.3+				
771016	675	1.3-	0.1+	900924	809	0.4+	0.3+				

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NEW NAMES OF MINOR PLANETS.

(4186) Tamashima = 1977 DT1

Discovered 1977 Feb. 18 by H. Kosai and K. Hurukawa at Kiso.

Named in honor of the city where the first discoverer was born and grew up. It is located near the Okayama Astrophysical Observatory. For many years before the Meiji period Tamashima was one of the most important ports on the Inland Sea.

(4264) Karljosephine = 1989 TB

Discovered 1989 Oct. 2 by K. F. J. Cwach at Siding Spring on films taken by R. H. McNaught.

Named by the discoverer in honor of his parents, Karl Wilhelm Cwach and Josephine Anna-Maria Cwach for their encouragement of his interest in science and amateur astronomy.

(4272) Entsuji = 1977 EG5

Discovered 1977 Mar. 12 by H. Kosai and K. Hurukawa at Kiso.

Named for a temple near where the first discoverer lived in his youth. The famous priest Royokan (1758-1831) was trained in this temple.

(4447) Kirov = 1985 VE1

Discovered 1985 Nov. 7 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of the Kirov Ballet and State Theater of Leningrad (formerly St. Petersburg). Directly descended from the Russian Imperial Ballet of St. Petersburg, the Kirov has always preserved the highest values of classical dance. In the early nineteenth century, an extraordinary synthesis of French grace, Italian virtuosity and Russian temperament produced within this school a standard of artistry admired by the world and imitated by generations of dancers. In the late nineteenth century, the spectacular choreography of Marius Petipa, particularly in his Sleeping Beauty and Swan Lake, made St. Petersburg the capital of the ballet world. The Kirov has produced some of the greatest dancers, including Tamara Karsavina, Anna Pavlova and Vaslav Nijinsky. Ever a company of supreme elegance and impeccable taste, the Kirov performs with grace, technical ease, sensitivity and refined dramatic intensity. Name suggested and citation provided by J. M. Ostro and S. J. Ostro.

(4456) Mawson = 1989 OG

Discovered 1989 July 27 by R. H. McNaught at Siding Spring.

Named in memory of Sir Douglas Mawson (1882-1958), Australian geologist and Antarctic explorer. After graduating in engineering from the University of Sydney in 1902, Mawson gained valuable geological field experience on an expedition to the New Hebrides, returning to Sydney to take a geology degree in 1905. From that year onward he was associated with the University of Adelaide, being professor of geology from 1921 to 1952, making pioneering studies of uranium ores and, later, the Precambrian rocks of the Flinders Ranges. During 1907-1909 he took part in the British Antarctic Expedition

led by Shackleton, and from 1911 to 1914 he led the Australasian Antarctic Expedition; on the latter was found the "Adelie Land" meteorite, the first to be discovered on the Antarctic continent. "The Home of the Blizzard", his account of that expedition and his near-death, has become a classic. Throughout his career he promoted active fieldwork and continued his involvement in Antarctic exploration; after his retirement he was involved in planning for the IGY. Named by the discoverer and endorsed by D. I. Steel, who, along with R. G. Ferguson, provided additional citation material.

(4498) Koyama = 1989 AG1

Discovered 1989 Jan. 5 by T. Seki at Geisei.

Named in honor of the solar physicist Shin Koyama, who has served as a professor at Kagawa University for 30 years. Born in Kyoto in 1927, Koyama will retire from public life in March 1991.

(4499) Davidallen = 1989 AO3

Discovered 1989 Jan. 4 by R. H. McNaught at Siding Spring.

Named in honor of David Allen, staff astronomer at the Anglo-Australian Observatory (AAO). Following his Ph.D. from Cambridge University, Allen held research fellowships at the Hale Observatories and the Royal Greenwich Observatory. In 1975 he became one of the "founding members" of the scientific staff of the AAO, initially as a research fellow. He has remained as one of the pillars of that establishment ever since, having become the only permanently-appointed research astronomer. Notable for his extraordinarily wide interests across all astronomy, from the solar system to observational cosmology, his main contributions have been in the field of infrared instrumentation and its applications. He developed the radiometric method for determining asteroid diameters and recently discovered several new infrared "windows" in the atmosphere of Venus. Allen is also a leading figure in public education in astronomy, contributing to many radio and TV programs and the author of many popular articles and several books. Citation prepared by R. D. Cannon at the request of the discoverer.

(4526) Konko = 1982 KN1

Discovered 1982 May 22 by H. Kosai and K. Hurukawa at Kiso.

Named for a city in the area where the first discoverer grew up. Before the Okayama Astrophysical Observatory was established, the Tokyo Astronomical Observatory operated a small station in Konko for the observation of variable stars.

(4530) Smoluchowski = 1984 EP

Discovered 1984 Mar. 1 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Roman Smoluchowski, solid state physicist and planetary astronomer. A native of Austria, Smoluchowski became head of the physics and metals sections of the Warsaw Institute of Technology. In 1940 he was able to reach the U.S., where he did research with the General Electric Company, the Carnegie Institute of Technology and as professor of solid state physics and director of the solid-state laboratory at Princeton University. Retiring in 1978 from Princeton, he moved to the University of Texas at Austin and continued his work on solids in astrophysics. During his long career Smoluchowski has served on or headed a large number of commissions, particularly those of the National Research Council and the Space Science Board concerning physical sciences, solids and magnetism. For the past several decades he has been one of the founders and primary developers of the field of the solid state behavior of matter in astrophysical situations. He has made important contributions to the fields of planetary interiors, dynamics of rings, asteroids and comets and the

structure and thermal properties of cometary nuclei. Name suggested by W. D. Cochran, and citation provided by Cochran and H. J. Smith.

(4540) Oriani = 1988 VY1

Discovered 1988 Nov. 6 at the Osservatorio San Vittore.

Named in memory of Barnaba Oriani (1752-1832), famous Italian astronomer and director of the Brera Observatory, Milan, from 1802 to 1832. Oriani studied the orbits of the planets, particularly Uranus, for which he published orbital elements and tables. A friend of Piazzi, he was involved with the early work on Ceres and published analytical formulae for the calculation of perturbations by Jupiter on objects with highly-inclined orbits. Oriani also inspired Plana and Carlini to carry out their research on the motion of the moon.

(4542) Mossotti = 1989 BO

Discovered 1989 Jan. 30 at the Osservatorio San Vittore.

Named in memory of Ottaviano Fabrizio Mossotti (1791-1863), who studied at the Brera Observatory and then went as an exile to Geneva and London. In 1827 he was named engineer astronomer and professor of calculus and physics at the University of Buenos Aires. He then went to the University of Corfu (1838-1841) and in 1848 became professor of celestial mechanics and geodesy at the University of Pisa, where he remained until his death. He is celebrated for his memoir "Nuova analisi del problema di determinazione delle orbite" and for his books "Nuova teoria degli strumenti ottici", "Lezioni di Fisica Matematica" and "Meccanica Razionale".

(4579) Puccini = 1989 AT6

Discovered 1989 Jan. 11 by F. Borngen at Tautenburg.

Named in memory of the Italian composer Giacomo Puccini (1858-1924), whose magnificent operas "La Boheme", "Tosca", "Madame Butterfly" and "Turandot" have received the highest appreciation in the music world.

(4602) Heudier = 1986 UD3

Discovered 1986 Oct. 28 at Caussols.

Named in honor of Jean-Louis Heudier, astronomer in charge of the operations of the Schmidt telescope at Calern with which this object was discovered. Having initially gained experience in wide-field photography with the Antares satellite-tracking camera at the Observatoire de Nice, he played a crucial role in the development of the Schmidt at Calern and in convincing the French authorities to invest in modern photographic techniques. Under his leadership there were several discoveries of minor planets and supernovae. He has served as secretary and president of the IAU working group on photographic techniques. An authority on the history of astronomy, which he teaches at the University of Nice, he has also always been active in the popularization of astronomy, serving in particular as the leading force behind the "Astrorama" center for public observations in the heights of Nice. Citation provided by C. Pollas and A. Maury.

(4674) Pauling = 1989 JC

Discovered 1989 May 2 by E. F. Helin at Palomar.

Named in honor of Professor Linus Pauling on the occasion of his ninetieth birthday, 1991 Feb. 28. Pauling has had a long and distinguished career, spending 37 years as a Caltech faculty member, including 22 years as chairman of Caltech's Division of Chemistry and Chemical Engineering. He is the recipient of Nobel prizes for both Chemistry and Peace. The discoverer, and her husband Ronald, a Caltech graduate, are long time admirers of Pauling. Asteroid tribute endorsed by the Caltech community.

(4678) Ninian = 1990 SS4
Discovered 1990 Sept. 24 by R. H. McNaught at Siding Spring.
Named in honor of Ninian T. McNaught, father of the discoverer.

(4679) Sybil = 1990 TR4
Discovered 1990 Oct. 9 by R. H. McNaught at Siding Spring.
Named in honor of Sybil McNaught, mother of the discoverer.

(4713) Steel = 1989 QL
Discovered 1989 Aug. 26 by R. H. McNaught at Siding Spring.
Named in honor of Duncan Steel, Anglo-Australian astronomer who has conducted research on the origin and evolution of asteroids, comets and meteoroids. In particular, he has shown that several Apollo asteroids are the parents of meteor showers, indicating that these Apollos are likely to be extinct or moribund cometary nuclei. He has also worked extensively on radar observations of the meteoric influx to the atmosphere, planetary impact rates, and the dynamics of small solar system bodies.

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EPHEMERIDES.

1991 DA a,e,i =11.86, 0.87, 62 Elements MPC 17971

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 03 25	06 42.7	-71 12.7	1.779	2.095	93.7	28.4	17.6
1991 04 04	06 30.75	-69 29.7					
1991 04 14	06 29.65	-67 59.8	1.962	2.253	93.2	26.4	17.9
1991 04 24	06 36.08	-66 49.7					
1991 05 04	06 47.94	-66 01.2	2.137	2.418	93.5	24.6	18.2
1991 05 14	07 04.07	-65 33.3					
1991 05 24	07 23.77	-65 24.3	2.307	2.588	94.3	23.0	18.5
1991 06 03	07 46.61	-65 31.6					
1991 06 13	08 12.36	-65 51.6	2.484	2.761	94.8	21.5	18.7
1991 06 23	08 40.86	-66 21.1					
1991 07 03	09 11.94	-66 56.2	2.679	2.934	94.2	20.2	19.0
1991 07 13	09 45.44	-67 32.8					
1991 07 23	10 21.09	-68 07.6	2.904	3.108	91.9	19.1	19.2

1991 DG a,e,i = 1.45, 0.37, 11 Elements MPC 17972

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 03 25	08 00.12	+14 19.4	0.197	1.097	115.8	54.9	17.2
1991 04 04	07 42.19	+26 07.6					
1991 04 14	07 21.85	+39 35.4	0.168	0.999	83.7	86.7	17.7
1991 04 24	06 46.93	+54 01.1					
1991 05 04	05 23.01	+66 37.6	0.167	0.929	57.6	113.7	18.9
1991 05 14	02 42.9	+70 26.5					
1991 05 24	00 52.22	+64 35.1	0.206	0.906	53.7	115.8	19.4
1991 06 03	00 15.17	+56 56.4					
1991 06 13	00 07.81	+50 32.4	0.265	0.935	65.0	100.1	19.1
1991 06 23	00 11.11	+45 30.4					
1991 07 03	00 17.65	+41 24.3	0.312	1.008	79.6	82.7	18.9
1991 07 13	00 23.50	+37 45.0					
1991 07 23	00 26.17	+34 02.6	0.331	1.109	97.5	65.3	18.6

Comet McNaught-Russell (1991g) Elements MPC 17940

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1991 03 25	10 31.29	-13 15.0	4.029	4.934	152.4	5.4	16.5
1991 04 04	10 23.61	-10 33.5					
1991 04 14	10 17.36	-07 57.7	4.231	4.976	133.6	8.4	16.6

1991 04 24	10 12.67	-05 32.5						
1991 05 04	10 09.54	-03 21.0	4.549	5.021	112.4	10.7	16.8	
1991 05 14	10 07.91	-01 24.6						
1991 05 24	10 07.64	+00 16.6	4.934	5.071	92.0	11.5	17.0	
1991 06 03	10 08.58	+01 43.2						
1991 06 13	10 10.58	+02 56.5	5.334	5.125	72.8	10.9	17.2	
1991 06 23	10 13.48	+03 57.9						
1991 07 03	10 17.13	+04 49.0	5.706	5.183	54.6	9.2	17.4	
1991 07 13	10 21.39	+05 31.2						
1991 07 23	10 26.14	+06 06.1	6.020	5.245	37.1	6.7	17.6	

1991 EE a,e,i = 2.24, 0.63, 10 Elements MPC 17973

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 03 25	10 41.04	+09 41.9	0.849	1.802	154.8	13.6	19.2	
1991 04 04	10 25.83	+12 37.8						
1991 04 14	10 13.61	+15 12.2	0.814	1.627	126.8	29.6	19.4	
1991 04 24	10 05.90	+17 15.0						
1991 05 04	10 03.28	+18 45.0	0.823	1.445	103.7	42.7	19.5	
1991 05 14	10 05.70	+19 44.9						
1991 05 24	10 12.82	+20 18.8	0.821	1.260	86.1	53.3	19.5	
1991 06 03	10 24.06	+20 31.3						
1991 06 13	10 38.88	+20 26.1	0.773	1.081	73.0	63.9	19.4	
1991 06 23	10 56.74	+20 06.9						
1991 07 03	11 16.97	+19 38.4	0.663	0.930	63.2	77.3	19.1	
1991 07 13	11 38.84	+19 05.4						
1991 07 23	12 01.56	+18 33.1	0.493	0.841	55.5	95.6	19.0	

Periodic Comet Kowal 1 (1991i) Elements MPC 17940

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1991 03 25	10 55.77	+10 49.6	3.919	4.855	157.5	4.5	18.3	
1991 04 04	10 51.74	+11 05.5						
1991 04 14	10 48.65	+11 14.5	4.061	4.835	136.2	8.3	18.4	
1991 04 24	10 46.73	+11 15.7						
1991 05 04	10 46.06	+11 09.0	4.285	4.817	116.2	10.8	18.5	
1991 05 14	10 46.68	+10 54.6						
1991 05 24	10 48.56	+10 32.9	4.556	4.799	97.7	12.1	18.6	
1991 06 03	10 51.61	+10 04.5						
1991 06 13	10 55.73	+09 30.0	4.841	4.782	80.6	12.1	18.7	
1991 06 23	11 00.81	+08 49.9						
1991 07 03	11 06.74	+08 04.8	5.113	4.766	64.6	11.1	18.8	
1991 07 13	11 13.41	+07 15.4						
1991 07 23	11 20.70	+06 22.2	5.350	4.752	49.4	9.3	18.9	
1991 08 02	11 28.53	+05 25.8						
1991 08 12	11 36.81	+04 26.5	5.536	4.738	34.7	7.0	19.0	

Periodic Comet Shoemaker-Levy 4 (1991f) Elements MPC 17939

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1991 03 25	11 42.65	+08 03.7	1.751	2.734	168.1	4.3	17.1	
1991 04 04	11 36.33	+09 03.0						
1991 04 14	11 31.60	+09 44.6	1.933	2.822	146.2	11.4	17.4	
1991 04 24	11 28.88	+10 07.3						
1991 05 04	11 28.28	+10 12.1	2.200	2.909	126.0	16.3	17.9	
1991 05 14	11 29.71	+10 00.9						
1991 05 24	11 33.01	+09 36.0	2.523	2.997	108.1	18.7	18.3	
1991 06 03	11 37.92	+08 59.7						
1991 06 13	11 44.21	+08 14.0	2.874	3.084	92.2	19.2	18.7	
1991 06 23	11 51.66	+07 20.6						
1991 07 03	12 00.07	+06 21.2	3.230	3.170	77.5	18.2	19.1	
1991 07 13	12 09.26	+05 17.2						

1991 07 23	12 19.11	+04 09.5	3.574	3.255	63.8	16.3	19.4
1991 08 02	12 29.48	+02 59.3					
1991 08 12	12 40.29	+01 47.5	3.890	3.339	50.5	13.6	19.7
1991 08 22	12 51.45	+00 34.9					
1991 09 01	13 02.90	-00 37.7	4.165	3.421	37.6	10.4	19.9

1991 DB a,e,i = 1.72, 0.40, 11 Elements MPC 17972

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 03 25	12 35.87	+56 06.4	0.108	1.059	122.4	52.6	15.7
1991 04 04	15 16.86	+64 57.8					
1991 04 14	17 24.91	+61 47.0	0.148	1.028	95.6	76.2	17.1
1991 04 24	18 25.61	+55 53.5					
1991 05 04	18 55.40	+50 27.8	0.202	1.041	93.6	75.2	17.7
1991 05 14	19 10.63	+45 41.0					
1991 05 24	19 17.03	+41 07.0	0.245	1.095	103.1	64.3	17.9
1991 06 03	19 17.30	+36 19.3					
1991 06 13	19 12.93	+30 55.2	0.281	1.180	119.6	48.4	17.9
1991 06 23	19 05.81	+24 40.7					
1991 07 03	18 58.17	+17 45.9	0.330	1.284	139.0	31.3	18.0
1991 07 13	18 51.84	+10 39.1					
1991 07 23	18 48.34	+03 56.1	0.424	1.397	149.3	21.8	18.4

Periodic Comet Takamizawa (1991h) Elements MPC 17940

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1991 03 25	14 21.78	+02 52.5	1.230	2.138	147.3	14.6	17.8
1991 04 04	14 20.03	+04 21.4					
1991 04 14	14 15.73	+05 52.0	1.048	2.022	160.5	9.5	17.2
1991 04 24	14 09.48	+07 12.5					
1991 05 04	14 02.39	+08 10.0	0.952	1.912	154.5	13.1	16.7
1991 05 14	13 55.80	+08 34.1					
1991 05 24	13 51.10	+08 18.6	0.932	1.812	137.4	22.2	16.4
1991 06 03	13 49.35	+07 23.3					
1991 06 13	13 51.12	+05 51.7	0.965	1.726	121.2	30.2	16.3
1991 06 23	13 56.64	+03 49.1					
1991 07 03	14 05.80	+01 22.3	1.029	1.658	108.3	35.6	16.3
1991 07 13	14 18.34	-01 22.7					
1991 07 23	14 34.03	-04 19.9	1.113	1.612	98.3	38.6	16.3
1991 08 02	14 52.55	-07 22.7					
1991 08 12	15 13.63	-10 25.4	1.216	1.591	90.6	39.6	16.4
1991 08 22	15 37.03	-13 21.8					
1991 09 01	16 02.45	-16 05.7	1.341	1.596	84.3	39.0	16.7
1991 09 11	16 29.59	-18 31.9					
1991 09 21	16 58.14	-20 35.8	1.495	1.628	78.6	37.2	17.0
1991 10 01	17 27.66	-22 13.8					
1991 10 11	17 57.75	-23 24.2	1.681	1.684	72.9	34.5	17.4
1991 10 21	18 27.99	-24 06.2					
1991 10 31	18 57.95	-24 20.9	1.897	1.760	66.7	31.2	17.8
1991 11 10	19 27.32	-24 10.1					
1991 11 20	19 55.83	-23 36.6	2.139	1.852	59.8	27.5	18.3
1991 11 30	20 23.29	-22 43.6					
1991 12 10	20 49.62	-21 34.3	2.398	1.956	52.2	23.4	18.8
1991 12 20	21 14.77	-20 11.9					
1991 12 30	21 38.76	-18 39.4	2.663	2.069	43.8	19.2	19.3
1992 01 09	22 01.66	-16 59.4					
1992 01 19	22 23.52	-15 14.3	2.922	2.188	34.8	14.9	19.7
1992 01 29	22 44.43	-13 26.3					
1992 02 08	23 04.46	-11 36.9	3.162	2.310	25.4	10.5	20.1
1992 02 18	23 23.70	-09 47.8					
1992 02 28	23 42.20	-08 00.3	3.373	2.434	15.7	6.3	20.5

1992 03 09	00 00.04	-06 15.3					
1992 03 19	00 17.24	-04 34.0	3.544	2.559	7.2	2.8	20.8

Periodic Comet Hartley 2 (1985 V) Elements MPC 13046

Date ET	R. A. (1950)	Decl.	Delta	r	Variation		m2
1991 04 14	21 02.47	-08 49.1	2.367	2.193	-1.17	-5.3	19.8
1991 04 24	21 20.68	-06 51.8					
1991 05 04	21 39.51	-04 39.9	1.978	2.009	-1.54	-7.4	19.0
1991 05 14	21 59.19	-02 11.6					
1991 05 24	22 20.05	+00 35.2	1.606	1.819	-2.09	-10.4	18.1
1991 06 03	22 42.60	+03 43.4					
1991 06 13	23 07.55	+07 15.9	1.268	1.626	-2.91	-13.8	17.1
1991 06 23	23 35.89	+11 15.0					
1991 07 03	00 09.09	+15 40.9	0.984	1.434	-4.10	-15.9	16.0
1991 07 13	00 49.10	+20 27.1					
1991 07 23	01 38.07	+25 12.5	0.780	1.250	-5.55	-9.4	14.9
1991 08 02	02 37.47	+29 14.8					
1991 08 12	03 45.68	+31 35.6	0.687	1.091	-6.51	+12.9	14.1
1991 08 22	04 56.57	+31 32.7					
1991 09 01	06 02.59	+29 14.8	0.713	0.983	-5.37	+26.7	13.7
1991 09 11	06 59.43	+25 30.2					
1991 09 21	07 46.80	+21 08.5	0.818	0.954	-3.13	+21.0	13.9
1991 10 01	08 26.26	+16 42.1					
1991 10 11	08 59.42	+12 27.5	0.944	1.016	-1.75	+12.6	14.4
1991 10 21	09 27.42	+08 32.0					
1991 10 31	09 51.04	+04 57.9	1.045	1.147	-1.14	+6.8	15.2
1991 11 10	10 10.69	+01 46.1					
1991 11 20	10 26.56	-01 03.1	1.101	1.318	-0.95	+3.1	15.9
1991 11 30	10 38.67	-03 29.4					
1991 12 10	10 46.88	-05 31.6	1.114	1.506	-1.01	+1.1	16.5
1991 12 20	10 50.97	-07 07.4					
1991 12 30	10 50.77	-08 13.6	1.099	1.699	-1.24	+0.6	17.0
1992 01 09	10 46.22	-08 46.1					
1992 01 19	10 37.65	-08 41.3	1.093	1.891	-1.54	+1.8	17.5
1992 01 29	10 25.97	-07 58.6					
1992 02 08	10 12.59	-06 41.9	1.145	2.079	-1.74	+4.3	18.0
1992 02 18	09 59.28	-05 01.3					
1992 02 28	09 47.61	-03 10.2	1.296	2.261	-1.73	+6.0	18.6
1992 03 09	09 38.65	-01 21.2					
1992 03 19	09 32.88	+00 16.1	1.553	2.436	-1.54	+6.2	19.3
1992 03 29	09 30.24	+01 36.7					
1992 04 08	09 30.44	+02 39.1	1.894	2.605	-1.28	+5.4	20.0

Periodic Comet Machholz (1986 VIII) Elements MPC 14748

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1991 05 04	23 32.18	-39 23.0	1.830	1.766	70.3	32.5	20.8
1991 05 09	23 49.58	-39 16.4					
1991 05 14	00 08.66	-39 05.3	1.599	1.616	72.6	36.6	20.1
1991 05 19	00 29.73	-38 47.0					
1991 05 24	00 53.13	-38 17.2	1.380	1.456	73.1	41.7	19.3
1991 05 29	01 19.16	-37 30.3					
1991 06 03	01 48.10	-36 18.2	1.182	1.284	71.1	48.4	18.4
1991 06 08	02 20.00	-34 31.1					
1991 06 13	02 54.68	-31 57.3	1.022	1.097	65.2	57.1	17.4
1991 06 18	03 31.51	-28 25.6					
1991 06 23	04 09.53	-23 48.5	0.919	0.892	54.6	68.3	16.3
1991 06 28	04 47.59	-18 06.3					
1991 07 03	05 24.66	-11 27.9	0.902	0.658	39.6	79.7	15.0
1991 07 08	06 00.24	-04 06.8					

1991 07 13	06 34.79	+03 51.9	0.991	0.381	21.8	82.9	12.8
1991 07 18	07 11.65	+12 59.1					
1991 07 23	08 08.70	+24 19.7	1.126	0.134	4.1	32.7	8.5
1991 07 28	09 20.39	+28 59.0					
1991 08 02	10 26.62	+28 15.3	0.960	0.440	25.5	84.2	13.3
1991 08 07	11 26.42	+24 48.6					
1991 08 12	12 17.38	+19 58.6	0.966	0.707	41.8	72.7	15.4
1991 08 17	12 59.16	+14 48.3					
1991 08 22	13 33.04	+09 56.3	1.103	0.934	52.2	58.9	16.9
1991 08 27	14 00.71	+05 38.8					
1991 09 01	14 23.71	+01 58.2	1.310	1.135	56.8	48.1	18.1
1991 09 06	14 43.24	-01 08.9					
1991 09 11	15 00.16	-03 47.5	1.551	1.319	57.4	40.1	19.2
1991 09 16	15 15.11	-06 02.5					
1991 09 21	15 28.54	-07 58.3	1.804	1.488	55.5	33.8	20.0

Comet Skorichenko-George (1989e1) Elements MPC 17400

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1991 05 24	08 01.42	-33 13.2	5.039	4.946	79.0	11.6	18.5
1991 06 03	08 08.83	-32 52.4					
1991 06 13	08 16.77	-32 42.5	5.386	5.126	69.9	10.7	18.8
1991 06 23	08 25.12	-32 43.5					
1991 07 03	08 33.74	-32 54.8	5.708	5.304	61.8	9.7	19.0
1991 07 13	08 42.53	-33 16.2					
1991 07 23	08 51.38	-33 47.3	5.996	5.481	55.2	8.8	19.3
1991 08 02	09 00.21	-34 27.4					
1991 08 12	09 08.92	-35 16.1	6.242	5.656	50.7	8.0	19.5
1991 08 22	09 17.44	-36 12.8					
1991 09 01	09 25.68	-37 16.8	6.442	5.829	49.0	7.5	19.7
1991 09 11	09 33.55	-38 27.7					
1991 09 21	09 40.96	-39 44.6	6.592	6.000	50.3	7.4	19.9
1991 10 01	09 47.81	-41 06.9					
1991 10 11	09 54.00	-42 33.7	6.693	6.170	54.7	7.6	20.0
1991 10 21	09 59.39	-44 04.0					
1991 10 31	10 03.86	-45 36.8	6.750	6.339	61.6	7.9	20.2
1991 11 10	10 07.28	-47 10.8					
1991 11 20	10 09.48	-48 44.6	6.772	6.506	70.3	8.2	20.3
1991 11 30	10 10.34	-50 16.2					
1991 12 10	10 09.71	-51 43.9	6.771	6.671	80.0	8.4	20.4
1991 12 20	10 07.50	-53 05.3					
1991 12 30	10 03.69	-54 18.1	6.763	6.835	90.1	8.3	20.5
1992 01 09	09 58.33	-55 19.7					
1992 01 19	09 51.61	-56 07.9	6.767	6.998	99.6	8.0	20.6
1992 01 29	09 43.83	-56 40.9					
1992 02 08	09 35.44	-56 57.3	6.801	7.159	107.5	7.5	20.7
1992 02 18	09 26.94	-56 57.0					
1992 02 28	09 18.87	-56 40.7	6.880	7.319	112.7	7.2	20.8

Periodic Comet Arend-Rigaux Elements MPC 13040

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1991 05 24	02 10.86	+00 07.0	2.761	1.994	33.3	16.2	19.7
1991 06 03	02 34.44	+01 50.2					
1991 06 13	02 59.11	+03 29.6	2.535	1.866	39.4	20.2	19.5
1991 06 23	03 24.92	+05 03.6					
1991 07 03	03 51.91	+06 30.7	2.319	1.745	44.4	24.1	19.3
1991 07 13	04 20.10	+07 48.9					
1991 07 23	04 49.43	+08 56.5	2.123	1.637	48.5	27.7	19.0
1991 08 02	05 19.81	+09 51.6					
1991 08 12	05 51.10	+10 33.0	1.955	1.546	51.7	30.9	18.8

1991 08 22	06 23.06	+10 59.7						
1991 09 01	06 55.45	+11 11.4	1.818	1.480	54.5	33.7	18.7	
1991 09 11	07 27.98	+11 08.9						
1991 09 21	08 00.32	+10 53.5	1.708	1.444	57.5	35.9	18.5	
1991 10 01	08 32.20	+10 27.7						
1991 10 11	09 03.33	+09 54.3	1.620	1.441	61.5	37.5	18.5	
1991 10 21	09 33.44	+09 17.2						
1991 10 31	10 02.33	+08 40.2	1.543	1.472	66.9	38.4	18.4	
1991 11 10	10 29.78	+08 07.5						
1991 11 20	10 55.57	+07 43.6	1.468	1.533	74.4	38.4	18.4	
1991 11 30	11 19.52	+07 32.6						
1991 12 10	11 41.38	+07 38.6	1.390	1.619	84.2	37.2	18.4	
1991 12 20	12 00.88	+08 05.6						
1991 12 30	12 17.73	+08 56.4	1.309	1.725	96.6	34.5	18.3	
1992 01 09	12 31.54	+10 13.8						
1992 01 19	12 41.93	+11 58.2	1.235	1.844	111.9	29.7	18.2	
1992 01 29	12 48.57	+14 07.6						
1992 02 08	12 51.18	+16 36.6	1.190	1.972	129.7	22.6	18.0	
1992 02 18	12 49.75	+19 14.5						
1992 02 28	12 44.70	+21 47.4	1.204	2.104	147.0	14.9	18.0	
1992 03 09	12 36.89	+23 59.6						
1992 03 19	12 27.65	+25 38.1	1.303	2.240	153.8	11.3	18.2	
1992 03 29	12 18.44	+26 36.3						
1992 04 08	12 10.53	+26 54.2	1.495	2.376	143.6	14.5	18.7	
1992 04 18	12 04.80	+26 36.8						
1992 04 28	12 01.58	+25 51.7	1.764	2.511	127.8	18.5	19.3	
1992 05 08	12 00.87	+24 45.9						
1992 05 18	12 02.47	+23 25.7	2.091	2.645	112.3	20.7	19.8	
1992 05 28	12 06.05	+21 55.8						
1992 06 07	12 11.29	+20 19.7	2.451	2.777	97.8	21.2	20.3	
1992 06 17	12 17.90	+18 40.0						
1992 06 27	12 25.60	+16 58.5	2.827	2.906	84.2	20.4	20.7	

Periodic Comet Johnson (1990h) Elements MPC 12123

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1991 05 24	02 13.60	+02 27.5	3.432	2.621	31.3	11.6	19.9	
1991 06 03	02 29.90	+03 35.9						
1991 06 13	02 45.70	+04 35.8	3.353	2.681	41.7	14.6	19.9	
1991 06 23	03 00.93	+05 26.7						
1991 07 03	03 15.48	+06 08.4	3.237	2.744	52.8	17.2	19.9	
1991 07 13	03 29.25	+06 40.8						
1991 07 23	03 42.10	+07 03.8	3.088	2.810	64.8	19.1	19.9	
1991 08 02	03 53.87	+07 17.5						
1991 08 12	04 04.39	+07 22.2	2.911	2.878	78.0	20.2	19.9	
1991 08 22	04 13.46	+07 18.3						
1991 09 01	04 20.88	+07 06.5	2.719	2.946	92.8	20.0	19.9	
1991 09 11	04 26.43	+06 47.6						
1991 09 21	04 29.88	+06 22.9	2.530	3.016	109.4	18.3	19.8	
1991 10 01	04 31.09	+05 54.1						
1991 10 11	04 29.95	+05 23.1	2.369	3.087	128.1	14.7	19.8	
1991 10 21	04 26.51	+04 52.7						
1991 10 31	04 21.02	+04 26.0	2.272	3.158	148.0	9.6	19.8	
1991 11 10	04 13.91	+04 05.9						
1991 11 20	04 05.86	+03 55.4	2.271	3.229	163.0	5.1	19.9	
1991 11 30	03 57.66	+03 56.6						
1991 12 10	03 50.10	+04 10.2	2.383	3.299	154.4	7.4	20.1	
1991 12 20	03 43.84	+04 35.9						
1991 12 30	03 39.33	+05 12.4	2.603	3.369	134.8	11.9	20.4	

Comet Tsuchiya-Kiuchi (1990i) Elements MPC 17595

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1991 05 24		03 03.75	-10 08.5	4.241	3.443	33.5	9.3	14.0
1991 06 03		03 07.84	-10 14.1					
1991 06 13		03 11.34	-10 31.2	4.286	3.656	46.2	11.6	14.3
1991 06 23		03 14.11	-11 00.1					
1991 07 03		03 15.96	-11 40.9	4.246	3.867	61.5	13.4	14.5
1991 07 13		03 16.72	-12 33.9					
1991 07 23		03 16.20	-13 38.9	4.150	4.073	78.7	14.2	14.7
1991 08 02		03 14.20	-14 55.1					
1991 08 12		03 10.54	-16 21.5	4.032	4.277	97.1	13.6	14.8
1991 08 22		03 05.06	-17 55.8					
1991 09 01		02 57.68	-19 34.7	3.939	4.477	116.2	11.7	15.0
1991 03 15		11 51.30	-06 18.1	1.065	2.052	170.2	4.7	14.8
- 9.39	-0.31	+ 46.3	+ 7.5	(4774)	17952	- 4.96	+1.52	+ 48.2	- 6.3
1991 04 14		11 26.40	-03 30.8	1.131	2.062	150.0	14.1	15.3
1991 03 15		12 03.51	+03 44.8	1.425	2.414	172.9	2.9	16.5
-10.77	-0.16	+ 36.1	- 1.3	1982 SO4	17957	- 6.69	+1.29	+ 6.1	- 7.3
1991 04 14		11 34.64	+04 59.1	1.594	2.508	149.2	11.8	17.2
1991 03 15		13 14.43	-00 57.6	1.530	2.468	155.0	9.8	16.0
- 6.62	-1.05	+ 39.6	+ 3.0	(4773)	17951	- 8.42	+0.51	+ 29.8	- 6.1
1991 04 14		12 48.96	+01 03.4	1.517	2.503	166.6	5.3	15.8
1991 05 14		15 29.55	-20 14.4	1.995	3.005	176.8	1.1	17.0
- 8.55	-0.11	+ 31.5	+ 1.8	1978 TR2	17954	- 5.55	+1.00	+ 26.5	- 3.4
1991 06 13		15 06.35	-18 37.7	2.072	2.984	148.4	10.3	17.6
1991 05 14		15 31.42	-32 34.6	1.492	2.483	165.5	5.9	14.8
-10.04	-0.20	+ 3.5	+ 9.1	(4417)	16211	- 5.71	+1.42	+ 36.6	+ 0.9
1991 06 13		15 04.82	-31 19.0	1.569	2.494	148.9	12.1	15.2
1991 05 14		15 32.26	-25 46.5	1.903	2.907	171.9	2.8	17.3
- 9.76	-0.02	+ 39.5	+ 4.3	1989 WB2	15725	- 5.91	+1.13	+ 44.4	- 2.7
1991 06 13		15 06.65	-23 27.6	2.046	2.965	149.3	10.1	17.9
1991 05 14		15 32.79	-22 52.4	1.644	2.652	174.4	2.1	16.9
- 9.94	-0.26	+ 39.2	+ 4.1	1980 RC1	10952	- 6.62	+1.22	+ 42.1	- 3.4
1991 06 13		15 05.23	-20 36.4	1.672	2.593	148.6	11.8	17.4
1991 05 14		15 37.23	-07 24.7	1.900	2.897	168.2	4.1	17.6
- 9.80	-0.15	+ 16.8	- 4.3	1990 BV	16239	- 6.82	+1.02	- 16.2	- 6.0
1991 06 13		15 10.15	-07 20.6	2.006	2.896	144.9	11.6	18.0
1991 05 14		15 37.45	-18 42.5	1.584	2.593	175.6	1.7	17.8
-10.14	-0.15	+ 46.7	+ 1.4	1982 VD5	10943	- 6.35	+1.23	+ 33.5	- 5.3
1991 06 13		15 10.18	-16 29.8	1.688	2.609	148.7	11.7	18.3
1991 05 14		15 37.29	-19 44.6	1.829	2.837	175.4	1.6	16.3
- 8.66	-0.18	+ 19.5	+ 1.5	1978 TT2	13051	- 5.70	+1.04	+ 14.6	- 3.1
1991 06 13		15 13.52	-18 44.8	1.915	2.841	150.1	10.3	16.8
1991 05 14		15 37.27	-18 00.1	1.306	2.315	175.6	1.9	16.6
-10.30	-0.46	+ 19.5	+ 1.4	4254 T-2	15086	- 7.11	+1.38	+ 9.1	- 4.8
1991 06 13		15 07.74	-17 05.8	1.305	2.234	148.3	13.8	17.0

1991 05 14	15 36.94	-23 14.3	2.679	3.684	173.5	1.8	16.7		
- 7.05	-0.13	+ 12.1	+ 2.2	1989 CV	16432	- 5.07	+0.72	+ 15.7	- 1.2
1991 06 13	15 17.19	-22 26.4	2.758	3.683	151.6	7.5	17.1		
1991 05 14	15 39.67	-01 02.4	2.299	3.275	162.0	5.5	16.3		
- 7.95	-0.12	+ 26.0	- 6.2	1978 QC3	16575	- 5.67	+0.80	- 16.1	- 7.0
1991 06 13	15 17.55	-00 46.0	2.418	3.284	142.7	10.8	16.7		
1991 05 14	15 41.73	-22 04.0	1.523	2.530	173.5	2.6	16.7		
-10.77	-0.42	- 0.2	+ 3.3	1981 UB10	15410	- 7.78	+1.28	+ 6.0	- 1.8
1991 06 13	15 10.77	-21 46.0	1.551	2.483	150.0	11.8	17.1		
1991 05 14	15 41.87	-01 15.7	2.076	3.053	162.1	5.9	17.2		
- 8.37	-0.13	+ 33.5	- 6.7	1990 BR1	16239	- 5.84	+0.87	- 13.1	- 7.8
1991 06 13	15 18.69	-00 43.3	2.202	3.074	142.9	11.5	17.6		
1991 05 14	15 43.35	-20 56.1	0.954	1.961	173.7	3.3	15.4		
-10.28	-0.68	+ 1.1	+ 3.1	(4396)	16012	- 6.60	+1.71	+ 1.7	- 3.6
1991 06 13	15 13.61	-20 39.4	0.954	1.905	150.5	15.2	15.8		
1991 05 14	15 42.75	-18 57.0	2.321	3.328	174.3	1.7	17.7		
- 8.25	-0.24	+ 22.5	+ 1.2	1966 PK	13583	- 6.36	+0.81	+ 18.2	- 2.7
1991 06 13	15 18.91	-17 48.7	2.350	3.276	151.1	8.6	18.0		
1991 05 14	15 43.52	-32 55.6	2.183	3.168	164.4	4.9	17.1		
- 9.50	-0.34	+ 25.6	+ 7.4	1987 WU2	15251	- 7.29	+0.99	+ 54.9	+ 1.3
1991 06 13	15 15.90	-30 43.7	2.163	3.093	151.3	9.1	17.2		
1991 05 14	15 42.99	-28 38.4	2.728	3.723	168.3	3.2	17.8		
- 8.10	-0.20	+ 29.3	+ 4.4	1987 ST1	14476	- 6.22	+0.76	+ 43.3	- 0.2
1991 06 13	15 19.77	-26 40.9	2.758	3.689	152.5	7.3	18.0		
1991 05 14	15 44.02	-11 33.0	1.584	2.587	170.9	3.5	17.2		
-10.00	-0.30	+ 41.4	- 2.4	(4373)	15867	- 7.05	+1.15	+ 10.9	- 7.0
1991 06 13	15 15.75	-10 05.9	1.646	2.561	147.5	12.3	17.7		
1991 05 14	15 44.69	-23 45.9	1.290	2.295	171.9	3.6	16.3		
-10.60	-0.31	+ 28.7	+ 4.8	(4475)	16408	- 6.52	+1.44	+ 33.8	- 3.3
1991 06 13	15 15.77	-21 57.0	1.374	2.316	151.2	12.2	16.8		
1991 05 14	15 44.15	-22 31.2	1.913	2.918	172.7	2.5	16.0		
- 9.05	-0.29	+ 18.0	+ 3.0	1978 ON	14013	- 6.62	+1.00	+ 21.9	- 2.0
1991 06 13	15 18.27	-21 22.2	1.957	2.892	151.7	9.6	16.4		
1991 05 14	15 49.53	-13 45.5	1.696	2.700	171.4	3.2	16.6		
- 8.78	-0.36	+ 75.2	- 0.2	1988 VB5	14201	- 6.56	+1.01	+ 49.9	- 7.5
1991 06 13	15 24.01	-10 24.3	1.720	2.645	149.4	11.3	16.9		
1991 05 14	15 49.24	-13 19.5	2.597	3.599	171.2	2.5	17.6		
- 7.37	-0.21	+ 31.5	- 1.0	1976 SW3	13584	- 5.84	+0.67	+ 15.8	- 4.0
1991 06 13	15 27.79	-12 03.0	2.653	3.575	151.0	7.9	17.9		
1991 05 14	15 50.01	-19 42.2	2.734	3.738	172.5	2.0	17.7		
- 7.68	-0.20	+ 21.2	+ 1.1	1971 SS1	15401	- 6.07	+0.68	+ 18.6	- 2.0
1991 06 13	15 27.79	-18 36.7	2.808	3.744	153.3	7.0	18.0		
1991 05 14	15 51.35	-33 33.2	2.272	3.253	163.1	5.2	17.3		
- 8.93	-0.33	+ 15.9	+ 6.9	1214 T-3	16440	- 6.89	+0.92	+ 44.4	+ 1.7
1991 06 13	15 25.33	-31 53.2	2.299	3.238	153.1	8.2	17.4		

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1991 05 14    15 58.64   -32 49.9    1.505    2.489   163.0     6.8    17.4
-11.21  -0.51  +  6.4  + 9.4  (4414)    16018  - 8.10  +1.37  + 44.6  + 1.8
1991 06 13    15 26.20   -31 19.1    1.569    2.518   153.4    10.4    17.6

1991 05 14    15 59.11   -28 22.9    2.173    3.164   166.3     4.3    18.1
- 9.94  -0.48  +  9.5  + 5.3  1984 UX   13857  - 8.51  +0.89  + 30.9  + 0.9
1991 06 13    15 28.90   -27 14.3    2.161    3.108   154.5     8.1    18.2

1991 05 14    15 57.99   -12 50.9    2.348    3.346   169.1     3.3    18.1
- 7.99  -0.26  + 39.6  - 1.3  (4354)    15696  - 6.36  +0.73  + 20.4  - 4.7
1991 06 13    15 34.63   -11 14.5    2.431    3.363   152.1     8.1    18.4

1991 05 14    16 01.46   -29 38.3    1.215    2.207   165.1     6.8    17.1
-10.76  -0.84  + 18.0  + 9.2  1982 TQ2  10292  - 8.55  +1.46  + 53.9  + 0.8
1991 06 13    15 28.22   -27 34.7    1.194    2.154   154.3    11.8    17.2

1991 05 14    15 57.98   -15 54.0    2.377    3.377   170.4     2.9    17.8
- 7.09  -0.33  + 30.8    0.0  1979 MA4  11629  - 5.96  +0.67  + 19.9  - 3.5
1991 06 13    15 36.57   -14 31.4    2.381    3.324   154.0     7.7    18.0

1991 05 14    16 00.44   -16 00.7    1.721    2.722   169.8     3.8    17.2
- 9.62  -0.38  + 25.2  - 0.2  1989 YR   15900  - 7.35  +1.02  + 11.0  - 4.3
1991 06 13    15 32.40   -14 58.8    1.805    2.750   153.2     9.6    17.6

1991 05 14    15 59.25   -16 30.3    2.043    3.044   170.2     3.2    17.3
- 7.65  -0.34  + 47.9  + 0.3  2496 T-3  16038  - 6.06  +0.80  + 34.3  - 4.6
1991 06 13    15 36.60   -14 18.0    2.088    3.033   153.9     8.5    17.6

1991 05 14    15 59.48   -19 35.1    2.735    3.735   170.3     2.6    16.9
- 7.47  -0.27  + 18.8  + 1.1  1989 AQ   15418  - 6.26  +0.63  + 16.8  - 1.8
1991 06 13    15 37.23   -18 36.4    2.784    3.732   155.5     6.5    17.1

1991 05 14    15 59.46   -18 10.2    2.767    3.767   170.4     2.6    17.9
- 7.39  -0.25  + 21.7  + 0.6  1982 VZ    9360  - 6.16  +0.62  + 16.7  - 2.3
1991 06 13    15 37.52   -17 07.3    2.826    3.772   155.1     6.5    18.1

1991 05 14    16 00.34   -21 30.8    2.348    3.348   169.7     3.1    17.3
- 7.91  -0.29  + 19.7  + 1.9  1984 AR    8535  - 6.32  +0.75  + 20.7  - 1.7
1991 06 13    15 37.07   -20 23.6    2.427    3.380   155.9     7.1    17.6

1991 05 14    16 01.92   -21 25.1    1.827    2.826   169.4     3.8    16.0
- 8.19  -0.44  + 25.0  + 2.4  1987 RA1  17440  - 6.55  +0.91  + 25.8  - 2.4
1991 06 13    15 37.35   -20 00.1    1.860    2.817   155.8     8.5    16.3

1991 05 14    16 06.59   -47 04.5    1.852    2.772   149.6    10.6    17.7
-12.72  -0.73  + 38.1  +15.7  1988 MB   13458  -10.04  +1.44  +116.2  + 7.3
1991 06 13    15 28.43   -42 57.4    1.796    2.720   149.5    10.9    17.6

1991 05 14    16 06.78   -13 42.7    1.247    2.244   167.6     5.5    17.6
- 9.85  -0.57  + 15.3  - 2.2  1989 WK4  15897  - 7.32  +1.25  -  9.5  - 5.6
1991 06 13    15 37.68   -13 27.9    1.323    2.279   153.8    11.3    18.0

1991 05 14    16 08.87   -20 33.2    1.585    2.582   168.0     4.7    17.0
-10.08  -0.59  + 30.4  + 2.6  (4376)    15868  - 8.35  +1.07  + 29.8  - 3.1
1991 06 13    15 38.16   -18 52.2    1.614    2.574   155.8     9.3    17.2

1991 05 14    16 10.02   -20 39.4    1.302    2.300   167.7     5.4    16.8
- 9.23  -0.60  + 27.4  + 2.4  1352 T-2  15080  - 7.00  +1.20  + 23.9  - 3.7
1991 06 13    15 42.35   -19 11.2    1.369    2.337   156.8     9.9    17.1
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1991 05 14    16 11.06   -08 44.8    1.777    2.763   164.1     5.7    15.9
- 8.01  -0.45  +100.3  - 2.9  1975 TR4  14012  - 6.65  +0.84  + 58.4  - 9.9
1991 06 13    15 46.69   -04 33.6    1.829    2.759   150.7    10.4    16.1

1991 05 14    16 15.26   -43 59.8    1.845    2.776   151.7     9.9    16.4
-11.15  -0.82  - 33.3  +12.1  1974 SJ3  17012  - 9.67  +1.23  + 34.7  + 8.0
1991 06 13    15 40.24   -43 50.1    1.871    2.802   150.8    10.2    16.5

1991 05 14    16 12.74   -12 58.3    1.341    2.334   166.0     6.0    16.6
- 7.48  -0.75  + 52.0  - 1.1  1978 RJ1  16868  - 6.77  +0.97  + 23.4  - 7.9
1991 06 13    15 48.18   -10 52.6    1.307    2.267   154.8    11.0    16.7

1991 05 14    16 20.13   -33 21.1    1.583    2.555   159.6     7.9    17.5
-10.64  -0.91  + 14.0  + 9.2  1985 TW1  14195  - 9.90  +1.12  + 58.8  + 3.5
1991 06 13    15 45.56   -31 21.3    1.541    2.509   157.4     8.9    17.5

1991 05 14    16 18.56   -20 04.3    2.025    3.015   165.8     4.7    17.4
- 8.53  -0.50  + 29.3  + 1.6  1990 BZ1  16033  - 7.52  +0.78  + 27.3  - 2.5
1991 06 13    15 52.13   -18 31.7    2.069    3.038   158.9     6.9    17.6

1991 05 14    16 27.30   -53 24.8    2.180    3.044   142.5    11.7    18.0
-14.07  -1.00  - 13.6  +14.8  (4435)    16217  -12.42  +1.42  + 70.9  +10.4
1991 06 13    15 43.07   -51 50.6    2.177    3.070   145.7    10.7    18.0

1991 05 14    16 20.97   -09 48.1    1.274    2.259   162.7     7.6    15.9
- 8.32  -0.86  + 58.3  - 3.1  (4524)    16564  - 7.84  +0.99  + 16.3  - 9.8
1991 06 13    15 53.31   -07 43.9    1.256    2.214   154.0    11.6    16.0

1991 05 14    16 19.85   -07 51.9    1.583    2.563   161.9     7.0    17.2
- 7.32  -0.71  + 70.2  - 2.9  2150 T-2  16037  - 7.13  +0.77  + 29.8  - 9.6
1991 06 13    15 55.42   -05 09.5    1.541    2.487   152.7    10.8    17.2

1991 05 14    16 23.44   -31 22.3    1.293    2.271   160.4     8.6    16.4
- 9.08  -1.01  + 22.0  + 9.2  1142 T-3  15907  - 8.46  +1.17  + 62.7  + 2.2
1991 06 13    15 53.08   -29 02.2    1.262    2.241   159.5     9.1    16.4

1991 05 14    16 23.13   -20 06.0    1.049    2.041   164.7     7.5    16.6
- 9.00  -1.22  + 30.3  + 3.2  1981 EX19 10040  - 9.23  +1.19  + 30.6  - 4.0
1991 06 13    15 51.31   -18 21.1    0.984    1.965   158.6    10.9    16.5

1991 05 14    16 26.48   -35 13.1    2.133    3.091   157.4     7.2    18.1
- 9.07  -0.71  +  5.5  + 7.4  1981 EU8  16423  - 8.74  +0.79  + 43.9  + 4.0
1991 06 13    15 57.00   -33 52.6    2.104    3.073   158.8     6.9    18.1

1991 05 14    16 28.28   -28 32.7    1.470    2.449   161.1     7.7    18.3
-10.00  -1.07  -  6.8  + 6.0  1978 SB8  10952  -10.27  +1.00  + 25.1  + 2.8
1991 06 13    15 54.04   -27 59.3    1.416    2.396   159.9     8.4    18.2

1991 05 14    16 24.68   -11 49.8    1.406    2.390   162.9     7.2    17.6
- 6.94  -0.78  + 50.4  - 2.1  1139 T-2  15076  - 6.72  +0.84  + 18.4  - 7.9
1991 06 13    16 01.21   -09 56.0    1.391    2.359   156.9     9.7    17.6

1991 05 14    16 25.26   -19 54.7    2.585    3.568   164.3     4.4    17.9
- 7.29  -0.49  + 19.3  + 1.2  1982 UE7  15882  - 7.16  +0.52  + 19.2  - 1.5
1991 06 13    16 01.74   -18 52.1    2.564    3.540   161.1     5.3    17.9

1991 05 14    16 28.73   -14 12.4    1.299    2.284   162.8     7.5    15.5
- 8.59  -0.78  + 69.1  - 1.1  1985 TV2  17631  - 7.62  +1.02  + 38.4  - 8.3
1991 06 13    16 01.08   -11 17.8    1.346    2.318   157.7     9.6    15.7
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1991 05 14	16 30.75	-25 21.7	1.851	2.829	161.9	6.4	17.1		
- 8.38	-0.73	+ 17.3	+ 3.9	1984 YH1	12580	- 8.22	+0.76	+ 31.7	0.0
1991 06 13	16 03.10	-24 01.0	1.841	2.825	162.2	6.3	17.1		
1991 05 14	16 30.88	-11 45.4	1.897	2.873	161.4	6.4	17.2		
- 8.77	-0.64	- 7.4	- 2.7	1990 BN2	16240	- 8.44	+0.72	- 26.8	- 3.5
1991 06 13	16 02.55	-12 35.2	1.932	2.901	158.7	7.3	17.3		
1991 05 14	16 27.34	+24 16.2	0.986	1.840	134.3	23.2	15.4		
- 5.63	-0.98	+101.8	-27.1	1987 DF	17820	- 5.26	+1.05	- 74.9	-27.4
1991 06 13	16 07.27	+24 56.8	1.017	1.833	128.7	25.6	15.5		
1991 05 14	16 34.12	-42 42.7	1.968	2.892	150.9	9.8	16.3		
-10.23	-0.89	- 2.2	+10.8	(4452)	16223	- 9.78	+0.99	+ 58.2	+ 7.1
1991 06 13	16 00.64	-41 11.8	1.959	2.913	155.4	8.3	16.3		
1991 05 14	16 31.58	-23 23.6	1.706	2.687	162.3	6.6	16.8		
- 8.27	-0.83	+ 7.9	+ 3.0	1988 VV3	17442	- 8.49	+0.77	+ 18.4	- 0.3
1991 06 13	16 03.48	-22 38.1	1.671	2.656	162.3	6.7	16.7		
1991 05 14	16 33.59	-28 47.2	1.016	1.996	160.0	10.0	16.0		
- 8.27	-1.40	- 3.4	+ 7.5	(4269)	15539	- 9.14	+1.19	+ 35.9	+ 3.1
1991 06 13	16 02.66	-27 50.5	0.959	1.950	161.8	9.3	15.8		
1991 05 14	16 35.07	-18 42.8	2.112	3.089	161.9	5.8	18.0		
- 7.61	-0.62	+ 18.0	+ 0.7	1344 T-2	17220	- 7.64	+0.60	+ 14.4	- 2.1
1991 06 13	16 09.93	-17 49.0	2.116	3.101	162.6	5.6	18.0		
1991 05 14	16 36.22	-25 33.2	1.667	2.642	160.7	7.3	17.8		
- 7.90	-0.80	+ 9.9	+ 3.9	1169 T-2	15906	- 7.82	+0.80	+ 24.9	+ 0.3
1991 06 13	16 09.69	-24 34.2	1.685	2.675	163.7	6.1	17.7		
1991 05 14	16 37.98	-25 19.1	1.594	2.568	160.4	7.6	17.5		
- 8.56	-0.86	- 2.9	+ 3.7	1986 CP1	10944	- 8.51	+0.85	+ 13.9	+ 0.9
1991 06 13	16 09.21	-24 57.3	1.617	2.607	163.6	6.3	17.5		
1991 05 14	16 34.62	-04 28.8	2.072	3.027	156.9	7.5	15.8		
- 6.69	-0.55	+ 32.5	- 5.1	1950 DE	17423	- 6.61	+0.56	- 6.9	- 7.2
1991 06 13	16 12.62	-03 46.4	2.110	3.059	154.6	8.2	15.9		
1991 05 14	16 36.86	-22 24.1	0.933	1.918	161.3	9.7	17.3		
- 6.99	-1.41	- 5.1	+ 2.6	2550 P-L	14626	- 8.31	+1.08	+ 4.1	- 0.7
1991 06 13	16 09.30	-22 19.6	0.879	1.875	163.6	8.8	17.1		
1991 05 14	16 38.67	-17 27.2	0.962	1.945	161.0	9.7	15.4		
- 7.58	-1.36	+ 3.8	- 0.7	1982 VE4	11736	- 8.76	+1.05	- 10.1	- 4.1
1991 06 13	16 09.69	-17 30.3	0.920	1.913	162.5	9.2	15.3		
1991 05 14	16 40.00	-11 22.0	1.115	2.091	159.2	9.9	15.1		
- 8.00	-1.07	+ 25.4	- 4.2	(4375)	15868	- 8.18	+0.99	- 12.6	- 7.6
1991 06 13	16 11.92	-10 56.6	1.132	2.114	159.6	9.6	15.1		
1991 05 14	16 43.56	-26 37.5	1.605	2.573	158.8	8.2	17.3		
- 9.33	-0.92	+ 9.3	+ 4.7	1983 DC	15708	- 9.42	+0.87	+ 29.9	+ 1.0
1991 06 13	16 12.13	-25 31.8	1.622	2.614	164.2	6.1	17.2		
1991 05 14	16 41.34	-35 51.8	2.259	3.202	154.7	7.7	16.6		
- 8.14	-0.75	+ 4.1	+ 6.8	(4485)	16412	- 8.47	+0.65	+ 41.4	+ 4.3
1991 06 13	16 13.83	-34 39.0	2.232	3.211	161.4	5.8	16.5		

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1991 05 14    16 42.64   -47 23.9    2.656    3.541   146.2     9.1    16.6
- 8.90  -0.84  - 26.8  + 8.9  1990 FT   16437  - 9.43  +0.68  + 29.0  + 8.1
1991 06 13    16 12.36   -47 19.1    2.631    3.561   152.2     7.6    16.5

1991 05 14    16 40.72   -30 39.1    2.715    3.670   157.7     6.0    17.7
- 7.38  -0.61  +  7.0  + 4.2  (4499)    16417  - 7.84  +0.47  + 28.9  + 2.3
1991 06 13    16 15.90   -29 41.7    2.664    3.651   164.1     4.4    17.5

1991 05 14    16 39.99   -06 32.0    2.272    3.226   157.0     7.0    16.0
- 6.85  -0.61  + 26.4  - 3.7  1987 QY10 16428  - 7.36  +0.46  -  4.8  - 6.1
1991 06 13    16 16.70   -05 55.2    2.240    3.199   156.9     7.1    16.0

1991 05 14    16 46.30   -31 44.5    1.055    2.021   156.2    11.7    15.7
- 9.05  -1.43  - 14.0  + 8.8  (4570)    16861  - 9.70  +1.22  + 35.9  + 5.0
1991 06 13    16 13.27   -31 04.5    1.058    2.051   163.1     8.3    15.6

1991 05 14    16 41.41   -23 29.3    2.365    3.333   160.1     5.9    17.4
- 7.49  -0.69  +  5.5  + 2.2  1977 RD2  15240  - 8.20  +0.48  + 14.4  + 0.3
1991 06 13    16 15.73   -22 56.0    2.303    3.295   165.1     4.5    17.2

1991 05 14    16 45.08   -25 23.8    1.397    2.368   158.8     8.9    16.8
- 8.76  -1.24  + 11.7  + 4.6  (4655)    17414  -10.41  +0.79  + 33.5  + 1.1
1991 06 13    16 12.57   -24 09.7    1.311    2.306   164.4     6.8    16.5

1991 05 14    16 41.23   -20 16.5    2.637    3.605   160.5     5.4    18.3
- 7.04  -0.63  + 11.4  + 1.1  1981 VP2  12707  - 7.85  +0.38  + 13.2  - 0.8
1991 06 13    16 17.04   -19 36.2    2.543    3.533   164.8     4.3    18.1

1991 05 14    16 44.93   -22 05.6    2.237    3.203   159.5     6.3    17.8
- 8.75  -0.66  + 97.0  + 4.2  1989 BA1  16699  - 8.90  +0.60  +101.0  - 3.4
1991 06 13    16 16.13   -16 54.4    2.201    3.189   163.7     5.1    17.7

1991 05 14    16 46.39   -17 14.8    1.473    2.444   159.2     8.5    17.4
- 8.90  -0.93  + 34.6  + 0.3  1987 DM6  15886  - 9.13  +0.84  + 22.8  - 4.3
1991 06 13    16 16.07   -15 40.3    1.495    2.484   163.1     6.8    17.4

1991 05 14    16 46.33   -20 20.7    1.454    2.426   159.3     8.5    17.2
- 8.77  -1.04  + 33.4  + 2.2  1982 UT5  15882  - 9.50  +0.81  + 33.5  - 2.8
1991 06 13    16 15.50   -18 31.1    1.432    2.425   164.1     6.6    17.1

1991 05 14    16 49.80   -31 09.0    1.208    2.170   155.8    11.0    17.9
- 8.34  -1.54  +  2.1  + 7.9  1978 PX3  16021  -11.00  +0.85  + 50.9  + 5.6
1991 06 13    16 16.37   -29 45.5    1.097    2.092   164.2     7.6    17.4

1991 05 14    16 52.32   -31 02.2    1.562    2.516   155.3     9.6    18.0
- 8.97  -1.25  -  4.2  + 6.3  1964 TU2  14182  -10.85  +0.73  + 34.8  + 4.7
1991 06 13    16 18.93   -30 13.4    1.478    2.472   164.5     6.3    17.7

1991 05 14    16 49.07   -24 04.1    1.741    2.706   158.2     8.0    17.9
- 7.25  -0.92  + 20.7  + 3.2  1981 EZ10 10615  - 8.29  +0.61  + 31.9  - 0.2
1991 06 13    16 22.95   -22 38.9    1.698    2.696   166.7     5.0    17.7

1991 05 14    16 48.94   -29 11.6    2.367    3.320   156.8     6.9    16.9
- 7.20  -0.74  +  4.5  + 4.0  1969 LB   15239  - 8.09  +0.47  + 25.6  + 2.2
1991 06 13    16 23.78   -28 23.2    2.314    3.309   166.2     4.2    16.8

1991 05 14    16 51.55   -18 59.6    1.822    2.785   158.1     7.8    17.6
- 8.32  -0.89  +  8.4  + 0.6  (4458)    16225  - 9.27  +0.60  +  6.4  - 1.6
1991 06 13    16 22.42   -18 33.4    1.802    2.797   165.7     5.2    17.4
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1991 05 14    16 53.03   -20 47.0    1.730    2.693   157.7     8.2    18.3
- 8.89  -1.04  - 13.2  + 0.8  1985 UG5  12321  -10.37  +0.61  -  8.4  + 0.1
1991 06 13    16 21.11   -21 18.1    1.680    2.677   166.1     5.2    18.1

1991 05 14    16 48.55   -08 21.9    2.114    3.065   156.1     7.7    15.9
- 6.89  -0.69  + 12.0  - 3.7  (4505)    16419  - 7.62  +0.46  - 16.2  - 5.2
1991 06 13    16 24.66   -08 25.3    2.104    3.078   160.1     6.4    15.8

1991 05 14    16 52.65   -25 33.7    1.602    2.563   157.1     8.8    17.7
- 8.39  -1.19  +  5.6  + 3.8  1977 QK1  13684  -10.53  +0.59  + 26.2  + 1.8
1991 06 13    16 20.98   -24 42.1    1.494    2.493   166.3     5.5    17.3

1991 05 14    16 50.49   -07 12.8    2.065    3.012   155.1     8.1    19.0
- 7.07  -0.67  + 55.6  - 3.6  6299 P-L   8910  - 7.60  +0.50  + 20.8  - 7.3
1991 06 13    16 26.33   -05 11.2    2.084    3.049   157.8     7.2    19.0

1991 05 14    16 49.32   -20 36.0    2.718    3.678   158.6     5.8    17.5
- 6.69  -0.59  + 10.3  + 0.9  1982 VK12 13595  - 7.43  +0.37  + 11.8  - 0.7
1991 06 13    16 26.37   -20 00.0    2.678    3.675   167.0     3.6    17.3

1991 05 14    16 58.05   -24 00.2    1.790    2.745   156.2     8.5    17.5
-10.19  -1.24  - 65.0  + 0.4  (4761)    17946  -12.79  +0.52  - 48.6  + 4.1
1991 06 13    16 20.33   -26 57.4    1.708    2.704   165.8     5.3    17.3

1991 05 14    16 54.42   -30 02.6    2.360    3.305   155.3     7.3    17.7
- 8.09  -0.79  - 10.8  + 4.0  (4584)    16866  - 9.10  +0.49  + 13.6  + 3.2
1991 06 13    16 26.27   -29 56.7    2.329    3.324   166.1     4.2    17.5

1991 05 14    16 53.76   -17 22.4    1.753    2.714   157.4     8.2    17.5
- 7.69  -0.96  + 18.0  + 0.1  1984 SH6  17203  - 9.17  +0.53  + 10.7  - 2.7
1991 06 13    16 25.73   -16 34.2    1.692    2.687   165.6     5.4    17.2

1991 05 14    16 55.22   -21 13.6    1.278    2.244   157.2    10.1    16.1
- 7.57  -1.19  + 28.5  + 2.3  (4377)    15869  - 8.94  +0.78  + 30.2  - 2.4
1991 06 13    16 26.81   -19 36.9    1.262    2.263   167.0     5.8    15.9

1991 05 14    16 50.83   -16 05.2    1.063    2.035   158.0    10.7    17.2
- 5.25  -1.30  +112.2  + 4.1  1979 PA   16694  - 7.41  +0.70  + 95.6  -10.0
1991 06 13    16 28.15   -10 27.2    0.983    1.974   162.2     9.0    16.8

1991 05 14    16 54.06   -21 38.5    2.170    3.127   157.4     7.1    15.7
- 6.83  -0.74  + 37.0  + 2.0  (4455)    16224  - 7.74  +0.46  + 39.8  - 1.5
1991 06 13    16 30.00   -19 36.8    2.136    3.136   167.7     3.9    15.5

1991 05 14    16 55.40   -19 29.5    1.823    2.783   157.2     8.1    16.6
- 6.76  -0.89  + 17.2  + 0.8  1987 QS7  12943  - 8.04  +0.50  + 14.8  - 1.8
1991 06 13    16 30.63   -18 36.7    1.787    2.788   167.5     4.5    16.4

1991 05 14    16 57.18   -25 09.3    1.005    1.972   156.2    11.9    16.3
- 6.45  -1.54  + 26.3  + 5.4  (4478)    16409  - 8.96  +0.84  + 46.9  - 0.1
1991 06 13    16 29.66   -23 09.5    0.950    1.955   168.3     6.0    15.9

1991 05 14    16 57.87   -19 39.3    1.041    2.009   156.6    11.5    17.7
- 6.78  -1.60  + 25.4  + 1.9  1981 EQ40 16229  -10.36  +0.65  + 24.8  - 3.0
1991 06 13    16 28.02   -18 15.0    0.930    1.933   166.8     6.9    17.2

1991 05 14    16 55.89   -23 24.5    2.365    3.317   156.8     6.9    17.0
- 6.78  -0.74  + 33.6  + 2.6  1982 TT   12445  - 7.92  +0.39  + 41.7  - 0.4
1991 06 13    16 31.77   -21 26.0    2.291    3.293   168.6     3.5    16.7
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1991 05 14    16 57.96   -19 44.5    0.907    1.878   156.6    12.4    16.3
- 6.07  -1.57  -  1.6  + 0.1  1988 RF9  15068  - 8.63  +0.86  -  6.1  - 2.1
1991 06 13    16 31.43   -19 52.0    0.877    1.882   168.1     6.4    16.0

1991 05 14    16 57.11   -11 40.1    1.764    2.716   155.4     8.9    17.4
- 6.70  -0.94  + 55.9  - 1.2  1983 RT4  17202  - 8.41  +0.44  + 31.8  - 6.5
1991 06 13    16 31.92   -09 18.7    1.685    2.669   161.9     6.8    17.2

1991 05 14    16 58.10   -09 58.7    2.053    2.997   154.6     8.3    16.0
- 6.56  -0.77  + 12.9  - 3.2  1990 DM   16241  - 7.76  +0.41  - 12.5  - 4.9
1991 06 13    16 34.44   -09 55.0    2.029    3.014   162.8     5.7    15.9

1991 05 14    17 03.68   -17 51.3    1.730    2.681   155.1     9.1    17.4
- 7.75  -1.23  - 24.1  - 1.7  1983 QG    8678  -11.17  +0.27  - 32.5  - 1.2
1991 06 13    16 32.53   -19 17.4    1.568    2.570   168.2     4.6    16.9

1991 05 14    17 06.63   -35 46.2    1.128    2.068   150.5    13.9    16.0
- 7.97  -1.71  - 28.8  + 9.2  1977 EO   11999  -10.85  +0.92  + 36.0  + 9.1
1991 06 13    16 33.52   -35 35.4    1.096    2.091   163.9     7.7    15.8

1991 05 14    17 04.47   -20 45.6    1.375    2.330   155.0    10.5    17.6
- 7.78  -1.35  + 24.1  + 2.1  1982 UP   10040  -10.58  +0.56  + 28.1  - 1.6
1991 06 13    16 33.41   -19 20.6    1.285    2.289   168.4     5.1    17.2

1991 05 14    17 00.40   -13 17.4    2.078    3.025   155.1     8.1    18.2
- 6.15  -0.77  + 42.4  - 1.2  4069 P-L   9299  - 7.43  +0.38  + 24.1  - 4.7
1991 06 13    16 37.91   -11 31.1    2.043    3.034   164.6     5.1    18.0

1991 05 14    17 01.08   -05 58.8    2.673    3.598   152.2     7.5    16.5
- 6.20  -0.59  + 42.2  - 3.2  1982 UW3  17201  - 7.14  +0.30  + 13.6  - 5.9
1991 06 13    16 39.42   -04 30.2    2.659    3.625   158.9     5.8    16.4

1991 05 14    17 05.91   -24 21.4    1.491    2.442   154.4    10.3    17.4
- 7.45  -1.33  + 12.0  + 3.3  1988 TC2  15561  -10.59  +0.46  + 28.9  + 1.2
1991 06 13    16 35.54   -23 16.2    1.371    2.377   169.7     4.4    16.9

1991 05 14    17 03.29   -06 14.0    1.726    2.660   151.8    10.3    17.5
- 6.48  -1.01  + 63.8  - 3.3  1990 EX2  16880  - 8.72  +0.36  + 24.0  - 9.3
1991 06 13    16 37.97   -03 51.1    1.629    2.599   158.1     8.4    17.2

1991 05 14    17 11.45   -42 11.6    1.673    2.575   146.2    12.6    16.4
- 8.34  -1.45  - 42.3  + 9.1  1986 EZ   16024  -11.15  +0.66  + 25.3  +10.9
1991 06 13    16 38.30   -42 40.6    1.630    2.602   158.6     8.2    16.2

1991 05 14    17 08.28   -23 51.6    1.827    2.770   153.9     9.2    18.1
- 7.66  -1.09  + 20.9  + 2.9  2141 T-3  12573  - 9.93  +0.42  + 33.5  + 0.4
1991 06 13    16 39.11   -22 25.5    1.737    2.744   170.4     3.5    17.7

1991 05 14    17 11.93   -29 03.0    1.124    2.072   152.1    13.2    14.8
- 7.87  -1.88  +116.3  +16.3  (4558)    16691  -13.07  +0.50  +197.0  + 5.2
1991 06 13    16 36.12   -20 52.8    0.930    1.937   169.5     5.5    13.9

1991 05 14    17 05.31   -25 50.4    2.208    3.150   154.3     8.0    17.0
- 6.30  -0.86  + 27.5  + 3.3  1987 VG1  17019  - 8.07  +0.34  + 42.1  + 0.8
1991 06 13    16 41.54   -24 01.6    2.112    3.119   171.0     2.9    16.6

1991 05 14    17 22.62   -56 24.6    1.884    2.698   135.4    15.2    17.4
-11.07  -2.36  - 96.5  +10.7  1988 RD   16430  -18.10  +0.58  +  5.0  +19.8
1991 06 13    16 33.42   -58 59.2    1.755    2.639   143.2    13.3    17.1
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1991 05 14	17 10.73	-28 26.5	1.462	2.405	152.5	11.2	16.9		
- 7.33	-1.34	+ 1.5	+ 4.7	2400 T-3	15907	-10.09	+0.55	+ 30.1	+ 3.3
1991 06 13	16 41.10	-27 36.7	1.398	2.405	170.0	4.2	16.5		
1991 05 14	17 16.50	-41 17.8	1.940	2.835	146.0	11.5	16.9		
- 8.91	-1.36	- 23.5	+ 8.1	1990 DD	16241	-11.86	+0.52	+ 36.2	+ 9.6
1991 06 13	16 41.88	-41 01.9	1.854	2.831	160.3	6.9	16.6		
1991 05 14	17 13.01	-19 09.0	1.342	2.289	153.0	11.6	17.6		
- 6.95	-1.31	+ 44.8	+ 1.4	1978 SU5	10536	- 9.55	+0.54	+ 39.1	- 3.7
1991 06 13	16 44.85	-16 53.8	1.298	2.304	169.6	4.6	17.2		
1991 05 14	17 09.85	-07 08.2	1.913	2.839	150.8	10.0	16.3		
- 5.65	-0.92	+ 28.9	- 4.1	1990 EC	16241	- 7.80	+0.28	- 6.4	- 7.1
1991 06 13	16 47.48	-06 28.9	1.834	2.816	161.5	6.6	16.1		
1991 05 14	17 13.10	-20 57.0	2.217	3.151	153.0	8.4	17.2		
- 6.47	-0.89	+ 3.7	+ 0.7	1983 WJ	14348	- 8.56	+0.27	+ 6.0	- 0.3
1991 06 13	16 48.42	-20 40.7	2.136	3.146	172.2	2.5	16.9		
1991 05 14	17 20.29	-33 03.2	1.473	2.397	149.1	12.5	17.4		
- 8.09	-1.42	- 4.4	+ 6.6	1983 CZ2	8138	-10.81	+0.62	+ 38.6	+ 5.7
1991 06 13	16 48.16	-32 10.4	1.452	2.455	168.5	4.7	17.1		
1991 05 14	17 15.35	-19 14.4	1.636	2.575	152.5	10.5	17.4		
- 6.31	-1.27	- 15.7	- 1.1	1982 JR1	16023	-10.09	+0.20	- 20.7	- 0.7
1991 06 13	16 48.06	-20 09.7	1.489	2.499	171.9	3.3	16.8		
1991 05 14	17 21.01	-17 09.9	1.695	2.624	150.9	10.8	16.9		
- 7.63	-1.20	- 1.2	- 1.1	1990 BM	16239	-10.61	+0.34	- 9.4	- 1.8
1991 06 13	16 50.81	-17 24.8	1.624	2.631	171.0	3.5	16.5		
1991 05 14	17 18.87	-24 16.8	2.064	2.991	151.5	9.3	16.5		
- 6.89	-1.02	+ 37.7	+ 3.1	1969 GD	14183	- 9.37	+0.28	+ 50.4	+ 0.3
1991 06 13	16 52.08	-21 59.5	1.956	2.967	173.3	2.3	16.0		
1991 05 14	17 20.99	-25 49.2	1.869	2.795	150.8	10.2	18.1		
- 7.42	-1.16	- 5.4	+ 2.4	(4549)	16574	-10.26	+0.33	+ 11.4	+ 2.3
1991 06 13	16 51.72	-25 40.1	1.793	2.804	173.0	2.5	17.7		
1991 05 14	17 18.44	-33 59.7	1.427	2.352	149.1	12.7	16.9		
- 5.49	-1.55	- 43.9	+ 4.5	1981 ED43	12697	-10.12	+0.27	+ 0.4	+ 8.6
1991 06 13	16 51.66	-35 12.7	1.300	2.299	166.4	6.0	16.3		
1991 05 14	17 20.32	-01 07.9	1.552	2.453	145.6	13.5	16.2		
- 5.65	-1.11	+ 65.0	- 7.0	1982 EF	17629	- 8.31	+0.32	+ 3.1	-12.3
1991 06 13	16 56.74	+00 44.1	1.517	2.476	155.4	9.8	16.0		
1991 05 14	17 16.89	-07 15.0	1.032	1.969	149.2	15.2	15.8		
- 3.39	-1.50	+ 41.6	- 6.1	1979 ML	12202	- 7.80	+0.26	- 19.0	-12.6
1991 06 13	16 56.85	-06 28.8	0.934	1.927	162.4	9.2	15.3		
1991 05 14	17 25.68	-19 37.5	1.891	2.812	150.0	10.3	17.3		
- 5.73	-1.14	+ 32.9	+ 1.3	1987 QF7	12439	- 9.29	+0.10	+ 34.1	- 1.4
1991 06 13	17 00.87	-17 52.0	1.727	2.738	173.0	2.6	16.7		
1991 05 14	17 26.91	-24 59.7	2.127	3.042	149.6	9.7	17.7		
- 5.88	-1.04	+ 1.3	+ 1.7	1987 SM12	13692	- 8.90	+0.15	+ 12.8	+ 1.6
1991 06 13	17 02.54	-24 38.3	2.009	3.022	175.6	1.5	17.1		

1991 05 14	17 33.84	-34 07.2	1.913	2.808	146.1	11.6	17.7		
- 7.22	-1.35	- 24.5	+ 4.4	1986 AO2	15413	-11.16	+0.21	+ 13.5	+ 6.9
1991 06 13	17 03.40	-34 28.4	1.810	2.812	168.1	4.3	17.3		
1991 05 14	17 26.46	-20 21.8	1.925	2.845	149.9	10.3	17.3		
- 4.93	-1.09	+ 6.3	+ 0.2	1986 QP2	14787	- 8.34	+0.09	+ 5.6	- 0.7
1991 06 13	17 04.39	-20 02.3	1.781	2.795	175.1	1.8	16.7		
1991 05 14	17 30.51	-22 54.7	1.975	2.888	148.9	10.4	17.2		
- 6.31	-1.08	- 13.0	+ 0.6	1990 BG1	17209	- 9.19	+0.22	- 6.2	+ 1.2
1991 06 13	17 04.87	-23 24.6	1.926	2.940	176.4	1.2	16.7		
1991 05 14	17 29.49	-07 53.8	1.488	2.397	146.6	13.4	17.5		
- 5.08	-1.32	- 8.4	- 6.5	1978 OP	11338	- 9.40	+0.07	- 54.2	- 7.6
1991 06 13	17 05.20	-09 25.6	1.361	2.359	165.8	6.1	17.0		
1991 05 14	17 33.59	-24 25.0	1.913	2.823	148.1	10.9	18.3		
- 6.83	-1.21	- 9.5	+ 1.2	1977 UD	13690	-10.40	+0.16	+ 2.0	+ 2.0
1991 06 13	17 05.21	-24 37.7	1.814	2.828	176.2	1.4	17.7		
1991 05 14	17 32.48	-15 07.9	2.052	2.958	147.9	10.5	17.6		
- 6.32	-1.10	- 10.1	- 2.3	1990 FT1	16587	- 9.89	+0.05	- 24.5	- 2.3
1991 06 13	17 06.05	-15 59.9	1.911	2.920	172.1	2.7	17.0		
1991 05 14	17 32.75	-19 14.2	1.552	2.470	148.4	12.4	17.7		
- 5.81	-1.39	+ 19.8	+ 0.3	1981 UM11	13855	-10.37	+0.09	+ 17.2	- 1.6
1991 06 13	17 05.76	-18 15.3	1.410	2.423	174.0	2.5	16.9		
1991 05 14	17 33.45	+19 38.0	1.192	1.996	129.7	22.9	14.9		
- 5.29	-1.62	+183.2	-14.7	(4483)	16411	-10.42	+0.16	+ 40.8	-29.4
1991 06 13	17 06.62	+25 41.4	1.145	1.968	131.1	22.9	14.8		
1991 05 14	17 30.24	-21 54.9	3.028	3.929	149.0	7.6	18.4		
- 5.84	-0.74	+ 0.2	+ 0.5	1989 AK	14205	- 7.98	+0.09	+ 3.3	+ 0.3
1991 06 13	17 08.00	-21 49.4	2.923	3.937	176.8	0.8	17.9		
1991 05 14	17 34.27	-14 35.2	2.224	3.123	147.4	10.0	17.6		
- 6.56	-0.99	- 13.7	- 2.3	(4421)	16212	- 9.50	+0.11	- 27.2	- 2.0
1991 06 13	17 08.15	-15 37.2	2.136	3.144	171.9	2.6	17.1		
1991 05 14	17 34.63	-23 45.9	1.821	2.730	147.9	11.3	16.5		
- 5.57	-1.22	+ 21.7	+ 2.1	(4539)	16570	- 9.36	+0.11	+ 32.0	+ 0.7
1991 06 13	17 09.78	-22 22.9	1.694	2.709	177.4	1.0	15.8		
1991 05 14	17 34.39	-24 50.0	2.173	3.076	147.9	10.0	17.2		
- 5.61	-1.06	+ 2.0	+ 1.5	1980 FO1	17427	- 8.88	+0.08	+ 12.5	+ 1.5
1991 06 13	17 10.56	-24 28.3	2.050	3.065	177.4	0.9	16.5		
1991 05 14	17 40.49	-29 01.7	1.596	2.498	146.0	13.1	17.2		
- 6.67	-1.53	- 13.0	+ 3.0	(4443)	16220	-11.55	+0.13	+ 14.5	+ 5.0
1991 06 13	17 10.09	-29 03.4	1.483	2.494	173.6	2.6	16.5		
1991 05 14	17 38.29	-22 56.0	1.781	2.687	147.1	11.8	17.6		
- 6.36	-1.30	- 7.7	+ 0.5	1981 UQ11	17199	-10.48	+0.10	- 0.7	+ 1.3
1991 06 13	17 10.44	-23 10.2	1.670	2.685	177.7	0.9	16.9		
1991 05 14	17 36.02	-30 51.1	1.066	1.989	146.6	16.3	16.9		
- 3.85	-1.95	- 24.5	+ 3.9	1978 RC9	15063	-10.87	+0.03	+ 16.4	+ 8.2
1991 06 13	17 10.30	-31 11.4	0.932	1.943	171.6	4.4	16.1		

1991 05 14	17 36.65	-09 52.4	2.292	3.178	145.6	10.3	16.5
- 5.56	-0.96	- 21.1	- 4.2	1989 AH	16583	- 8.71	+0.01	- 47.1	- 3.9
1991 06 13	17 13.46	-11 35.2	2.165	3.166	168.3	3.7	16.0
1991 05 14	17 41.68	-20 36.4	1.459	2.367	146.3	13.7	18.4
- 5.74	-1.55	+ 3.5	- 0.2	1985 RD3	11743	-11.13	0.00	+ 3.3	- 0.3
1991 06 13	17 13.52	-20 26.2	1.321	2.336	176.9	1.4	17.6
1991 05 14	17 41.22	-24 29.7	1.224	2.140	146.4	15.1	16.8
- 5.17	-1.69	- 19.6	+ 0.8	3474 T-3	16039	-10.32	+0.21	- 6.5	+ 2.8
1991 06 13	17 14.50	-25 12.7	1.170	2.185	177.5	1.2	16.1
1991 05 14	17 38.47	-28 58.1	2.104	2.998	146.5	10.7	16.0
- 5.29	-1.15	+ 12.4	+ 3.2	(4498)	16417	- 9.06	+0.04	+ 34.4	+ 3.3
1991 06 13	17 14.75	-27 48.0	1.947	2.960	175.2	1.7	15.3
1991 05 14	17 45.79	-27 12.0	1.730	2.624	145.1	12.7	17.3
- 6.92	-1.38	+ 14.8	+ 3.0	1983 BH	15707	-10.94	+0.19	+ 34.8	+ 2.6
1991 06 13	17 16.12	-25 56.8	1.656	2.670	177.0	1.1	16.7
1991 05 14	17 41.38	-16 59.5	1.169	2.086	146.1	15.7	16.2
- 3.99	-1.76	- 0.5	- 2.7	1988 RF7	14953	-11.24	-0.28	- 20.5	- 3.6
1991 06 13	17 15.85	-17 29.3	0.985	1.998	174.3	2.9	15.2
1991 05 14	17 37.86	-20 42.5	1.749	2.656	147.2	11.9	16.1
- 4.08	-1.22	+ 8.2	+ 0.1	1986 PC1	17204	- 8.24	-0.01	+ 7.1	- 0.7
1991 06 13	17 17.16	-20 18.3	1.611	2.626	177.1	1.1	15.3
1991 05 14	17 47.96	-37 00.4	2.166	3.031	142.4	11.7	16.6
- 6.51	-1.37	- 54.5	+ 3.2	(4467)	16405	-11.41	-0.05	- 16.9	+ 8.4
1991 06 13	17 18.65	-38 57.3	2.036	3.025	164.2	5.3	16.2
1991 05 14	17 49.15	-31 24.2	1.677	2.562	143.7	13.5	17.7
- 6.41	-1.54	- 11.5	+ 3.6	1978 ST7	16422	-11.48	+0.07	+ 21.0	+ 6.0
1991 06 13	17 19.36	-31 14.5	1.568	2.577	171.9	3.2	17.2
1991 06 13	17 21.27	-25 44.8	1.828	2.843	177.4	0.9	17.7
-10.16	+0.09	+ 25.0	+ 2.3	1989 YA2	15900	- 5.63	+1.24	+ 27.2	- 1.7
1991 07 13	16 55.47	-24 19.0	1.980	2.877	145.7	11.5	18.5
1991 06 13	17 21.77	-33 58.8	2.203	3.206	169.1	3.4	16.5
- 9.40	-0.03	+ 18.4	+ 5.5	(4427)	16214	- 5.72	+1.12	+ 39.8	+ 1.0
1991 07 13	16 56.98	-32 23.3	2.287	3.180	145.8	10.4	16.9
1991 06 13	17 25.27	-24 40.7	1.831	2.846	178.1	0.7	15.9
- 9.06	-0.05	- 2.3	+ 1.7	(4506)	16420	- 5.31	+1.16	+ 2.5	- 0.4
1991 07 13	17 01.47	-24 36.4	1.940	2.848	147.1	11.2	16.6
1991 06 13	17 26.30	-40 34.9	1.257	2.246	162.5	7.8	15.3
-10.82	-0.33	- 10.9	+12.3	1981 ET	12443	- 5.41	+1.87	+ 48.8	+ 5.4
1991 07 13	16 57.89	-39 25.1	1.276	2.184	144.3	15.7	15.6
1991 06 13	17 27.34	-23 22.2	1.769	2.784	178.4	0.6	17.6
-10.56	-0.15	+ 2.9	+ 1.5	1988 SP	14477	- 6.85	+1.24	+ 5.5	- 0.9
1991 07 13	16 58.67	-23 05.2	1.840	2.745	146.4	11.8	18.1
1991 06 13	17 28.40	-15 24.4	0.843	1.855	172.1	4.3	15.3
- 8.89	-0.19	+ 21.4	- 5.6	1978 QG2	14344	- 3.19	+1.80	- 17.4	- 6.2
1991 07 13	17 06.63	-15 17.4	0.905	1.841	146.7	17.6	15.9

1991 06 13	17 30.83	-38 13.7	2.214	3.204	164.7	4.8	15.7		
-10.33	-0.14	- 42.2	+ 7.4	1980 PB3	16423	- 6.82	+1.17	- 2.5	+ 4.6
1991 07 13	17 02.68	-39 15.5	2.354	3.242	145.3	10.3	16.1		
1991 06 13	17 30.43	-10 41.8	2.148	3.146	167.3	4.1	16.3		
- 7.95	-0.06	+ 18.6	- 4.4	1990 FU	17637	- 5.17	+0.90	- 9.0	- 4.4
1991 07 13	17 08.97	-10 27.4	2.256	3.147	145.5	10.5	16.7		
1991 06 13	17 31.94	-16 53.4	1.382	2.394	173.2	2.9	16.9		
-10.91	-0.26	- 9.1	- 2.6	1985 PD2	14020	- 6.90	+1.42	- 24.8	- 2.6
1991 07 13	17 02.12	-17 44.3	1.440	2.354	146.3	13.9	17.4		
1991 06 13	17 32.54	-15 33.7	1.586	2.595	171.9	3.2	15.7		
- 8.79	-0.18	- 7.1	- 3.2	(4342)	15692	- 5.41	+1.18	- 25.7	- 2.8
1991 07 13	17 08.74	-16 23.8	1.657	2.573	147.5	12.3	16.2		
1991 06 13	17 33.24	-17 24.8	1.967	2.978	173.6	2.2	18.6		
- 8.88	-0.07	+ 26.9	- 1.6	1981 EX3	10820	- 5.68	+1.02	+ 11.3	- 3.3
1991 07 13	17 09.38	-16 24.4	2.081	2.990	147.6	10.5	19.1		
1991 06 13	17 33.55	-36 33.3	1.409	2.408	166.3	5.7	16.9		
-12.43	-0.44	+ 20.1	+10.4	1986 CC2	15413	- 8.00	+1.70	+ 66.5	+ 3.0
1991 07 13	16 58.95	-34 09.5	1.400	2.313	145.9	14.3	17.1		
1991 06 13	17 32.98	-14 26.6	2.313	3.319	170.8	2.8	17.7		
- 8.51	-0.08	+ 15.8	- 2.5	6045 P-L	14360	- 5.88	+0.88	- 1.9	- 3.1
1991 07 13	17 09.63	-14 04.6	2.418	3.318	147.0	9.6	18.1		
1991 06 13	17 33.65	-15 43.5	2.013	3.022	172.0	2.7	15.4		
- 8.20	-0.08	+ 27.8	- 2.4	(4537)	16569	- 5.24	+0.96	+ 8.4	- 3.7
1991 07 13	17 11.57	-14 46.6	2.122	3.030	147.7	10.3	15.9		
1991 06 13	17 34.60	-35 25.5	1.905	2.904	167.3	4.4	18.1		
- 9.70	-0.14	+ 12.1	+ 6.7	1182 T-3	16440	- 5.98	+1.23	+ 41.1	+ 2.0
1991 07 13	17 08.56	-33 56.8	1.991	2.902	147.9	10.7	18.5		
1991 06 13	17 36.50	-13 53.0	1.261	2.268	170.0	4.5	17.5		
- 9.80	-0.31	+ 30.6	- 4.4	1981 WF9	16695	- 5.99	+1.41	- 3.2	- 6.1
1991 07 13	17 09.66	-13 08.8	1.302	2.222	146.7	14.5	17.9		
1991 06 13	17 36.44	-21 23.6	2.558	3.572	175.9	1.2	18.0		
- 8.06	-0.17	+ 0.3	+ 0.1	1981 TJ3	15881	- 6.02	+0.79	- 1.0	- 0.8
1991 07 13	17 13.57	-21 23.0	2.607	3.521	149.6	8.4	18.4		
1991 06 13	17 38.11	-16 12.4	1.201	2.211	171.9	3.7	16.8		
-10.56	-0.39	+ 12.8	- 3.2	1985 TB3	17436	- 6.71	+1.51	- 11.2	- 4.4
1991 07 13	17 08.70	-16 07.8	1.231	2.158	147.4	14.7	17.2		
1991 06 13	17 37.63	-09 08.0	1.827	2.821	165.4	5.2	17.0		
- 9.53	-0.23	+ 20.0	- 5.5	1973 SG4	13852	- 6.80	+1.04	- 15.1	- 5.5
1991 07 13	17 10.79	-09 00.5	1.875	2.772	145.3	12.0	17.3		
1991 06 13	17 38.75	-18 45.3	1.537	2.549	173.9	2.4	16.5		
- 9.96	-0.29	+ 19.4	- 1.0	(4538)	16570	- 6.70	+1.25	+ 6.7	- 3.1
1991 07 13	17 10.91	-18 02.2	1.579	2.502	148.4	12.3	17.0		
1991 06 13	17 40.40	-20 31.0	2.183	3.195	174.7	1.7	17.9		
- 9.51	-0.22	+ 15.0	+ 0.1	1988 VH1	14026	- 7.09	+0.94	+ 10.9	- 1.6
1991 07 13	17 13.36	-19 48.8	2.234	3.151	149.3	9.5	18.4		

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1991 06 13    17 40.51   -24 03.6    2.436    3.449   175.3     1.4    17.8
- 8.33  -0.18  +  3.0  + 1.2  1989 CM   15562  - 6.16  +0.84  +  6.8  - 0.2
1991 07 13    17 16.89   -23 46.5    2.498    3.420   150.6     8.4    18.2

1991 06 13    17 41.08   -24 37.5    1.418    2.432   175.1     2.1    16.4
-10.79  -0.36  +  9.7  + 2.4  1981 QT   16230  - 7.16  +1.41  + 16.2  - 0.8
1991 07 13    17 10.89   -23 52.5    1.461    2.391   149.2    12.6    17.0

1991 06 13    17 42.23   +12 53.9    1.192    2.098   143.6    16.7    16.9
-11.43  -0.39  - 42.7  -23.1  1989 WL2  16585  - 7.57  +1.50  -158.0  -12.3
1991 07 13    17 10.24   +07 32.7    1.216    2.070   135.7    20.0    17.0

1991 06 13    17 42.47   -36 10.1    1.088    2.088   166.1     6.7    15.8
-11.46  -0.65  - 21.6  +10.3  4517 P-L  13863  - 6.98  +1.91  + 33.7  + 5.4
1991 07 13    17 10.08   -35 42.6    1.101    2.034   147.7    15.5    16.1

1991 06 13    17 43.29   -41 44.7    1.666    2.646   160.8     7.3    16.8
-11.40  -0.43  +  9.4  +11.1  1987 MK   12322  - 7.60  +1.51  + 64.1  + 5.1
1991 07 13    17 11.21   -39 43.4    1.678    2.588   146.6    12.5    16.9

1991 06 13    17 59.95   -44 40.3    0.590    1.575   157.0    14.6    17.6
-36.81  -1.61  + 12.5  +44.2  (4769)    17949  -18.69  +5.19  +174.8  - 1.0
1991 07 13    16 24.08   -38 30.9    0.649    1.561   138.2    25.7    18.1

1991 06 13    17 47.96   -38 42.6    1.139    2.132   163.4     7.8    15.9
-11.24  -0.42  -  3.9  +12.1  2480 T-3  12574  - 6.03  +1.82  + 52.4  + 4.5
1991 07 13    17 17.92   -37 15.4    1.225    2.159   148.7    14.1    16.3

1991 06 13    17 47.57   -33 47.3    1.556    2.558   167.8     4.8    16.6
-11.01  -0.47  -  5.2  + 7.1  1984 SA1  17435  - 7.76  +1.40  + 30.7  + 3.3
1991 07 13    17 15.98   -33 02.0    1.587    2.516   149.6    11.8    16.9

1991 06 13    17 47.67   -17 00.5    1.749    2.757   171.2     3.2    17.7
- 9.80  -0.31  + 14.4  - 1.8  1988 SH1  16582  - 7.17  +1.08  -  0.3  - 2.9
1991 07 13    17 19.65   -16 37.3    1.805    2.733   150.1    10.7    18.1

1991 06 13    17 49.10   -15 48.2    1.440    2.447   170.1     4.1    16.0
-10.67  -0.26  -  2.1  - 3.1  (4374)    15868  - 7.00  +1.30  - 19.6  - 2.6
1991 07 13    17 19.73   -16 21.6    1.554    2.488   150.0    11.8    16.6

1991 06 13    17 49.06   -27 32.0    1.477    2.487   172.2     3.2    17.3
-11.36  -0.53  - 33.5  + 3.4  1978 SH1  12325  - 8.43  +1.38  - 11.0  + 2.7
1991 07 13    17 15.84   -28 37.3    1.513    2.448   150.2    11.9    17.8

1991 06 13    17 51.50   -29 46.6    1.519    2.526   170.4     3.8    16.7
-11.05  -0.35  +  8.1  + 5.1  1990 BF   16032  - 7.42  +1.37  + 29.8  + 1.1
1991 07 13    17 20.64   -28 41.9    1.605    2.544   151.3    11.1    17.1

1991 06 13    17 53.44   -17 59.4    2.487    3.493   170.7     2.7    16.5
- 7.50  -0.24  + 23.9  - 1.0  1974 SD3  11423  - 5.94  +0.72  + 14.1  - 2.2
1991 07 13    17 31.51   -17 00.0    2.531    3.467   152.9     7.7    16.8

1991 06 13    17 55.35   -17 34.0    1.157    2.164   170.1     4.6    17.3
-10.19  -0.73  -  4.9  - 3.0  1978 RX1  13853  - 7.90  +1.42  - 22.3  - 2.8
1991 07 13    17 24.24   -18 15.1    1.141    2.091   151.5    13.4    17.6

1991 06 13    17 58.29   -18 15.5    1.530    2.536   169.9     4.0    17.9
-10.22  -0.38  - 39.5  - 1.7  5175 T-3  16441  - 7.36  +1.19  - 41.6  + 0.5
1991 07 13    17 29.02   -20 21.2    1.640    2.588   153.0    10.3    18.4
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