The MINOR PLANET CIRCULARS/MINOR PLANETS AND COMETS are published, on behalf of Commission 20 of the International Astronomical Union, usually in batches on the date of each full moon, by:

Minor Planet Center
Smithsonian Astrophysical Observatory
Cambridge, MA 02138, U.S.A.
Telephone 617-495-7244/7440/7444 (for emergency use only)
TWX 710-320-6842 ASTROGRAM CAM EASYLINK 62794505
MARSDEN@CFA.BITNET BRIAN@CFAPS1.SPAN MARSDEN@CFAPS2.SPAN
Brian G. Marsden, Director Conrad M. Bardwell, Associate Director

EDITORIAL NOTICE.

Although the availability of the diskette edition of the Minor Planet Circulars has allowed us to increase the length of time elapsing between the preparation of successive editions of the magnetic tapes with our complete set of astrometric observations of minor planets and comets, the intricacy of incorporating all the additions and other modifications from month to month still makes occasional editions of the complete set desirable. We therefore announce the availability of the sixth edition of the tape (the first since mid-1986). This also includes all the observations of the T-2 and T-3 surveys, which did not appear in the MPCs and on the diskettes. The new tape is intended to be complete through the 1989 Oct. 14 MPCs, and it contains a total of 543 943 observations: 337 039 of numbered minor planets, 173 232 of unnumbered minor planets and 33 672 of comets. Unlike previous editions, the observations are now in a more concise, coded form, and FORTRAN programs are provided to decode and re-encode them. Users are advised that these programs make use of the non-standard FORTRAN DECODE and ENCODE instructions, but since the coding of the observations still involves only the standard ASCII character set, the observation records are reasonably understandable by inspection. The files are available either on a labeled VAX/VMS tape or on an unlabeled 9-track ASCII tape (generally 80-byte records, 8000-byte blocks, density 6250 bpi). The cost is $200.00 (unless the need to record at low density necessitates a second tape), and enquiries should be made to the Minor Planet Center at the address given above. Users are also again advised of the continuing availability of the diskette (MS-DOS 5.25-inch 2S2D) edition of the MPCs (see MPC 11200), which MPC subscribers can receive at a cost of $30.00 per diskette.

Contributors of perturbed orbital elements are advised that use of the Epoch 1990 Nov. 5.0 ET (rather than 1989 Oct. 1.0 ET) will become effective FOLLOWING the 1989 Dec. 12 batch of MPCs.

* * * * *

ERRATA.

MPC	Line		
15091	1	For	Named in read Named for
15121	1	Add	The MINOR PLANET CIRCULARS/MINOR PLANETS AND COMETS are published, on behalf
15223	-17	Add	Id. T. Kobayashi, O. Kippes (d, MPC 1745)
15246	27 & 28	For	890902 809 read 890902 511
15246	29 & 30	For	890904 809 read 890904 511
15247	-17	Add	Id. S. Nakano, F. N. Bowman (d)
15254	16	Add	Id. T. Kobayashi, B. G. Marsden

CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Mag.	Obs.
1989 PN *	1989 08	01.30677	20 29 35.90	-21 10 11.7	MPC14998	17.8	675
1989 PN	1989 08	01.33646	20 29 34.12	-21 10 11.8	MPC14998		675
4100	1929 11	28.21181	04 33 40.29	+15 01 38.0	MPC12911		690
4225	1982 01	16.25764	06 50 01.50	+27 03 49.0	MPC 6612		688

* * * * *

DELETED OBSERVATIONS.

The following observations are to be deleted.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Obs.
3147	1984 09	23.28247	00 43 11.48	+07 37 16.6	MPC10502	688
3147	1984 09	23.28611	00 43 11.26	+07 37 15.4	MPC10502	688
3453	1987 03	30.16270	12 24 29.77	-10 43 11.4	MPC15036	808
3453	1987 03	30.20495	12 24 27.40	-10 42 59.1	MPC15036	808
1950 PK *	1950 08	12.21675	21 42.7	-13 26	MPC 490	760

* * * * *

IDENTIFICATION CHANGES.

Continuation to MPC 15121.

Object	Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
1940 YQ *	1940 12	27.72645	03 47 38.99	+14 04 10.1	1940 WM		062
1966 UF1 *	1966 10	16.83581	23 14 46.21	-09 20 45.7	1966 RF		095
1967 GM1	1967 04	11.00556	12 42 48.40	+13 11 57.7	2804		033
1967 GM1	1967 04	11.03333	12 42 46.98	+13 12 02.3	2804		033
1967 GM1 *	1967 04	11.86528	12 42 08.34	+13 13 54.0	2804	15.5V	033
1967 GM1	1967 04	11.90694	12 42 06.59	+13 13 58.5	2804		033
1967 GM1	1967 04	15.85417	12 39 07.17	+13 20 58.9	2804		033
1967 GM1	1967 04	15.91667	12 39 04.74	+13 21 04.6	2804		033
1977 TN8 *	1977 10	07.95280	01 52 54.44	+13 51 18.7	1977 SP1	17.0	095
1986 SG3 *	1986 09	29.92844	23 36 03.11	-05 02 11.9	1986 RD7	16.0V	095
1986 SG3	1986 10	02.87262	23 33 55.84	-05 19 17.7	1986 RD7	16.0V	095
1986 TG18*	1986 10	08.84440	23 29 45.77	-05 50 18.4	1986 RD7	16.2V	095
1988 SL1 *	1988 09	18.23680	22 49 12.94	-07 07 04.9	1988 RU9		809
1988 SL1	1988 09	18.24236	22 49 12.63	-07 07 08.7	1988 RU9		809
1988 SL1	1988 09	18.24791	22 49 12.31	-07 07 12.3	1988 RU9		809
1989 ON *	1989 07	29.27569	20 03 14.40	-08 11 42.2	1989 PL	17.8	675
1989 ON	1989 07	29.30781	20 03 12.95	-08 11 51.5	1989 PL		675

* * * * *

IDENTIFICATIONS.

The following list of identifications with numbered minor planets continues that on MPC 15122.

	Note		Note		Note
1933 FY = (3330)	1	1961 CB1 = (2835)	2	1961 ED = (3071)	2
1961 EE = (2996)	2	1962 EF = (3233)	2	1962 EH = (2591)	2
1975 CK = (2970)	2				

Note 1: identification by S. Nakano. 2: identification by G. V. Williams.

CRITICAL LIST OF MINOR PLANETS.

The following list updates and is in the same form as that on MPC 13924:

1. Objects observed at only one opposition:
719 878

2. Objects observed at only two oppositions:
2608 3270 3352 3360 3553 3671 3688 3757 3838 3908 3988 4015
4055 4177

3. Objects accurately observed at only three oppositions:
1538 2059 2061 2062 2101 2135 2148 2198 2202 2340 2552 2671
2703 2895 2937 3004 3040 3041 3075 3087 3102 3144 3160 3204
3212 3217 3245 3254 3271 3287 3289 3336 3343 3361 3392 3398
3402 3416 3446 3468 3476 3480 3489 3531 3551 3552 3556 3563
3579 3629 3635 3677 3693 3712 3752 3792 3801 3833 3834 3913
3941 3954 4034 4117 4134 4179 4205 4206

4. Objects observed at four or more oppositions, last during 1973-1978:
944 1134 1709 1816 1871 1876

5. Objects observed at four or more oppositions, last during 1979:
596 694 1164 1515 1656 1869 1920 1966 1974 2048 2049 2075
2083 2102 2343

* * * * *

OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

006 Fabra Observatory, Barcelona. 0.38-m f/11 Mailhat astrograph. Observer J. M. Codina. Measured by N. Torras.
046 Klet. Observers A. Mrkos and Z. Vavrova.
056 Skalnate Pleso. 0.3-m f/5 astrograph. Observer P. Rychtarcik. Communicated by J. Svoren.
372 Geisei. Observer T. Seki.
391 Sendai Astronomical Observatory, Ayashi Station. 0.125-m reflector and 0.20-m reflector. Observer M. Koishikawa.
400 Kitami. Observer K. Endate. Measured by K. Watanabe.
401 Oosato. Observer Y. Yamagishi. Measured by S. Hayakawa.
413 Siding Spring. Uppsala Southern Schmidt. Observer R. H. McNaught.
474 Mt. John. Observers A. C. Gilmore and P. M. Kilmartin.
491 Yebes. Observers J. Martin-Pintado, J. Garcia, F. Sanchez and F. Lahulla.
500 The geocentric code is given to observations from the SMM (Solar Maximum Mission) satellite. Observers J. Burkepile, D. Pitone, A. Stanger, O. C. St. Cyr and B. Twambly.
552 San Vittore. Observers C. Vacchi, G. Sassi, V. Goretti and E. Colombini.
561 Piszkesteto. Observers M. Lovas and I. Toth.
657 Victoria. Observers J. Tatum and D. Balam.
668 San Emigdio Peak. Observers B. D. Wallis and R. W. Provin. Long. and Parallax 240.82, -350, -242 (see MPC 11200).
675 Palomar. 0.46-m Schmidt. Observers J. Alu, R. Bambery, E. Helin and B. Roman.

786 U.S. Naval Observatory, Washington. 0.44-m astrograph stopped down to 0.23-m. Observers R. Schmidt and J. DeYoung.
801 Oak Ridge. 1.5-m reflector. Observers R. E. McCrosky and C.-Y. Shao.
875 Yorii Observatory. Observers M. Arai and H. Mori.
892 YGCO Hoshikawa and Nagano stations. 0.25-m f/4.0 reflector. Observer S. Hayakawa.
897 YGCO Chiyoda Station. Observer T. Kojima. 0.25-m f/3.4 Wright-Schmidt camera.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
		Periodic Comet Schwassmann-Wachmann 1					
/1974 II	1989	08 31.96863	23 53 11.06	+07 59 20.5	16.6T		046
/1974 II	1989	08 31.98328	23 53 10.59	+07 59 18.2			046
/1974 II	1989	09 07.96080	23 50 15.55	+07 48 43.0	16.5T		046
/1974 II	1989	09 07.97498	23 50 15.10	+07 48 42.6			046
/1974 II	1989	09 09.02610	23 49 47.63	+07 46 52.4	16.5T		046
/1974 II	1989	09 09.03877	23 49 47.25	+07 46 51.8			046
/1974 II	1989	09 22.86531	23 43 35.05	+07 18 06.4	13.7T		046
/1974 II	1989	09 22.87799	23 43 34.67	+07 18 03.4			046
/1974 II	1989	09 29.88686	23 40 27.00	+07 01 01.5	13.5T		046
/1974 II	1989	09 29.90110	23 40 26.63	+07 00 59.2			046
/1974 II	1989	10 03.87000	23 38 43.92	+06 50 57.5	13.8T		046
/1974 II	1989	10 03.88418	23 38 43.52	+06 50 55.8			046
/1974 II	1989	10 04.82434	23 38 19.82	+06 48 31.8	13.6T		046
/1974 II	1989	10 04.83846	23 38 19.47	+06 48 31.3			046
/1974 II	1989	10 05.80472	23 37 55.29	+06 46 01.1	13.8T		046
/1974 II	1989	10 05.81896	23 37 54.88	+06 45 59.0			046
/1974 II	1989	10 08.49317	23 36 49.67	+06 39 08.9	14 T	1	897
/1974 II	1989	10 08.53819	23 36 48.47	+06 39 05.1		1	897
/1974 II	1989	10 08.66090	23 36 45.53	+06 38 44.5			413
/1974 II	1989	10 08.68361	23 36 44.93	+06 38 42.3			413
/1974 II	1989	10 20.47494	23 32 30.08	+06 09 16.6	14 T	2	897
/1974 II	1989	10 20.49803	23 32 29.74	+06 09 14.8		2	897
/1974 II	1989	10 20.51044	23 32 29.51	+06 09 13.3	12 T		413
/1974 II	1989	10 20.52431	23 32 29.16	+06 09 11.1			413
/1974 II	1989	10 25.91528	23 30 54.37	+05 56 42.0	15.0T		552
/1974 II	1989	10 25.93403	23 30 54.09	+05 56 38.8			552
/1974 II	1989	10 26.90972	23 30 38.61	+05 54 29.8	15.0T		552
/1974 II	1989	10 26.92778	23 30 38.36	+05 54 26.2			552
		Periodic Comet Gunn					
/1982 X	1989	05 15.74583	14 52 43.82	-10 28 10.0			897
		Comet Bradfield (1987 XXIX)					
/1987 XXIX	1988	01 22.90244	01 26 02.36	+25 14 19.5			491
/1987 XXIX	1988	01 22.91005	01 26 04.38	+25 14 15.7			491
		Comet McNaught (1987 XXXII)					
/1987 XXXII	1988	04 21.90878	03 08 47.89	+63 48 21.1			491
		Periodic Comet Tempel 1					
/1987e1	1989	10 21.48870	23 40 13.82	-17 06 20.5	17.5	3	413
		Comet Shoemaker-Holt (1988g)					
/1988g	1988	10 20.20020	19 37 27.97	+50 08 06.2			675
/1988g	1988	10 20.20457	19 37 28.14	+50 08 03.9			675
/1988g	1988	10 20.20955	19 37 28.31	+50 08 01.1			675

Periodic Comet Pons-Winnecke

/1989g	1989	10	03.12691	16	58	17.87	-33	25	11.6	12.0T	675
/1989g	1989	10	03.14913	16	58	23.21	-33	25	37.1		675

Periodic Comet Gehrels 2

/1989n	1989	10	01.33953	02	38	45.40	+16	52	04.4		801
/1989n	1989	10	08.57153	02	37	09.94	+16	19	04.0	16 T	875

Periodic Comet Brorsen-Metcalf

/1989o	1989	08	05.38854	04	00	27.83	+39	24	46.3		657
/1989o	1989	08	07.45434	04	26	59.10	+40	39	02.5		657
/1989o	1989	08	08.37597	04	39	11.32	+41	04	37.5		657
/1989o	1989	08	17.13472	06	34	40.23	+40	56	37.6		006
/1989o	1989	08	17.14583	06	34	48.34	+40	56	21.4		006
/1989o	1989	08	22.09745	07	30	05.64	+38	04	21.1		046
/1989o	1989	08	22.09884	07	30	06.30	+38	04	18.0		046
/1989o	1989	08	22.10370	07	30	09.41	+38	04	05.5		046
/1989o	1989	08	22.10509	07	30	10.29	+38	04	02.1		046
/1989o	1989	08	27.14618	08	16	00.42	+34	03	00.9		006
/1989o	1989	08	27.15729	08	16	05.87	+34	02	27.0		006
/1989o	1989	09	02.15417	08	59	41.81	+28	35	32.0		006
/1989o	1989	09	02.17326	08	59	49.30	+28	34	27.7		006
/1989o	1989	09	09.18958	09	41	24.85	+21	49	00.3		006
/1989o	1989	09	09.19236	09	41	25.83	+21	48	47.6		006
/1989o	1989	09	15.19375	10	12	26.97	+15	58	18.8		006
/1989o	1989	09	15.19653	10	12	27.83	+15	58	09.1		006

Periodic Comet Lovas 1

/1989p	1989	10	04.00932	05	47	23.50	+40	10	49.9	16 T	561
/1989p	1989	10	04.02289	05	47	26.40	+40	11	00.3		561
/1989p	1989	10	08.74722	05	59	12.87	+40	57	21.3	15 T	897
/1989p	1989	10	08.76111	05	59	14.87	+40	57	27.6		897

Comet Okazaki-Levy-Rudenko (1989r)

/1989r	1989	09	08.80388	15	04	44.20	+32	51	11.3	9.0T	046
/1989r	1989	09	08.80804	15	04	43.84	+32	51	10.1		046
/1989r	1989	09	08.82645	15	04	42.46	+32	51	03.2	9.5T	046
/1989r	1989	09	10.79483	15	02	11.59	+32	39	27.3		046
/1989r	1989	09	10.79757	15	02	11.28	+32	39	29.3		046
/1989r	1989	09	10.81878	15	02	09.51	+32	39	16.2	9.5T	046
/1989r	1989	09	10.82222	15	02	09.44	+32	39	18.1		046
/1989r	1989	09	11.78788	15	00	57.61	+32	33	37.5		046
/1989r	1989	09	11.79101	15	00	57.52	+32	33	36.2		046
/1989r	1989	09	18.77955	14	52	53.59	+31	53	41.5		046
/1989r	1989	09	18.78198	14	52	53.37	+31	53	39.3		046
/1989r	1989	09	19.18681	14	52	26.96	+31	51	26.1		657
/1989r	1989	09	19.77226	14	51	49.01	+31	48	08.7		046
/1989r	1989	09	19.77469	14	51	48.71	+31	48	09.1		046
/1989r	1989	09	21.77816	14	49	40.88	+31	37	07.2		046
/1989r	1989	09	21.78053	14	49	40.69	+31	37	06.1		046
/1989r	1989	09	22.76965	14	48	38.50	+31	31	43.7		046
/1989r	1989	09	22.77208	14	48	38.34	+31	31	42.3		046
/1989r	1989	09	23.17448	14	48	13.38	+31	29	29.2		657
/1989r	1989	09	24.76737	14	46	34.55	+31	20	52.0		046
/1989r	1989	10	01.13014	14	40	06.48	+30	46	43.7		668
/1989r	1989	10	04.02778	14	37	08.35	+30	30	55.4		786
/1989r	1989	10	04.03681	14	37	07.48	+30	30	51.4		786
/1989r	1989	10	04.74957	14	36	22.92	+30	26	55.3		046
/1989r	1989	10	04.75131	14	36	22.91	+30	26	53.3		046

/1989r	1989	10	04.99791	14	36	07.39	+30	25	32.2		786
/1989r	1989	10	05.00400	14	36	07.21	+30	25	28.1		786
/1989r	1989	10	05.00990	14	36	06.80	+30	25	27.5		786
/1989r	1989	10	05.75385	14	35	19.77	+30	21	14.9		046
/1989r	1989	10	05.75524	14	35	19.66	+30	21	12.4		046
/1989r	1989	10	07.75686	14	33	11.24	+30	09	33.0		046
/1989r	1989	10	07.75791	14	33	11.11	+30	09	31.1		046
/1989r	1989	10	07.76025	14	33	10.98	+30	09	30.2		046
/1989r	1989	10	07.76271	14	33	10.89	+30	09	30.1		046
/1989r	1989	10	09.37998	14	31	24.25	+29	59	38.3		897
/1989r	1989	10	09.38299	14	31	24.15	+29	59	38.7	7.5T	391
/1989r	1989	10	09.38519	14	31	23.77	+29	59	35.0		897
/1989r	1989	10	09.38843	14	31	23.54	+29	59	35.0		897
/1989r	1989	10	09.40451	14	31	22.73	+29	59	28.1		391
/1989r	1989	10	17.37951	14	21	40.36	+28	59	25.3	6.5T	892
/1989r	1989	10	20.38090	14	17	28.70	+28	28	29.1		892
/1989r	1989	10	23.38785	14	12	53.87	+27	49	52.3		401

Comet Helin-Roman (1989s)

/1989s	1989	09	18.41424	17	22	44.82	-23	50	46.0		413
/1989s	1989	09	23.41809	17	17	37.71	-27	33	21.7	15.4N	474
/1989s	1989	09	23.42747	17	17	37.26	-27	33	44.4		474
/1989s	1989	09	30.40329	17	13	27.69	-31	25	35.0		474
/1989s	1989	09	30.41405	17	13	27.45	-31	25	53.9		474

Comet Helin-Roman-Alu (1989v)

/1989v	1989	10	01.33958	00	15	01.18	-06	46	12.7	14.5T	675
/1989v	1989	10	01.36406	00	14	54.89	-06	45	16.1		675
/1989v	1989	10	02.24705	00	11	17.25	-06	10	54.7		675
/1989v	1989	10	02.44253	00	10	27.21	-06	03	11.8		675
/1989v	1989	10	03.21326	00	07	11.82	-05	31	54.6	4	657
/1989v	1989	10	03.22437	00	07	09.00	-05	31	29.9	4	657
/1989v	1989	10	03.56269	00	05	40.90	-05	17	04.2		413
/1989v	1989	10	04.22437	00	02	47.54	-04	49	21.9		657
/1989v	1989	10	04.27160	00	02	34.81	-04	47	15.9	5	657
/1989v	1989	10	04.60243	00	01	06.61	-04	33	00.1	14 T	400
/1989v	1989	10	04.61979	00	01	01.71	-04	32	11.3		400
/1989v	1989	10	04.70541	00	00	38.16	-04	28	08.1		413
/1989v	1989	10	05.69977	23	56	07.85	-03	43	45.0		413
/1989v	1989	10	06.24444	23	53	37.76	-03	19	02.3		675
/1989v	1989	10	06.26736	23	53	31.33	-03	18	01.7		675
/1989v	1989	10	08.52778	23	42	44.45	-01	28	55.6	13 T	875
/1989v	1989	10	08.53681	23	42	41.39	-01	28	24.7		875
/1989v	1989	10	08.55613	23	42	35.65	-01	27	30.8	14 T	897
/1989v	1989	10	08.62975	23	42	13.4	-01	23	48		897
/1989v	1989	10	08.67153	23	42	01.09	-01	21	24.6		413
/1989v	1989	10	09.36319	23	38	36.89	-00	46	42.4		657
/1989v	1989	10	09.51146	23	37	52.65	-00	38	56.2	6	391
/1989v	1989	10	09.51667	23	37	51.51	-00	38	40.9	6	391
/1989v	1989	10	20.44618	22	39	48.13	+09	46	17.3	12.5T	892
/1989v	1989	10	20.45833	22	39	43.59	+09	47	07.2		892
/1989v	1989	10	20.77454	22	38	00.54	+10	05	53.8		056
/1989v	1989	10	22.74780	22	27	17.37	+12	03	50.2		056
/1989v	1989	10	22.84063	22	26	46.84	+12	09	21.0		056
/1989v	1989	10	23.77593	22	21	44.43	+13	04	46.1		056

Periodic Comet Helin-Roman-Alu 1

/1989w	1989	09	07.44097	02	09	55.37	+03	20	01.7	16.5T	675
/1989w	1989	09	07.46267	02	09	55.14	+03	19	59.5		675

/1989w	1989	09	08.40538	02 09 42.10	+03 17 59.5			675
/1989w	1989	10	02.41510	02 00 24.26	+02 17 44.3			675
/1989w	1989	10	02.43698	02 00 23.54	+02 17 39.4		17.5T	675
/1989w	1989	10	05.41545	01 58 49.08	+02 09 30.3			675
/1989w	1989	10	06.33941	01 58 18.79	+02 06 57.1			675
/1989w	1989	10	06.37483	01 58 17.57	+02 06 52.5			675
/1989w	1989	10	08.71797	01 56 59.53	+02 00 40.9		16.5T	413
/1989w	1989	10	10.74666	01 55 50.66	+01 55 16.7			413
/1989w	1989	10	20.55803	01 50 03.96	+01 30 49.1		16.5T	413
/1989w	1989	10	23.60556	01 48 14.55	+01 23 57.2		17.5T	372
/1989w	1989	10	23.69028	01 48 11.42	+01 23 47.7			372

Comet 1989x (SMM 10)

/1989x	1989	09	28.696	12 13.31	-02 10.3			500
/1989x	1989	09	28.713	12 13.91	-02 10.3			500
/1989x	1989	09	28.724	12 14.35	-02 09.2			500
/1989x	1989	09	28.760	12 15.76	-02 06.8			500
/1989x	1989	09	28.771	12 16.12	-02 06.6			500
/1989x	1989	09	28.776	12 16.34	-02 05.9			500
/1989x	1989	09	28.788	12 16.90	-02 05.0			500

Note 1: condensed coma, diameter 1′.5. 2: image almost stellar. 3: comet well condensed; faint, straight, narrow tail, 5′ long in p.a. 250 . 4: stellar nucleus. 5: poor image, difficult to measure. 6: poor image.

* * * * *

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
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								
S. Marx, Karl Schwarzschild Observatorium, DDR-6901 Tautenburg, Democratic Republic of Germany								
Observer F. Borngen								
1.3-m Schmidt telescope								
SAOC								
1982 SY2		1989 09	07.06701	04 00 15.89	+20 37 28.1			033
1982 SY2		1989 09	08.05382	04 00 52.53	+20 40 14.2	18.9		033
1982 SY2		1989 09	08.10590	04 00 54.34	+20 40 23.1			033
1985 RS1		1989 09	07.06701	04 02 38.90	+21 10 38.6			033
1985 RS1		1989 09	08.05382	04 03 36.46	+21 14 46.7	18.0		033
1985 RS1		1989 09	08.10590	04 03 39.33	+21 15 00.0			033
1988 PK2		1989 09	08.07986	04 25 13.64	+21 16 52.5			033
1988 PK2		1989 09	09.06806	04 25 45.25	+21 18 02.7			033
1988 PK2		1989 09	09.11840	04 25 46.83	+21 18 06.2	18.7		033
1989 RP2	*	1989 09	07.06701	03 57 36.70	+20 08 02.1			033
1989 RP2		1989 09	08.05382	03 58 36.41	+20 09 28.1	18.1		033
1989 RP2		1989 09	08.10590	03 58 39.42	+20 09 32.4			033
1989 RQ2	*	1989 09	07.06701	04 00 56.14	+19 20 49.5			033
1989 RQ2		1989 09	08.05382	04 01 35.56	+19 21 50.6	17.9		033
1989 RQ2		1989 09	08.10590	04 01 37.50	+19 21 53.9			033
1989 RR2	*	1989 09	07.06701	04 01 48.34	+20 14 12.3		u	033
1989 RR2		1989 09	08.05382	04 02 48.31	+20 19 35.8	18.7		033
1989 RR2		1989 09	08.10590	04 02 51.29	+20 19 51.9			033
26		1989 09	07.06701	04 03 41.29	+20 33 27.3			033
26		1989 09	08.05382	04 04 11.25	+20 35 36.5	13.4		033
26		1989 09	08.10590	04 04 12.75	+20 35 43.3			033
178		1989 09	07.06701	03 52 48.37	+19 41 35.1		E	033
178		1989 09	08.05382	03 53 23.50	+19 43 44.4	14.2	E	033
178		1989 09	08.10590	03 53 25.19	+19 43 51.2		E	033
1447		1989 09	08.07986	04 28 22.23	+22 42 36.8			033
1447		1989 09	09.06806	04 29 15.95	+22 46 19.9			033
1447		1989 09	09.11840	04 29 18.64	+22 46 31.2	17.7		033
1578		1989 09	07.06701	04 00 45.73	+20 09 08.8			033
1578		1989 09	08.05382	04 01 19.76	+20 10 47.5	16.2		033
1578		1989 09	08.10590	04 01 21.43	+20 10 52.6			033
1968		1989 09	08.07986	04 30 06.38	+19 57 17.4			033
1968		1989 09	09.06806	04 30 40.16	+19 58 48.6			033
1968		1989 09	09.11840	04 30 41.83	+19 58 53.6	18.2		033
2264		1989 09	07.06701	04 00 31.06	+20 40 37.1			033
2264		1989 09	08.05382	04 00 57.56	+20 41 51.8	16.3		033
2264		1989 09	08.10590	04 00 58.82	+20 41 55.6			033
2595		1989 08	05.97847	22 01 37.79	-10 38 42.5	17.4		033
2595		1989 08	06.02708	22 01 35.71	-10 39 03.2			033
2925		1989 09	07.06701	03 57 23.62	+20 27 19.2			033
2925		1989 09	08.05382	03 58 15.23	+20 29 03.3	18.4		033
2925		1989 09	08.10590	03 58 17.85	+20 29 08.1			033
2986		1989 09	07.06701	04 05 49.66	+20 24 44.0			033
2986		1989 09	08.05382	04 06 23.96	+20 26 47.6	17.8		033
2986		1989 09	08.10590	04 06 25.63	+20 26 54.5			033

3403		1989	09	08.07986	04	30	24.01	+19	56	40.0	033
3403		1989	09	09.06806	04	31	10.22	+19	56	22.8	033
3403		1989	09	09.11840	04	31	12.49	+19	56	22.1	18.3 033
3437		1989	09	07.06701	03	59	02.12	+20	39	06.6	033
3437		1989	09	08.05382	03	59	55.73	+20	43	16.6	17.7 033
3437		1989	09	08.10590	03	59	58.42	+20	43	29.6	033
3585		1989	08	05.97847	22	07	12.51	-10	14	38.8	18.4 033
3585		1989	08	06.02708	22	07	10.50	-10	14	51.7	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

1972	TW3		1989	09	07.92521	22	55	07.62	-09	27	18.3 046
1972	TW3		1989	09	07.93933	22	55	06.83	-09	27	18.8 046
1972	TW3		1989	09	08.91221	22	54	15.14	-09	29	14.6 046
1972	TW3		1989	09	08.92645	22	54	14.43	-09	29	14.7 046
1982	AF		1989	09	07.85848	22	03	54.05	-00	12	44.4 046
1982	AF		1989	09	07.87266	22	03	53.27	-00	12	46.1 046
1982	AF		1989	09	08.87627	22	03	01.27	-00	14	46.3 046
1982	AF		1989	09	08.89034	22	03	00.70	-00	14	47.8 046
1985	TN3		1989	09	07.92521	22	46	54.84	-09	09	56.9 046
1985	TN3		1989	09	07.93933	22	46	53.80	-09	09	55.5 046
1985	TN3		1989	09	08.91221	22	45	48.73	-09	06	30.7 046
1985	TN3		1989	09	08.92645	22	45	47.91	-09	06	26.3 046
1985	UT3		1989	09	06.97922	23	28	02.50	+08	41	04.4 046
1985	UT3		1989	09	06.99346	23	28	01.78	+08	40	56.5 046
1985	UT3		1989	09	07.89187	23	27	22.74	+08	33	08.1 046
1989	RL2		1989	08	31.96863	23	58	28.40	+08	40	30.3 16.5 046
1989	RL2		1989	08	31.98328	23	58	27.56	+08	40	27.7 046
1989	RL2		1989	09	07.96080	23	52	00.61	+08	20	47.4 046
1989	RL2		1989	09	07.97498	23	51	59.63	+08	20	44.3 046
1989	RM2		1989	08	31.96863	23	54	45.08	+07	26	25.4 16.6 046
1989	RM2		1989	08	31.98328	23	54	44.42	+07	26	23.8 046
1989	RS2	*	1989	09	07.92521	22	54	03.74	-10	32	02.3 16.8 046
1989	RS2		1989	09	07.93933	22	54	02.83	-10	32	03.3 046
1989	RS2		1989	09	08.91221	22	52	59.95	-10	30	55.3 046
1989	RS2		1989	09	08.92645	22	52	59.02	-10	30	52.2 046
1989	RT2	*	1989	09	07.99402	00	05	05.14	-08	45	37.5 16.7 046
1989	RT2		1989	09	08.00831	00	05	04.40	-08	45	43.1 046
1989	RT2		1989	09	08.99311	00	04	09.25	-08	50	30.0 046
1989	RT2		1989	09	09.00718	00	04	08.30	-08	50	33.2 046
1989	RU2	*	1989	09	07.99402	00	07	02.18	-10	30	46.1 16.4 046
1989	RU2		1989	09	08.00831	00	07	01.37	-10	30	49.3 046
1989	RU2		1989	09	08.99311	00	06	07.33	-10	34	53.5 046
1989	RU2		1989	09	09.00718	00	06	06.51	-10	34	57.3 046
1989	RV2	*	1989	09	07.99402	00	11	47.65	-09	10	41.3 16.6 046
1989	RV2		1989	09	08.00831	00	11	46.73	-09	10	45.6 046
1989	RV2		1989	09	08.99311	00	10	59.12	-09	13	53.7 046
1989	RV2		1989	09	09.00718	00	10	58.52	-09	13	51.8 046
1989	TE		1989	09	07.96080	23	55	03.19	+08	38	10.2 16.6 046
1989	TE		1989	09	07.97498	23	55	02.69	+08	38	08.2 046
17			1989	09	07.99402	00	02	54.70	-07	15	46.1 046
17			1989	09	08.00831	00	02	54.04	-07	15	50.7 046
17			1989	09	08.99311	00	02	06.18	-07	23	26.8 046
17			1989	09	09.00718	00	02	05.45	-07	23	32.9 046
221			1989	09	07.99402	00	07	44.61	-08	58	41.6 046
221			1989	09	08.00831	00	07	44.06	-08	58	48.4 046

221		1989	09	08.99311	00	07	07.55	-09	07	17.2	046
221		1989	09	09.00718	00	07	07.02	-09	07	23.7	046
456		1989	09	06.94172	21	58	43.35	+09	56	42.8	046
456		1989	09	06.95596	21	58	42.71	+09	56	35.5	046
456		1989	09	07.82347	21	58	06.48	+09	49	47.4	046
456		1989	09	07.83759	21	58	05.91	+09	49	41.3	046
526		1989	09	07.92521	22	58	21.00	-08	01	10.7	046
526		1989	09	07.93933	22	58	20.30	-08	01	16.1	046
526		1989	09	08.91221	22	57	38.40	-08	05	56.6	046
526		1989	09	08.92645	22	57	37.71	-08	06	02.5	046
701		1989	08	31.91082	22	10	22.97	-00	01	10.5	046
701		1989	08	31.92714	22	10	22.12	-00	01	15.8	046
701		1989	09	07.85848	22	05	23.33	-00	35	09.0	046
701		1989	09	07.87266	22	05	22.74	-00	35	12.8	046
701		1989	09	08.87627	22	04	41.48	-00	40	16.4	046
701		1989	09	08.89034	22	04	40.92	-00	40	20.5	046
782		1989	09	08.96007	23	14	25.13	-15	07	09.1	046
782		1989	09	08.97419	23	14	24.12	-15	07	16.1	046
1406		1989	08	31.96863	23	57	49.61	+07	17	40.8	046
1406		1989	08	31.98328	23	57	48.86	+07	17	42.0	046
1406		1989	09	07.96080	23	51	49.04	+07	24	10.1	046
1406		1989	09	07.97498	23	51	48.27	+07	24	10.4	046
1535		1989	08	31.96863	23	47	46.17	+09	02	33.7	046
1535		1989	08	31.98328	23	47	45.57	+09	02	30.8	046
1797		1989	09	08.91221	22	49	11.03	-12	06	06.2	046
1797		1989	09	08.92645	22	49	10.39	-12	06	12.1	046
2297		1989	09	07.92521	22	56	42.27	-07	43	54.1	16.7 046
2297		1989	09	07.93933	22	56	41.70	-07	43	59.0	046
2297		1989	09	08.91221	22	55	58.99	-07	48	43.6	046
2297		1989	09	08.92645	22	55	58.55	-07	48	45.3	046
2696		1989	09	06.94172	21	59	43.45	+08	41	00.7	046
2696		1989	09	06.95596	21	59	42.93	+08	40	52.5	046
2696		1989	09	07.82347	21	59	04.90	+08	28	23.5	046
2696		1989	09	07.83759	21	59	04.31	+08	28	10.4	046
2714		1989	09	08.96007	23	14	11.79	-11	55	47.0	046
2714		1989	09	08.97419	23	14	11.08	-11	55	54.6	046
3222		1989	09	07.99402	00	11	27.75	-09	10	56.4	046
3222		1989	09	08.00831	00	11	27.07	-09	11	08.1	046
3222		1989	09	08.99311	00	10	51.87	-09	20	10.7	046
3222		1989	09	09.00718	00	10	51.34	-09	20	17.3	046
3605		1989	09	07.96080	23	55	42.79	+06	30	53.4	046
3629		1989	09	06.97922	23	34	13.60	+07	04	26.6	046
3629		1989	09	06.99346	23	34	13.06	+07	04	25.5	046
3629		1989	09	07.89187	23	33	29.11	+06	59	21.8	046
3629		1989	09	07.90600	23	33	28.37	+06	59	18.2	046

071 Bulgarian National Observatory
E. W. Elst, Royal Observatory, B-1180 Brussels, Belgium
Observers E. W. Elst, V. Ivanova, V. Shkodrov
Measurer E. W. Elst

1975	YE	1989	10	02.06181	01	27	53.91	+04	33	58.1	071
1975	YE	1989	10	03.01076	01	27	19.25	+04	23	28.7	16.5 071
1975	YE	1989	10	03.07743	01	27	16.58	+04	22	42.1	071
1979	XQ	1989	10	02.06181	01	31	26.71	+06	58	29.6	071
1979	XQ	1989	10	03.01076	01	30	35.47	+06	55	52.1	17.0 071
1979	XQ	1989	10	03.07743	01	30	31.69	+06	55	41.7	071
1980	GF	1989	10	02.06181	01	27	44.37	+06	39	24.7	071
1980	GF	1989	10	03.01076	01	26	56.02	+06	33	57.7	18.0 071
1980	GF	1989	10	03.07743	01	26	52.76	+06	33	32.3	071

1985	TN3		1989	10	02.88830	22	24	44.29	-07	25	47.9		071
1985	TN3		1989	10	02.92788	22	24	42.82	-07	25	37.5	17.0	071
1989	QH		1989	10	02.96979	22	53	02.20	-02	21	02.4		071
1989	QH		1989	10	02.99167	22	53	01.44	-02	21	07.5	18.0	071
1989	QK		1989	10	02.88830	22	25	36.02	-07	36	40.8		071
1989	QK		1989	10	02.92788	22	25	35.33	-07	36	58.0	17.5	071
1989	RG		1989	10	02.90774	23	01	56.12	-00	31	48.4	17.3	071
1989	RG		1989	10	02.94767	23	01	54.14	-00	31	56.5		071
1989	RJ		1989	10	02.96979	23	06	20.09	-02	01	15.8		071
1989	RJ		1989	10	02.99167	23	06	19.06	-02	01	28.2	17.3	071
1989	RL		1989	10	02.82778	21	47	05.57	-12	23	16.0	18.0	071
1989	RL		1989	10	02.86771	21	47	06.00	-12	23	22.8	18.0	071
1989	RT		1989	10	02.90774	23	05	07.52	+01	41	35.5	17.5	071
1989	RT		1989	10	02.94767	23	05	05.69	+01	41	31.0		071
1989	RW		1989	09	29.86267	21	41	11.77	-01	52	38.2	17.0	071
1989	RW		1989	09	29.88131	21	41	11.69	-01	52	45.0		071
1989	RX		1989	09	29.86267	21	45	39.75	-01	27	08.0	17.0	071
1989	RX		1989	09	29.88131	21	45	39.46	-01	27	12.1		071
1989	RB2		1989	10	02.94767	22	56	09.76	+02	03	01.8	17.6	071
1989	RH2		1989	10	01.75590	21	03	28.09	-07	52	10.4	17.0	071
1989	RH2		1989	10	01.76979	21	03	28.64	-07	52	01.9		071
1989	SZ2		1989	10	03.01076	01	32	57.77	+03	17	11.2	17.3	071
1989	SZ2		1989	10	03.07743	01	32	55.19	+03	16	23.7		071
1989	TJ	*	1989	10	02.06181	01	24	49.53	+02	52	29.0		071
1989	TJ		1989	10	03.01076	01	24	02.66	+02	49	04.6	17.2	071
1989	TJ		1989	10	03.07743	01	23	59.13	+02	48	49.4		071
1989	TK	*	1989	10	02.06181	01	29	25.18	+05	18	09.8		071
1989	TK		1989	10	03.01076	01	28	39.46	+05	13	33.9	17.8	071
1989	TM	*	1989	10	02.06181	01	34	41.55	+04	24	16.8		071
1989	TM		1989	10	03.01076	01	33	43.61	+04	14	11.7	18.2	071
1989	TM		1989	10	03.07743	01	33	40.90	+04	13	31.7		071
1989	TN	*	1989	10	02.06181	01	35	50.48	+02	57	17.0		071
1989	TN		1989	10	03.01076	01	35	01.50	+02	52	15.4	17.6	071
1989	TN		1989	10	03.07743	01	34	57.85	+02	51	53.6		071
1989	TE1	*	1989	10	01.97882	22	54	05.79	-03	59	53.6		071
1989	TE1		1989	10	02.96979	22	53	28.81	-04	04	42.2		071
1989	TE1		1989	10	02.99167	22	53	28.06	-04	04	51.3	18.2	071
4020	P-L		1989	10	01.97882	22	59	31.85	-03	52	26.0		071
4020	P-L		1989	10	02.96979	22	58	54.18	-03	58	04.6		071
4020	P-L		1989	10	02.99167	22	58	53.21	-03	58	10.5	17.9	071
79			1989	10	02.94767	23	00	13.38	-01	47	54.0	10.0	071
79			1989	10	02.96979	23	00	12.53	-01	48	03.1		071
79			1989	10	02.99167	23	00	11.73	-01	48	13.5	10.0	071
90			1989	10	02.06181	01	35	57.99	+07	11	47.9		071
90			1989	10	03.01076	01	35	17.13	+07	08	00.9	10.0	071
90			1989	10	03.07743	01	35	14.03	+07	07	46.3		071
189			1989	10	02.88830	22	23	33.43	-05	01	30.7		071
189			1989	10	02.92788	22	23	32.48	-05	01	44.6	14.0	071
421			1989	10	02.88830	22	36	03.10	-05	07	58.5		071
421			1989	10	02.92788	22	36	02.40	-05	08	21.1	14.0	071
603			1989	10	01.97882	22	59	25.52	-04	21	36.9		071
603			1989	10	02.96979	22	58	40.27	-04	24	18.6		071
603			1989	10	02.99167	22	58	39.20	-04	24	21.3	17.3	071
1805			1989	10	02.06181	01	29	48.52	+06	07	50.7		071
1805			1989	10	03.01076	01	29	09.09	+06	04	00.9	17.5	071
1805			1989	10	03.07743	01	29	06.30	+06	03	42.7		071
1825			1989	10	02.90774	22	57	13.72	-00	22	14.4	16.7	071
1825			1989	10	02.94767	22	57	12.06	-00	22	27.6		071
1905			1989	10	01.97882	22	53	19.37	-04	49	54.8		071

1905		1989	10	02.96979	22	52	45.59	-04	55	21.2	11.0	071
1905		1989	10	02.99167	22	52	44.92	-04	55	31.1	17.6	071
2053		1989	10	02.96979	22	55	56.30	-02	03	34.2		071
2053		1989	10	02.99167	22	55	55.44	-02	03	44.3	16.7	071
2402		1989	10	02.96979	23	04	31.90	-02	11	01.3		071
2402		1989	10	02.99167	23	04	30.77	-02	11	04.0	16.5	071
2410		1989	10	02.06181	01	36	59.67	+05	55	27.8		071
2410		1989	10	03.01076	01	36	09.49	+05	49	38.8	17.2	071
2410		1989	10	03.07743	01	36	05.67	+05	49	12.5		071
2560		1989	10	02.06181	01	38	17.56	+02	34	08.1		071
2560		1989	10	03.01076	01	37	36.95	+02	28	00.4	17.0	071
2560		1989	10	03.07743	01	37	34.02	+02	27	33.8		071
2644		1989	10	02.96979	23	08	27.02	-04	28	43.4		071
2644		1989	10	02.99167	23	08	26.10	-04	28	46.2	16.8	071
2697		1989	10	02.90774	23	03	17.04	-00	40	30.2	16.6	071
2697		1989	10	02.94767	23	03	15.75	-00	40	42.9		071
2697		1989	10	02.96979	23	03	15.09	-00	40	48.5		071
2697		1989	10	02.99167	23	03	14.46	-00	40	53.5	16.8	071
2827		1989	10	02.88830	22	33	52.85	-07	44	07.8		071
2827		1989	10	02.92788	22	33	51.20	-07	44	08.7	16.9	071
3069		1989	10	01.97882	22	57	23.21	-04	10	20.6		071
3069		1989	10	02.96979	22	57	03.69	-04	14	30.5		071
3069		1989	10	02.99167	22	57	03.47	-04	14	37.1	16.6	071
3533		1989	10	02.88830	22	26	35.97	-05	47	28.3		071
3533		1989	10	02.92788	22	26	34.74	-05	47	45.7	17.0	071
3566		1989	10	02.96979	22	50	20.16	-03	54	32.8		071
3566		1989	10	02.99167	22	50	19.09	-03	54	40.2	17.8	071
3815		1989	10	02.90774	22	59	07.66	-00	56	22.4	17.3	071
3815		1989	10	02.94767	22	59	06.22	-00	56	41.6		071
4192		1989	10	02.88830	22	25	28.03	-09	16	24.4		071
4192		1989	10	02.92788	22	25	27.26	-09	16	28.7	17.0	071

095 Crimean Astrophysical Observatory
N. S. Chernykh, Crimean Astrophysical Observatory, P.O. Nauchnyj, Crimea 334413, U.S.S.R.
Yu. V. Batrakov, Institute for Theoretical Astronomy, Naberezhnaya Kutuzova 10, Leningrad 191187, U.S.S.R.
Observers N. S. Chernykh, L. I. Chernykh

1935	SP1	1987	09	20.88978	23	42	27.55	-06	17	45.1		095
1953	UD	1987	09	18.84376	23	06	29.90	+09	59	06.5	E	095
1953	UD	1987	09	23.88509	23	03	23.10	+08	57	12.8		095
1955	SG1	1987	09	17.96529	00	34	55.00	+07	04	10.0		095
1955	SG1	1987	09	23.95528	00	30	10.99	+06	21	13.7		095
1955	SG1	1987	10	23.82188	00	07	39.88	+02	32	10.9		095
1969	TB6	1987	08	28.02036	23	48	17.88	+02	01	00.2		095
1969	TB6	1987	09	16.88546	23	33	26.58	+00	23	06.6		095
1971	QP1	1987	09	26.97219	00	55	23.19	+18	16	40.1		095
1971	QW1	1987	09	18.91389	01	21	13.72	+12	45	42.8	15.5V	095
1971	QW1	1987	09	20.96236	01	20	11.08	+12	34	07.9	16.0V E	095
1971	QW1	1987	10	02.96355	01	12	51.36	+11	13	56.7	16.0V	095
1972	RF	1987	09	16.88546	23	14	18.98	-00	44	45.1	E	095
1972	RF	1987	09	17.82776	23	13	51.62	-01	10	04.4		095
1972	RF	1987	09	23.81219	23	11	09.50	-03	48	48.7		095
1974	SW	1987	08	27.94465	22	49	48.70	-02	05	51.3		095
1974	SW	1987	09	02.90625	22	45	23.52	-02	36	45.6		095
1974	SW	1987	09	16.81252	22	35	25.46	-03	56	27.6		095
1974	SW	1987	09	20.81606	22	32	59.62	-04	18	53.0		095
1976	GD2	1987	09	02.97917	00	13	35.79	+08	14	30.8		095
1976	SZ5	1987	09	18.98685	01	18	28.68	+06	26	02.6	E	095

1976	UK2	1987	09	20.88978	23	43	26.92	-06	43	42.4		15.3V	095
1976	UH16	1987	09	16.88546	23	25	07.20	+03	45	50.4			095
1977	DR1	1987	09	26.97219	00	51	44.89	+18	50	03.2		15.0V	095
1977	RF2	1987	08	27.87140	21	23	19.82	-20	17	09.1			095
1978	RM2	1987	09	16.88546	23	39	00.80	+00	06	09.3			095
1978	RN5	1987	09	18.91389	01	23	49.96	+14	26	08.2			095
1978	RN5	1987	09	20.96236	01	22	35.17	+14	47	04.6			095
1978	RN5	1987	09	26.97219	01	18	09.06	+15	44	05.4		P	095
1978	RN5	1987	10	02.96355	01	12	47.50	+16	33	54.6		E	095
1979	SL7	1987	09	02.90625	22	58	47.93	+01	08	15.4			095
1979	SL7	1987	09	16.81252	22	46	59.21	-00	26	25.7			095
1980	YC	1987	09	27.04510	02	22	17.22	+06	20	24.0		16.0V	095
1980	YC	1987	10	23.90625	02	00	17.60	+05	29	11.9		16.0V	095
1981	ET	1987	09	03.04861	01	12	27.87	+08	53	49.1			095
1981	ET	1987	10	23.82188	00	28	50.44	+09	16	22.1		E	095
1981	EH4	1987	09	23.95528	00	19	23.76	+14	21	41.6		E	095
1981	EH4	1987	10	23.82188	00	02	47.57	+09	24	44.4			095
1981	EZ7	1987	09	02.97917	00	17	52.52	+09	12	47.9		D	095
1981	EZ7	1987	09	17.88890	00	08	16.54	+07	49	56.1			095
1981	EX21	1987	09	23.81219	23	13	00.40	-03	52	46.5			095
1983	RQ4	1987	08	28.02036	23	50	18.76	+04	27	56.4		16.0V	095
1983	RQ4	1987	09	16.88546	23	37	03.56	+01	49	27.7		15.5V	095
1983	TW1	1987	09	20.88978	23	50	17.07	-07	15	52.2			E 095
1983	TD2	1987	09	18.98685	01	47	31.76	+08	38	22.8			095
1983	TD2	1987	09	21.03457	01	47	00.39	+08	23	16.2			095
1984	WM1	1987	09	23.81219	22	56	08.36	-03	14	19.1			095
1984	YU1	1987	09	18.98685	01	35	53.42	+09	30	43.4		16.3V	095
1987	QG	1987	08	27.87140	20	52	38.11	-23	49	20.6		15.0V	095
1987	QM	1987	08	27.94465	23	02	09.24	-02	23	31.2			095
1987	QM	1987	09	02.90625	22	55	21.20	-01	38	17.0			095
1987	QM	1987	09	16.81252	22	39	32.60	-00	03	58.0			095
1987	QM	1987	09	20.81606	22	35	27.84	+00	20	24.4			095
1987	QQ	1987	09	17.82776	23	10	11.66	-00	18	44.6		15.0V	095
1987	QS	1987	09	17.82776	23	10	35.16	+01	50	09.5		16.5V	095
1987	QS	1987	09	23.81219	23	05	01.92	+01	36	31.6		16.5V	095
1987	QT	1987	09	17.82776	23	15	58.04	+01	23	32.5		16.3V	P 095
1987	QT	1987	09	23.81219	23	09	56.88	+01	29	31.6		16.5V	095
1987	QD1	1987	08	27.87140	21	26	27.14	-16	10	40.0			095
1987	QV3	1987	09	26.97219	01	01	26.32	+15	25	30.1		16.5V	095
1987	QX3	1987	09	02.97917	00	25	16.71	+10	10	00.9		17.0V	095
1987	QS5	1987	09	02.90625	22	45	43.14	-05	34	56.2		16.5V	E 095
1987	QD6	1987	08	27.94465	23	09	34.48	+02	25	43.5		16.0V	E 095
1987	QD6	1987	09	02.90625	23	05	40.78	+01	41	16.8		15.3V	E 095
1987	QD6	1987	09	23.81219	22	52	04.84	-01	12	17.0		15.5V	095
1987	QE7	1987	08	27.94465	23	05	11.88	+05	32	51.8			E 095
1987	QE7	1987	09	17.82776	22	51	42.46	+01	41	27.6			095
1987	QE7	1987	09	23.81219	22	48	16.68	+00	27	16.2			095
1987	QE8	1987	08	27.79501	19	52	17.72	-10	49	46.1		16.8V	095
1987	QH10	1987	09	16.81252	22	52	34.76	-03	10	18.2		15.0V	095
1987	QH10	1987	09	17.82776	22	52	00.80	-03	03	30.9		15.5V	095
1987	QH10	1987	09	23.81219	22	49	13.55	-02	24	42.6		15.0V	095
1987	QU10	1987	09	20.88978	23	26	48.87	-10	13	12.7		16.5V	095
1987	QV10	1987	09	20.88978	23	28	34.10	-12	14	45.9		16.0V	095
1987	QW10	1987	09	20.88978	23	37	48.84	-11	30	45.4		15.0V	095
1987	QS11*	1987	08	27.87140	20	51	43.48	-18	51	52.2		16.0V	E 095
1987	QT11*	1987	08	27.87140	21	05	20.88	-23	37	27.6		15.5V	095
1987	QU11*	1987	08	27.87140	21	08	55.98	-18	41	56.4		15.0V	095
1987	QV11*	1987	08	27.87140	21	09	18.72	-17	01	37.9		14.0V	095
1987	QW11*	1987	08	27.87140	21	12	03.03	-20	31	58.2		15.5V	095

1987	QX11*	1987	08	27.87140	21	17	21.40	-19	07	31.3		15.5V	095
1987	QY11*	1987	08	27.87140	21	18	13.29	-24	28	10.2		15.5V	095
1987	QZ11*	1987	08	27.94465	22	33	15.46	-01	37	49.8		16.0V E	095
1987	QA12*	1987	08	27.94465	22	37	05.72	-02	48	59.2		16.0V	095
1987	QA12	1987	09	02.90625	22	32	55.76	-03	42	48.0		16.5V	095
1987	QB12*	1987	08	27.94465	22	39	01.17	-01	36	54.1		16.3V	095
1987	QB12	1987	09	02.90625	22	35	14.15	-02	05	50.0		16.5V	095
1987	QC12*	1987	08	27.94465	22	39	45.68	-01	15	15.8		16.5V	095
1987	QC12	1987	09	02.90625	22	36	29.98	-01	58	26.8		16.5V	095
1987	QD12*	1987	08	27.94465	22	53	34.64	-02	51	11.9		16.5V d	095
1987	QE12*	1987	08	27.94465	23	01	42.35	-01	36	18.6			095
1987	QF12*	1987	08	27.94465	23	02	22.56	+02	46	10.8		16.5V	095
1987	QG12*	1987	08	27.94465	23	03	38.43	-00	32	08.4		16.8V	095
1987	QG12	1987	09	02.90625	22	59	35.41	-01	09	31.5		16.0V	095
1987	QH12*	1987	08	27.94465	23	07	29.08	-02	31	20.6		16.8V	095
1987	QJ12*	1987	08	28.02036	23	36	45.54	+00	33	54.0		17.0V	095
1987	QK12*	1987	08	28.02036	23	43	45.94	+00	27	56.8		16.0V	095
1987	QK12	1987	09	16.88546	23	29	51.40	-01	35	17.8		16.5V	095
1987	QL12*	1987	08	28.02036	23	53	42.66	+01	43	28.5		17.2V	095
1987	QL12	1987	09	16.88546	23	41	25.46	+00	43	12.2		16.8V	095
1987	QM12*	1987	08	28.02036	23	53	53.81	-01	07	19.9		16.0V	095
1987	QM12	1987	09	16.88546	23	41	11.90	-01	18	09.0		16.8V	095
1987	QN12*	1987	08	28.02036	23	54	00.58	+01	58	23.8		17.0V	095
1987	QN12	1987	09	16.88546	23	39	26.93	+00	57	29.1		16.8V	095
1987	QO12*	1987	08	28.02036	23	57	48.00	-01	54	33.2		16.0V	095
1987	QP12*	1987	08	28.02036	00	00	55.44	+03	51	08.6		17.0V	095
1987	QP12	1987	09	16.88546	23	48	58.08	+01	59	32.1		16.5V	095
1987	QQ12*	1987	08	28.02036	00	03	37.56	-02	41	56.8		16.5V E	095
1987	QR12*	1987	08	28.02036	00	06	58.06	-00	37	00.4		16.5V	095
1987	RB	1987	08	27.94465	22	48	53.78	-03	09	07.4		16.3V	095
1987	RB	1987	09	02.90625	22	44	40.20	-03	50	55.3		16.3V	095
1987	RD	1987	08	27.94465	22	50	33.79	-03	55	22.3		E	095
1987	RD	1987	09	02.90625	22	45	29.30	-04	05	31.8		16.3V	095
1987	RA3	1987	09	20.88978	23	26	15.24	-08	38	20.0		16.5V	095
1987	RY3 *	1987	09	02.90625	22	34	23.22	-02	30	08.9		16.8V	095
1987	RZ3 *	1987	09	02.90625	22	36	20.87	+00	29	16.2		16.5V	095
1987	RA4 *	1987	09	02.90625	22	38	25.44	-04	36	46.9		16.5V	095
1987	RB4 *	1987	09	02.90625	22	38	33.86	+01	21	16.5		16.5V	095
1987	RB4	1987	09	16.81252	22	27	43.06	+00	39	45.6		16.5V	095
1987	RC4 *	1987	09	02.90625	22	39	57.74	-02	37	23.0		16.0V	095
1987	RD4 *	1987	09	02.90625	22	41	01.72	-05	19	00.0		16.5V E	095
1987	RE4 *	1987	09	02.90625	22	42	15.26	-02	43	35.7		16.5V	095
1987	RF4 *	1987	09	02.90625	22	45	35.60	-03	23	42.8			095
1987	RG4 *	1987	09	02.90625	22	48	00.14	-04	50	23.3		17.0V	095
1987	RH4 *	1987	09	02.90625	22	49	10.50	-05	13	31.9		17.0V E	095
1987	RJ4 *	1987	09	02.90625	22	49	23.31	-04	47	52.8		17.0V	095
1987	RK4 *	1987	09	02.90625	22	49	26.06	-03	32	55.0		16.8V	095
1987	RL4 *	1987	09	02.90625	22	51	49.18	+00	54	06.3		16.8V	095
1987	RM4 *	1987	09	02.90625	22	52	06.88	-00	00	51.5		17.0V	095
1987	RN4 *	1987	09	02.90625	22	53	34.90	-05	40	37.2		17.0V E	095
1987	RO4 *	1987	09	02.90625	22	54	17.72	-01	15	51.2		16.8V	095
1987	RP4 *	1987	09	02.90625	22	56	05.45	-05	56	36.1		16.5V E	095
1987	RQ4 *	1987	09	02.90625	22	57	07.25	+00	22	18.4		16.0V	095
1987	RQ4	1987	09	16.81252	22	43	56.38	-00	37	13.0		16.0V	095
1987	RR4 *	1987	09	02.90625	22	58	08.36	-01	15	37.3		16.8V	095
1987	RS4 *	1987	09	02.90625	22	58	19.12	-04	47	31.7		16.5V	095
1987	RT4 *	1987	09	02.90625	23	07	37.41	-02	36	51.4		16.5V E	095
1987	RU4 *	1987	09	02.97917	00	00	29.38	+08	47	18.8		17.0V	095
1987	RU4	1987	09	17.88890	23	48	29.20	+08	55	58.1		17.0V	095

1987	RV4	*	1987	09	02.97917	00	01	45.68	+10	13	00.3	17.0V	095
1987	RV4		1987	09	17.88890	23	51	04.97	+10	20	34.5	17.0V	095
1987	RW4	*	1987	09	02.97917	00	04	35.98	+08	05	09.9	17.0V	095
1987	RW4		1987	09	17.88890	23	50	35.66	+06	34	42.9	17.0V	095
1987	RX4	*	1987	09	02.97917	00	08	52.20	+07	48	32.2	17.0V	095
1987	RY4	*	1987	09	02.97917	00	19	32.88	+05	43	00.2	16.5V d	095
1987	RZ4	*	1987	09	02.97917	00	27	16.47	+06	01	44.0	17.0V	095
1987	RA5	*	1987	09	02.97917	00	31	37.56	+09	50	00.2	16.8V	095
1987	RB5	*	1987	09	03.04861	00	47	38.96	+12	54	52.0	16.0V E	095
1987	RB5		1987	09	23.95528	00	30	55.90	+13	15	11.0	15.5V	095
1987	RC5	*	1987	09	03.04861	00	52	56.57	+11	29	07.3	16.5V	095
1987	RC5		1987	09	23.95528	00	37	26.96	+11	54	19.0	16.8V	095
1987	RD5	*	1987	09	03.04861	00	57	15.20	+04	19	44.3	16.5V	095
1987	RE5	*	1987	09	03.04861	01	00	17.92	+06	35	33.4	16.5V	095
1987	RF5	*	1987	09	03.04861	01	02	01.18	+09	43	29.9	16.5V	095
1987	RG5	*	1987	09	03.04861	01	07	19.92	+12	42	48.2	16.8V E	095
1987	RH5	*	1987	09	03.04861	01	12	07.10	+03	26	12.6	16.5V E	095
1987	RJ5	*	1987	09	03.04861	01	13	38.44	+11	25	25.4	16.5V	095
1987	RK5	*	1987	09	03.04861	01	21	00.34	+10	56	46.4	16.5V	095
1987	SC		1987	09	26.97219	01	00	03.61	+16	56	12.2	14.5V	095
1987	SD		1987	09	16.88546	23	24	29.12	+02	44	18.4		095
1987	SN		1987	09	18.84376	23	36	02.24	+07	32	09.6	16.0V	095
1987	SN		1987	09	23.88509	23	30	45.89	+07	03	51.4	16.0V E	095
1987	SQ		1987	08	28.02036	23	49	03.54	+01	21	33.6	17.0V	095
1987	SQ		1987	09	16.88546	23	35	06.50	+00	23	16.7	17.0V	095
1987	SQ		1987	09	16.88546	23	35	06.50	+00	23	16.7	17.0V	095
1987	SS		1987	08	28.02036	23	53	09.21	+05	28	37.6	15.5V	095
1987	SS		1987	09	16.88546	23	38	21.97	+04	05	47.1	15.2V	095
1987	SU		1987	08	28.02036	00	00	46.22	-00	18	51.2	16.0V	095
1987	SU		1987	09	16.88546	23	43	22.26	-01	03	21.6	16.0V	095
1987	SV		1987	08	28.02036	00	03	18.65	+04	43	10.1		095
1987	SV		1987	09	16.88546	23	47	32.01	+03	56	04.8		095
1987	SK1		1987	09	23.95528	00	42	18.68	+04	52	24.8	E	095
1987	SR1		1987	09	02.97917	00	11	59.07	+05	14	04.5	16.8V	095
1987	SU1		1987	09	17.88890	00	09	49.65	+14	00	00.0	16.0V E	095
1987	SU1		1987	09	26.89957	00	02	02.94	+13	04	34.8	16.0V E	095
1987	SW1		1987	09	23.95528	00	15	04.83	+13	28	06.6	N	095
1987	SW1		1987	09	26.89957	00	12	58.86	+12	53	50.6		095
1987	SW1		1987	10	23.75001	23	57	39.89	+07	03	02.9	E	095
1987	SW1		1987	10	23.82188	23	57	38.21	+07	02	06.5	E	095
1987	SG3		1987	09	17.88890	00	12	28.56	+09	04	33.5		095
1987	SG3		1987	09	26.89957	00	07	55.08	+04	36	50.6		095
1987	SH3		1987	09	17.88890	00	15	16.43	+10	47	25.4		095
1987	SH3		1987	09	26.89957	00	07	52.82	+06	55	11.7		095
1987	SL3		1987	09	02.90625	22	49	21.60	-00	43	37.1		095
1987	SL3		1987	09	16.81252	22	38	14.89	-01	14	35.9		095
1987	SM3		1987	09	02.90625	22	53	44.70	-00	04	26.2		095
1987	SM3		1987	09	16.81252	22	39	33.51	-00	57	08.6		095
1987	SN3		1987	08	27.94465	22	52	20.09	+02	25	07.4		095
1987	SN3		1987	09	02.90625	22	47	46.98	+01	35	49.2		095
1987	SN3		1987	09	16.81252	22	37	25.29	-00	36	52.3		095
1987	SQ3		1987	08	27.94465	23	07	23.01	-00	51	50.7		095
1987	SQ3		1987	09	02.90625	23	01	44.24	-00	55	31.9		095
1987	SQ3		1987	09	16.81252	22	48	09.89	-01	15	46.8		095
1987	SQ3		1987	09	17.82776	22	47	13.38	-01	17	34.3		095
1987	SQ3		1987	09	23.81219	22	42	02.93	-01	28	12.8	E	095
1987	SC4		1987	09	02.97917	00	19	53.84	+12	46	46.8		095
1987	SC4		1987	09	17.88890	00	11	00.95	+12	55	24.4		095
1987	SC4		1987	09	26.89957	00	03	51.51	+12	27	56.0		095

1987	SE4	1987	09	02.97917	00	14	38.29	+12	39	43.8		095
1987	SE4	1987	09	17.88890	00	03	58.73	+11	38	58.2		095
1987	SE4	1987	09	26.89957	23	56	22.15	+10	36	47.4		095
1987	SE4	1987	10	23.75001	23	39	38.48	+06	59	11.0		095
1987	SF4	1987	09	17.96529	00	35	15.53	+03	08	00.2	16.0V	095
1987	SQ4	1987	08	27.94465	22	48	22.77	+00	55	32.1	16.5V	095
1987	SQ4	1987	09	02.90625	22	44	21.95	+00	09	53.6	16.5V	095
1987	SR4	1987	08	27.94465	23	00	48.99	+01	12	12.4	16.5V	095
1987	SR4	1987	09	02.90625	22	54	25.35	+01	03	02.2	16.5V	095
1987	SJ5	1987	09	03.04861	01	12	47.36	+11	17	25.0		095
1987	SH6	1987	09	17.96529	00	30	43.58	+02	15	13.3	16.5V E	095
1987	SM6	1987	09	17.96529	00	37	23.34	+02	11	41.5	16.8V E	095
1987	SN6	1987	09	23.95528	00	27	36.41	+05	27	25.2	16.5V	095
1987	SQ6	1987	09	23.95528	00	31	45.63	+05	03	49.0	16.5V E	095
1987	SR6	1987	09	23.95528	00	34	59.14	+07	56	43.5	16.0V	095
1987	SZ6	1987	09	18.84376	23	13	49.80	+10	18	49.6	14.0V	095
1987	SZ6	1987	09	23.88509	23	10	07.58	+09	55	50.8	14.0V	095
1987	SL12	1987	08	28.02036	23	52	20.42	-00	22	17.2	17.0V	095
1987	SL12	1987	09	16.88546	23	38	34.66	-01	45	54.9	17.0V	095
1987	SN12	1987	09	20.88978	23	15	25.91	-06	17	56.9	16.2V	095
1987	SP12	1987	08	28.02036	23	38	14.75	-00	37	10.9	16.5V	095
1987	SP12	1987	09	16.88546	23	25	51.96	-02	25	45.9	16.5V	095
1987	SR12	1987	08	28.02036	23	43	52.96	+00	04	06.9	16.5V	095
1987	SR12	1987	09	16.88546	23	27	58.72	-02	42	25.3	16.5V E	095
1987	SR12	1987	09	20.88978	23	24	37.73	-03	17	15.4	15.5V E	095
1987	SV12	1987	09	20.88978	23	16	03.94	-09	14	35.7	16.2V E	095
1987	SE13	1987	09	20.88978	23	14	09.92	-09	36	07.6	16.5V E	095
1987	SP15	1987	09	24.03090	02	10	14.12	+12	53	11.5	16.0V	095
1987	SP15	1987	10	03.01840	02	05	31.61	+12	31	47.0	16.5V	095
1987	SV17	1987	10	02.96355	01	18	10.93	+13	05	02.3	17.0V	095
1987	SY17*	1987	09	16.81252	22	27	02.54	-04	11	14.6	16.5V	095
1987	SZ17*	1987	09	16.81252	22	28	01.80	+03	17	58.3	16.5V	095
1987	SA18*	1987	09	16.81252	22	32	16.22	+02	55	42.6	16.3V	095
1987	SB18*	1987	09	16.81252	22	40	04.12	+00	23	35.0	16.0V	095
1987	SC18*	1987	09	16.81252	22	47	34.20	+03	31	31.4	15.8V	095
1987	SD18*	1987	09	16.88546	23	21	11.97	-01	41	25.1	16.5V	095
1987	SD18	1987	09	23.81219	23	15	15.05	-02	14	42.4	16.5V	095
1987	SE18*	1987	09	16.88546	23	22	56.86	+00	11	59.8	17.0V	095
1987	SF18*	1987	09	16.88546	23	23	04.14	-00	08	14.3	17.0V	095
1987	SG18*	1987	09	16.88546	23	24	42.09	+02	31	35.2	15.5V	095
1987	SG18	1987	09	23.81219	23	19	00.98	+01	55	25.2	15.0V E	095
1987	SH18*	1987	09	16.88546	23	24	49.20	+01	17	22.0	17.0V	095
1987	SJ18*	1987	09	16.88546	23	27	03.40	-02	37	18.7	16.8V E	095
1987	SK18*	1987	09	16.88546	23	28	16.98	-01	45	51.2	17.0V	095
1987	SL18*	1987	09	16.88546	23	29	51.52	+00	09	42.2	16.0V	095
1987	SM18*	1987	09	16.88546	23	32	02.86	-00	06	44.8	17.0V	095
1987	SN18*	1987	09	16.88546	23	34	05.54	+01	11	58.0	17.0V	095
1987	SO18*	1987	09	16.88546	23	35	22.32	+00	25	54.9	16.0V	095
1987	SP18*	1987	09	16.88546	23	35	37.22	+04	07	01.9	16.8V	095
1987	SQ18*	1987	09	16.88546	23	37	09.80	+03	09	36.8	17.0V	095
1987	SR18*	1987	09	16.88546	23	37	55.78	+01	19	38.7	17.0V P	095
1987	SS18*	1987	09	16.88546	23	40	08.60	+00	03	23.5	16.5V	095
1987	ST18*	1987	09	16.88546	23	41	24.99	-00	47	47.5	17.0V	095
1987	SU18*	1987	09	16.88546	23	43	15.59	+03	33	01.1	16.0V	095
1987	SV18*	1987	09	16.88546	23	43	18.06	+03	07	17.6	16.5V	095
1987	SW18*	1987	09	16.88546	23	44	53.61	+05	52	26.0	16.0V	095
1987	SX18*	1987	09	16.88546	23	46	15.58	-00	35	36.8	17.0V	095
1987	SY18*	1987	09	16.88546	23	46	57.91	+00	35	59.8	17.0V	095
1987	SZ18*	1987	09	16.88546	23	47	06.91	-02	12	17.7	17.0V P	095

1987	SA19*	1987	09	16.88546	23	49	32.81	+01	25	55.0	16.5V	095
1987	SB19*	1987	09	16.88546	23	50	34.60	+00	16	41.8	16.5V	095
1987	SC19*	1987	09	17.82776	22	50	14.96	+04	17	43.5	16.5V	095
1987	SD19*	1987	09	17.82776	22	53	32.86	+03	20	03.2	16.5V	095
1987	SD19	1987	09	23.81219	22	51	46.90	+02	17	20.0	16.0V	095
1987	SE19*	1987	09	17.82776	22	57	34.48	+01	58	34.8	16.3V	095
1987	SE19	1987	09	23.81219	22	54	15.27	+00	55	07.2	16.5V	095
1987	SF19*	1987	09	17.82776	22	58	37.68	+04	05	10.0	16.2V	095
1987	SF19	1987	09	23.81219	22	52	15.90	+03	56	20.2	16.0V E	095
1987	SF19	1987	09	23.88509	22	52	10.90	+03	56	06.4	16.5V E	095
1987	SG19*	1987	09	17.82776	22	59	20.43	+00	08	02.8	16.5V	095
1987	SG19	1987	09	23.81219	22	54	09.35	-00	23	45.9	16.0V	095
1987	SH19*	1987	09	17.82776	22	59	57.42	-02	54	36.2	16.5V	095
1987	SH19	1987	09	23.81219	22	56	16.04	-03	42	48.2	16.0V E	095
1987	SJ19*	1987	09	17.82776	23	02	22.58	+03	20	06.5	16.5V	095
1987	SK19*	1987	09	17.82776	23	03	10.73	+04	15	49.9	16.0V	095
1987	SK19	1987	09	23.81219	22	58	16.80	+03	37	56.8	16.0V E	095
1987	SK19	1987	09	23.88509	22	58	13.45	+03	37	23.3	16.5V E	095
1987	SL19*	1987	09	17.82776	23	03	25.12	+05	02	56.4	16.2V	095
1987	SM19*	1987	09	17.82776	23	03	55.56	+03	20	59.9	16.5V	095
1987	SM19	1987	09	23.81219	22	58	55.98	+02	40	33.5	16.5V	095
1987	SN19*	1987	09	17.82776	23	04	23.94	+01	18	57.3	16.5V	095
1987	SN19	1987	09	23.81219	23	00	29.80	+00	34	30.9	16.5V	095
1987	SO19*	1987	09	17.82776	23	04	43.92	+00	08	53.8	16.5V	095
1987	SP19*	1987	09	17.82776	23	05	40.29	+00	50	46.0	16.5V	095
1987	SP19	1987	09	23.81219	23	01	14.26	-00	06	54.4	16.5V	095
1987	SQ19*	1987	09	17.82776	23	05	48.20	+01	22	13.3	16.5V	095
1987	SQ19	1987	09	23.81219	23	01	50.81	+00	41	36.2	16.5V	095
1987	SR19*	1987	09	17.82776	23	06	21.30	-02	42	15.2	17.0V	095
1987	SS19*	1987	09	17.82776	23	08	29.18	-01	33	01.4	16.5V	095
1987	SS19	1987	09	23.81219	23	03	04.13	-01	38	14.8	16.0V	095
1987	ST19*	1987	09	17.82776	23	09	34.32	+04	32	25.4	16.3V	095
1987	SU19*	1987	09	17.82776	23	11	47.14	+03	03	47.3	16.0V	095
1987	SU19	1987	09	23.81219	23	06	45.00	+02	44	27.6	15.0V	095
1987	SV19*	1987	09	17.82776	23	12	23.48	+02	31	25.0	16.3V	095
1987	SV19	1987	09	23.81219	23	07	06.16	+02	10	35.8	16.0V	095
1987	SW19*	1987	09	17.82776	23	13	22.57	+05	24	17.4	16.0V E	095
1987	SW19	1987	09	23.88509	23	09	02.35	+04	46	55.8	16.3V	095
1987	SX19*	1987	09	17.88890	23	49	23.32	+07	23	09.6	15.0V	095
1987	SY19*	1987	09	17.88890	23	51	17.38	+06	54	09.3	17.0V	095
1987	SZ19*	1987	09	17.88890	23	52	41.48	+11	31	04.3	16.0V E	095
1987	SA20*	1987	09	17.88890	23	55	41.87	+05	21	25.0	16.5V	095
1987	SB20*	1987	09	17.88890	23	55	58.55	+14	16	02.3	16.0V E	095
1987	SB20	1987	09	26.89957	23	49	23.79	+13	19	12.1	16.5V E	095
1987	SC20*	1987	09	17.88890	23	57	04.10	+12	34	03.3	17.0V	095
1987	SC20	1987	09	26.89957	23	48	33.82	+11	39	42.1	16.5V	095
1987	SD20*	1987	09	17.88890	23	59	57.76	+12	50	22.4	17.0V	095
1987	SE20*	1987	09	17.88890	00	00	27.81	+08	45	43.5	16.5V	095
1987	SE20	1987	09	26.89957	23	51	14.57	+08	40	32.6	16.0V	095
1987	SF20*	1987	09	17.88890	00	07	23.32	+08	33	42.5	16.5V	095
1987	SG20*	1987	09	17.88890	00	08	48.77	+08	34	52.9	17.0V	095
1987	SG20	1987	09	26.89957	00	01	46.30	+07	42	19.4	16.5V	095
1987	SH20*	1987	09	17.88890	00	09	22.32	+11	08	44.0	17.0V	095
1987	SJ20*	1987	09	17.88890	00	14	07.68	+05	17	57.9	16.8V	095
1987	SJ20	1987	09	26.89957	00	08	34.33	+04	57	22.8	16.8V	095
1987	SK20*	1987	09	17.88890	00	14	12.65	+07	12	11.7	17.0V	095
1987	SK20	1987	09	26.89957	00	08	27.30	+06	04	46.4	16.0V	095
1987	SL20*	1987	09	17.88890	00	15	17.74	+08	40	08.9	16.5V	095
1987	SL20	1987	09	26.89957	00	08	37.07	+08	04	55.3	16.5V	095

1987	SM20*	1987	09	17.88890	00	17	30.78	+08	26	15.6	16.5V	095
1987	SM20	1987	09	26.89957	00	08	53.20	+07	16	54.6	16.8V	095
1987	SN20*	1987	09	17.88890	00	18	43.08	+11	30	26.4	17.0V	095
1987	SO20*	1987	09	17.88890	00	18	54.25	+06	41	58.6	17.0V	095
1987	SP20*	1987	09	17.96529	00	26	36.42	+02	12	08.9	17.0V E	095
1987	SQ20*	1987	09	17.96529	00	42	24.22	+04	43	03.7	16.5V	095
1987	SR20*	1987	09	17.96529	00	42	40.53	+03	00	05.2	16.0V	095
1987	SS20*	1987	09	17.96529	00	42	58.92	+11	32	32.2	16.5V E	095
1987	SS20	1987	09	23.95528	00	36	50.39	+11	24	07.3	16.8V	095
1987	ST20*	1987	09	17.96529	00	51	43.55	+01	49	26.9	16.0V E	095
1987	SU20*	1987	09	18.84376	23	12	14.38	+12	30	48.7	16.5V	095
1987	SU20	1987	09	23.88509	23	08	48.05	+11	41	55.8	16.5V	095
1987	SV20*	1987	09	18.84376	23	14	34.56	+09	41	31.8	16.0V	095
1987	SV20	1987	09	23.88509	23	11	00.96	+09	02	50.5	16.0V	095
1987	SW20*	1987	09	18.84376	23	18	18.63	+12	30	34.4	16.0V	095
1987	SW20	1987	09	23.88509	23	14	50.25	+11	50	37.6	15.0V	095
1987	SX20*	1987	09	18.84376	23	18	41.86	+11	53	00.2	16.0V	095
1987	SX20	1987	09	23.88509	23	14	26.04	+11	30	55.6	15.0V	095
1987	SY20*	1987	09	18.84376	23	26	49.02	+08	13	24.6	16.5V	095
1987	SY20	1987	09	23.88509	23	22	12.22	+07	42	55.1	16.5V	095
1987	SZ20*	1987	09	18.84376	23	29	17.72	+06	07	09.3	16.5V E	095
1987	SZ20	1987	09	23.88509	23	25	02.79	+05	34	49.7	16.5V	095
1987	SA21*	1987	09	18.84376	23	31	00.14	+08	33	35.4	16.8V	095
1987	SA21	1987	09	23.88509	23	27	10.02	+08	01	53.2	16.8V	095
1987	SB21*	1987	09	18.84376	23	34	18.76	+12	41	58.6	16.5V	095
1987	SC21*	1987	09	18.84376	23	35	29.38	+08	34	37.8	16.5V	095
1987	SD21*	1987	09	18.84376	23	35	31.78	+10	38	29.9	16.5V	095
1987	SE21*	1987	09	18.84376	23	36	03.00	+13	53	00.4	16.5V	095
1987	SF21*	1987	09	18.91389	01	11	07.52	+14	38	04.0	16.5V E	095
1987	SF21	1987	09	26.97219	01	05	37.70	+14	19	58.7	16.0V	095
1987	SG21*	1987	09	18.91389	01	13	44.46	+15	44	30.0	16.0V	095
1987	SG21	1987	09	26.97219	01	08	17.94	+15	03	29.4	15.5V	095
1987	SH21*	1987	09	18.91389	01	21	13.65	+12	02	06.9	16.5V	095
1987	SH21	1987	10	02.96355	01	14	31.76	+10	06	51.8	16.5V P	095
1987	SJ21*	1987	09	18.91389	01	23	36.28	+13	04	17.6	16.0V	095
1987	SK21*	1987	09	18.91389	01	37	15.22	+16	40	26.7	15.8V	095
1987	SL21*	1987	09	18.91389	01	42	36.53	+16	23	02.6	15.0V	095
1987	SM21*	1987	09	18.98685	01	24	46.57	+07	42	37.2	16.3V	095
1987	SN21*	1987	09	18.98685	01	27	36.84	+09	58	48.9	15.5V	095
1987	SN21	1987	10	02.96355	01	16	11.81	+10	48	55.6	16.3V	095
1987	SO21*	1987	09	18.98685	01	30	27.98	+08	53	35.6	15.5V	095
1987	SO21	1987	10	02.96355	01	18	03.24	+09	18	55.6	16.0V	095
1987	SP21*	1987	09	18.98685	01	30	52.90	+05	37	32.0	16.3V	095
1987	SQ21*	1987	09	18.98685	01	30	57.73	+07	23	25.2	16.3V	095
1987	SR21*	1987	09	18.98685	01	32	51.12	+05	06	53.4	16.5V	095
1987	SS21*	1987	09	18.98685	01	33	20.63	+02	38	35.5	16.8V	095
1987	ST21*	1987	09	18.98685	01	33	29.34	+03	33	27.4	16.0V	095
1987	SU21*	1987	09	18.98685	01	33	52.20	+02	50	43.9	16.8V	095
1987	SV21*	1987	09	18.98685	01	33	56.94	+08	43	36.0	16.0V	095
1987	SV21	1987	10	02.96355	01	24	26.49	+08	40	37.6	16.5V P	095
1987	SW21*	1987	09	18.98685	01	35	11.68	+06	01	19.0	17.0V F	095
1987	SX21*	1987	09	18.98685	01	35	18.16	+07	57	16.6	16.0V	095
1987	SY21*	1987	09	18.98685	01	37	21.30	+03	27	36.4	16.5V	095
1987	SY21	1987	09	21.03457	01	36	13.65	+03	28	00.4	15.5V	095
1987	SZ21*	1987	09	18.98685	01	38	57.08	+10	34	18.4	16.0V E	095
1987	SA22*	1987	09	18.98685	01	39	39.20	+03	42	45.0	16.5V	095
1987	SB22*	1987	09	18.98685	01	40	01.63	+08	16	33.1	16.0V	095
1987	SB22	1987	09	21.03457	01	39	15.32	+08	08	48.0	16.0V	095
1987	SC22*	1987	09	18.98685	01	41	34.28	+07	32	51.6	16.5V	095

1987 SD22* 1987 09 18.98685 01 44 48.05 +04 53 50.0 16.5V 095
1987 SE22* 1987 09 18.98685 01 49 52.54 +02 09 31.6 15.8V E 095
1987 SE22 1987 09 21.03457 01 48 41.99 +02 06 48.6 15.5V 095
1987 SF22* 1987 09 18.98685 01 50 55.46 +06 48 20.2 16.5V 095
1987 SG22* 1987 09 18.98685 01 51 20.78 +04 13 49.8 16.3V 095
1987 SH22* 1987 09 18.98685 01 51 41.13 +01 42 11.2 16.2V E 095
1987 SJ22* 1987 09 20.81606 22 41 09.26 -01 06 39.6 16.0V 095
1987 SK22* 1987 09 20.88978 23 16 10.27 -07 20 34.9 16.5V 095
1987 SL22* 1987 09 20.88978 23 19 24.70 -07 56 26.2 16.5V 095
1987 SM22* 1987 09 20.88978 23 20 05.06 -04 43 44.4 16.0V 095
1987 SN22* 1987 09 20.88978 23 23 55.90 -06 21 38.4 16.5V 095
1987 SO22* 1987 09 20.88978 23 27 10.42 -11 24 27.2 16.0V 095
1987 SP22* 1987 09 20.88978 23 29 46.36 -08 31 25.9 16.5V 095
1987 SQ22* 1987 09 20.88978 23 39 35.56 -08 22 30.8 16.5V 095
1987 SR22* 1987 09 20.88978 23 39 53.67 -05 59 31.8 16.0V 095
1987 SS22* 1987 09 20.88978 23 42 34.64 -09 00 12.9 15.5V 095
1987 ST22* 1987 09 20.88978 23 48 13.16 -05 10 37.6 15.0V 095
1987 SU22* 1987 09 20.96236 01 18 51.25 +17 11 13.5 15.0V E 095
1987 SV22* 1987 09 20.96236 01 50 34.72 +16 39 06.4 16.8V 095
1987 SW22* 1987 09 20.96236 01 53 40.72 +17 41 48.6 16.6V 095
1987 SX22* 1987 09 20.96236 01 57 27.21 +14 29 19.9 15.0V E 095
1987 SY22* 1987 09 21.03457 01 43 07.29 +09 30 10.9 15.8V 095
1987 SZ22* 1987 09 21.03457 01 52 39.69 +04 41 12.8 16.0V 095
1987 SA23* 1987 09 23.81219 22 49 30.56 +03 31 32.0 16.3V 095
1987 SB23* 1987 09 23.81219 22 50 53.82 -01 58 14.8 16.0V 095
1987 SC23* 1987 09 23.81219 22 59 42.76 +01 50 31.3 17.0V 095
1987 SD23* 1987 09 23.81219 23 00 17.37 -04 42 40.4 17.0V 095
1987 SE23* 1987 09 23.81219 23 04 11.30 +00 25 22.7 16.5V 095
1987 SF23* 1987 09 23.81219 23 06 38.16 -01 05 01.3 16.0V 095
1987 SG23* 1987 09 23.81219 23 06 55.40 -01 13 48.5 15.5V 095
1987 SH23* 1987 09 23.81219 23 07 14.14 -01 50 11.1 17.0V 095
1987 SJ23* 1987 09 23.81219 23 07 55.22 +00 42 18.2 15.8V 095
1987 SK23* 1987 09 23.81219 23 09 39.80 -04 47 46.0 16.5V 095
1987 SL23* 1987 09 23.81219 23 14 08.42 +01 19 04.2 16.5V 095
1987 SM23* 1987 09 23.88509 22 52 20.40 +11 20 35.0 16.5V E 095
1987 SN23* 1987 09 23.88509 22 52 43.81 +12 46 32.2 16.5V E 095
1987 SO23* 1987 09 23.88509 22 52 55.86 +05 27 27.6 16.5V E 095
1987 SP23* 1987 09 23.88509 22 56 00.44 +08 22 17.0 16.5V 095
1987 SQ23* 1987 09 23.88509 22 56 33.67 +12 13 13.9 16.5V 095
1987 SR23* 1987 09 23.88509 22 56 46.28 +07 55 45.1 16.8V 095
1987 SS23* 1987 09 23.88509 22 59 21.98 +08 16 41.2 16.3V 095
1987 ST23* 1987 09 23.88509 23 04 30.33 +12 03 06.7 16.8V 095
1987 SU23* 1987 09 23.88509 23 05 04.90 +09 35 19.4 16.0V 095
1987 SV23* 1987 09 23.88509 23 06 06.65 +11 23 39.0 17.0V 095
1987 SW23* 1987 09 23.88509 23 07 43.09 +04 35 24.8 17.0V 095
1987 SX23* 1987 09 23.88509 23 10 12.02 +05 17 28.6 17.0V 095
1987 SY23* 1987 09 23.88509 23 14 16.04 +09 52 28.6 17.0V 095
1987 SZ23* 1987 09 23.88509 23 14 33.69 +09 10 37.6 17.0V 095
1987 SA24* 1987 09 23.88509 23 14 40.21 +05 20 51.9 17.0V 095
1987 SB24* 1987 09 23.88509 23 16 04.52 +07 32 39.0 16.8V 095
1987 SC24* 1987 09 23.88509 23 16 26.34 +04 19 03.0 16.5V E 095
1987 SD24* 1987 09 23.88509 23 17 38.91 +04 31 47.6 17.0V 095
1987 SE24* 1987 09 23.88509 23 21 52.42 +11 45 38.5 16.8V 095
1987 SF24* 1987 09 23.95528 00 16 38.76 +12 35 44.6 15.5V E 095
1987 SG24* 1987 09 23.95528 00 19 15.32 +11 08 00.4 16.8V P 095
1987 SH24* 1987 09 23.95528 00 20 33.90 +11 52 18.8 16.5V 095
1987 SJ24* 1987 09 23.95528 00 21 12.88 +08 23 47.4 16.5V 095
1987 SK24* 1987 09 23.95528 00 25 45.22 +13 27 46.5 17.0V 095
1987 SL24* 1987 09 23.95528 00 26 11.48 +05 41 05.9 16.5V P 095

1987	SM24*	1987	09	23.95528	00	27	25.75	+09	51	57.4		095
1987	SN24*	1987	09	23.95528	00	28	29.42	+07	55	11.8	17.0V	095
1987	SO24*	1987	09	23.95528	00	31	09.24	+09	55	49.2	17.0V P	095
1987	SP24*	1987	09	23.95528	00	31	43.62	+07	11	30.8	17.0V	095
1987	SQ24*	1987	09	23.95528	00	31	46.42	+10	56	13.0	17.0V	095
1987	SR24*	1987	09	23.95528	00	32	52.32	+09	05	54.1	16.5V	095
1987	SS24*	1987	09	23.95528	00	33	37.31	+13	01	24.4	16.5V	095
1987	ST24*	1987	09	23.95528	00	34	17.90	+12	29	25.9	16.3V	095
1987	SU24*	1987	09	23.95528	00	36	03.92	+12	24	44.8	16.0V	095
1987	SV24*	1987	09	23.95528	00	37	58.64	+07	39	11.1	16.5V	095
1987	SW24*	1987	09	23.95528	00	38	04.26	+12	02	50.6	16.8V	095
1987	SX24*	1987	09	23.95528	00	38	30.05	+13	07	05.5	17.0V	095
1987	SY24*	1987	09	23.95528	00	39	31.87	+10	24	07.0	16.5V	095
1987	SZ24*	1987	09	23.95528	00	39	45.65	+08	52	20.6	16.0V	095
1987	SA25*	1987	09	23.95528	00	42	50.02	+13	31	40.3	16.0V	095
1987	SB25*	1987	09	23.95528	00	42	55.93	+14	17	55.9	16.5V E	095
1987	SC25*	1987	09	23.95528	00	43	04.43	+10	18	31.6	15.5V	095
1987	SD25*	1987	09	23.95528	00	43	47.68	+09	23	51.7	17.0V	095
1987	SE25*	1987	09	23.95528	00	44	04.29	+11	56	19.8	16.0V	095
1987	SF25*	1987	09	23.95528	00	44	50.94	+14	18	39.0	16.5V E	095
1987	SG25*	1987	09	23.95528	00	45	38.57	+14	10	01.5	17.0V E	095
1987	SH25*	1987	09	23.95528	00	49	00.64	+08	35	41.6	17.0V	095
1987	SJ25*	1987	09	23.95528	00	52	52.06	+12	20	26.2	17.0V N	095
1987	SK25*	1987	09	23.95528	00	54	02.90	+12	00	02.6	16.8V E	095
1987	SL25*	1987	09	23.95528	00	54	34.77	+13	25	39.0	15.0V E	095
1987	SL25	1987	09	26.97219	00	51	47.24	+13	25	55.6	15.0V	095
1987	SM25*	1987	09	24.03090	01	51	37.33	+18	12	35.3	16.0V E	095
1987	SN25*	1987	09	24.03090	01	52	08.38	+11	57	07.2	16.0V E	095
1987	SO25*	1987	09	24.03090	01	57	23.55	+15	08	35.5	16.5V	095
1987	SP25*	1987	09	24.03090	01	59	12.04	+18	27	54.3	16.5V	095
1987	SQ25*	1987	09	24.03090	02	00	26.11	+15	12	26.0	16.3V	095
1987	SR25*	1987	09	24.03090	02	01	06.54	+17	23	42.8	16.0V	095
1987	SS25*	1987	09	24.03090	02	03	20.36	+11	20	44.6	16.3V	095
1987	ST25*	1987	09	24.03090	02	05	07.78	+19	55	04.6	16.0V E	095
1987	SU25*	1987	09	24.03090	02	07	21.70	+15	35	25.8	16.0V	095
1987	SV25*	1987	09	24.03090	02	07	36.78	+16	45	30.3		095
1987	SW25*	1987	09	24.03090	02	09	24.37	+13	34	13.3	16.5V	095
1987	SX25*	1987	09	24.03090	02	09	35.95	+14	39	25.1	16.5V	095
1987	SY25*	1987	09	24.03090	02	10	59.52	+14	23	40.3	16.0V	095
1987	SZ25*	1987	09	24.03090	02	13	26.08	+12	08	33.3	16.5V	095
1987	SA26*	1987	09	24.03090	02	18	26.75	+16	37	23.8	16.5V	095
1987	SB26*	1987	09	24.03090	02	19	40.78	+13	01	05.0	16.3V	095
1987	SC26*	1987	09	24.03090	02	27	23.33	+19	17	40.7	16.3V E	095
1987	SD26*	1987	09	26.89957	23	53	52.35	+05	12	46.3	16.5V	095
1987	SD26	1987	10	23.75001	23	37	36.21	+02	42	45.2	16.0V E	095
1987	SE26*	1987	09	26.89957	23	54	45.84	+13	17	05.7	16.0V E	095
1987	SF26*	1987	09	26.89957	23	58	54.48	+05	37	23.6	16.5V	095
1987	SG26*	1987	09	26.89957	00	00	42.29	+11	41	55.3	16.5V	095
1987	SH26*	1987	09	26.89957	00	01	46.26	+12	15	02.6	16.5V	095
1987	SJ26*	1987	09	26.89957	00	02	00.93	+04	33	47.2	16.5V	095
1987	SK26*	1987	09	26.89957	00	02	32.39	+06	29	12.6	16.0V	095
1987	SL26*	1987	09	26.89957	00	09	02.47	+09	09	54.8	16.5V	095
1987	SM26*	1987	09	26.89957	00	11	11.14	+06	44	56.6	16.5V	095
1987	SN26*	1987	09	26.89957	00	13	57.53	+12	21	00.6	16.0V	095
1987	SO26*	1987	09	26.89957	00	15	30.56	+11	13	48.3	16.0V	095
1987	SP26*	1987	09	26.97219	00	44	18.10	+16	32	01.0	16.0V E	095
1987	SQ26*	1987	09	26.97219	00	46	52.86	+15	41	31.8	16.3V	095
1987	SR26*	1987	09	26.97219	00	49	47.45	+14	25	29.1	16.0V	095
1987	SS26*	1987	09	26.97219	00	53	37.58	+14	07	45.3	15.5V	095

1987	ST26*	1987	09	26.97219	00	53	59.01	+18	50	12.4		16.5V	095
1987	SU26*	1987	09	26.97219	00	54	20.07	+15	40	22.8		16.5V	095
1987	SV26*	1987	09	26.97219	00	54	39.57	+14	35	16.9		16.5V	095
1987	SW26*	1987	09	26.97219	00	55	59.71	+17	02	35.7		16.5V	095
1987	SX26*	1987	09	26.97219	00	56	30.24	+12	29	33.5		16.5V	095
1987	SY26*	1987	09	26.97219	00	57	05.22	+12	12	54.9		16.5V	095
1987	SZ26*	1987	09	26.97219	00	57	22.70	+17	58	21.6		16.5V	095
1987	SA27*	1987	09	26.97219	00	59	31.55	+13	35	56.8		14.5V	095
1987	SB27*	1987	09	26.97219	01	00	34.72	+16	14	42.0		16.5V	095
1987	SC27*	1987	09	26.97219	01	01	25.85	+13	22	06.7		16.5V	095
1987	SD27*	1987	09	26.97219	01	07	37.51	+19	19	08.0		16.0V E	095
1987	SE27*	1987	09	26.97219	01	09	54.97	+13	27	57.6		16.5V	095
1987	SF27*	1987	09	26.97219	01	10	04.55	+18	55	00.6		16.5V	095
1987	SG27*	1987	09	26.97219	01	15	55.85	+15	16	24.6		16.5V	095
1987	SH27*	1987	09	27.04510	02	05	58.19	+04	43	01.6		16.0V	095
1987	SJ27*	1987	09	27.04510	02	05	59.47	+00	49	07.2		15.5V	095
1987	SJ27	1987	10	23.90625	01	43	54.08	+00	11	34.7		15.3V	095
1987	SK27*	1987	09	27.04510	02	13	12.64	+02	30	10.9		16.0V	095
1987	SL27*	1987	09	27.04510	02	17	17.70	+00	58	56.6		15.5V	095
1987	SM27*	1987	09	27.04510	02	23	41.16	+07	54	32.0		15.3V P	095
1987	SN27*	1987	09	27.04510	02	27	18.31	+06	33	32.2		16.3V	095
1987	TA	1987	09	18.91389	01	47	30.46	+16	19	19.8		E	095
1987	TA	1987	09	20.96236	01	46	45.48	+16	27	27.8			095
1987	TG	1987	09	18.98685	01	33	56.20	+02	06	42.9		16.0V	095
1987	TG	1987	09	21.03457	01	32	50.07	+02	11	01.8		15.5V	095
1987	TJ	1987	09	18.98685	01	28	32.13	+03	20	21.0		16.5V	095
1987	TU *	1987	10	02.96355	01	04	15.46	+09	14	39.8		16.0V	095
1987	TV *	1987	10	02.96355	01	18	21.12	+12	28	59.8		17.0V	095
1987	TW *	1987	10	02.96355	01	23	42.21	+08	59	05.7		16.5V	095
1987	TX *	1987	10	02.96355	01	30	27.00	+11	24	34.4		17.0V	095
1987	TY *	1987	10	03.01840	02	14	31.28	+11	59	53.2		16.0V	095
1987	UB	1987	09	23.95528	00	43	36.03	+08	11	35.4		P	095
1987	UB	1987	10	23.82188	00	23	34.82	+03	02	06.2		16.5V	095
1987	UD	1987	10	23.90625	02	02	04.94	+06	32	39.0		16.0V	095
1987	UZ	1987	09	18.98685	01	38	29.31	+07	27	24.8		16.5V	095
1987	UM1	1987	09	18.91389	01	30	59.64	+12	57	45.9		15.5V	095
1987	UM1	1987	10	02.96355	01	20	13.46	+11	51	55.4		15.0V	095
1987	UT1	1987	09	18.84376	23	15	46.97	+10	08	50.8			095
1987	UT1	1987	09	23.88509	23	12	41.69	+10	04	56.5			095
1987	UU1	1987	09	24.03090	01	50	54.34	+15	49	31.9		16.3V E	095
1987	UE2	1987	09	03.04861	01	11	12.55	+12	46	23.8		15.0V E	095
1987	UE2	1987	09	26.97219	00	59	00.55	+12	34	32.2		16.0V	095
1987	UP2	1987	09	26.97219	01	02	47.30	+13	47	10.4		14.5V	095
1987	UP2	1987	10	02.96355	00	59	32.30	+13	16	33.0		14.5V E	095
1987	UQ3	1987	09	27.04510	02	01	42.54	+01	14	47.6		15.5V	095
1987	UQ3	1987	10	23.90625	01	37	24.66	-00	23	53.8		16.0V	095
1987	UD7 *	1987	10	23.75001	23	41	18.42	+02	36	44.1		16.0V E	095
1987	UE7 *	1987	10	23.82188	23	58	20.33	+04	42	18.0		16.5V E	095
1987	UF7 *	1987	10	23.82188	00	05	06.97	+05	23	37.1		16.0V	095
1987	UG7 *	1987	10	23.82188	00	08	48.34	+05	03	56.3		16.0V	095
1987	UH7 *	1987	10	23.82188	00	10	43.22	+02	53	13.0		16.5V	095
1987	UJ7 *	1987	10	23.82188	00	11	33.02	+03	10	22.8		16.5V	095
1987	UK7 *	1987	10	23.82188	00	13	11.93	+06	19	00.5		16.5V	095
1987	UL7 *	1987	10	23.82188	00	14	38.36	+05	47	19.5		16.8V	095
1987	UM7 *	1987	10	23.82188	00	17	04.17	+05	06	56.1		16.5V	095
1987	UN7 *	1987	10	23.82188	00	20	48.00	+08	14	29.0		16.5V	095
1987	UO7 *	1987	10	23.82188	00	21	47.98	+05	34	05.1		16.5V	095
1987	UP7 *	1987	10	23.82188	00	24	22.52	+04	57	29.2		16.8V	095
1987	UQ7 *	1987	10	23.82188	00	30	56.82	+02	41	45.6		15.0V	095

1987	UR7	*	1987	10	23.82188	00	37	09.17	+04	27	22.2	16.5V	E 095
1987	US7	*	1987	10	23.90625	01	35	58.96	+04	52	55.3	16.0V	095
1987	UT7	*	1987	10	23.90625	01	40	58.06	+03	21	15.4	15.5V	095
1987	UU7	*	1987	10	23.90625	01	41	55.64	+04	12	36.2	15.5V	095
1987	UV7	*	1987	10	23.90625	01	42	46.58	+07	02	33.9	16.8V	095
1987	UW7	*	1987	10	23.90625	01	47	17.42	+02	04	12.2	16.5V	095
1987	UX7	*	1987	10	23.90625	01	49	13.00	+06	30	19.8	16.0V	095
1987	UY7	*	1987	10	23.90625	01	50	36.12	+05	02	15.1	16.5V	095
1987	UZ7	*	1987	10	23.90625	01	50	58.22	+04	23	25.6	16.8V	095
1987	UA8	*	1987	10	23.90625	01	52	46.50	+01	04	43.9	16.3V	095
1987	UB8	*	1987	10	23.90625	01	53	10.62	+00	56	41.5	16.5V	095
1987	UC8	*	1987	10	23.90625	01	53	50.50	+06	49	46.0	16.0V	095
1987	UD8	*	1987	10	23.90625	01	54	22.74	+06	24	58.7	16.0V	095
1987	UE8	*	1987	10	23.90625	01	55	04.57	-00	11	25.4	15.5V	095
1987	UF8	*	1987	10	23.90625	01	55	08.25	+01	18	47.0	16.5V	095
1987	UG8	*	1987	10	23.90625	01	55	26.58	+03	13	02.4	16.5V	095
1987	UH8	*	1987	10	23.90625	01	56	44.58	+01	07	53.2	16.3V	095
1987	UJ8	*	1987	10	23.90625	01	58	08.58	+04	15	45.3	16.5V	095
1987	UK8	*	1987	10	23.90625	02	02	48.73	+06	30	06.8	16.0V	095
1987	UL8	*	1987	10	23.90625	02	04	44.65	+02	59	31.9	16.5V	I 095
1987	UM8	*	1987	10	23.90625	02	08	48.16	+02	10	55.8	16.0V	095
1987	UN8	*	1987	10	23.90625	02	12	07.54	+04	57	49.2	16.0V	E 095
1987	UO8	*	1987	10	23.97914	03	56	36.90	+18	54	52.4	16.3V	095
1987	UP8	*	1987	10	23.97914	03	56	53.34	+20	50	15.9	14.8V	095
1987	UQ8	*	1987	10	23.97914	03	59	03.30	+16	37	37.0	16.5V	095
1987	UR8	*	1987	10	23.97914	04	00	52.17	+18	40	12.9	16.3V	095
1987	US8	*	1987	10	23.97914	04	00	57.74	+21	55	40.6	16.8V	095
1987	UT8	*	1987	10	23.97914	04	01	07.63	+18	34	59.8	15.5V	095
1987	UU8	*	1987	10	23.97914	04	03	31.50	+19	55	38.4	15.5V	095
1987	UV8	*	1987	10	23.97914	04	06	18.09	+16	49	07.5	16.5V	095
1987	UW8	*	1987	10	23.97914	04	10	25.87	+24	37	41.7	15.7V	095
1987	UX8	*	1987	10	23.97914	04	11	04.02	+18	53	09.7	16.8V	095
1987	UY8	*	1987	10	23.97914	04	17	40.16	+21	54	11.6	16.5V	095
1987	UZ8	*	1987	10	23.97914	04	21	26.26	+21	27	23.9	16.5V	095
1987	UA9	*	1987	10	23.97914	04	21	27.68	+24	49	45.9	16.0V	E 095
1987	UB9	*	1987	10	23.97914	04	23	29.56	+16	24	49.8	16.5V	095
1987	UC9	*	1987	10	23.97914	04	31	03.17	+24	11	53.8	16.0V	095
1987	VB		1987	09	18.91389	01	43	44.28	+16	30	04.8		095
1987	VB		1987	09	20.96236	01	42	54.54	+16	29	34.6		095
1987	WP		1987	10	23.97914	04	25	42.02	+21	41	05.6	16.3V	095
1988	VS		1987	09	23.81219	23	04	40.48	+00	15	11.8	16.5V	095
1989	AX		1987	09	20.88978	23	50	30.97	-06	37	13.5	15.8V	E 095
1989	CL		1987	09	18.98685	01	28	23.78	+05	23	41.9	16.3V	095
1989	CL		1987	09	21.03457	01	27	21.75	+05	14	49.4	16.0V	095
1989	CL3		1987	09	18.84376	23	08	50.40	+06	58	08.0	15.0V	E 095
1989	CL3		1987	09	23.88509	23	05	13.48	+06	23	33.0	15.0V	095
1989	EG		1987	09	17.88890	00	17	50.88	+08	24	42.1	16.8V	095
1989	EV		1987	10	23.97914	04	07	45.14	+22	01	16.7	14.5V	095
1989	EY2		1987	09	23.95528	00	35	31.20	+14	09	40.1	16.0V	E 095
1989	FO		1987	10	23.97914	04	22	29.70	+16	24	12.5	16.5V	095
1989	GA		1987	09	18.91389	01	37	24.12	+13	28	21.6	16.5V	095
4581	P-L		1987	10	23.97914	03	54	36.42	+19	29	59.7		E 095
6032	P-L		1987	09	24.03090	02	08	14.47	+16	51	12.6	16.0V	095
6048	P-L		1987	09	26.97219	00	57	22.70	+10	38	12.2		E 095
5069	T-2		1987	09	20.96236	01	41	24.29	+19	27	23.6	16.0V	E 095
32			1987	09	18.91389	01	43	47.28	+14	03	37.8		095
32			1987	09	20.96236	01	42	40.31	+13	55	28.9		095
32			1987	10	02.96355	01	34	34.64	+12	55	24.8		095
35			1987	09	24.03090	02	01	51.70	+18	17	15.3		095

35	1987	10	03.01840	01	56	06.98	+18	06	21.6		095
56	1987	09	03.04861	01	25	19.21	+10	46	31.8		095
56	1987	09	18.98685	01	18	33.73	+09	02	12.5		095
62	1987	09	03.04861	01	19	35.16	+05	17	58.6		095
69	1987	08	27.94465	23	06	09.66	-00	40	44.6		095
69	1987	09	02.90625	23	02	01.57	-01	17	01.6		095
69	1987	09	16.81252	22	52	04.87	-02	48	55.2		095
69	1987	09	17.82776	22	51	22.55	-02	55	43.8		095
69	1987	09	20.81606	22	49	20.46	-03	15	42.4		095
69	1987	09	23.81219	22	47	22.86	-03	35	27.8		095
76	1987	08	28.02036	00	07	30.06	+02	21	17.2		095
106	1987	10	23.97914	04	14	45.55	+20	04	45.0		095
108	1987	09	18.91389	01	30	13.56	+12	13	24.3		095
108	1987	09	20.96236	01	29	04.59	+12	09	34.2		095
108	1987	10	02.96355	01	21	16.24	+11	39	12.2		095
143	1987	08	28.02036	23	42	36.54	+03	24	56.2		095
143	1987	09	16.88546	23	25	12.30	+02	54	34.8		095
143	1987	09	23.81219	23	18	58.21	+02	37	34.1	E	095
147	1987	09	03.04861	01	09	45.45	+09	55	42.2		095
147	1987	10	23.82188	00	37	40.32	+06	27	45.2	E	095
156	1987	09	02.97917	23	59	39.76	+13	40	01.6		095
156	1987	09	17.88890	23	48	15.01	+12	27	53.2		095
156	1987	09	26.89957	23	41	04.00	+11	29	50.2	E	095
156	1987	10	23.75001	23	24	29.40	+08	19	45.2		095
165	1987	08	27.94465	22	36	54.08	+02	03	05.0		095
165	1987	09	02.90625	22	32	01.64	+01	52	26.8		095
165	1987	09	16.81252	22	21	16.20	+01	17	36.8		095
165	1987	09	20.81606	22	18	32.84	+01	06	13.0		095
175	1987	09	20.88978	23	35	49.82	-05	16	25.9		095
208	1987	09	03.04861	01	07	35.04	+07	14	46.4		095
208	1987	09	17.96529	00	59	38.58	+06	34	46.8	E	095
208	1987	09	23.95528	00	55	25.48	+06	12	11.8	E	095
208	1987	10	23.82188	00	32	21.71	+04	03	27.2		095
231	1987	09	03.04861	00	50	25.11	+07	04	34.0		095
231	1987	09	17.96529	00	40	31.57	+06	29	21.6		095
231	1987	09	23.95528	00	35	46.68	+06	09	22.4		095
231	1987	10	23.82188	00	12	41.17	+04	18	51.3		095
232	1987	10	23.90625	02	12	28.00	+05	01	27.5		095
248	1987	09	18.91389	01	23	00.34	+14	13	36.4		095
248	1987	09	20.96236	01	21	38.35	+14	05	53.9		095
248	1987	09	26.97219	01	17	10.44	+13	38	57.1		095
248	1987	10	02.96355	01	12	11.36	+13	06	33.2		095
256	1987	09	27.04510	02	21	05.98	+06	23	52.4		095
256	1987	10	23.90625	02	04	20.74	+03	06	01.9		095
257	1987	09	20.88978	23	18	00.06	-08	41	55.1		095
268	1987	09	27.04510	02	05	31.88	+09	14	54.4	E	095
268	1987	10	23.90625	01	47	18.82	+07	25	45.8		095
272	1987	08	27.87140	20	57	07.31	-24	05	37.5		095
275	1987	09	18.98685	01	41	23.04	+04	11	18.2		095
275	1987	09	21.03457	01	40	15.40	+04	01	14.8		095
329	1987	09	18.98685	01	31	39.55	+02	57	48.9		095
329	1987	09	21.03457	01	30	34.42	+02	34	56.2		095
336	1987	10	23.97914	04	12	51.73	+21	40	50.2		095
356	1987	08	27.87140	21	13	48.21	-23	26	06.8		095
375	1987	09	02.97917	00	10	24.73	+10	32	45.4		095
375	1987	09	17.88890	23	57	48.31	+10	48	20.5		095
375	1987	09	26.89957	23	49	32.02	+10	43	42.7		095
375	1987	10	23.75001	23	29	25.83	+09	58	42.8		095
384	1987	09	20.88978	23	41	36.43	-10	03	46.5		095

461		1987	08	27.87140	21	12	51.34	-15	32	11.2	E 095
483		1987	09	17.82776	23	04	58.85	-02	50	24.4	095
483		1987	09	23.81219	23	01	32.58	-03	42	57.6	095
490		1987	08	28.02036	00	10	10.08	+02	20	40.7	E 095
499		1987	09	02.90625	22	42	48.13	-05	08	29.2	095
503		1987	10	23.97914	04	06	58.71	+18	19	43.2	095
513		1987	09	03.04861	00	57	27.14	+06	24	02.0	095
513		1987	09	17.96529	00	50	41.84	+04	48	20.8	095
513		1987	10	23.82188	00	27	20.62	+00	09	50.7	095
540		1987	09	02.97917	00	23	50.52	+06	47	25.2	095
540		1987	09	17.88890	00	12	06.88	+05	05	29.6	095
540		1987	09	26.89957	00	03	51.04	+03	50	15.5	E 095
547		1987	09	03.04861	00	51	43.31	+12	33	42.6	095
547		1987	09	17.96529	00	48	04.05	+09	46	25.4	095
547		1987	09	23.95528	00	45	18.99	+08	21	08.0	095
547		1987	10	23.82188	00	29	41.54	+00	32	54.2	095
549		1987	08	27.94465	22	59	49.16	-01	14	50.8	095
549		1987	09	02.90625	22	54	39.89	-01	38	12.3	095
549		1987	09	16.81252	22	42	15.01	-02	41	32.4	095
549		1987	09	20.81606	22	38	51.64	-03	00	26.6	095
552		1987	09	02.97917	00	27	05.78	+14	23	13.5	E 095
552		1987	09	17.88890	00	17	40.12	+13	43	47.8	095
552		1987	09	26.89957	00	11	07.60	+13	04	54.8	095
552		1987	10	23.75001	23	53	44.62	+10	36	39.3	095
555		1987	09	20.88978	23	36	57.00	-05	17	18.6	095
557		1987	08	28.02036	23	57	08.92	+03	17	05.1	095
557		1987	09	16.88546	23	40	53.46	+01	51	17.4	095
566		1987	08	27.87140	20	54	18.48	-23	30	51.6	095
585		1987	08	27.94465	22	43	46.23	-03	19	40.1	095
585		1987	09	02.90625	22	38	42.60	-04	04	44.3	095
615		1987	09	18.91389	01	37	03.26	+10	14	11.5	E 095
615		1987	09	18.98685	01	37	00.32	+10	14	05.4	E 095
615		1987	09	20.96236	01	35	44.20	+10	08	43.5	E 095
615		1987	09	21.03457	01	35	41.28	+10	08	35.8	095
615		1987	10	02.96355	01	26	33.90	+09	27	51.8	095
645		1987	09	18.91389	01	42	18.46	+13	49	55.0	095
645		1987	09	20.96236	01	41	14.90	+13	50	07.5	095
645		1987	10	02.96355	01	33	29.04	+13	41	39.8	095
669		1987	09	27.04510	02	17	43.68	+04	44	38.9	095
669		1987	10	23.90625	02	00	29.94	+01	37	22.1	095
681		1987	08	28.02036	23	40	01.21	+01	16	45.9	095
681		1987	09	16.88546	23	27	33.44	-01	25	56.4	095
700		1987	08	27.87140	21	19	55.50	-24	25	46.2	095
703		1987	09	18.91389	01	16	28.43	+10	23	22.4	E 095
703		1987	10	02.96355	01	06	41.28	+09	00	17.5	095
733		1987	09	02.97917	00	28	07.42	+14	29	54.1	E 095
736		1987	09	27.04510	02	00	13.10	+04	10	03.7	095
736		1987	10	23.90625	01	37	40.32	+01	06	06.6	095
774		1987	09	24.03090	01	59	18.61	+18	09	27.8	095
774		1987	10	03.01840	01	53	48.96	+17	39	28.2	095
784		1987	09	18.91389	01	42	14.52	+11	40	39.4	095
784		1987	09	20.96236	01	40	56.14	+11	39	11.4	095
784		1987	10	02.96355	01	32	09.55	+11	23	40.2	095
797		1987	10	23.97914	04	34	14.42	+22	11	09.4	E 095
821		1987	09	24.03090	02	05	27.64	+13	30	58.6	095
823		1987	09	24.03090	02	20	33.04	+19	03	05.9	095
823		1987	10	03.01840	02	15	58.02	+18	43	03.4	095
825		1987	10	23.90625	02	10	22.60	+07	22	07.6	E 095
841		1987	09	23.81219	23	09	42.64	-05	41	22.4	E 095

902	1987	09	20.96236	01	50	05.32	+16	03	25.0		095
910	1987	10	23.97914	04	27	50.98	+23	34	39.2		095
918	1987	08	28.02036	23	49	04.77	+05	56	41.8		095
918	1987	09	16.88546	23	31	22.06	+06	32	46.5	E	095
918	1987	09	18.84376	23	29	28.77	+06	33	15.3		095
918	1987	09	23.88509	23	24	41.21	+06	32	51.6		095
919	1987	09	23.95528	00	42	47.19	+13	58	23.6	E	095
920	1987	09	02.97917	00	16	21.31	+07	11	09.1		095
920	1987	09	17.88890	00	06	36.42	+05	12	06.3		095
920	1987	09	26.89957	23	59	45.58	+03	46	43.1	E	095
921	1987	09	18.84376	23	13	15.30	+09	14	18.8		095
921	1987	09	23.88509	23	10	05.38	+08	27	40.8		095
936	1987	09	18.98685	01	33	45.08	+06	57	36.3		095
936	1987	09	21.03457	01	32	36.16	+06	51	05.2		095
937	1987	10	23.97914	04	13	22.74	+22	40	09.4		095
948	1987	09	17.96529	00	29	08.98	+04	45	29.3		095
948	1987	09	23.95528	00	24	33.95	+04	28	20.5	E	095
948	1987	10	23.82188	00	02	21.24	+02	57	46.8		095
976	1987	09	17.88890	23	45	33.54	+08	58	31.8	E	095
976	1987	09	18.84376	23	44	54.04	+08	53	50.4	E	095
976	1987	09	26.89957	23	39	20.41	+08	11	49.9	E	095
976	1987	10	23.75001	23	24	35.50	+05	44	35.6		095
990	1987	08	28.02036	23	55	08.72	-02	47	38.1	E	095
990	1987	09	16.88546	23	37	58.38	-02	29	01.4		095
995	1987	09	18.84376	23	36	13.94	+15	30	40.9	E	095
995	1987	10	23.75001	23	20	23.12	+08	30	35.2	E	095
1023	1987	09	18.98685	01	36	10.70	+09	42	42.7		095
1023	1987	10	02.96355	01	28	51.82	+08	06	11.2	E	095
1032	1987	10	23.97914	04	07	14.42	+16	00	45.2	E	095
1048	1987	10	23.97914	03	54	45.21	+19	59	04.4	E	095
1081	1987	09	18.98685	01	48	55.89	+09	32	38.8		095
1081	1987	09	21.03457	01	48	00.09	+09	30	14.3		095
1100	1987	08	28.02036	23	43	51.60	-00	33	18.4		095
1100	1987	09	16.88546	23	29	09.42	-02	00	40.7		095
1114	1987	08	27.94465	22	56	35.74	+02	57	32.8		095
1114	1987	09	02.90625	22	52	35.82	+02	18	11.6		095
1114	1987	09	16.81252	22	43	13.76	+00	34	17.8		095
1114	1987	09	17.82776	22	42	34.80	+00	26	23.8	E	095
1114	1987	09	20.81606	22	40	44.45	+00	03	04.0		095
1122	1987	09	18.98685	01	39	03.92	+02	24	53.5		095
1122	1987	09	21.03457	01	38	18.07	+02	20	49.9		095
1129	1987	09	18.84376	23	16	18.82	+09	40	07.6		095
1129	1987	09	23.88509	23	12	31.05	+09	14	36.4		095
1154	1987	09	27.04510	02	27	06.53	+09	22	09.4	E	095
1167	1987	08	27.94465	22	53	05.22	+00	54	06.7		095
1167	1987	09	02.90625	22	49	06.39	+00	27	01.0		095
1167	1987	09	16.81252	22	39	58.82	-00	43	19.8		095
1167	1987	09	20.81606	22	37	34.64	-01	04	06.4		095
1176	1987	09	18.84376	23	34	09.69	+09	09	41.6		095
1176	1987	09	23.88509	23	29	52.51	+08	43	46.3	E	095
1190	1987	09	20.96236	01	57	33.43	+11	02	43.6	E	095
1190	1987	09	24.03090	01	56	04.24	+10	59	36.4		095
1194	1987	08	27.94465	22	47	05.14	+05	28	32.6	E	095
1194	1987	09	16.81252	22	31	13.74	+04	24	07.8		095
1194	1987	09	20.81606	22	28	20.18	+04	07	48.4	E	095
1252	1987	08	27.79501	19	53	37.75	-10	59	43.6	N	095
1253	1987	08	27.87140	21	25	31.56	-17	15	42.2		095
1256	1987	09	24.03090	02	16	27.47	+16	33	28.9		095
1256	1987	10	03.01840	02	12	30.84	+16	10	47.7		095

1257		1987	09	17.82776	22	56	40.98	-01	50	43.7	095
1257		1987	09	23.81219	22	52	03.06	-02	30	20.6	095
1277		1987	09	02.97917	23	56	18.34	+12	09	29.0	E 095
1277		1987	09	17.88890	23	44	41.29	+10	51	11.0	E 095
1277		1987	09	18.84376	23	43	54.56	+10	44	40.4	E 095
1277		1987	10	23.75001	23	23	36.76	+06	22	52.5	095
1288		1987	09	16.88546	23	20	18.32	+06	21	28.0	E 095
1288		1987	09	18.84376	23	18	41.38	+06	14	07.3	E 095
1288		1987	09	23.88509	23	14	36.78	+05	54	07.7	095
1298		1987	09	16.88546	23	16	00.16	+02	50	32.4	095
1298		1987	09	17.82776	23	15	16.85	+02	47	07.6	095
1298		1987	09	23.81219	23	10	47.74	+02	24	32.5	095
1319		1987	08	27.94465	23	06	20.41	-01	27	19.9	095
1319		1987	09	02.90625	23	01	53.52	-01	53	52.7	095
1319		1987	09	16.81252	22	51	28.93	-03	00	06.8	095
1319		1987	09	17.82776	22	50	45.29	-03	04	57.8	095
1319		1987	09	20.81606	22	48	40.34	-03	19	00.5	095
1319		1987	09	23.81219	22	46	40.28	-03	32	47.2	095
1349		1987	08	27.94465	22	52	27.97	+01	56	37.4	095
1349		1987	09	02.90625	22	47	28.61	+01	43	48.0	095
1349		1987	09	16.81252	22	36	11.01	+01	04	00.8	095
1349		1987	09	20.81606	22	33	14.97	+00	51	18.6	095
1350		1987	09	03.04861	01	14	30.79	+04	31	01.6	095
1371		1987	09	02.97917	00	05	51.66	+05	04	59.2	E 095
1396		1987	09	20.96236	01	57	03.16	+14	27	17.2	E 095
1396		1987	09	24.03090	01	54	49.25	+14	23	34.8	095
1396		1987	10	03.01840	01	46	57.94	+14	04	11.8	E 095
1410		1987	09	23.81219	23	02	42.82	-05	49	26.7	E 095
1418		1987	09	20.96236	01	57	18.96	+17	04	21.7	E 095
1418		1987	09	24.03090	01	55	09.36	+17	14	07.0	095
1418		1987	10	03.01840	01	47	07.43	+17	30	58.5	095
1435		1987	09	02.90625	22	45	25.08	-04	35	35.0	095
1486		1987	08	28.02036	23	56	29.98	-00	20	58.6	095
1486		1987	09	16.88546	23	40	10.08	-02	05	30.4	095
1487		1987	09	17.96529	00	50	50.60	+01	44	52.8	E 095
1489		1987	09	18.98685	01	28	40.48	+07	01	28.3	095
1491		1987	09	03.04861	00	59	19.38	+10	42	51.2	095
1491		1987	09	17.96529	00	51	29.66	+10	16	16.8	095
1491		1987	10	23.82188	00	25	36.79	+07	54	38.2	095
1496		1987	08	27.94465	22	52	07.94	-03	17	03.1	095
1496		1987	09	02.90625	22	46	26.13	-03	42	13.4	095
1496		1987	09	16.81252	22	33	58.94	-04	44	59.6	095
1496		1987	09	20.81606	22	31	01.84	-05	01	35.0	E 095
1497		1987	09	02.90625	22	54	44.11	-05	44	46.0	E 095
1534		1987	09	27.04510	02	20	18.49	+03	15	41.4	095
1534		1987	10	23.90625	01	58	57.14	+02	16	39.4	095
1545		1987	09	24.03090	02	21	17.43	+12	03	16.6	E 095
1562		1987	08	27.87140	21	07	49.04	-18	33	41.2	095
1598		1987	08	27.94465	22	48	39.92	+01	54	29.2	095
1598		1987	09	16.81252	22	29	21.89	+00	43	37.4	095
1598		1987	09	20.81606	22	26	00.82	+00	26	42.6	095
1611		1987	09	18.91389	01	15	22.08	+12	43	09.3	095
1611		1987	09	26.97219	01	10	20.17	+12	09	33.2	095
1611		1987	10	02.96355	01	06	08.22	+11	39	47.4	095
1645		1987	09	03.04861	01	20	07.94	+10	00	07.2	095
1645		1987	10	02.96355	01	04	12.22	+08	29	26.6	E 095
1652		1987	09	23.95528	00	26	05.36	+08	29	06.3	095
1652		1987	10	23.82188	00	00	41.32	+04	59	49.4	095
1687		1987	08	27.87140	21	05	45.36	-19	33	45.8	095

1699		1987	08	27.94465	23	02	40.86	-01	53	50.7	095
1699		1987	09	02.90625	22	57	33.55	-02	19	25.8	095
1699		1987	09	16.81252	22	45	41.10	-03	28	36.5	095
1699		1987	09	17.82776	22	44	54.08	-03	33	39.6	E 095
1699		1987	09	20.81606	22	42	44.37	-03	48	06.0	095
1699		1987	09	23.81219	22	40	46.60	-04	01	54.8	E 095
1730		1987	09	18.98685	01	52	59.29	+04	57	10.0	095
1730		1987	09	21.03457	01	52	34.90	+04	39	15.4	095
1730		1987	09	27.04510	01	50	44.56	+03	43	14.0	E 095
1730		1987	10	23.90625	01	34	47.31	-00	42	34.0	E 095
1736		1987	09	03.04861	01	20	16.34	+05	12	58.7	095
1741		1987	09	03.04861	01	07	08.44	+03	31	08.4	E 095
1741		1987	10	23.82188	00	32	01.42	+00	20	10.0	095
1743		1987	09	16.88546	23	14	47.06	-01	23	03.3	E 095
1743		1987	09	17.82776	23	14	00.32	-01	30	09.8	095
1743		1987	09	23.81219	23	09	11.00	-02	14	51.9	095
1746		1987	09	26.97219	00	44	38.67	+14	50	05.0	E 095
1774		1987	08	28.02036	00	09	13.20	+01	07	28.1	E 095
1776		1987	08	27.94465	23	01	01.79	-02	22	05.6	095
1776		1987	09	02.90625	22	57	02.30	-03	01	46.4	095
1776		1987	09	16.81252	22	47	38.14	-04	38	34.8	095
1776		1987	09	20.81606	22	45	06.64	-05	05	54.1	E 095
1776		1987	09	23.81219	22	43	19.28	-05	25	52.4	E 095
1804		1987	09	03.04861	01	05	15.42	+10	45	06.2	095
1804		1987	09	17.96529	00	56	00.66	+10	23	11.8	095
1804		1987	09	23.95528	00	50	58.37	+10	04	05.2	095
1804		1987	10	23.82188	00	24	00.22	+07	43	49.1	095
1813		1987	10	23.97914	03	56	02.58	+23	47	27.4	095
1821		1987	09	02.97917	00	13	35.19	+04	56	04.2	095
1843		1987	09	18.84376	23	42	09.26	+13	48	14.3	095
1843		1987	10	23.75001	23	20	16.94	+09	46	33.2	E 095
1848		1987	09	18.91389	01	28	10.72	+10	46	51.8	E 095
1848		1987	09	18.98685	01	28	07.82	+10	46	45.2	E 095
1848		1987	09	20.96236	01	26	56.54	+10	40	57.3	095
1848		1987	09	21.03457	01	26	53.70	+10	40	50.2	E 095
1848		1987	09	26.97219	01	22	55.33	+10	20	54.4	E 095
1848		1987	10	02.96355	01	18	26.27	+09	57	32.6	095
1850		1987	10	23.90625	02	02	54.62	+07	59	25.9	E 095
1867		1987	08	27.79501	19	43	41.25	-09	02	42.4	095
1882		1987	08	27.79501	19	34	48.90	-08	17	19.6	095
1900		1987	09	02.97917	00	16	17.03	+14	14	39.6	095
1900		1987	09	17.88890	00	04	14.24	+14	00	20.3	095
1900		1987	09	26.89957	23	55	22.01	+13	22	35.3	E 095
1900		1987	10	23.75001	23	34	09.57	+10	21	44.9	095
1913		1987	10	23.97914	03	59	43.76	+22	28	41.6	095
1941		1987	09	18.98685	01	36	19.01	+05	35	17.1	095
1941		1987	09	21.03457	01	35	24.24	+05	30	27.4	095
1955		1987	09	02.97917	00	35	42.82	+05	26	35.4	E 095
1955		1987	09	17.96529	00	26	16.78	+04	29	04.7	095
1964		1987	09	17.82776	22	59	07.27	-01	58	07.4	095
1964		1987	09	23.81219	22	54	20.52	-02	34	22.9	095
1995		1987	10	23.90625	02	03	17.64	+07	20	44.3	E 095
2003		1987	09	03.04861	01	17	27.00	+05	54	21.2	095
2026		1987	08	28.02036	23	58	51.85	+02	29	49.8	095
2026		1987	09	16.88546	23	42	29.78	+01	03	12.2	095
2029		1987	09	18.84376	23	17	28.71	+06	56	42.5	095
2029		1987	09	23.88509	23	13	07.48	+06	29	12.6	095
2064		1987	09	02.97917	00	08	53.74	+12	45	38.7	095
2064		1987	09	17.88890	23	55	26.77	+12	46	06.4	095

2064		1987	09	26.89957	23	46	53.98	+12	11	05.8	095
2064		1987	10	23.75001	23	33	53.47	+09	43	17.2	095
2098		1987	08	27.87140	21	14	48.68	-18	57	31.9	095
2174		1987	09	20.88978	23	41	38.90	-03	19	10.2	E 095
2179		1987	10	23.82188	00	11	15.13	+00	15	41.2	095
2232		1987	10	23.97914	04	18	08.19	+19	55	10.8	095
2247		1987	10	03.01840	02	01	24.68	+15	22	42.1	095
2247		1987	10	03.01840	02	01	24.68	+15	22	42.1	095
2258		1987	08	27.87140	21	15	30.30	-15	18	30.8	E 095
2268		1987	09	18.98685	01	44	31.45	+05	37	23.6	095
2268		1987	09	21.03457	01	43	33.16	+05	30	12.2	095
2281		1987	09	03.04861	00	53	46.32	+07	12	50.4	095
2281		1987	09	17.96529	00	44	37.72	+06	03	25.0	095
2281		1987	09	23.95528	00	39	30.00	+05	24	34.9	095
2281		1987	10	23.82188	00	14	43.94	+02	06	53.7	095
2286		1987	09	03.04861	00	53	50.48	+03	22	41.1	E 095
2286		1987	09	17.96529	00	44	19.33	+02	22	05.2	E 095
2286		1987	10	23.82188	00	12	58.44	-00	29	08.8	E 095
2295		1987	09	03.04861	00	58	14.99	+09	19	39.2	095
2295		1987	09	17.96529	00	50	14.27	+08	50	02.6	095
2295		1987	10	23.82188	00	23	08.03	+06	17	14.9	095
2318		1987	09	20.88978	23	31	00.02	-05	56	46.0	095
2331		1987	08	27.94465	22	54	34.30	-00	41	21.8	095
2331		1987	09	02.90625	22	49	11.11	-01	11	26.4	095
2331		1987	09	16.81252	22	36	31.54	-02	30	10.8	095
2334		1987	09	27.04510	01	59	13.77	+05	10	48.1	095
2334		1987	10	23.90625	01	35	04.16	+02	30	32.9	095
2346		1987	09	18.84376	23	23	13.36	+08	06	58.7	095
2346		1987	09	23.88509	23	19	15.40	+07	28	49.6	095
2358		1987	09	03.04861	01	05	47.92	+12	38	01.0	E 095
2358		1987	09	23.95528	00	52	37.77	+12	56	33.6	095
2358		1987	09	26.97219	00	50	07.96	+12	54	11.2	095
2365		1987	08	27.94465	22	54	44.52	+00	41	18.4	095
2365		1987	09	02.90625	22	49	31.61	+00	17	31.8	095
2365		1987	09	16.81252	22	37	24.80	-00	47	35.4	095
2365		1987	09	20.81606	22	34	12.04	-01	07	14.0	095
2369		1987	09	18.98685	01	40	40.88	+08	12	14.0	095
2369		1987	09	21.03457	01	39	30.51	+08	06	11.2	095
2378		1987	09	27.04510	02	24	42.26	+05	23	18.0	095
2378		1987	10	23.90625	02	09	18.29	+01	01	25.2	095
2379		1987	09	03.04861	00	48	08.77	+04	45	49.5	E 095
2379		1987	09	17.96529	00	40	18.11	+03	51	39.5	095
2379		1987	10	23.82188	00	16	18.68	+01	11	42.1	095
2398		1987	09	18.98685	01	23	30.20	+01	57	12.8	095
2418		1987	09	20.88978	23	18	23.10	-05	54	30.4	095
2426		1987	09	23.88509	22	59	00.41	+05	52	44.7	095
2473		1987	09	17.82776	23	07	28.22	-02	48	52.0	095
2473		1987	09	23.81219	23	02	30.92	-03	43	32.8	095
2498		1987	09	23.81219	23	09	42.92	-04	41	19.1	095
2504		1987	09	24.03090	02	13	25.79	+14	58	27.2	095
2504		1987	10	03.01840	02	08	00.25	+14	44	16.4	095
2520		1987	09	20.88978	23	39	59.04	-04	20	08.2	095
2524		1987	09	24.03090	02	17	11.72	+14	08	13.9	095
2524		1987	10	03.01840	02	12	18.24	+13	43	45.0	095
2534		1987	10	23.97914	04	01	26.49	+19	33	01.0	095
2549		1987	09	20.88978	23	18	37.19	-04	24	46.2	095
2549		1987	09	23.81219	23	16	31.33	-04	38	16.4	095
2554		1987	09	02.97917	00	09	20.68	+08	55	12.2	095
2554		1987	09	17.88890	23	55	27.42	+08	02	20.3	095

2554		1987	09	26.89957	23	46	26.21	+07	13	44.4	095
2554		1987	10	23.75001	23	27	13.96	+04	44	25.6	095
2564		1987	09	20.88978	23	14	52.72	-06	04	11.4	E 095
2574		1987	09	18.98685	01	43	01.16	+10	18	50.8	E 095
2574		1987	09	20.96236	01	41	57.08	+10	14	08.3	E 095
2574		1987	09	21.03457	01	41	54.60	+10	14	04.4	E 095
2574		1987	10	02.96355	01	33	53.10	+09	37	20.0	095
2575		1987	09	03.04861	00	48	09.85	+10	20	54.3	095
2575		1987	09	17.96529	00	36	04.82	+09	49	23.0	095
2575		1987	09	23.95528	00	30	07.70	+09	25	51.0	095
2575		1987	10	23.82188	00	02	17.90	+06	53	08.6	095
2579		1987	09	02.97917	00	07	24.61	+11	17	45.5	095
2579		1987	09	17.88890	23	53	43.76	+10	24	08.4	095
2579		1987	09	26.89957	23	44	44.61	+09	31	17.6	095
2606		1987	09	03.04861	01	11	33.95	+09	59	55.4	095
2640		1987	09	03.04861	01	05	26.08	+06	54	55.3	095
2640		1987	09	23.95528	00	49	41.34	+06	13	31.7	095
2640		1987	10	23.82188	00	21	24.70	+04	30	22.4	095
2641		1987	09	18.98685	01	26	15.06	+05	07	48.7	095
2704		1987	09	03.04861	01	17	19.28	+10	58	06.6	095
2728		1987	10	23.97914	04	05	28.05	+18	49	23.0	095
2748		1987	09	18.91389	01	23	14.58	+11	30	12.4	095
2748		1987	09	20.96236	01	21	55.25	+11	27	24.4	095
2748		1987	09	26.97219	01	17	34.72	+11	15	56.5	095
2748		1987	10	02.96355	01	12	42.64	+11	00	16.4	095
2753		1987	09	03.04861	00	50	21.64	+08	52	38.4	095
2753		1987	09	17.96529	00	40	30.56	+08	35	33.8	095
2753		1987	09	23.95528	00	35	36.48	+08	21	11.6	095
2753		1987	10	23.82188	00	10	57.64	+06	41	51.8	095
2775		1987	10	23.90625	02	09	47.67	+05	35	32.6	E 095
2776		1987	09	03.04861	00	58	57.97	+06	50	33.6	095
2776		1987	09	23.95528	00	45	04.51	+04	47	38.0	N 095
2776		1987	10	23.82188	00	19	33.23	+01	09	08.4	095
2848		1987	09	03.04861	01	03	06.45	+07	21	30.4	095
2848		1987	09	17.96529	00	56	35.44	+06	49	01.5	095
2848		1987	09	23.95528	00	52	48.79	+06	28	22.8	095
2848		1987	10	23.82188	00	31	35.71	+04	24	04.1	095
2863		1987	09	24.03090	02	28	03.49	+11	34	25.6	095
2882		1987	09	23.81219	23	05	00.73	-05	36	26.9	E 095
2932		1987	09	21.03457	01	22	37.44	+07	15	38.8	095
2944		1987	09	24.03090	02	25	38.68	+11	57	30.9	095
2944		1987	10	23.90625	02	08	09.52	+07	12	05.2	095
2946		1987	09	03.04861	00	54	30.14	+06	29	11.8	095
2946		1987	09	17.96529	00	46	32.37	+05	46	15.2	095
2946		1987	09	23.95528	00	41	54.48	+05	19	27.7	095
2946		1987	10	23.82188	00	16	50.44	+02	45	07.7	095
2964		1987	09	18.84376	23	33	28.17	+09	28	54.4	095
2964		1987	09	23.88509	23	27	56.32	+09	38	21.4	E 095
2992		1987	09	02.90625	22	39	05.85	-03	31	13.1	095
3025		1987	08	27.79501	19	29	52.16	-16	33	05.4	095
3027		1987	09	24.03090	02	08	20.55	+12	40	50.5	095
3027		1987	10	03.01840	02	03	49.70	+12	04	26.6	095
3049		1987	10	23.97914	04	03	50.20	+18	31	17.0	095
3092		1987	09	24.03090	01	55	08.48	+15	39	37.9	095
3109		1987	09	17.96529	00	54	11.51	+01	59	15.7	E 095
3109		1987	10	23.82188	00	20	39.60	+00	31	33.9	095
3179		1987	10	23.97914	04	08	22.63	+18	54	04.4	095
3224		1987	10	23.97914	04	27	15.70	+20	44	44.1	095
3228		1987	09	17.82776	23	02	21.63	-03	19	26.0	E 095

3228	1987	09	23.81219	22	57	12.28	-03	50	47.8			095
3233	1987	09	18.91389	01	27	23.62	+11	59	19.8			095
3233	1987	09	20.96236	01	26	04.88	+11	58	20.4			095
3233	1987	09	26.97219	01	21	33.06	+11	50	59.8		E	095
3233	1987	10	02.96355	01	16	11.08	+11	37	41.8			095
3236	1987	09	18.91389	01	35	17.52	+10	53	43.2		E	095
3236	1987	09	18.98685	01	35	15.23	+10	53	36.1		E	095
3236	1987	09	20.96236	01	34	18.37	+10	47	08.9		E	095
3236	1987	09	21.03457	01	34	15.89	+10	46	57.7		E	095
3236	1987	10	02.96355	01	26	08.48	+09	52	41.8			095
3280	1987	09	03.04861	01	08	58.84	+10	07	28.2			095
3280	1987	09	17.96529	01	00	53.76	+09	42	08.0			095
3280	1987	09	23.95528	00	56	14.72	+09	21	20.6		E	095
3280	1987	10	23.82188	00	31	10.56	+06	58	52.5			095
3299	1987	09	24.03090	02	01	40.98	+19	40	06.2		E	095
3447	1987	09	03.04861	01	26	17.51	+11	38	34.4		E	095
3447	1987	09	18.91389	01	10	53.62	+14	06	12.4		E	095
3447	1987	09	26.97219	00	59	37.54	+15	06	56.5			095
3448	1987	09	18.98685	01	40	14.00	+06	27	30.5			095
3448	1987	09	21.03457	01	39	08.68	+06	23	31.5			095
3452	1987	09	20.88978	23	52	42.23	-05	04	51.6		E	095
3470	1987	08	27.94465	22	51	31.22	-02	55	53.8			095
3470	1987	09	02.90625	22	46	00.87	-03	30	18.7	16.5V		095
3470	1987	09	20.81606	22	30	22.03	-05	16	10.0		E	095
3481	1987	08	28.02036	23	52	06.95	+02	41	14.4			095
3481	1987	09	16.88546	23	37	04.92	+00	02	34.6			095
3485	1987	08	28.02036	23	53	28.88	+01	10	07.2			095
3485	1987	09	16.88546	23	36	44.30	-00	15	22.8			095
3507	1987	09	20.88978	23	32	54.16	-08	08	23.2			095
3531	1987	09	23.81219	23	03	53.26	+01	45	14.0			095
3584	1987	10	23.97914	04	03	39.30	+23	48	50.1			095
3622	1987	09	18.91389	01	44	30.79	+16	36	10.9			095
3622	1987	09	20.96236	01	43	34.74	+16	31	48.5			095
3675	1987	09	18.91389	01	16	48.47	+17	26	03.5			095
3675	1987	09	26.97219	01	11	29.54	+17	19	59.2			095
3698	1987	08	27.87140	21	01	08.66	-18	33	37.4			095
3710	1987	09	03.04861	01	08	03.96	+13	05	01.8		E	095
3722	1987	09	23.88509	22	50	31.48	+05	46	08.5		E	095
3724	1987	08	27.79501	19	44	24.61	-13	34	11.8			095
3732	1987	08	27.94465	22	56	10.52	-03	56	20.4		E	095
3732	1987	09	02.90625	22	50	21.66	-04	28	13.6			095
3733	1987	09	02.97917	00	29	53.28	+12	31	24.5	16.5V		095
3733	1987	09	17.88890	00	18	17.11	+11	53	26.8			095
3733	1987	09	26.89957	00	09	52.15	+11	11	39.3			095
3733	1987	10	23.75001	23	46	55.00	+08	26	49.2			095
3744	1987	08	27.94465	23	00	31.82	+00	25	23.8			095
3744	1987	09	02.90625	22	55	47.15	-00	04	17.9			095
3744	1987	09	16.81252	22	44	07.69	-01	29	43.4			095
3744	1987	09	17.82776	22	43	18.42	-01	36	24.6		E	095
3744	1987	09	20.81606	22	40	58.86	-01	56	10.4			095
3745	1987	09	24.03090	01	59	08.00	+18	45	34.1			095
3748	1987	10	23.97914	03	55	43.44	+23	01	58.2			095
3755	1987	09	17.88890	23	57	33.20	+13	56	40.1		E	095
3755	1987	09	26.89957	23	51	39.25	+12	21	11.8			095
3755	1987	10	23.75001	23	41	46.09	+06	57	55.0			095
3756	1987	09	03.04861	01	11	43.78	+11	37	41.8			095
3756	1987	10	23.82188	00	35	08.96	+06	46	17.5	16.5V		095
3770	1987	09	23.81219	22	53	30.69	-05	13	05.6		E	095
3775	1987	09	24.03090	02	27	37.74	+12	36	55.5			095

3775	1987	10	03.01840	02	22	32.94	+12	51	16.2		095
3779	1987	10	23.97914	03	53	23.26	+16	14	25.6	E	095
3795	1987	10	23.90625	01	36	11.95	-01	16	19.9	N	095
3806	1987	09	17.82776	23	12	06.80	+05	44	04.3	E	095
3806	1987	09	23.81219	23	09	05.54	+04	21	46.4	E	095
3806	1987	09	23.88509	23	09	03.38	+04	20	38.5	E	095
3816	1987	09	18.84376	23	36	34.11	+12	25	52.7		095
3820	1987	09	26.97219	00	48	45.59	+18	10	48.3		095
3878	1987	08	28.02036	00	01	51.02	-00	38	00.4		095
3903	1987	09	03.04861	00	59	03.70	+07	03	46.4		095
3903	1987	09	17.96529	00	50	30.24	+06	18	47.3		095
3903	1987	09	23.95528	00	46	08.01	+05	54	18.8		095
3903	1987	10	23.82188	00	23	39.24	+03	40	52.5		095
3914	1987	09	02.97917	23	55	59.72	+07	47	47.6	E	095
3914	1987	09	17.88890	23	44	08.30	+07	20	11.8	E	095
3914	1987	09	18.84376	23	43	20.70	+07	17	33.1	E	095
3914	1987	10	23.75001	23	19	49.14	+05	24	23.8	E	095
3990	1987	08	27.94465	22	49	44.56	+00	22	14.8		095
3990	1987	09	02.90625	22	46	13.26	-00	11	13.4		095
3990	1987	09	16.81252	22	38	03.18	-01	37	18.3		095
3990	1987	09	20.81606	22	35	53.75	-02	02	42.8		095
3991	1987	09	02.97917	00	00	42.82	+07	24	33.7		095
3991	1987	09	16.88546	23	47	44.02	+06	22	14.6		095
3991	1987	09	17.88890	23	46	44.38	+06	16	27.3		095
4001	1987	08	27.87140	21	10	44.32	-19	11	05.2		095
4039	1987	09	18.84376	23	39	45.90	+07	25	10.6		095
4059	1987	09	02.97917	23	57	14.12	+12	56	33.4	E	095
4059	1987	09	17.88890	23	46	57.59	+11	47	09.9		095
4059	1987	09	26.89957	23	40	24.58	+10	50	19.5	E	095
4059	1987	10	23.75001	23	25	39.00	+07	43	16.8		095
4064	1987	09	17.88890	00	04	04.27	+04	32	12.1	E	095
4064	1987	09	26.89957	23	55	14.59	+04	05	46.8		095
4066	1987	09	17.82776	22	46	00.35	+04	32	41.5		095
4066	1987	09	20.81606	22	44	16.42	+04	08	31.6	E	095
4066	1987	09	23.81219	22	42	44.40	+03	44	03.1	E	095
4067	1987	09	02.90625	22	51	04.50	-04	45	49.8		095
4067	1987	09	16.81252	22	38	03.66	-05	21	50.3		095
4072	1987	10	23.82188	00	03	58.22	-00	07	04.4	16.5V	095
4073	1987	10	23.97914	04	21	16.22	+18	33	12.8		095
4075	1987	10	23.82188	00	29	31.91	+04	07	55.5		095
4077	1987	10	23.90625	02	10	09.14	+01	15	45.8	E	095
4087	1987	09	24.03090	02	09	36.76	+12	06	27.3		095
4087	1987	10	03.01840	02	03	04.87	+12	00	03.6		095
4095	1987	09	02.97917	00	32	43.22	+08	55	02.1		095
4095	1987	09	17.88890	00	22	28.75	+08	00	49.5	E	095
4095	1987	09	17.96529	00	22	24.55	+08	00	30.6	E	095
4095	1987	09	23.95528	00	17	02.90	+07	24	53.7		095
4095	1987	09	26.89957	00	14	19.32	+07	05	22.1		095
4097	1987	10	23.97914	03	57	59.52	+23	50	07.4		095
4118	1987	09	17.82776	23	08	00.82	+05	00	21.4	15.5V	095
4118	1987	09	23.88509	23	03	11.48	+04	40	46.0	16.0V	095
4148	1987	09	24.03090	02	06	23.73	+20	02	31.2	E	095
4152	1987	10	23.82188	00	07	28.58	+05	44	38.6		095
4173	1987	09	27.04510	02	02	56.86	+05	16	44.9		095
4173	1987	10	23.90625	01	40	05.95	+02	50	24.6		095
4177	1987	10	23.75001	23	47	11.13	+08	19	27.2		095
4212	1987	09	18.98685	01	24	00.82	+03	10	27.7		095
4212	1987	09	21.03457	01	22	29.18	+03	16	12.9	E	095

4215 1987 09 20.96236 01 46 51.62 +18 06 49.6 16.0V 095
4225 1987 09 20.88978 23 47 17.30 -08 13 24.4 15.0V 095

293 Burlington remote site
T. Handley, 13 Linden Avenue, Burlington, NJ 08016, U.S.A.
0.20-m f/4.0 astrograph
SAOC
1979 SA8 1989 08 26.17917 21 16 12.36 -26 19 48.5 293
4190 1989 08 26.13229 21 30 16.06 +04 21 56.0 293

327 Peking Observatorym Xinglong Station
Q. Wang, Purple Mountain Observatory, Nanking, Peoples Republic of China
Observers Q. Wang, Y-L. Ge
1988 FJ 1989 10 05.58890 23 59 43.32 +02 00 35.2 15 327
1988 FJ 1989 10 05.74446 23 59 29.26 +02 01 02.8 327
1989 TC 1989 10 05.63196 00 08 08.92 +08 41 04.7 15 327
1989 TC 1989 10 05.72536 00 07 57.96 +08 42 05.6 327
1989 TC 1989 10 06.56216 00 06 22.03 +08 51 18.7 15 327
1989 TC 1989 10 07.63265 00 04 19.69 +09 02 56.7 15 327
1989 TC 1989 10 07.69828 00 04 12.13 +09 03 38.4 327
1989 TK1 * 1989 10 05.78890 04 41 18.26 +09 35 10.9 16 327
1989 TK1 1989 10 05.83404 04 41 18.48 +09 34 43.2 327
1989 TK1 1989 10 07.76008 04 41 26.63 +09 14 56.8 16 327
1989 TK1 1989 10 07.83473 04 41 26.77 +09 14 11.5 327
1235 1989 10 07.64966 00 13 55.03 -02 42 05.7 15 327
1235 1989 10 07.70765 00 13 47.38 -02 41 02.1 327

364 JCPM Kagoshima Station
M. Takeishi, Odori 4, Hamatonbetsu Esashigun, Hokkaido 098-57, Japan
Observer M. Mukai
Measurer M. Takeishi
0.25-m f/4.2 Wright Schmidt telescope
1980 RZ3 1989 10 08.56250 02 18 37.49 +18 52 49.5 15.5 364
1980 RZ3 1989 10 08.57986 02 18 36.84 +18 52 53.4 364
1980 RZ3 1989 10 21.54931 02 07 10.86 +19 13 09.7 15.5 364
1980 RZ3 1989 10 21.56667 02 07 09.73 +19 13 10.3 364

372 Geisei
T. Seki, Kamimachi 2-9-35, Kochi, Japan
0.60-m reflector
1986 TX 1989 08 03.55868 18 56 27.19 -26 30 47.9 17 372
1986 TX 1989 08 03.57049 18 56 26.60 -26 30 46.9 372
1989 QK 1989 09 08.64340 22 38 18.18 -04 04 37.4 17 372
1989 QK 1989 09 08.68924 22 38 16.11 -04 05 00.8 372

374 Minami-Oda
T. Nomura, 1-8, Yamate 1 Chome, Tarumi-Ku, Kobe 655, Japan
Observer T. Nomura
Measurer K. Kawanishi
0.25-m f/3.4 Schmidt camera
AGK3
1989 SJ * 1989 09 30.64965 01 11 23.08 +10 39 39.1 15.0 374
1989 SJ 1989 09 30.67049 01 11 22.14 +10 39 36.4 374
1989 SJ 1989 09 30.69167 01 11 20.82 +10 39 30.3 374
1989 SJ 1989 10 04.60868 01 08 05.29 +10 24 55.6 15.0 374
1989 SJ 1989 10 04.63229 01 08 03.93 +10 24 48.8 374
1989 SJ 1989 10 07.57812 01 05 30.27 +10 12 34.7 15.0 374
1989 SJ 1989 10 07.59896 01 05 29.46 +10 12 29.8 374
1989 SK * 1989 09 30.72396 02 03 12.92 +22 12 18.1 16.0 374

```
1989 SK     1989 09 30.74479  02 03 12.03  +22 12 21.3                  374
1989 SK     1989 09 30.76389  02 03 11.19  +22 12 22.3                  374
1989 SK     1989 10 07.62604  01 58 35.34  +22 21 04.2          16.0    374
1989 SK     1989 10 07.65174  01 58 34.25  +22 21 06.3                  374
1989 SK     1989 10 09.76638  01 56 53.97  +22 21 35.4          16.0    374
1989 SK     1989 10 09.78207  01 56 53.26  +22 21 32.8                  374
1989 SL   * 1989 09 30.72396  02 02 49.06  +21 15 42.1          16.5    374
1989 SL     1989 09 30.74479  02 02 48.51  +21 15 35.9                  374
1989 SL     1989 09 30.76389  02 02 47.41  +21 15 29.0                  374
1989 SL     1989 10 04.65799  02 00 25.02  +20 55 38.9          16.5    374
1989 SL     1989 10 04.68125  02 00 23.90  +20 55 30.2                  374
1989 SL     1989 10 07.62604  01 58 20.48  +20 37 35.6          16.5    374
1989 SL     1989 10 07.65174  01 58 19.43  +20 37 27.2                  374
1989 SL     1989 10 09.76638  01 56 43.00  +20 23 05.8          16.5    374
1989 SL     1989 10 09.78207  01 56 42.21  +20 22 59.9                  374
1989 TF1  * 1989 10 04.60868  01 12 17.22  +10 48 56.1          16.0    374
1989 TF1    1989 10 04.63229  01 12 15.66  +10 48 44.7                  374
1989 TF1    1989 10 07.57812  01 09 26.34  +10 27 26.9          16.0    374
1989 TF1    1989 10 07.59896  01 09 25.19  +10 27 20.8                  374
1989 TG1  * 1989 10 04.65799  02 02 27.96  +24 09 25.3          16.0    374
1989 TG1    1989 10 04.68125  02 02 27.18  +24 09 13.7                  374
1989 TG1    1989 10 07.62604  02 00 17.17  +23 39 16.1          16.0    374
1989 TG1    1989 10 07.65174  02 00 15.96  +23 39 05.0                  374
 884        1989 10 04.62589  02 02 52.15  +23 55 04.0          16.0    374
 884        1989 10 04.68125  02 02 51.73  +23 55 03.5                  374
 884        1989 10 07.62604  02 01 27.47  +23 50 32.2          16.0    374
 884        1989 10 07.65174  02 01 26.61  +23 50 31.0                  374
 884        1989 10 09.76638  02 00 24.51  +23 46 59.6          16.0    374
 884        1989 10 09.78207  02 00 23.71  +23 46 55.2                  374
2847        1989 10 04.60868  01 09 42.31  +11 02 06.8          15.0    374
2847        1989 10 04.63229  01 09 41.05  +11 02 00.1                  374
3304        1989 10 04.60868  01 08 28.12  +10 50 12.6          15.0    374
3304        1989 10 04.63229  01 08 27.37  +10 50 07.6                  374
3573        1989 10 04.60868  01 09 36.99  +12 26 53.6          16.0    374
3573        1989 10 04.63229  01 09 35.55  +12 26 43.7                  374
3573        1989 10 07.57812  01 06 43.72  +12 09 05.3          15.0    374
3573        1989 10 07.59896  01 06 43.08  +12 09 04.7                  374

385 Nihondaira Observatory, Oohira Station
M. Kizawa, 1458-10, Minami Numagami, Shizuoka 420, Japan
Observers W. Kakei, M. Kizawa, T. Urata
Measurer M. Kizawa
1989 TD1  * 1989 10 02.60799  01 52 21.71  +14 19 34.8          15.5    385
1989 TD1    1989 10 02.63093  01 52 20.69  +14 19 32.4                  385
1989 TD1    1989 10 09.73125  01 46 55.27  +13 55 15.8                  385
1989 TD1    1989 10 09.75052  01 46 54.14  +13 55 11.8                  385

391 Sendai Observatory, Ayashi Station
M. Koishikawa, Sendai Municipal Observatory, 1-1 Sakuragaoka-koen,
   Sendai 980, Japan
Observer M. Koishikawa
0.20-m reflector
1989 RL2    1989 10 08.54722  23 22 49.13  +05 39 30.0          16      391
1989 RL2    1989 10 08.56806  23 22 48.26  +05 39 22.6                  391
1989 RL2    1989 10 09.57153  23 22 04.07  +05 33 37.1          16      391
1989 RL2    1989 10 09.59236  23 22 03.18  +05 33 28.5                  391
1989 SV1    1989 10 09.65764  01 16 43.07  +03 33 39.3          16      391
1989 SV1    1989 10 09.67847  01 16 42.09  +03 33 34.5                  391
1989 SB2    1989 10 09.65764  01 14 52.80  +03 07 03.1          15.5    391
```

1989	SB2		1989	10	09.67847	01	14	51.06	+03	07	03.0	391
1989	TJ1	*	1989	10	08.63194	00	43	16.33	+07	16	40.0	16 E 391
1989	TJ1		1989	10	08.65278	00	43	15.16	+07	16	32.0	E 391
1989	TJ1		1989	10	09.61458	00	42	27.57	+07	11	53.3	16 E 391
1989	TJ1		1989	10	09.63542	00	42	26.58	+07	11	47.4	E 391
1989	TJ1		1989	10	24.56875	00	31	30.46	+06	04	03.3	I 391
1989	TJ1		1989	10	24.58958	00	31	29.00	+06	03	51.1	391
321			1989	10	24.61458	01	45	13.15	+10	02	56.3	391
321			1989	10	24.63542	01	45	12.17	+10	02	52.3	391
636			1989	10	24.61458	01	47	40.03	+09	49	23.8	391
636			1989	10	24.63542	01	47	38.79	+09	49	21.5	391
993			1989	10	24.61458	01	45	52.31	+09	41	28.7	391
993			1989	10	24.63542	01	45	51.34	+09	41	22.7	391
1535			1989	10	09.57153	23	21	02.92	+05	56	53.5	391
1535			1989	10	09.59236	23	21	02.13	+05	56	46.7	391
3306			1989	10	08.63194	00	44	29.14	+07	41	05.4	391
3306			1989	10	08.65278	00	44	27.77	+07	40	52.4	391
3306			1989	10	09.61458	00	43	34.17	+07	32	38.9	391
3306			1989	10	09.63542	00	43	32.97	+07	32	27.8	391

399 Kushiro
H. Kaneda, 2-15-2H, Kawazoe 8 Jo 2 Chome, Minami-Ku, Sapporo 005, Japan
Observer S. Ueda
Measurer H. Kaneda
0.16-m f/3.8 Wright-Schmidt camera
AGK3, SAOC

1975	VD		1989	09	26.56875	00	37	13.91	+04	47	13.4	15.5 399
1975	VD		1989	09	26.58403	00	37	12.82	+04	47	14.4	399
1975	VD		1989	09	26.61146	00	37	11.36	+04	47	14.0	399
1984	SM		1988	12	07.63559	05	35	23.77	+24	50	07.1	16.5 399
1984	SM		1988	12	07.65000	05	35	22.88	+24	50	02.7	399
1984	SM		1988	12	07.66597	05	35	21.91	+24	50	02.0	399
1984	SM		1988	12	07.68056	05	35	20.81	+24	49	57.4	399
1987	RZ2		1988	12	07.63559	05	36	12.38	+25	17	48.3	16.5 399
1987	RZ2		1988	12	07.65000	05	36	11.68	+25	17	47.9	399
1987	RZ2		1988	12	07.66597	05	36	10.71	+25	17	48.7	399
1987	RZ2		1988	12	07.68056	05	36	09.85	+25	17	48.5	399
1987	RZ2		1988	12	11.61458	05	32	24.99	+25	20	12.3	16.5 399
1987	RZ2		1988	12	11.62917	05	32	24.20	+25	20	12.8	399
1987	RZ2		1988	12	11.66250	05	32	22.23	+25	20	12.8	399
1988	XU		1988	12	07.63559	05	23	37.67	+25	06	11.5	16.5 399
1988	XU		1988	12	07.65000	05	23	36.61	+25	06	11.1	399
1988	XU		1988	12	07.66597	05	23	35.66	+25	06	12.4	399
1988	XU		1988	12	07.68056	05	23	34.53	+25	06	12.0	399
1988	XU		1988	12	11.54387	05	19	02.27	+25	11	27.8	16 399
1988	XU		1988	12	11.55833	05	19	00.92	+25	11	28.5	399
1988	XU		1988	12	11.57361	05	18	59.90	+25	11	31.4	399
1988	XU		1988	12	11.58819	05	18	58.79	+25	11	33.6	399
1989	SR	*	1989	09	29.53368	00	30	26.24	+14	56	04.6	16.5 399
1989	SR		1989	09	29.54965	00	30	25.49	+14	55	58.5	399
1989	SR		1989	09	29.56704	00	30	24.89	+14	55	53.1	399
1989	SR		1989	10	03.53438	00	27	28.75	+14	28	54.8	16.5 399
1989	SR		1989	10	03.55208	00	27	28.04	+14	28	48.1	399
1989	SR		1989	10	03.57153	00	27	27.05	+14	28	40.6	399
1989	SR		1989	10	21.40278	00	15	29.89	+12	12	24.3	16.5 399
1989	SR		1989	10	21.41910	00	15	29.28	+12	12	19.3	399
1989	SR		1989	10	21.43715	00	15	28.75	+12	12	11.1	399
1989	SR		1989	10	23.52188	00	14	21.32	+11	56	00.0	16.5 399
1989	SR		1989	10	23.53750	00	14	20.64	+11	55	48.6	399

1989	SR		1989	10	23.55521	00	14	20.18	+11	55	43.4		399
1989	SS	*	1989	09	29.53368	00	31	26.17	+15	10	24.8	16.5	399
1989	SS		1989	09	29.54965	00	31	25.42	+15	10	16.4		399
1989	SS		1989	09	29.56704	00	31	24.68	+15	10	10.6		399
1989	SS		1989	10	03.53438	00	28	31.52	+14	42	15.4	16.5	399
1989	SS		1989	10	03.55208	00	28	30.84	+14	42	06.7		399
1989	SS		1989	10	03.57153	00	28	29.82	+14	41	58.7		399
1989	SS		1989	10	21.40278	00	16	28.12	+12	21	27.1	16	399
1989	SS		1989	10	21.41910	00	16	27.64	+12	21	20.5		399
1989	SS		1989	10	21.43715	00	16	27.10	+12	21	13.5		399
1989	ST	*	1989	09	29.53368	00	32	19.20	+14	03	23.9	16	399
1989	ST		1989	09	29.54965	00	32	18.10	+14	03	18.4		399
1989	ST		1989	09	29.56704	00	32	17.03	+14	03	11.1		399
1989	ST		1989	10	03.53438	00	28	32.30	+13	40	29.4	16	399
1989	ST		1989	10	03.55208	00	28	31.34	+13	40	23.3		399
1989	ST		1989	10	03.57153	00	28	30.18	+13	40	15.8		399
1989	ST		1989	10	21.40278	00	13	25.29	+11	38	24.3	16.5	399
1989	ST		1989	10	21.41910	00	13	24.86	+11	38	19.7		399
1989	SU	*	1989	09	29.59204	00	45	53.18	+13	22	40.1	16.5	399
1989	SU		1989	09	29.60764	00	45	52.42	+13	22	37.4		399
1989	SU		1989	09	29.62500	00	45	51.52	+13	22	32.0		399
1989	SU		1989	10	03.59618	00	42	18.44	+13	02	49.3	16	399
1989	SU		1989	10	03.61834	00	42	17.14	+13	02	43.0		399
1989	SU		1989	10	03.63472	00	42	16.47	+13	02	39.3		399
1989	SU		1989	10	23.52188	00	26	36.31	+11	05	55.2	16.5	399
1989	SU		1989	10	23.53750	00	26	35.65	+11	05	49.0		399
1989	SU		1989	10	23.55521	00	26	35.15	+11	05	45.9		399
1989	SV	*	1989	09	29.59204	00	53	10.19	+14	36	02.1	16	399
1989	SV		1989	09	29.60764	00	53	09.27	+14	35	57.6		399
1989	SV		1989	09	29.62500	00	53	08.32	+14	35	54.5		399
1989	SV		1989	10	03.59618	00	49	51.61	+14	17	39.6	16	399
1989	SV		1989	10	03.61834	00	49	50.45	+14	17	31.5		399
1989	SV		1989	10	03.63472	00	49	49.63	+14	17	26.2		399
1989	SK5	*	1989	09	29.53368	00	27	56.38	+14	28	25.5	16	399
1989	SK5		1989	09	29.54965	00	27	55.50	+14	28	19.7		399
1989	SK5		1989	09	29.56704	00	27	54.79	+14	28	11.3		399
1989	SK5		1989	10	21.40278	00	12	24.25	+11	16	40.8	16.5	399
1989	SK5		1989	10	21.41910	00	12	23.61	+11	16	35.5		399
2978			1989	09	26.56875	00	30	19.94	+03	56	50.7	15.5	399
2978			1989	09	26.58403	00	30	19.19	+03	56	46.4		399
2978			1989	09	26.61146	00	30	17.97	+03	56	38.8		399

400 Kitami
K. Watanabe, 3-8-B203, Ashibetsu Chuo 3 Jo 4 Chome, Shiroishi-Ku,
Sapporo 005, Japan
Observers K. Endate, T. Fujii, A. Takahashi, M. Yanai
Measurer K. Watanabe
0.16-m f/3.3 reflector, 0.20-m f/4.8 reflector and 0.20-m f/4.0 reflector
AGK3, SAOC

1980	RZ3		1989	10	21.47118	02	07	15.74	+19	13	03.9	16.0	400
1980	RZ3		1989	10	21.48715	02	07	14.83	+19	13	02.7		400
1980	RZ3		1989	10	21.49826	02	07	14.12	+19	13	03.8		400
1982	SX2		1989	10	21.47118	02	07	54.02	+18	03	10.9	16.0	400
1982	SX2		1989	10	21.48715	02	07	52.96	+18	03	09.6		400
1982	SX2		1989	10	21.49826	02	07	52.20	+18	03	08.5		400
1982	UP6		1989	10	21.47118	02	09	15.11	+18	54	09.6	16.0	400
1982	UP6		1989	10	21.48715	02	09	14.00	+18	53	55.0		400
1982	UP6		1989	10	21.49826	02	09	13.62	+18	53	44.7		400
1984	SC2		1989	09	28.50729	01	01	57.98	+12	45	08.0	16.0	400

1984	SC2		1989	09	28.52604	01	01	57.41	+12	45	04.7		400
1984	SC2		1989	09	28.53715	01	01	56.75	+12	45	02.0		400
1984	SC2		1989	10	08.66563	00	53	49.78	+12	07	20.4	16.5	400
1984	SC2		1989	10	08.68160	00	53	48.87	+12	07	13.0		400
1989	QH		1989	09	26.47361	22	57	00.35	-01	59	08.2	16.5	400
1989	QH		1989	09	26.50278	22	56	58.97	-01	59	15.6		400
1989	RL2		1989	09	26.47535	23	33	18.39	+06	50	36.5	16.0	400
1989	RL2		1989	09	26.50109	23	33	16.98	+06	50	26.0		400
1989	RL2		1989	09	29.46007	23	30	28.02	+06	33	07.7	16.0	400
1989	RL2		1989	09	29.47743	23	30	26.95	+06	33	02.1		400
1989	RM2		1989	09	26.47535	23	34	19.11	+05	55	00.6	16.0	400
1989	RM2		1989	09	26.50109	23	34	17.85	+05	54	53.2		400
1989	RM2		1989	09	29.46007	23	31	59.24	+05	39	59.8	16.0	400
1989	RM2		1989	09	29.47743	23	31	58.39	+05	39	51.1		400
1989	SF		1989	09	28.50729	01	04	33.82	+12	41	00.0	16.0	400
1989	SF		1989	09	28.52604	01	04	32.68	+12	40	56.5		400
1989	SF		1989	09	28.53715	01	04	32.08	+12	40	55.7		400
1989	SF		1989	10	08.66563	00	54	14.33	+12	03	39.2	16.0	400
1989	SF		1989	10	08.68160	00	54	13.20	+12	03	35.2		400
1989	SH	*	1989	09	29.48403	01	20	47.68	+19	44	07.8	16.0	400
1989	SH		1989	09	29.50208	01	20	46.72	+19	44	10.0		400
1989	SH		1989	09	29.51667	01	20	46.16	+19	44	10.9		400
1989	SH		1989	09	30.56528	01	19	54.63	+19	44	09.0	16.0	400
1989	SH		1989	09	30.58333	01	19	53.62	+19	44	08.8		400
1989	SH		1989	09	30.59514	01	19	53.11	+19	44	07.7		400
1989	SH		1989	10	09.61597	01	12	04.73	+19	35	43.6	15.5	400
1989	SH		1989	10	09.63403	01	12	03.79	+19	35	41.7		400
1989	SO	*	1989	09	29.58611	01	50	46.44	+17	36	19.8	16.5	400
1989	SO		1989	09	29.60417	01	50	45.77	+17	36	17.2		400
1989	SO		1989	09	29.61875	01	50	45.51	+17	36	14.0		400
1989	SO		1989	09	30.65903	01	50	09.73	+17	32	56.4	16.5	400
1989	SO		1989	09	30.67708	01	50	09.10	+17	32	52.4		400
1989	SO		1989	09	30.68924	01	50	08.55	+17	32	51.5		400
1989	SO		1989	10	02.52986	01	49	03.28	+17	26	40.7	16.5	400
1989	SO		1989	10	02.54792	01	49	02.57	+17	26	32.8		400
1989	SO		1989	10	02.56319	01	49	01.92	+17	26	33.0		400
1989	SO		1989	10	09.65208	01	44	21.29	+16	57	52.6	16.5	400
1989	SO		1989	10	09.67014	01	44	20.57	+16	57	46.7		400
1989	SW	*	1989	09	28.50729	01	03	08.09	+12	45	34.6	16.0	400
1989	SW		1989	09	28.52604	01	03	07.06	+12	45	27.8		400
1989	SW		1989	09	28.53715	01	03	06.61	+12	45	18.9		400
1989	SW		1989	10	08.66563	00	55	01.29	+11	18	04.8	16.5	400
1989	SW		1989	10	08.68160	00	55	00.53	+11	18	03.0		400
1989	SX	*	1989	09	30.53646	02	23	50.10	+12	38	12.7	16.0	400
1989	SX		1989	09	30.55382	02	23	49.78	+12	38	16.3		400
1989	SX		1989	09	30.56563	02	23	49.50	+12	38	22.2		400
1989	SX		1989	10	08.55833	02	19	41.68	+13	14	06.6	16.0	400
1989	SX		1989	10	08.58715	02	19	40.43	+13	14	14.9		400
1989	SX		1989	10	08.60521	02	19	39.72	+13	14	17.9		400
1989	SX		1989	10	10.56111	02	18	20.24	+13	22	10.9	16.0	400
1989	SX		1989	10	10.57153	02	18	19.69	+13	22	13.3		400
1989	SX		1989	10	21.51146	02	09	15.46	+14	00	10.9	16.0	400
1989	SX		1989	10	21.52743	02	09	14.46	+14	00	15.2		400
1989	SX		1989	10	21.53854	02	09	13.92	+14	00	17.8		400
1989	SX		1989	10	25.56944	02	05	27.19	+14	11	50.3	15.5	400
1989	SX		1989	10	25.58750	02	05	26.11	+14	11	53.4		400
1989	SY	*	1989	09	30.57986	02	31	26.98	+14	07	22.7	16.0	400
1989	SY		1989	09	30.59931	02	31	26.36	+14	07	33.2		400
1989	SY		1989	09	30.61181	02	31	25.85	+14	07	38.0		400

1989	SY		1989	10	08.61610	02	26	20.71	+15	07	00.3	16.0	400
1989	SY		1989	10	08.63646	02	26	19.87	+15	07	06.8		400
1989	SY		1989	10	08.64757	02	26	19.17	+15	07	13.4		400
1989	SY		1989	10	10.58056	02	24	45.26	+15	21	09.5	16.5	400
1989	SY		1989	10	10.59097	02	24	44.68	+15	21	13.4		400
1989	SB1	*	1989	09	28.56007	01	39	27.89	+15	04	43.2	16.5	400
1989	SB1		1989	09	28.57674	01	39	27.40	+15	04	41.7		400
1989	SB1		1989	09	28.58785	01	39	26.51	+15	04	42.0		400
1989	SB1		1989	10	09.54271	01	28	40.79	+14	49	59.8	16.5	400
1989	SB1		1989	10	09.55382	01	28	40.07	+14	49	56.5		400
1989	SB1		1989	10	09.57118	01	28	38.95	+14	49	55.1		400
1989	TP1	*	1989	10	09.56111	01	36	03.65	+09	35	16.0	16.0	400
1989	TP1		1989	10	09.57917	01	36	02.92	+09	35	11.6		400
1989	TP1		1989	10	09.59375	01	36	02.28	+09	35	08.7		400
1989	TP1		1989	10	18.43542	01	29	30.57	+08	54	05.4	16.0	400
1989	TR1	*	1989	10	09.56111	01	40	54.20	+09	39	43.5	16.5	400
1989	TR1		1989	10	09.57917	01	40	53.75	+09	39	34.2		400
1989	TR1		1989	10	21.46597	01	36	16.45	+07	46	25.7	16.5	400
1989	TR1		1989	10	21.48681	01	36	15.62	+07	46	16.3		400
1989	UJ	*	1989	10	21.47118	02	08	26.51	+19	28	14.4	16.5	400
1989	UJ		1989	10	21.48715	02	08	25.55	+19	28	04.4		400
1989	UJ		1989	10	21.49826	02	08	25.08	+19	27	58.9		400
1989	UJ		1989	10	25.60347	02	04	54.46	+18	49	08.6	16.5	400
1989	UJ		1989	10	25.62083	02	04	53.48	+18	48	59.2		400
1989	UK	*	1989	10	21.47118	02	10	10.88	+18	57	17.9	16.5	400
1989	UK		1989	10	21.48715	02	10	09.82	+18	57	16.5		400
1989	UK		1989	10	21.49826	02	10	09.45	+18	57	14.0		400
1989	UK		1989	10	25.60347	02	05	56.46	+18	42	54.9	16.5	400
1989	UK		1989	10	25.62083	02	05	55.38	+18	42	52.7		400
1989	UL	*	1989	10	21.51146	02	09	55.43	+14	03	54.7	16.5	400
1989	UL		1989	10	21.52743	02	09	54.65	+14	03	46.6		400
1989	UL		1989	10	21.53854	02	09	54.19	+14	03	43.5		400
1989	UL		1989	10	25.56944	02	06	40.09	+13	35	22.9	16.5	400
1989	UL		1989	10	25.58750	02	06	39.20	+13	35	16.6		400
1989	UM	*	1989	10	21.55243	01	59	27.71	+15	37	39.3	16.5	400
1989	UM		1989	10	21.56771	01	59	26.86	+15	37	34.6		400
1989	UM		1989	10	25.54167	01	55	22.23	+15	15	11.3	16.5	400
1989	UM		1989	10	25.55486	01	55	21.37	+15	15	05.4		400
1406			1989	09	26.47535	23	33	50.15	+07	11	00.5	15.0	400
1406			1989	09	26.50109	23	33	48.74	+07	10	59.7		400
1406			1989	09	29.46007	23	30	59.53	+07	06	00.1	15.0	400
1406			1989	09	29.47743	23	30	58.45	+07	05	57.9		400
1535			1989	09	29.46007	23	27	05.51	+06	53	52.7	16.0	400
1535			1989	09	29.47743	23	27	04.75	+06	53	44.2		400
2306			1989	09	28.56007	01	41	21.21	+14	47	04.3	16.0	400
2306			1989	09	28.57674	01	41	20.62	+14	47	00.2		400
2306			1989	09	28.58785	01	41	20.16	+14	46	57.0		400
2363			1989	10	08.55833	02	21	34.11	+12	35	11.6	16.5	400
2363			1989	10	08.58715	02	21	33.26	+12	35	00.0		400
2363			1989	10	08.60521	02	21	32.85	+12	34	53.4		400
3976			1989	10	21.55243	02	00	51.19	+16	23	45.1	15.5	400
3976			1989	10	21.56771	02	00	50.54	+16	23	38.7		400

402 Dynic Astronomical Observatory
A. Sugie, Dynic Astronomical Observatoty, Taga 270, Taga-Cho, Inukami-Gun, Shiga-Ken, 522-03, Japan
0.60-m f/5.0 reflector
AGK3

1989	TH1	*	1989	10	08.62326	01	40	55.09	+21	46	01.9	14.5	402
1989	TH1		1989	10	09.65454	01	40	02.47	+21	49	16.3	14.5	402
1989	TH1		1989	10	20.54514	01	30	05.39	+22	08	07.3	14.5	402
1989	TH1		1989	10	20.55556	01	30	04.83	+22	08	07.1	14.5	402
1989	TH1		1989	10	25.57496	01	25	25.50	+22	07	59.4	14.5	402
1989	TH1		1989	10	25.58652	01	25	24.71	+22	07	57.9	14.5	402

403 Kani
T. Furuta, Mitsuike 17-2, Kakiya-Cho, Tokai, Aichi-Ken 477, Japan
Observers Y. Mizuno, T. Furuta
Measurer T. Furuta

1975	YE		1989	10	08.57257	01	23	41.6	+03	20	43	15.5	403
1975	YE		1989	10	08.58438	01	23	41.1	+03	20	38		403
1975	YE		1989	10	09.57188	01	23	00.63	+03	09	22.3		403
1979	XQ		1989	10	07.67604	01	26	10.81	+06	42	21.4	16.0	403
1979	XQ		1989	10	07.69132	01	26	09.85	+06	42	17.7		403
1979	XQ		1989	10	08.54965	01	25	19.82	+06	39	43.2		403
1979	XQ		1989	10	08.56076	01	25	19.15	+06	39	40.7		403
1982	SQ2		1989	10	08.59618	01	24	18.18	+07	52	32.5	16.5	403
1982	SQ2		1989	10	08.60799	01	24	17.55	+07	52	27.3		403
1982	SQ2		1989	10	09.62396	01	23	25.07	+07	42	45.4		403
1982	SQ2		1989	10	09.63681	01	23	24.44	+07	42	37.1		403
1989	SB		1989	09	29.56632	23	57	25.0	+01	41	34		403
1989	SB		1989	09	29.58264	23	57	23.74	+01	41	29.0		403
1989	SB		1989	10	04.53611	23	53	04.43	+01	27	19.6		403
1989	SB		1989	10	04.55069	23	53	03.65	+01	27	15.4		403
1989	SD		1989	09	29.60625	00	41	54.05	+02	25	28.2		403
1989	SD		1989	09	29.62083	00	41	53.08	+02	25	24.4		403
1989	SD		1989	10	04.60417	00	37	04.70	+02	06	22.8		403
1989	SD		1989	10	04.61944	00	37	03.88	+02	06	20.1		403
1989	SP	*	1989	09	29.60451	00	41	36.75	+10	16	09.5	15.0	403
1989	SP		1989	09	29.61910	00	41	35.96	+10	15	57.5		403
1989	SP		1989	10	07.64826	00	35	58.44	+08	37	18.7		403
1989	SP		1989	10	07.65891	00	35	57.95	+08	37	09.3		403
1989	SQ	*	1989	09	29.63854	00	14	30.68	+10	22	52.3	15.0	403
1989	SQ		1989	09	29.65660	00	14	29.49	+10	22	51.2		403
1989	SQ		1989	10	07.61424	00	07	18.51	+09	49	28.2		403
1989	SQ		1989	10	07.62535	00	07	17.94	+09	49	24.9		403
1989	SY		1989	10	20.61979	02	14	49.41	+16	30	29.8	15.5	403
1989	SY		1989	10	20.63090	02	14	48.65	+16	30	34.7		403
1989	SY		1989	10	23.55863	02	11	28.12	+16	49	26.8		403
1989	SY		1989	10	23.56979	02	11	27.37	+16	49	30.1		403
1989	TB		1989	10	08.53073	01	46	47.0	+08	37	49		403
1989	TB		1989	10	08.55972	01	46	45.8	+08	37	38		403
1989	TQ	*	1989	10	07.61424	00	02	28.96	+10	02	10.7	16.5	403
1989	TQ		1989	10	07.62535	00	02	28.5	+10	02	03		403
1989	TQ		1989	10	08.51771	00	01	48.6	+09	53	20		403
1989	TQ		1989	10	08.53160	00	01	48.03	+09	53	12.4		403
1989	TR	*	1989	10	07.61424	00	05	14.95	+09	20	30.9	16.5	403
1989	TR		1989	10	07.62535	00	05	14.25	+09	20	28.5		403
1989	TR		1989	10	08.51771	00	04	25.2	+09	17	21		403
1989	TR		1989	10	08.53160	00	04	24.60	+09	17	14.8		403
1989	TX	*	1989	10	08.57257	01	29	14.98	+00	18	41.8	15.0	403
1989	TX		1989	10	08.58438	01	29	14.47	+00	18	36.8		403
1989	TX		1989	10	09.59965	01	28	26.22	+00	12	11.4		403
1989	TX		1989	10	09.61042	01	28	25.7	+00	12	09		403
1989	TB1	*	1989	10	08.59618	01	22	32.63	+09	26	19.4	16.5	403
1989	TB1		1989	10	08.60799	01	22	32.12	+09	26	16.4		403
1989	TB1		1989	10	09.62396	01	21	29.84	+09	22	29.5		403

1989	TB1		1989	10	09.63681	01	21	28.89	+09	22	27.0		403
1989	TB1		1989	10	20.51944	01	10	07.99	+08	38	55.3		403
1989	TB1		1989	10	20.53403	01	10	07.03	+08	38	52.5		403
1989	TC1	*	1989	10	08.59618	01	24	03.33	+09	37	53.0	16.5	403
1989	TC1		1989	10	08.60799	01	24	02.8	+09	37	50		403
1989	TC1		1989	10	09.62396	01	23	07.55	+09	32	08.4		403
1989	TC1		1989	10	09.63681	01	23	06.88	+09	32	07.3		403
1989	UA	*	1989	10	20.57396	02	50	17.9	+13	27	40	16.5	403
1989	UA		1989	10	20.58507	02	50	17.2	+13	27	40		403
1989	UA		1989	10	23.62292	02	47	20.1	+13	31	16		403
1989	UA		1989	10	23.63750	02	47	19.11	+13	31	16.3		403
1989	UB	*	1989	10	20.57396	02	50	30.0	+12	03	53	16.0	403
1989	UB		1989	10	20.58507	02	50	29.1	+12	03	53		403
1989	UB		1989	10	23.62292	02	48	02.89	+11	58	02.3		403
1989	UB		1989	10	23.63750	02	48	02.14	+11	58	00.3		403
1989	UB		1989	10	26.65139	02	45	25.81	+11	51	56.7		403
1989	UB		1989	10	26.66667	02	45	25.13	+11	51	55.9		403
1989	UC	*	1989	10	20.59757	02	26	45.5	+11	48	53	17.0	403
1989	UC		1989	10	20.60868	02	26	45.1	+11	48	50		403
1989	UC		1989	10	23.58958	02	23	50.90	+11	28	49.6		403
1989	UC		1989	10	23.60417	02	23	50.13	+11	28	44.1		403
1989	UD	*	1989	10	20.59757	02	30	25.63	+11	23	22.8	16.5	403
1989	UD		1989	10	20.60868	02	30	25.10	+11	23	20.2		403
1989	UD		1989	10	23.58958	02	28	04.34	+11	12	46.8		403
1989	UD		1989	10	23.60417	02	28	03.69	+11	12	45.8		403
1989	UE	*	1989	10	20.59757	02	32	06.76	+10	40	10.7	16.5	403
1989	UE		1989	10	20.60868	02	32	06.17	+10	40	07.9		403
1989	UE		1989	10	23.58958	02	29	35.11	+10	34	52.0		403
1989	UE		1989	10	23.60417	02	29	34.21	+10	34	50.2		403
1989	UF	*	1989	10	20.51944	01	10	59.02	+08	16	03.8	16.0	403
1989	UF		1989	10	20.53403	01	10	58.26	+08	15	54.1		403
1989	UF		1989	10	23.49514	01	08	42.89	+07	44	59.8		403
1989	UF		1989	10	23.50972	01	08	42.27	+07	44	48.0		403
1989	UN	*	1989	10	23.55863	02	10	07.63	+15	45	41.6	16.0	403
1989	UN		1989	10	23.56979	02	10	06.70	+15	45	41.9		403
1989	UN		1989	10	26.55104	02	06	53.28	+15	38	10.1		403
1989	UN		1989	10	26.56215	02	06	52.66	+15	38	06.5		403
1989	UO	*	1989	10	23.58958	02	28	45.25	+10	10	41.2	16.0	403
1989	UO		1989	10	23.60417	02	28	44.2	+10	10	42		403
1989	UO		1989	10	26.61736	02	26	00.62	+10	03	29.8		403
1989	UO		1989	10	26.63264	02	25	59.73	+10	03	26.5		403
2069	T-2		1989	10	20.59757	02	27	43.65	+10	51	23.7	16.5	403
2069	T-2		1989	10	20.60868	02	27	43.15	+10	51	19.9		403
2069	T-2		1989	10	23.58958	02	25	31.79	+10	31	32.0		403
2069	T-2		1989	10	23.60417	02	25	31.26	+10	31	27.2		403
1162			1989	09	23.58194	00	25	34.70	+01	11	38.8		403
1162			1989	09	23.59653	00	25	34.15	+01	11	35.3		403
1855			1989	09	23.55069	00	03	23.45	+01	20	36.1		403
1855			1989	09	23.56528	00	03	22.81	+01	20	30.4		403
2492			1989	10	08.59618	01	23	04.29	+08	43	10.4		403
2492			1989	10	08.60799	01	23	03.65	+08	43	05.1		403
2492			1989	10	09.62396	01	22	17.19	+08	38	45.6		403
2492			1989	10	09.63681	01	22	16.68	+08	38	41.9		403
3458			1989	10	07.67604	01	26	14.74	+06	28	34.9		403
3458			1989	10	07.69132	01	26	13.70	+06	28	30.4		403

413 Siding Spring
R. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2357, Australia

Observers M. Hartley, S. M. Hughes, P. McKenzie, R. W. McNaught, D. H. Morgan, K. S. Russell, A. Savage, S. B. Tritton
Measurer R. H. McNaught, A. Pickup
1.2-m U. K. Schmidt Telescope and (1) Uppsala Southern Schmidt

1968	OF		1982	11	04.41006	22	35	44.15	-02	37	57.9	18 V	413
1968	OF		1982	11	04.45172	22	35	46.05	-02	38	01.1		413
1978	JU3	*	1978	05	07.63281	16	22	16.33	-24	40	32.7	18 V	413
1978	JU3		1978	05	07.68490	16	22	13.98	-24	40	20.8		413
1978	PH5	*	1978	08	03.37182	15	39	12.07	-19	55	15.4	18.5V	413
1978	PH5		1978	08	03.42043	15	39	14.63	-19	55	21.2		413
1981	GF1		1976	06	28.38204	13	18	18.46	-17	57	00.7	17.5V	413
1981	GF1		1977	08	08.52014	20	08	57.39	-29	34	03.7	16.5V	413
1981	GF1		1977	08	08.57222	20	08	54.60	-29	34	00.1		413
1982	WB		1989	10	08.66090	23	41	41.96	+06	43	58.7	1	413
1982	WB		1989	10	08.68361	23	41	40.84	+06	43	48.7	1	413
1983	CC		1981	07	26.55826	18	50	22.81	-04	05	12.8	16.5V F	413
1985	TM1		1985	09	15.61822	00	49	08.82	-02	44	27.8	16 V	413
1985	TM1		1985	09	15.67030	00	49	05.95	-02	44	26.4		413
1988	BE5		1985	09	15.41495	19	33	02.85	-05	58	12.0	19.5V V	413
1988	BE5		1985	09	15.46704	19	33	02.87	-05	58	23.2	I	413
1988	FP3	*	1988	03	19.59610	12	51	57.80	-11	35	59.5	16.5V O	413
1988	FP3		1988	03	19.67249	12	51	53.62	-11	35	55.4	O	413
1989	KB		1975	07	16.76934	00	45	52.31	-32	49	55.2	16 V	413
1989	KB		1975	07	16.80406	00	45	55.76	-32	50	19.0		413
1989	KB		1989	05	03.65186	16	42	35.83	-05	58	49.4		413
1989	KB		1989	05	03.69353	16	42	33.78	-05	59	02.7		413
1989	KB		1989	08	25.39727	15	56	23.39	-28	44	13.5	16.5V	413
1989	LW		1985	06	08.40546	12	59	08.66	-08	29	49.5	17.5V	413
1989	LW		1985	06	08.44713	12	59	09.17	-08	29	26.7		413
1989	LW		1988	03	20.39598	08	57	49.07	-12	12	39.8	18 V F	413
1989	LW		1988	03	20.47237	08	57	47.13	-12	11	54.0		413
1989	ME		1987	03	27.55172	10	09	13.14	-00	33	24.0	17 V	413
1989	NA		1989	09	23.59905	21	21	17.83	-43	36	35.9	1	413
1989	NA		1989	09	24.38265	21	22	35.46	-43	26	16.3	17 V	413
1989	NA		1989	09	24.42432	21	22	39.21	-43	25	44.2		413
1989	NA		1989	09	24.43597	21	22	40.38	-43	25	35.3		413
1989	NA		1989	09	24.47764	21	22	44.06	-43	25	02.4		413
1989	NX		1989	08	30.43936	19	57	33.94	-25	59	28.7	15.5V	413
1989	NX		1989	08	30.48797	19	57	33.97	-26	00	40.0		413
1989	NX		1989	09	20.39010	20	08	58.02	-32	32	06.0	15.5V	413
1989	NX		1989	09	20.43845	20	09	00.68	-32	32	44.1		413
1989	OB		1989	09	21.50405	21	54	04.48	+27	25	35.3	1	413
1989	OB		1989	09	21.50661	21	54	04.71	+27	25	39.9	1	413
1989	OB		1989	09	21.50938	21	54	04.98	+27	25	43.9	1	413
1989	OG		1989	09	21.49585	20	40	54.06	-30	51	27.1	16.1V	413
1989	OG		1989	10	03.54955	20	47	50.39	-26	52	48.2		413
1989	PB		1989	08	17.55983	23	48	02.51	+01	29	06.0	1	413
1989	PB		1989	08	21.76684	00	09	55.31	+20	42	34.5	1	413
1989	PB		1989	08	21.76962	00	09	56.78	+20	43	52.9	1	413
1989	QF		1989	09	23.54625	22	50	25.47	-03	58	28.1	18 V 1	413
1989	QF		1989	10	21.40242	22	33	44.27	-04	34	36.4	F	413
1989	QL		1989	09	24.40348	21	20	35.12	-47	41	10.4		413
1989	QL		1989	09	24.45680	21	20	35.23	-47	40	53.5		413
1989	QL		1989	09	26.52741	21	20	53.29	-47	28	43.0	1	413
1989	QL		1989	09	28.38558	21	21	19.90	-47	16	37.5		413
1989	QL		1989	09	28.45502	21	21	20.64	-47	16	11.3		413
1989	QL		1989	10	09.39537	21	26	49.97	-45	46	06.2		413
1989	QL		1989	10	09.43704	21	26	51.50	-45	45	43.7		413
1989	QN	*	1989	08	26.58509	21	20	03.30	-43	27	35.7	18 V	413

1989	QN		1989	08	26.62676	21	20	00.99	-43	27	33.4		413
1989	QN		1989	09	03.46767	21	13	20.18	-43	15	54.0		413
1989	QN		1989	09	03.51281	21	13	17.92	-43	15	46.4		413
1989	QN		1989	09	03.62365	21	13	12.64	-43	15	29.4		413
1989	QO	*	1989	08	26.58509	21	22	42.44	-44	54	44.8	17 V	413
1989	QO		1989	08	26.62676	21	22	39.62	-44	55	15.6		413
1989	QO		1989	09	03.46767	21	14	31.60	-46	18	44.7		413
1989	QO		1989	09	03.57156	21	14	25.39	-46	19	36.2		413
1989	QO		1989	09	03.62365	21	14	22.40	-46	20	01.2		413
1989	QO		1989	09	06.45188	21	11	57.53	-46	41	00.0	V	413
1989	QO		1989	09	06.51438	21	11	54.02	-46	41	25.0	V	413
1989	QO		1989	09	23.52509	21	04	58.77	-47	21	33.8	1	413
1989	QO		1989	09	26.54367	21	05	14.45	-47	15	46.2	1	413
1989	QP		1989	08	26.48883	21	25	04.48	-42	29	16.4	V	413
1989	QP		1989	08	26.57216	21	24	59.44	-42	29	05.1	V	413
1989	QP	*	1989	08	26.58509	21	24	58.65	-42	29	04.2	18 V	413
1989	QP		1989	08	26.62676	21	24	56.22	-42	28	58.7		413
1989	QP		1989	09	03.46767	21	18	13.14	-42	03	13.3	V	413
1989	QP		1989	09	03.51281	21	18	10.63	-42	02	57.7	V	413
1989	QQ	*	1989	08	26.58509	21	25	16.24	-45	07	00.6	18.5V F	413
1989	QQ		1989	08	26.62676	21	25	13.74	-45	06	52.9	F	413
1989	QQ		1989	09	03.46767	21	18	46.68	-44	32	42.2		413
1989	QQ		1989	09	03.51281	21	18	44.52	-44	32	26.2		413
1989	QR	*	1989	08	26.58509	21	27	32.80	-43	26	17.6	18 V	413
1989	QR		1989	08	26.62676	21	27	30.69	-43	26	20.5		413
1989	QR		1989	09	03.46767	21	21	45.42	-43	24	16.4		413
1989	QR		1989	09	03.51281	21	21	43.54	-43	24	11.4		413
1989	QR		1989	09	03.57156	21	21	41.26	-43	24	06.2	F	413
1989	QR		1989	09	03.62365	21	21	39.05	-43	24	01.8	F	413
1989	QS	*	1989	08	26.58509	21	31	08.16	-42	18	52.5	17.5V	413
1989	QS		1989	08	26.62676	21	31	05.56	-42	18	51.7		413
1989	QS		1989	09	03.46767	21	24	14.62	-42	07	03.7		413
1989	QS		1989	09	03.51281	21	24	12.31	-42	06	55.6		413
1989	QS		1989	09	03.57156	21	24	09.46	-42	06	45.6		413
1989	QS		1989	09	03.62365	21	24	06.93	-42	06	36.3		413
1989	QS		1989	09	06.53082	21	21	59.69	-41	56	40.5	V	413
1989	QS		1989	09	06.59332	21	21	57.22	-41	56	23.6	V	413
1989	QT	*	1989	08	26.58509	21	39	03.14	-44	08	10.0	18.5V F	413
1989	QT		1989	08	26.62676	21	39	00.14	-44	08	03.0	F	413
1989	QT		1989	09	03.46767	21	30	47.52	-43	34	52.6	F	413
1989	QT		1989	09	03.51281	21	30	44.61	-43	34	37.1	F	413
1989	QU	*	1989	08	26.58509	21	39	17.60	-43	19	06.8	18 V	413
1989	QU		1989	08	26.62676	21	39	15.33	-43	19	04.7		413
1989	QU		1989	09	03.46767	21	32	28.44	-43	03	16.9		413
1989	QU		1989	09	03.51281	21	32	26.26	-43	03	08.3		413
1989	QU		1989	09	03.57156	21	32	23.23	-43	02	57.7	F	413
1989	QV	*	1989	08	26.58509	21	41	55.81	-46	07	47.2	18 V	413
1989	QV		1989	08	26.62676	21	41	52.83	-46	07	42.1		413
1989	QV		1989	09	03.46767	21	33	51.34	-45	45	44.3		413
1989	QV		1989	09	03.51281	21	33	48.84	-45	45	33.1		413
1989	QV		1989	09	03.57156	21	33	45.38	-45	45	20.6		413
1989	QV		1989	09	03.62365	21	33	42.46	-45	45	07.5		413
1989	QV		1989	09	24.38265	21	18	49.58	-43	37	23.2		413
1989	QV		1989	09	24.42432	21	18	48.35	-43	37	03.7		413
1989	QV		1989	09	24.43597	21	18	48.09	-43	36	57.1		413
1989	QV		1989	09	24.47764	21	18	46.86	-43	36	38.2		413
1989	QW	*	1989	08	26.58509	21	42	41.59	-46	55	39.1	18.5V	413
1989	QW		1989	08	26.62676	21	42	38.84	-46	55	38.3		413
1989	QW		1989	09	03.46767	21	34	51.88	-46	37	27.7		413

1989	QW		1989	09	03.51281	21	34	49.27	-46	37	18.2		413
1989	QX	*	1989	08	26.62676	21	44	50.36	-43	01	28.4	18 V	413
1989	QX		1989	09	03.46767	21	36	28.01	-42	27	25.3		413
1989	QX		1989	09	03.51281	21	36	25.25	-42	27	08.5		413
1989	RC		1989	09	26.66692	01	03	32.88	-20	33	29.6	1	413
1989	RS1		1989	09	18.42333	22	28	30.37	-07	41	40.4	1	413
1989	RS1		1989	09	18.42778	22	28	31.11	-07	41	46.9	1	413
1989	RS1		1989	09	18.43287	22	28	31.98	-07	41	54.3	1	413
1989	RS1		1989	09	26.58010	22	54	58.45	-10	47	08.7	F	413
1989	RS1		1989	09	30.54910	23	08	13.62	-12	00	27.6		413
1989	RS1		1989	09	30.55951	23	08	15.62	-12	00	39.1		413
1989	RS1		1989	10	06.63215	23	28	19.06	-13	24	36.5	1	413
1989	SA		1976	05	27.70088	19	22	10.42	-27	40	38.9		413
1989	SA		1976	05	27.73560	19	22	09.77	-27	40	53.3		413
1989	SA		1989	09	19.52014	01	01	54.48	-20	44	55.0	15.5V 1	413
1989	SA		1989	09	19.52779	01	01	54.06	-20	44	56.1	1	413
1989	SA		1989	09	26.66692	00	55	53.26	-21	16	28.6	1	413
1989	SA		1989	10	03.62242	00	49	25.22	-21	32	14.9	1	413
1989	SA		1989	10	20.53727	00	34	20.37	-20	57	24.2	16.1V 1	413
1989	SM	*	1989	09	24.38265	21	39	50.53	-45	12	09.2	18 V	413
1989	SM		1989	09	24.42432	21	39	49.04	-45	11	49.1		413
1989	SM		1989	09	24.43597	21	39	48.66	-45	11	43.4		413
1989	SM		1989	09	24.47764	21	39	47.17	-45	11	24.0		413
1989	SM		1989	09	28.38558	21	37	52.21	-44	37	54.2		413
1989	SM		1989	09	28.45502	21	37	50.77	-44	37	27.0		413
1989	SN	*	1989	09	24.38265	21	41	52.74	-46	29	48.1	18 V	413
1989	SN		1989	09	24.42432	21	41	51.39	-46	29	33.6		413
1989	SN		1989	09	24.43597	21	41	50.96	-46	29	30.0		413
1989	SN		1989	09	24.47764	21	41	49.60	-46	29	15.5		413
1989	SN		1989	09	28.38558	21	39	58.11	-46	04	46.2	F	413
1989	SN		1989	09	28.45502	21	39	56.07	-46	04	18.3	F	413
1989	SL5		1984	08	06.76035	01	33	14.02	-08	25	14.1	17 V F	413
1989	SL5		1984	08	06.80549	01	33	21.89	-08	26	47.3	F	413
1989	SL5		1989	09	04.41620	20	42	39.05	-36	10	58.1	16.5V F	413
1989	SL5		1989	09	05.42897	20	44	58.30	-36	57	24.9	E	413
1989	SL5		1989	09	05.43939	20	44	59.61	-36	57	51.9	E	413
1989	SL5	*	1989	09	24.38265	21	36	10.24	-46	00	30.3	17.5V	413
1989	SL5		1989	09	24.42432	21	36	17.16	-46	01	07.5		413
1989	SL5		1989	09	24.43597	21	36	19.17	-46	01	17.0		413
1989	SL5		1989	09	24.47764	21	36	26.13	-46	01	53.0	p	413
1989	SL5		1989	10	03.47858	22	03	01.44	-47	16	37.4		413
1989	SL5		1989	10	08.47603	22	17	36.86	-47	20	19.5		413
1989	TA		1989	09	28.63911	01	57	53.97	+10	55	29.7		413
1989	TA	*	1989	10	01.55382	01	55	37.36	+11	09	22.8	15.5V	413
1989	TA		1989	10	02.65289	01	54	41.34	+11	14	26.8	1	413
1989	TA		1989	10	02.69086	01	54	39.33	+11	14	36.9		413
1989	TA		1989	10	06.71890	01	50	57.62	+11	32	29.1	1	413
1989	TB		1984	03	05.73766	14	30	18.26	-13	11	54.2	18.5V	413
1989	TB		1984	03	12.74340	14	28	42.86	-12	55	40.6	17.5V	413
1989	TB		1984	03	29.67831	14	20	19.65	-11	53	17.8	18 V	413
1989	TB		1984	03	29.71998	14	20	17.84	-11	53	05.8		413
1989	TB		1984	05	31.44817	13	32	44.59	-06	53	41.8	E	413
1989	TB		1989	09	23.69292	01	51	47.67	+10	15	17.1		413
1989	TB		1989	09	28.63911	01	50	49.85	+09	47	07.8		413
1989	TB		1989	10	01.55382	01	49	54.56	+09	28	18.4	15.0V	413
1989	TB		1989	10	02.65289	01	49	29.34	+09	20	50.1	1	413
1989	TB	*	1989	10	02.69086	01	49	28.34	+09	20	34.0		413
1989	TB		1989	10	06.69860	01	47	42.04	+08	51	52.4	1	413
1989	TB		1989	10	20.54638	01	39	35.07	+07	04	17.4	14.5V 1	413

1989	TC		1989	10	10.71925	23	58	37.01	+09	35	40.4	16 V	413
1989	TE		1978	05	07.65886	16	21	51.30	-24	44	03.9		413
1989	TE		1978	07	23.42068	15	32	42.37	-19	47	05.2	i	413
1989	TE		1978	08	03.39612	15	39	26.60	-19	46	57.1		413
1989	TE		1989	06	07.69872	22	49	10.06	-04	23	34.8	T	413
1989	TE		1989	06	13.79480	22	59	20.66	-03	01	10.1	17.5V	413
1989	TE		1989	10	08.66090	23	35	18.36	+06	08	27.4	1	413
1989	TE		1989	10	08.68361	23	35	17.69	+06	08	19.6	1	413
1989	TE		1989	10	20.51044	23	32	40.55	+05	06	11.0	1	413
1989	TE		1989	10	20.52431	23	32	40.44	+05	06	06.6	1	413
1989	TF		1989	10	08.66090	23	36	49.74	+05	42	02.5	1	413
1989	TF		1989	10	08.68361	23	36	48.99	+05	41	50.8	1	413
1989	TF		1989	10	20.51044	23	32	18.45	+03	56	19.6	1	413
1989	TF		1989	10	20.52431	23	32	18.24	+03	56	13.4	1	413
1989	TQ		1989	10	10.71925	00	00	13.24	+09	32	07.0	16.0V	413
1989	TQ		1989	10	10.73068	00	00	12.71	+09	31	58.9	t	413
1989	TN1		1989	10	08.66090	23	36	29.45	+06	18	41.7	1	413
1989	TN1		1989	10	08.68361	23	36	28.22	+06	18	42.6	1	413
1989	TN1		1989	10	20.51044	23	28	03.83	+06	20	27.6	1	413
1989	TN1		1989	10	20.52431	23	28	03.40	+06	20	28.7	1	413
449			1989	10	08.72814	03	30	30.66	+15	31	26.8	1	413
449			1989	10	08.73061	03	30	30.61	+15	31	26.4	1	413
449			1989	10	08.73270	03	30	30.54	+15	31	26.4	1	413
1089			1989	08	30.43936	19	57	41.53	-26	05	14.0	15.5V	413
1089			1989	08	30.48797	19	57	40.06	-26	05	14.9		413
1917			1989	10	23.46966	23	13	40.35	-52	28	46.8	15 V	413
1917			1989	10	23.49953	23	13	58.77	-52	31	05.9		413
1917			1989	10	27.42888	23	57	01.60	-56	36	11.0		413
1917			1989	10	27.43374	23	57	04.59	-56	36	24.6		413
1917			1989	10	27.43860	23	57	07.76	-56	36	39.3		413
1917			1989	10	27.71188	00	00	00.12	-56	48	52.1		413
1917			1989	10	27.71381	00	00	01.37	-56	48	57.3		413
2895			1977	12	07.44716	01	54	38.53	-20	40	46.2		413
2895			1977	12	07.49925	01	54	37.81	-20	40	35.3		413
2895			1989	09	29.65156	02	50	26.75	-17	16	40.0		413
2895			1989	09	29.70017	02	50	25.79	-17	16	55.7		413
3476			1976	05	31.56252	16	27	04.98	-35	44	13.3		413
3476			1976	05	31.59725	16	27	02.92	-35	44	16.2		413
3476			1989	10	03.54127	00	52	16.59	-16	28	23.1		413
3476			1989	10	20.57101	00	35	44.63	-15	52	27.2		413
3476			1989	10	20.61267	00	35	42.39	-15	52	16.2		413
4177			1984	05	25.38630	10	44	03.65	-02	55	54.0	19 V	413
4177			1989	02	06.47737	07	22	03.85	-01	30	59.1	F	413
4177			1989	02	06.51557	07	22	02.70	-01	30	48.5	F	413
4177			1989	02	28.45547	07	13	55.71	+00	31	35.4	V	413
4197			1989	10	06.64896	00	31	32.78	+05	07	40.6	1	413
4197			1989	10	06.65245	00	31	31.99	+05	07	40.2	1	413
4197			1989	10	06.65591	00	31	31.23	+05	07	40.3	1	413

494 Stakenbridge
B. Manning, Moonrakers, Stakenbridge, Churchill, Kidderminster, Worcs. DY10 3LS, England

1989	TE	*	1989	10	04.90406	23	37	03.63	+06	30	41.3	16 V	494
1989	TE		1989	10	04.92475	23	37	02.98	+06	30	34.5		494
1989	TE		1989	10	05.90639	23	36	33.40	+06	24	38.4	16 V	494
1989	TE		1989	10	05.92700	23	36	32.80	+06	24	30.6		494
1989	TF	*	1989	10	04.90406	23	39	03.43	+06	18	43.5	17 V	494
1989	TF		1989	10	04.92475	23	39	02.59	+06	18	31.9		494
1989	TF		1989	10	05.90639	23	38	26.05	+06	08	48.5	17 V	494

```
1989 TF    1989 10 05.92700  23 38 25.23  +06 08 37.1                494
1989 TN1 * 1989 10 04.90406  23 39 51.27  +06 18 14.7          16.7V  494
1989 TN1   1989 10 04.92475  23 39 50.04  +06 18 15.0                494
1989 TN1   1989 10 05.90639  23 38 55.90  +06 18 21.3                494
```

511 Haute Provence
E. W. Elst, Royal Observatory, B-1180 Brussels, Belgium
Observers E. W. Elst, A. Laugier
Measurer E. W. Elst
0.6-m Schmidt

```
1987 CJ    1988 08 13.86042  16 28 21.12  -10 07 43.8          18.0  511
1987 CJ    1988 08 13.88125  16 28 21.57  -10 07 45.3                511
 221       1988 08 12.85243  16 27 44.28  -10 58 54.5                511
 221       1988 08 12.87396  16 27 44.73  -10 59 01.3                511
 221       1988 08 13.86042  16 28 07.93  -11 04 50.5          15.0  511
 221       1988 08 13.88125  16 28 08.57  -11 05 00.1                511
```

552 San Vittore
E. Colombini, Via S. Vittore 44, I-40136 Bologna, Italy
Observers C. Vacchi, G. Sassi
Measurers C. Vacchi, V. Goretti, E. Colombini
AGK3, SAOC
0.45-m f/5 reflector and (1) 0.25-m f/2.5 Schmidt

```
1982 WB    1989 10 04.88958  23 44 47.43  +07 09 46.0          18.0  552
1982 WB    1989 10 04.90903  23 44 46.41  +07 09 37.8                552
1982 WB    1989 10 05.88819  23 43 57.01  +07 02 55.5          18.0  552
1982 WB    1989 10 05.91181  23 43 55.78  +07 02 45.1                552
1982 WB    1989 10 26.86875  23 31 45.79  +04 49 03.1          18.0  552
1982 WB    1989 10 26.88611  23 31 45.45  +04 48 57.1                552
1989 TG  * 1989 10 04.88958  23 44 35.02  +06 51 32.4          17.0  552
1989 TG    1989 10 04.90903  23 44 34.04  +06 51 28.8                552
1989 TG    1989 10 05.88819  23 43 48.03  +06 48 44.7          17.0  552
1989 TG    1989 10 05.91181  23 43 46.88  +06 48 40.8                552
1989 TG    1989 10 25.91528  23 31 43.16  +05 57 15.6          17.5  552
1989 TG    1989 10 25.93403  23 31 42.70  +05 57 13.0                552
1989 TG    1989 10 26.90972  23 31 20.70  +05 55 17.5          17.5  552
1989 TG    1989 10 26.92778  23 31 20.34  +05 55 15.0                552
```

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 TD  * 1989 10 04.91666  00 29 43.96  +10 10 54.4          16.5  567
1989 TD    1989 10 04.93472  00 29 42.90  +10 10 50.7                567
1989 TD    1989 10 05.92222  00 28 56.45  +10 06 59.6                567
1989 TD    1989 10 05.94028  00 28 55.46  +10 06 56.2                567
1989 TD    1989 10 09.98264  00 25 50.85  +09 50 28.6          16.5  567
1989 TD    1989 10 09.99653  00 25 50.14  +09 50 24.1                567
1989 TD    1989 10 10.03194  00 25 48.54  +09 50 14.1                567
```

568 Mauna Kea Observatory
D. J. Tholen, Institute for Astronomy, 2680 Woodlawn Drive,
Honolulu, HI 96822, U.S.A.
Observers D. J. Tholen, W. K. Hartmann
2.24-m telescope encoders
AGK3, SAOC

1867 1989 10 06.42579 23 51 03.94 +35 20 41.3 15.6V 568
4197 1989 10 05.45450 00 35 52.54 +05 07 44.5 14.3V 568
4197 1989 10 06.44213 00 32 19.21 +05 07 28.0 14.2V 568

573 Eldagsen
W. Bonk, Nordstrasse 33, D-3257 Springe 3, Federal Republic of Germany
AGK3
188 1989 10 03.77445 00 22 50.17 +18 46 24.4 573
188 1989 10 03.78099 00 22 49.85 +18 46 20.9 573
188 1989 10 04.79389 00 22 03.12 +18 37 12.8 573
188 1989 10 04.79962 00 22 02.85 +18 37 09.6 573
573 1989 10 03.79435 01 31 55.42 +20 03 15.8 573
573 1989 10 03.80095 01 31 55.09 +20 03 15.7 573
994 1989 10 04.81033 01 49 26.22 +21 49 16.0 573
994 1989 10 04.81878 01 49 25.67 +21 49 18.2 573

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
1976 WD 1989 09 04.29948 23 45 11.87 +15 34 00.0 657
1976 WD 1989 09 06.31604 23 43 30.31 +15 28 50.1 657
1976 WD 1989 09 06.37646 23 43 27.23 +15 28 41.5 657
1976 WD 1989 09 28.21396 23 23 44.10 +13 20 46.0 657
1976 WD 1989 09 28.24660 23 23 42.44 +13 20 29.4 657
1984 UG 1989 09 03.29722 23 20 09.06 -08 25 01.6 657
1984 UG 1989 09 04.27847 23 19 25.81 -08 29 28.7 657
1984 UG 1989 09 04.32361 23 19 23.88 -08 29 40.8 657
1984 UG 1989 09 06.29799 23 17 55.87 -08 38 38.2 657
1984 UG 1989 09 06.34868 23 17 53.59 -08 38 52.5 657
1985 UT3 1989 09 03.30625 23 30 37.87 +09 11 06.8 657
1985 UT3 1989 09 03.35000 23 30 35.98 +09 10 46.5 657
1985 UT3 1989 09 06.32576 23 28 30.66 +08 46 36.9 657
1985 UT3 1989 09 06.39174 23 28 27.72 +08 46 05.0 657
1985 UT3 1989 09 28.22646 23 12 24.27 +05 02 55.6 657
1988 EC 1989 09 23.20937 22 29 32.63 -00 14 32.5 657
1988 EC 1989 09 23.24271 22 29 29.76 -00 14 13.5 657
1989 OB 1989 09 23.27361 21 57 20.73 +28 09 22.5 657
1989 OB 1989 09 28.19590 22 07 37.56 +29 57 50.4 657
1989 OB 1989 09 28.23896 22 07 42.85 +29 58 41.6 657

675 Palomar
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 R. Bambery (2, S), T. Gehrels (4, L), E. Helin (2, S), H. E. Holt (3, S), C. Mikolajczak (2, S), B. Roman (2, S), C. S. Shoemaker (3, S), E. M. Shoemaker (3, S), N. G. Thomas (3, S), K. W. Zeigler (6, S)
Measurers J. Alu (2), B. Roman (2), C. S. Shoemaker (3), C. J. van Houten (4), I. van Houten-Groeneveld (4), D. Tracy (2), A. Wisse (4), K. W. Zeigler (6)
1.2-m (L) and 0.46-m (S) Schmidt telescopes
1975 DB 1989 07 31.28628 20 09 44.86 -10 37 44.3 17.8 9 675
1975 DB 1989 07 31.31701 20 09 43.07 -10 37 47.1 9 675

1977	CD		1989	10	04.46354	02	34	18.88	-01	41	29.0	16.0	2 675
1977	CD		1989	10	04.49236	02	34	18.07	-01	42	09.7		2 675
1977	CD		1989	10	06.43160	02	33	25.01	-02	28	41.0		2 675
1977	CD		1989	10	06.46840	02	33	23.80	-02	29	34.5		2 675
1985	RG4		1989	08	01.29931	19	57	50.45	-05	53	24.2	17.0	9 675
1987	FF1		1989	10	04.34340	24	59	05.32	-19	03	50.2	16.3	2 675
1987	FF1		1989	10	04.37083	24	59	03.60	-19	03	59.7		2 675
1987	FF1		1989	10	06.36024	24	57	14.98	-19	13	27.2		2 675
1987	FF1		1989	10	06.39549	24	57	12.98	-19	13	35.5		2 675
1988	LB		1989	10	01.45347	02	39	07.09	+32	18	10.2	16.7	2 675
1988	LB		1989	10	01.48785	02	39	05.75	+32	18	09.3		2 675
1988	LB		1989	10	05.43333	02	36	33.04	+32	15	17.4		2 675
1988	LB		1989	10	05.46094	02	36	31.85	+32	15	17.3		2 675
1988	NH		1989	10	04.46354	02	25	37.38	-01	26	25.0	16.7	2 675
1988	NH		1989	10	04.49236	02	25	36.18	-01	26	39.4		2 675
1988	NH		1989	10	06.43160	02	24	20.92	-01	41	51.6		2 675
1988	NH		1989	10	06.46840	02	24	19.31	-01	42	12.2		2 675
1988	PY		1988	10	07.23073	22	22	45.95	-04	55	21.9	17.5	3 675
1988	PY		1988	10	09.18003	22	22	12.94	-04	58	29.9		3 675
1988	PY		1988	11	05.11892	22	19	50.02	-05	17	13.7	18.2	3 675
1988	PY		1988	11	08.11354	22	20	11.38	-05	16	07.5		3 675
1988	RT		1988	10	08.17500	22	54	38.22	+01	42	43.8	17	3 675
1988	RT		1988	10	10.16519	22	53	57.64	+01	37	04.4		3 675
1988	RT		1988	11	06.17517	22	49	10.86	+00	38	33.2	17.5	3 675
1988	RT		1988	11	08.23194	22	49	10.93	+00	35	56.4		3 675
1988	RU		1988	10	08.24288	23	05	03.54	+01	50	00.7	16.5	3 675
1988	RU		1988	10	10.24982	23	04	22.23	+01	42	19.2		3 675
1988	RU		1988	11	06.19305	22	59	32.44	+00	20	15.2	16.8	3 675
1988	RU		1988	11	08.25138	22	59	32.86	+00	16	04.1		3 675
1988	SM		1988	10	07.23073	22	21	14.83	-04	56	24.3	17.8	3 675
1988	SM		1988	10	09.18003	22	24	26.72	-03	23	59.1		3 675
1989	KD		1989	07	10.26042	15	52	26.34	-10	51	57.0	17.5	9 675
1989	KD		1989	07	10.28715	15	52	25.75	-10	52	06.5		9 675
1989	ML		1989	06	06.38576	18	10	59.19	-03	11	05.3	16.7	2 675
1989	ML		1989	06	06.41406	18	11	00.82	-03	11	37.1		2 675
1989	ML	*	1989	06	29.38160	18	46	54.28	-16	32	54.2	15.0	2 675
1989	ML		1989	06	29.40642	18	46	56.14	-16	34	11.2		2 675
1989	ML		1989	06	30.37135	18	48	41.43	-17	22	55.8		2 675
1989	ML		1989	06	30.39618	18	48	43.32	-17	24	10.2		2 675
1989	ML		1989	07	03.33941	18	54	11.85	-19	57	21.6		2 675
1989	ML		1989	07	03.36892	18	54	14.12	-19	58	56.2		2 675
1989	NE		1989	07	31.28628	20	01	01.47	-12	03	44.0	16.2	9 675
1989	NE		1989	07	31.31701	20	00	59.94	-12	04	06.9		9 675
1989	PL		1989	07	29.27569	20	05	59.08	-08	16	07.5	17.2	9 675
1989	PL		1989	07	29.30781	20	05	55.95	-08	15	54.3		9 675
1989	RB		1989	10	01.24132	22	45	02.61	-13	26	43.2	15.7	2 675
1989	RB		1989	10	01.26997	22	45	01.31	-13	26	11.3		2 675
1989	RB		1989	10	04.14045	22	42	50.92	-12	33	07.2		2 675
1989	RB		1989	10	04.16476	22	42	49.78	-12	32	40.6		2 675
1989	RZ		1989	10	01.30677	23	54	29.08	+24	35	05.0	15.5	2 675
1989	RZ		1989	10	01.33281	23	54	26.31	+24	35	25.9		2 675
1989	RZ		1989	10	04.18212	23	49	30.29	+25	11	02.6		2 675
1989	RZ		1989	10	04.20503	23	49	27.84	+25	11	20.2		2 675
1989	RA1		1989	10	01.25035	23	08	52.11	-14	31	15.2	17.2	2 675
1989	RA1		1989	10	01.27622	23	08	51.27	-14	31	37.8		2 675
1989	RA1		1989	10	04.14757	23	07	30.74	-15	09	16.3		2 675
1989	RA1		1989	10	04.17031	23	07	30.13	-15	09	31.2		2 675
1989	RP1		1989	10	02.25868	23	51	40.01	-09	23	31.6	15.5	2 675
1989	RP1		1989	10	02.28125	23	51	39.16	-09	23	46.4		2 675

1989	RP1		1989	10	06.19358	23	49	31.00	-10	03	27.2		2 675
1989	RP1		1989	10	06.21597	23	49	30.24	-10	03	39.1		2 675
1989	RQ1		1989	10	02.26441	00	09	35.82	-09	29	04.3	15.5	2 675
1989	RQ1		1989	10	02.28715	00	09	35.06	-09	29	17.9		2 675
1989	RQ1		1989	10	05.25747	00	08	23.05	-09	57	41.8		2 675
1989	RQ1		1989	10	05.28038	00	08	22.37	-09	57	54.4		2 675
1989	RS1		1989	10	01.25035	23	10	34.37	-12	12	42.9	17.5	2 675
1989	RS1		1989	10	01.27415	23	10	39.36	-12	13	10.2		2 675
1989	RS1		1989	10	04.14757	23	20	13.09	-12	55	16.5		2 675
1989	RS1		1989	10	04.17031	23	20	17.10	-12	55	34.7		2 675
1989	RT1		1989	10	01.30677	23	55	05.75	+03	58	03.6	16.5	2 675
1989	RT1		1989	10	01.32726	23	55	03.83	+03	58	19.6		2 675
1989	RT1		1989	10	04.17639	23	51	50.91	+04	25	43.7		2 675
1989	RT1		1989	10	04.19931	23	51	49.32	+04	25	57.1		2 675
1989	RY1		1989	10	04.33767	00	33	32.93	-11	29	32.2	16.2	2 675
1989	RY1		1989	10	04.36528	00	33	31.71	-11	29	47.7		2 675
1989	RY1		1989	10	06.33212	00	32	09.94	-11	49	51.2		2 675
1989	RY1		1989	10	06.36753	00	32	08.32	-11	50	11.7		2 675
1989	RO2	*	1989	09	03.45781	01	17	45.38	+14	03	19.6	16	3 675
1989	RO2		1989	09	03.49688	01	17	44.06	+14	04	11.7		3 675
1989	RO2		1989	09	27.33298	00	51	49.69	+22	48	46.2	15	3 675
1989	RO2		1989	09	30.46649	00	46	38.38	+23	51	27.8		3 675
1989	RO2		1989	10	01.40920	00	45	01.94	+24	09	40.2	14.0	2 675
1989	RO2		1989	10	04.38160	00	39	49.19	+25	05	07.2		2 675
1989	SZ	*	1989	09	27.33298	00	26	36.24	+27	23	38.7	17.5	3 675
1989	SZ		1989	09	30.28715	00	24	44.83	+27	21	45.8		3 675
1989	SA1	*	1989	09	27.36076	00	23	44.46	+24	31	26.9	18	3 675
1989	SA1		1989	09	30.28715	00	21	22.54	+24	22	17.8		3 675
1989	TC	*	1989	10	01.35191	00	16	31.81	+07	52	11.3	16.0	2 675
1989	TC		1989	10	04.21059	00	10	54.76	+08	25	07.2		2 675
1989	TO	*	1989	10	04.33108	00	13	14.70	+29	07	29.6	15.5	2 675
1989	TO		1989	10	04.36042	00	13	11.50	+29	07	47.7		2 675
1989	TO		1989	10	06.25035	00	09	55.72	+29	25	27.3		2 675
1989	TO		1989	10	06.27292	00	09	53.20	+29	25	41.0		2 675
1989	TP	*	1989	10	04.33108	00	25	22.43	+30	57	35.4	16.5	2 675
1989	TP		1989	10	04.36042	00	25	20.91	+30	56	44.2		2 675
1989	TP		1989	10	06.25035	00	23	59.62	+30	01	42.9		2 675
1989	TP		1989	10	06.27292	00	23	58.58	+30	01	02.7		2 675
1989	TS	*	1989	10	01.47101	03	19	04.98	-04	00	54.3	16.5	2 675
1989	TS		1989	10	01.50434	03	19	02.92	-04	00	36.0		2 675
1989	TS		1989	10	05.44774	03	14	57.63	-03	24	27.8		2 675
1989	TS		1989	10	05.47413	03	14	55.67	-03	24	13.4		2 675
1989	TT	*	1989	10	01.47101	03	21	27.77	-00	29	39.1	16.5	2 675
1989	TT		1989	10	01.50434	03	21	28.31	-00	30	14.6		2 675
1989	TT		1989	10	05.44774	03	22	22.83	-01	39	49.7		2 675
1989	TT		1989	10	05.47413	03	22	22.67	-01	40	18.7		2 675
1989	TU	*	1989	10	04.23212	00	05	51.20	+12	18	21.2	16.5	2 675
1989	TU		1989	10	04.25972	00	05	50.11	+12	17	41.9		2 675
1989	TU		1989	10	06.20486	00	04	43.38	+11	31	23.7		2 675
1989	TU		1989	10	06.22691	00	04	42.49	+11	30	51.5		2 675
1989	TV	*	1989	10	04.28646	00	54	41.93	+01	57	26.2	16.0	2 675
1989	TV		1989	10	06.34618	00	53	52.12	+01	15	03.5		2 675
1989	TV		1989	10	06.38194	00	53	51.04	+01	14	21.4		2 675
1989	TZ	*	1989	10	02.18976	22	11	58.26	+09	52	51.0	16.5	2 675
1989	TZ		1989	10	02.21892	22	11	58.06	+09	52	30.0		2 675
1989	TZ		1989	10	05.19502	22	11	52.63	+09	17	44.2		2 675
1989	TZ		1989	10	05.22118	22	11	52.52	+09	17	26.3		2 675
1989	TA1	*	1989	10	02.18976	22	16	02.61	+10	10	10.4	16.5	2 675
1989	TA1		1989	10	02.21892	22	16	02.11	+10	09	45.8		2 675

1989	TA1		1989	10	05.19502	22	15	26.47	+09	28	30.2	2 675
1989	TA1		1989	10	05.22118	22	15	26.23	+09	28	10.7	2 675
1989	TL1	*	1989	10	01.38941	01	08	29.62	-20	19	06.1	18.0 2 675
1989	TL1		1989	10	01.41580	01	08	27.73	-20	18	54.2	2 675
1989	TL1		1989	10	04.34896	01	05	13.33	-19	59	03.7	2 675
1989	TL1		1989	10	04.37622	01	05	11.18	-19	58	51.4	2 675
1989	TO1	*	1989	10	04.45816	02	16	06.58	-11	44	12.3	16.0 2 675
1989	TO1		1989	10	04.48646	02	16	05.50	-11	44	21.0	2 675
1989	TO1		1989	10	06.42569	02	14	49.06	-11	55	30.6	2 675
1989	TO1		1989	10	06.46267	02	14	47.51	-11	55	43.3	2 675
2780	P-L	*	1960	09	24.46184	01	00	58.15	+00	23	26.0	16.6 4 675
2780	P-L		1960	09	26.37988	00	59	35.45	+00	10	58.7	4 675
2780	P-L		1960	09	28.43822	00	58	03.88	-00	02	26.2	4 675
2780	P-L		1960	09	29.39514	00	57	20.70	-00	08	40.5	4 675
3034	P-L	*	1960	09	24.27708	00	15	36.41	+14	24	15.8	18.0 4 675
3034	P-L		1960	09	24.36250	00	15	32.53	+14	23	41.8	4 675
3034	P-L		1960	09	24.47431	00	15	27.40	+14	22	56.3	4 675
3034	P-L		1960	09	25.22986	00	14	54.93	+14	17	58.3	4 675
3034	P-L		1960	09	25.36042	00	14	48.97	+14	17	04.3	4 675
3034	P-L		1960	09	25.46250	00	14	44.47	+14	16	23.9	4 675
3034	P-L		1960	09	26.24514	00	14	10.65	+14	11	07.0	4 675
3034	P-L		1960	09	26.29514	00	14	08.45	+14	10	45.4	4 675
3034	P-L		1960	09	26.40208	00	14	03.51	+14	10	01.6	4 675
3034	P-L		1960	09	27.27569	00	13	25.64	+14	04	00.4	4 675
3034	P-L		1960	09	27.44444	00	13	18.06	+14	02	49.6	4 675
3034	P-L		1960	09	28.34722	00	12	38.82	+13	56	28.4	4 675
3034	P-L		1960	09	28.40764	00	12	36.11	+13	56	02.2	4 675
3034	P-L		1960	09	28.46181	00	12	33.70	+13	55	38.1	4 675
3034	P-L		1960	09	29.34722	00	11	55.36	+13	49	17.9	4 675
3034	P-L		1960	09	29.47153	00	11	49.71	+13	48	23.3	4 675
3097	P-L	*	1960	09	24.47431	00	06	20.29	+12	32	54.5	18.4 4 675
3097	P-L		1960	09	25.22986	00	05	41.00	+12	29	25.5	4 675
3097	P-L		1960	09	26.29514	00	04	45.15	+12	24	25.1	4 675
3097	P-L		1960	09	27.27569	00	03	54.10	+12	19	38.8	4 675
3097	P-L		1960	09	29.34722	00	02	07.09	+12	09	17.8	4 675
4119	P-L	*	1960	09	24.37573	00	34	49.73	+04	56	57.0	17.0 4 675
4119	P-L		1960	09	25.42780	00	34	01.85	+04	46	23.4	4 675
4119	P-L		1960	09	26.30558	00	33	22.15	+04	37	32.6	4 675
4119	P-L		1960	09	28.36808	00	31	46.86	+04	16	37.2	4 675
4119	P-L		1960	10	17.31529	00	18	51.53	+01	19	01.5	4 675
4119	P-L		1960	10	22.26809	00	16	40.99	+00	43	31.4	4 675
4119	P-L		1960	10	25.30351	00	15	42.61	+00	25	01.5	4 675
4119	P-L		1960	10	26.35766	00	15	26.27	+00	19	12.8	4 675
7063	P-L	*	1960	10	17.27085	23	54	16.23	+06	18	34.8	17.8 2 675
7063	P-L		1960	10	22.22293	23	52	14.02	+05	44	01.8	2 675
7063	P-L		1960	10	24.35836	23	51	34.75	+05	30	23.8	2 675
7063	P-L		1960	10	26.32573	23	51	06.57	+05	18	35.4	2 675
1041	T-2		1973	09	19.18611	00	05	24.12	+00	21	48.6	4 675
1041	T-2		1973	09	19.23785	00	05	21.74	+00	21	30.5	4 675
1041	T-2		1973	09	20.22847	00	04	37.15	+00	15	46.9	4 675
1041	T-2		1973	09	24.34688	00	01	30.74	-00	08	12.4	4 675
1041	T-2		1973	09	24.41597	00	01	27.38	-00	08	35.9	4 675
1041	T-2		1973	09	25.24375	00	00	50.15	-00	13	26.2	4 675
1041	T-2		1973	09	25.30729	00	00	47.24	-00	13	47.0	4 675
1041	T-2	*	1973	09	29.25330	23	57	50.53	-00	36	25.5	17.8 4 675
1041	T-2		1973	09	29.27986	23	57	49.28	-00	36	34.7	4 675
1041	T-2		1973	09	29.31806	23	57	47.57	-00	36	48.3	4 675
1041	T-2		1973	09	29.34375	23	57	46.37	-00	36	55.4	4 675
1041	T-2		1973	09	30.21007	23	57	08.42	-00	41	50.3	4 675

1041	T-2		1973	09	30.23524	23	57	07.24	-00	41	57.8		4 675
1041	T-2		1973	09	30.27431	23	57	05.55	-00	42	13.1		4 675
1041	T-2		1973	09	30.30174	23	57	04.19	-00	42	20.4		4 675
1041	T-2		1973	10	04.28958	23	54	13.43	-01	04	17.9		4 675
1041	T-2		1973	10	04.31493	23	54	12.21	-01	04	25.6		4 675
1041	T-2		1973	10	04.35208	23	54	10.70	-01	04	37.4		4 675
1041	T-2		1973	10	04.37674	23	54	09.66	-01	04	45.7		4 675
1041	T-2		1973	10	05.31684	23	53	30.79	-01	09	42.9		4 675
1041	T-2		1973	10	05.34167	23	53	29.70	-01	09	52.2		4 675
1041	T-2		1973	10	05.37917	23	53	28.24	-01	10	04.4		4 675
1041	T-2		1973	10	05.40347	23	53	27.09	-01	10	12.1		4 675
2108	T-2		1973	09	19.19948	00	36	11.11	+05	33	51.4		4 675
2108	T-2		1973	09	19.25006	00	36	08.59	+05	33	31.3		4 675
2108	T-2		1973	09	20.26458	00	35	18.09	+05	26	21.6		4 675
2108	T-2		1973	09	24.36181	00	31	47.67	+04	56	30.9		4 675
2108	T-2		1973	09	24.42847	00	31	44.07	+04	56	00.7		4 675
2108	T-2		1973	09	25.25642	00	31	00.85	+04	49	47.2		4 675
2108	T-2		1973	09	25.32031	00	30	57.30	+04	49	18.4		4 675
2108	T-2		1973	09	29.26632	00	27	27.58	+04	19	10.8		4 675
2108	T-2	*	1973	09	29.33073	00	27	23.98	+04	18	41.3	18.3	4 675
2108	T-2		1973	09	30.22257	00	26	36.67	+04	11	47.7		4 675
2108	T-2		1973	09	30.28785	00	26	33.00	+04	11	17.5		4 675
2108	T-2		1973	10	04.30208	00	23	00.38	+03	40	21.0		4 675
2108	T-2		1973	10	04.36476	00	22	56.92	+03	39	50.9		4 675
2108	T-2		1973	10	05.32917	00	22	06.74	+03	32	28.9		4 675
2108	T-2		1973	10	05.39132	00	22	03.33	+03	32	00.8		4 675
3050	T-3	*	1977	10	16.27309	01	25	08.74	+05	22	19.5	17.3	4 675
3050	T-3		1977	10	16.33872	01	25	05.63	+05	22	01.5		4 675
3050	T-3		1977	10	17.27552	01	24	23.23	+05	17	37.9		4 675
3050	T-3		1977	10	17.34236	01	24	20.08	+05	17	18.7		4 675
3050	T-3		1977	10	21.39792	01	21	16.98	+04	58	39.4		4 675
3050	T-3		1977	10	21.45799	01	21	14.19	+04	58	22.9		4 675
3050	T-3		1977	10	22.39844	01	20	32.33	+04	54	09.7		4 675
3050	T-3		1977	10	22.45920	01	20	29.50	+04	53	53.1		4 675
3105	T-3		1977	10	07.27031	01	30	12.94	+06	45	20.1		4 675
3105	T-3		1977	10	11.28819	01	26	48.23	+06	17	08.3		4 675
3105	T-3		1977	10	11.35642	01	26	44.57	+06	16	41.2		4 675
3105	T-3		1977	10	12.28681	01	25	56.58	+06	10	08.0		4 675
3105	T-3		1977	10	12.35347	01	25	52.88	+06	09	40.2		4 675
3105	T-3	*	1977	10	16.27309	01	22	29.35	+05	42	30.0	17.1	4 675
3105	T-3		1977	10	16.33872	01	22	25.80	+05	42	01.8		4 675
3105	T-3		1977	10	17.27552	01	21	37.53	+05	35	42.6		4 675
3105	T-3		1977	10	17.34236	01	21	33.84	+05	35	15.3		4 675
3105	T-3		1977	10	21.39792	01	18	08.57	+05	08	34.5		4 675
3105	T-3		1977	10	21.45799	01	18	05.46	+05	08	11.9		4 675
3105	T-3		1977	10	22.39844	01	17	19.49	+05	02	14.2		4 675
3105	T-3		1977	10	22.45920	01	17	16.33	+05	01	48.8		4 675
4035	T-3		1977	10	11.30000	01	15	01.91	+02	35	15.9		4 675
4035	T-3		1977	10	11.36771	01	14	59.67	+02	35	10.7		4 675
4035	T-3		1977	10	12.29826	01	14	29.92	+02	33	46.9		4 675
4035	T-3		1977	10	12.36441	01	14	27.81	+02	33	40.3		4 675
4035	T-3	*	1977	10	16.28368	01	12	22.78	+02	28	05.7	19.5	4 675
4035	T-3		1977	10	16.34931	01	12	20.77	+02	28	00.4		4 675
4035	T-3		1977	10	17.28628	01	11	50.98	+02	26	42.1		4 675
4035	T-3		1977	10	17.35313	01	11	48.87	+02	26	37.4		4 675
4035	T-3		1977	10	21.38698	01	09	41.85	+02	21	22.7		4 675
4035	T-3		1977	10	21.44705	01	09	39.97	+02	21	18.3		4 675
4118	T-3		1977	10	07.28125	01	23	38.24	+02	14	16.5		4 675
4118	T-3		1977	10	11.30000	01	20	52.79	+01	40	18.9		4 675

4118	T-3		1977	10	11.36771	01	20	49.77	+01	39	45.0	4 675
4118	T-3		1977	10	12.29826	01	20	11.05	+01	31	58.9	4 675
4118	T-3		1977	10	12.36441	01	20	08.17	+01	31	26.2	4 675
4118	T-3	*	1977	10	16.28368	01	17	24.74	+00	59	27.8	18.3 4 675
4118	T-3		1977	10	16.34931	01	17	21.96	+00	58	56.3	4 675
4118	T-3		1977	10	17.28628	01	16	43.16	+00	51	25.8	4 675
4118	T-3		1977	10	17.35313	01	16	40.25	+00	50	54.2	4 675
4118	T-3		1977	10	21.38698	01	13	55.49	+00	19	50.7	4 675
4118	T-3		1977	10	21.44705	01	13	53.01	+00	19	25.6	4 675
4118	T-3		1977	10	22.38542	01	13	15.61	+00	12	27.3	4 675
4118	T-3		1977	10	22.44878	01	13	13.10	+00	12	00.5	4 675
4317	T-3		1977	10	11.30000	01	33	05.96	+03	01	00.2	4 675
4317	T-3		1977	10	11.36771	01	33	03.93	+03	00	43.0	4 675
4317	T-3		1977	10	12.29826	01	32	36.48	+02	56	49.7	4 675
4317	T-3		1977	10	12.36441	01	32	34.50	+02	56	33.8	4 675
4317	T-3	*	1977	10	16.28368	01	30	38.42	+02	40	33.5	19.6 4 675
4317	T-3		1977	10	16.34931	01	30	36.49	+02	40	17.4	4 675
4317	T-3		1977	10	17.28628	01	30	08.55	+02	36	31.1	4 675
4317	T-3		1977	10	17.35313	01	30	06.49	+02	36	16.4	4 675
4317	T-3		1977	10	21.38698	01	28	06.99	+02	20	26.2	4 675
4317	T-3		1977	10	21.44705	01	28	05.23	+02	20	11.7	4 675
4317	T-3		1977	10	22.38542	01	27	37.56	+02	16	36.0	4 675
4317	T-3		1977	10	22.44878	01	27	35.86	+02	16	24.2	4 675
4369	T-3	*	1977	10	16.28368	01	34	56.08	+02	25	57.1	19.4 4 675
4369	T-3		1977	10	16.34931	01	34	54.06	+02	25	42.5	4 675
4369	T-3		1977	10	17.28628	01	34	26.18	+02	22	06.9	4 675
4369	T-3		1977	10	17.35313	01	34	24.16	+02	21	50.8	4 675
4369	T-3		1977	10	21.38698	01	32	24.14	+02	06	45.5	4 675
4369	T-3		1977	10	21.44705	01	32	22.33	+02	06	30.4	4 675
4369	T-3		1977	10	22.38542	01	31	54.47	+02	03	04.6	4 675
4369	T-3		1977	10	22.44878	01	31	52.75	+02	02	54.7	4 675
114			1989	07	31.28628	20	06	54.01	-15	13	58.0	9 675
114			1989	07	31.31701	20	06	52.39	-15	14	06.2	9 675
289			1989	07	10.26042	15	53	16.50	-11	34	29.2	9 675
289			1989	07	10.28715	15	53	15.96	-11	34	31.9	9 675
320			1989	07	10.26042	15	45	47.52	-13	09	40.2	9 675
320			1989	07	10.28715	15	45	47.11	-13	09	38.2	9 675
931			1989	07	10.28715	15	40	53.13	-09	29	58.3	9 675
1251			1989	07	31.28628	20	05	09.80	-17	10	15.1	9 675
1251			1989	07	31.31701	20	05	08.22	-17	10	24.8	9 675
1755			1989	07	31.28628	19	49	18.44	-11	38	17.0	9 675
1755			1989	07	31.31701	19	49	17.02	-11	38	25.3	9 675
2052			1989	07	10.26042	15	57	54.18	-12	17	10.1	9 675
2052			1989	07	10.28715	15	57	53.76	-12	17	09.9	9 675
2241			1989	09	27.33298	00	17	11.41	+23	09	42.6	17 3 675
2241			1989	09	30.28715	00	15	44.08	+23	00	48.3	3 675
2717			1989	07	31.28628	19	54	53.17	-15	41	07.0	9 675
2717			1989	07	31.31701	19	54	51.57	-15	41	17.4	9 675
3129			1989	09	07.44097	02	05	09.37	+03	16	54.5	16.8 2 675
3129			1989	09	07.46267	02	05	09.04	+03	16	47.9	2 675
3129			1989	09	08.40538	02	04	49.82	+03	13	12.8	2 675
3367			1989	07	31.28628	19	57	21.47	-15	03	30.9	9 675
3367			1989	07	31.31701	19	57	19.88	-15	03	33.5	9 675
3837			1989	07	31.28628	19	42	28.65	-13	15	36.6	9 675
3837			1989	07	31.31701	19	42	26.81	-13	15	36.0	9 675
3873			1989	10	06.41667	01	51	31.09	+42	33	35.2	15.5 2 675
3873			1989	10	06.45677	01	51	28.50	+42	33	19.9	2 675
4119			1989	07	10.26042	15	48	45.81	-07	37	15.0	9 675
4119			1989	07	10.28715	15	48	45.55	-07	37	26.9	9 675

```
4216       1989 07 31.28628  20 03 39.22  -11 42 40.2           17.5  9 675
4216       1989 07 31.31701  20 03 37.42  -11 42 48.0                 9 675
```

688 Lowell Observatory, Anderson Mesa Station
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observer N. G. Thomas
Measurer B. A. Skiff
0.33-m photographic telescope

```
1978 UN    1978 10 28.24375  02 05 27.92  +11 18 53.5                  688
```

690 Lowell Observatory
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observers C. W. Tombaugh, O. G. Franz
Measurers B. A. Skiff, L. H. Wasserman
0.33-m photographic telescope and (1) 0.46-m astrograph
PDS scanning microdensitometer
AGK3 and Perth 70 secondary nets, global solutions

```
1929 XU    1929 12 04.19791  04 55 59.00  +13 57 37.9                  690
1931 TZ2   1931 10 10.20833  23 59 21.01  +03 19 25.8                  690
1931 TZ2   1931 10 11.21181  23 58 52.18  +03 03 54.4                  690
1931 TH3   1931 10 10.27778  01 04 06.99  -07 29 05.2                  690
1931 TH3   1931 10 12.27083  01 02 20.74  -07 41 10.2                  690
1931 TR3   1931 10 12.34722  01 41 09.89  +03 30 54.6                  690
1931 TR3   1931 10 14.28854  01 39 45.33  +03 10 53.6                  690
1961 AG    1961 01 10.25694  05 52 07.32  +01 55 24.2                  690
1961 AG    1961 01 10.28125  05 52 06.29  +01 55 27.5                  690
1961 AG    1961 01 15.26875  05 48 53.99  +02 10 56.2                  690
 521       1989 10 10.27223  01 19 40.67  -12 55 25.4                1 690
 521       1989 10 10.27326  01 19 40.62  -12 55 25.4                1 690
 521       1989 10 10.27506  01 19 40.53  -12 55 25.6                1 690
4045       1961 01 10.25694  06 07 31.12  -02 37 17.6                  690
4045       1961 01 10.28125  06 07 30.12  -02 37 18.5                  690
4045       1961 01 15.26875  06 03 57.42  -02 38 22.8                  690
4194       1931 01 16.27222  07 21 17.91  +13 36 01.5                  690
4194       1931 01 17.25694  07 20 23.62  +13 40 23.5                  690
4194       1931 01 19.23194  07 18 35.68  +13 49 19.4                  690
4224       1961 01 10.25694  05 55 55.89  +05 31 17.3                  690
4224       1961 01 10.28125  05 55 54.87  +05 31 20.3                  690
4224       1961 01 15.26875  05 52 34.41  +05 43 10.5                  690
4226       1931 10 07.22500  23 56 58.15  +04 33 19.3                  690
4226       1931 10 10.20833  23 55 20.02  +04 10 06.4                  690
4226       1931 10 11.21181  23 54 48.93  +04 02 24.6                  690
```

697 Kitt Peak, McGraw-Hill Observatory
R. P. Binzel, Dept. of Earth and Planetary Sciences, Massachusetts
Institute of Technology, Cambridge, MA 02138, U.S.A.
Observer R. P. Binzel
Measurer S. J. Bus
2.4-m reflector

```
1981 EF12  1989 10 02.34497  00 34 54.56  +12 44 30.0                  697
1981 EF12  1989 10 03.31100  00 33 58.38  +12 38 01.6                  697
1989 TY  * 1989 10 02.34497  00 34 33.98  +12 42 54.5           19.6    697
1989 TY    1989 10 03.31100  00 33 45.33  +12 39 43.4                  697
```

760 Goethe Link
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.

Observer J. Cuffey
Measurer B. A. Skiff
0.25-m refractor
PDS scanning microdensitometer
AGK3 and Perth 70 secondary nets, global solutions

1950	PF		1950	08	12.21675	21	45	38.51	-12	55	37.4	760
1950	PF		1950	08	12.27088	21	45	36.19	-12	56	00.5	760
1950	PH		1950	08	12.21675	21	45	22.89	-13	05	33.5	760
1950	PH		1950	08	12.27088	21	45	20.05	-13	05	45.3	760
1950	PL		1950	08	12.21675	21	38	42.11	-10	20	38.2	760
1950	PM		1950	08	12.21675	21	23	37.98	-12	36	36.2	760
1950	PN		1950	08	12.21675	21	45	52.26	-10	25	28.3	760
1950	PN		1950	08	12.27088	21	45	49.65	-10	25	53.1	760
2564			1950	08	12.21675	21	43	56.30	-12	54	56.3	760
2564			1950	08	12.27088	21	43	53.23	-12	55	14.6	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
1.5-m reflector
AC

1976	WD		1989	09	04.35506	23	45	08.63	+15	33	52.8	801
1979	XQ		1989	09	25.31330	01	36	56.66	+07	14	51.5	801
1981	ER14		1989	09	25.23033	23	53	52.94	+11	30	12.6	801
1982	TF2		1989	10	01.11155	23	38	28.06	+00	55	37.7	801
1982	TF2		1989	10	01.30140	23	38	18.96	+00	54	40.8	801
1985	TN3		1989	09	25.12044	22	30	00.01	-08	02	18.2 r	801
1985	UT3		1989	09	04.29626	23	29	56.71	+09	03	19.8	801
1985	UT3		1989	09	25.16133	23	14	30.99	+05	37	16.8	801
1987	QA		1989	09	25.04393	20	51	40.59	-07	23	26.3 p	801
1987	QA		1989	10	01.08722	20	45	49.44	-13	27	49.5	801
1989	OB		1989	09	25.09160	22	00	56.93	+28	52	11.4	801
1989	OB		1989	10	01.15376	22	14	34.30	+30	51	57.2	801
1989	RS1		1989	09	25.13875	22	50	11.70	-10	18	09.4	801
1989	SC1	*	1989	09	25.21284	23	43	02.82	+01	38	04.3 16	801
1989	SC1		1989	10	01.11155	23	38	15.44	+01	05	59.1	801
1989	SC1		1989	10	01.30140	23	38	06.23	+01	04	59.4	801
1917			1989	09	25.02203	20	07	21.71	+15	57	38.4	801
1917			1989	10	01.06100	20	26	35.06	+03	30	28.1	801
4197			1989	09	25.25161	01	03	18.92	+05	05	23.7	801

807 Cerro Tololo
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observer S. J. Bus
Measurer S. J. Bus
0.60-m Schmidt

1933	SD		1988	11	04.04375	22	45	16.73	-08	03	36.9	807
1933	SD		1988	11	06.04236	22	47	39.88	-07	57	42.8	807
1942	DC		1988	10	06.15278	22	39	36.93	-11	02	51.7	807
1942	DC		1988	10	07.08403	22	39	07.46	-11	05	50.1	807
1942	DC		1988	11	04.04375	22	34	24.21	-11	29	01.9	807
1942	DC		1988	11	06.04236	22	34	48.57	-11	26	02.2	807
1973	ST1		1988	09	14.04861	22	38	06.56	-08	40	40.1 18.0V	807
1973	ST1		1988	09	15.08472	22	37	32.55	-08	44	30.2	807
1973	ST1		1988	09	16.11458	22	36	59.07	-08	48	16.2	807
1973	ST1		1988	10	04.06389	22	28	41.36	-09	44	43.5	807
1973	ST1		1988	10	05.04028	22	28	20.08	-09	47	10.4	807

1973	ST1	1988	10	07.03472	22	27	38.88	-09	51	58.3	807
1973	ST1	1988	10	08.03611	22	27	19.32	-09	54	15.0	807
1973	ST1	1988	10	08.08611	22	27	18.34	-09	54	21.7	807
1973	ST1	1988	11	03.05347	22	23	48.38	-10	23	34.8	807
1973	ST1	1988	11	05.04306	22	23	56.67	-10	23	23.4	807
1977	QW2	1988	11	03.05347	22	13	22.77	-09	23	19.3	807
1977	QW2	1988	11	05.04306	22	15	18.73	-09	19	21.9	807
1977	RO7	1988	11	08.15000	23	12	35.51	-05	36	19.8	807
1978	RV5	1988	09	16.27153	23	51	38.94	-01	48	05.3	15.2V 807
1978	RV5	1988	10	04.11667	23	34	54.85	-02	44	50.4	807
1978	RV5	1988	10	05.09306	23	34	07.40	-02	47	12.1	807
1978	RV5	1988	10	08.13611	23	31	47.69	-02	53	44.6	807
1978	RC9	1988	11	03.10417	22	44	15.45	-04	53	40.1	807
1978	RC9	1988	11	05.09306	22	45	25.76	-04	45	03.0	807
1978	SL5	1988	09	16.21875	23	59	22.53	+00	48	57.4	16.0V 807
1978	SL5	1988	09	18.21181	23	57	51.06	+00	39	49.0	807
1978	SL5	1988	10	04.17361	23	45	48.72	-00	33	22.3	807
1978	SL5	1988	10	08.18750	23	43	04.05	-00	50	17.7	807
1978	TW2	1988	09	16.21875	00	12	42.72	-00	36	48.6	17.8V 807
1978	TW2	1988	09	18.21181	00	10	55.78	-00	51	17.5	807
1978	TW2	1988	10	04.17361	23	56	10.54	-02	46	23.7	807
1978	TW2	1988	10	05.19653	23	55	16.32	-02	53	13.5	807
1978	TW2	1988	10	08.18750	23	52	42.35	-03	12	29.9	807
1978	TW2	1988	11	05.14583	23	38	39.13	-04	53	51.2	807
1978	TW2	1988	11	07.04306	23	38	30.82	-04	54	45.4	807
1978	VV5	1988	09	16.21875	00	10	18.35	-00	48	42.7	18.0V 807
1978	VV5	1988	09	18.21181	00	08	30.23	-01	01	41.0	807
1978	VV5	1988	10	05.19653	23	53	05.26	-02	48	53.0	807
1978	VV5	1988	10	08.18750	23	50	35.08	-03	05	40.9	807
1978	VV5	1988	11	04.09306	23	35	59.13	-04	37	20.8	807
1978	VV5	1988	11	05.14583	23	35	46.18	-04	38	25.5	807
1978	VV5	1988	11	06.14583	23	35	35.40	-04	39	16.9	807
1978	VV5	1988	11	07.04306	23	35	27.32	-04	39	53.7	807
1979	FV1	1988	09	14.15764	23	34	32.71	-02	00	44.8	16.5V 807
1979	FV1	1988	09	15.24653	23	33	45.52	-02	03	57.5	807
1979	FV1	1988	09	16.27153	23	33	01.19	-02	06	59.0	807
1979	FV1	1988	10	04.11667	23	20	49.34	-02	56	46.4	807
1979	FD2	1988	09	16.21875	00	11	06.14	-01	33	36.1	18.0V 807
1979	FD2	1988	09	18.21181	00	09	23.37	-01	46	32.4	807
1979	FD2	1988	10	04.17361	23	55	29.10	-03	27	03.6	807
1979	FD2	1988	10	05.19653	23	54	38.13	-03	32	57.7	807
1979	FD2	1988	10	08.18750	23	52	12.73	-03	49	39.1	807
1979	FD2	1988	11	05.14583	23	37	22.58	-05	23	08.2	807
1979	FD2	1988	11	07.04306	23	37	00.74	-05	24	48.5	807
1980	FJ1	1988	11	03.10417	22	48	34.65	-04	41	37.5	807
1980	FJ1	1988	11	05.09306	22	48	40.33	-04	32	30.3	807
1980	LU	1988	10	04.06389	22	26	22.62	-09	46	03.5	807
1980	LU	1988	10	05.04028	22	26	05.80	-09	49	17.7	807
1980	LU	1988	10	07.03472	22	25	36.44	-09	55	22.0	807
1980	LU	1988	10	08.03611	22	25	24.26	-09	58	08.0	807
1980	LU	1988	10	08.08611	22	25	23.62	-09	58	15.8	807
1980	LU	1988	11	03.05347	22	29	55.01	-10	05	25.2	807
1980	LU	1988	11	04.04375	22	30	26.21	-10	03	24.6	807
1980	LU	1988	11	06.04236	22	31	32.48	-09	58	54.7	807
1981	EV18	1988	10	05.14306	23	03	32.12	-02	33	05.0	807
1981	EV18	1988	10	07.13750	23	02	31.45	-02	42	52.9	807
1981	EV18	1988	11	03.10417	22	56	35.67	-04	09	08.1	807
1981	EV18	1988	11	05.09306	22	56	45.84	-04	11	36.0	807
1981	EL20	1988	09	14.04861	22	34	45.74	-09	16	06.6	18.5V 807

1981	EL20	1988	09	15.08472	22	33	57.07	-09	17	19.5	807
1981	EL20	1988	09	16.11458	22	33	09.30	-09	18	26.4	807
1981	EL20	1988	10	04.06389	22	22	12.22	-09	24	17.0	807
1981	EL20	1988	10	05.04028	22	21	47.72	-09	23	44.7	807
1981	EL20	1988	10	07.03472	22	21	01.86	-09	22	22.7	807
1981	EL20	1988	10	08.03611	22	20	40.88	-09	21	31.1	807
1981	EL20	1988	10	08.08611	22	20	39.82	-09	21	29.9	807
1981	EY20	1988	10	08.18750	23	47	58.71	+00	02	09.6	807
1981	EY20	1988	11	04.09306	23	37	04.86	-01	08	34.6	807
1981	EY20	1988	11	06.14583	23	36	55.96	-01	09	49.0	807
1981	EK22	1988	11	03.15486	23	21	41.76	-03	04	21.3	807
1981	EK22	1988	11	06.09722	23	21	21.87	-03	07	24.3	807
1981	EK22	1988	11	08.15000	23	21	14.47	-03	08	50.8	807
1981	ED24	1988	09	14.10417	22	57	31.82	-06	20	20.2	18.8V 807
1981	ED24	1988	09	15.13611	22	56	48.83	-06	28	07.0	807
1981	ED24	1988	10	06.15278	22	44	48.89	-08	46	29.1	807
1981	ED24	1988	10	07.08403	22	44	26.66	-08	51	22.9	807
1981	EH24	1988	09	16.21875	23	58	18.13	-02	13	50.5	19.0V 807
1981	EH24	1988	09	18.21181	23	56	42.64	-02	22	52.0	807
1981	EH24	1988	10	04.17361	23	44	06.33	-03	31	04.4	807
1981	EH24	1988	11	03.15486	23	29	57.18	-04	29	27.5	807
1981	EH24	1988	11	06.09722	23	29	38.52	-04	28	11.0	807
1981	EH24	1988	11	08.15000	23	29	32.92	-04	26	31.6	807
1981	EO26	1988	11	04.09306	23	49	56.67	+00	15	16.3	807
1981	EO26	1988	11	06.14583	23	49	28.95	+00	11	37.3	807
1981	EV26	1988	11	04.09306	23	39	50.87	-00	41	56.3	807
1981	EV26	1988	11	06.14583	23	39	31.60	-00	44	48.4	807
1981	ED27	1988	09	14.15764	23	51	16.24	-01	12	45.8	17.8V 807
1981	ED27	1988	09	15.24653	23	50	30.91	-01	21	13.2	807
1981	ED27	1988	09	16.27153	23	49	48.18	-01	29	11.8	807
1981	ED27	1988	10	04.11667	23	37	45.38	-03	43	31.0	807
1981	ED27	1988	10	05.09306	23	37	09.66	-03	50	17.0	807
1981	ED27	1988	10	08.13611	23	35	22.46	-04	10	42.4	807
1981	ED27	1988	11	03.15486	23	26	23.01	-06	12	29.8	807
1981	ED27	1988	11	06.09722	23	26	11.97	-06	19	30.5	807
1981	ED27	1988	11	08.15000	23	26	10.60	-06	23	32.7	807
1981	ET27	1988	11	04.09306	23	49	51.52	-02	21	34.0	807
1981	ET27	1988	11	06.14583	23	49	24.91	-02	24	56.2	807
1981	EU29	1988	09	14.10417	22	55	50.83	-06	02	57.1	17.0V 807
1981	EU29	1988	09	15.13611	22	54	57.10	-06	03	59.2	807
1981	EU29	1988	10	06.15278	22	39	57.74	-06	11	34.3	807
1981	EU29	1988	10	07.08403	22	39	29.75	-06	11	06.9	807
1981	EH34	1988	09	14.15764	23	36	57.25	-02	23	16.7	17.8V 807
1981	EH34	1988	09	15.24653	23	36	05.34	-02	28	10.9	807
1981	EH34	1988	09	16.27153	23	35	16.46	-02	32	49.0	807
1981	EH41	1988	10	08.18750	23	44	35.92	+00	17	19.1	807
1981	EH41	1988	11	04.09306	23	35	15.70	-02	17	42.6	807
1981	EH41	1988	11	06.14583	23	35	09.18	-02	24	52.0	807
1981	ER43	1988	11	03.10417	22	59	37.25	-05	06	10.6	807
1981	ER43	1988	11	05.09306	22	59	53.60	-05	05	18.5	807
1981	EF45	1988	09	14.15764	23	37	40.45	-05	15	09.6	19.8V 807
1981	EF45	1988	09	15.24653	23	36	50.93	-05	20	08.4	807
1981	EF45	1988	09	16.27153	23	36	04.41	-05	24	46.8	807
1981	EF45	1988	10	04.11667	23	23	22.97	-06	36	49.1	807
1981	EF45	1988	10	08.13611	23	20	56.82	-06	49	28.9	807
1981	EX46	1988	09	14.10417	22	50	34.18	-05	44	21.9	19.0V 807
1981	EX46	1988	09	15.13611	22	49	48.20	-05	49	14.7	807
1981	EX46	1988	10	06.15278	22	37	19.15	-07	11	50.1	807
1981	EX46	1988	10	07.08403	22	36	57.21	-07	14	27.1	807

1981	EX46	1988	11	04.04375	22	35	28.35	-07	37	40.7	807
1981	FQ	1988	09	14.04861	22	24	36.94	-10	19	42.0	17.5V 807
1981	FQ	1988	09	15.08472	22	23	55.60	-10	23	32.8	807
1981	FQ	1988	09	16.11458	22	23	15.33	-10	27	17.4	807
1981	FQ	1988	10	04.06389	22	14	10.30	-11	16	31.1	807
1981	FQ	1988	10	05.04028	22	13	50.64	-11	18	13.7	807
1981	FQ	1988	10	07.03472	22	13	13.93	-11	21	23.0	807
1981	FQ	1988	10	08.03611	22	12	57.31	-11	22	48.2	807
1981	FQ	1988	11	03.05347	22	12	59.03	-11	18	58.9	807
1981	FQ	1988	11	05.04306	22	13	32.29	-11	15	38.1	807
1981	GF1	1988	11	03.10417	22	52	29.45	-03	34	23.5	807
1981	GF1	1988	11	05.09306	22	52	43.15	-03	29	26.5	807
1981	QT	1988	10	04.06389	22	22	30.82	-07	46	08.2	807
1981	QT	1988	10	05.04028	22	22	11.44	-07	48	13.7	807
1981	QT	1988	10	08.08611	22	21	23.12	-07	53	44.6	807
1981	RV4	1988	09	14.21458	23	12	13.75	-03	06	24.6	15.0V 807
1981	RV4	1988	09	15.19167	23	11	29.66	-03	16	54.1	807
1981	UC10	1988	10	06.15278	22	49	01.24	-07	43	10.3	807
1981	UC10	1988	10	07.08403	22	48	36.37	-07	44	16.0	807
1981	UC10	1988	11	04.04375	22	49	38.62	-07	00	52.0	807
1981	UM11	1988	09	16.21875	00	01	51.54	+00	59	45.3	16.5V 807
1981	UM11	1988	09	18.21181	00	00	17.21	+00	44	53.0	807
1981	UM11	1988	10	04.17361	23	47	46.33	-01	14	52.7	807
1981	UM11	1988	10	05.19653	23	47	03.14	-01	21	59.7	807
1981	UM11	1988	10	08.18750	23	45	03.87	-01	41	56.8	807
1981	UM11	1988	11	04.09306	23	38	13.07	-03	19	38.5	807
1981	UM11	1988	11	05.14583	23	38	24.76	-03	20	01.6	807
1981	UM11	1988	11	06.14583	23	38	37.92	-03	20	07.8	807
1981	UM11	1988	11	07.04306	23	38	51.64	-03	20	02.5	807
1982	UG7	1988	11	04.04375	22	37	17.36	-07	17	35.3	807
1982	UG7	1988	11	06.04236	22	39	24.99	-07	09	58.4	807
1984	SC1	1988	11	03.10417	22	59	49.58	-03	39	33.3	807
1985	UA	1988	10	06.15278	22	36	33.93	-06	23	33.9	807
1985	UA	1988	10	07.08403	22	36	03.01	-06	25	44.9	807
1986	CS1	1988	10	04.17361	23	59	45.24	-01	28	24.3	807
1986	CS1	1988	10	05.19653	23	58	53.44	-01	35	28.6	807
1986	CS1	1988	10	08.18750	23	56	25.95	-01	55	34.6	807
1986	CS1	1988	11	04.09306	23	42	24.85	-03	53	25.0	807
1986	CS1	1988	11	05.14583	23	42	14.94	-03	55	11.6	807
1986	CS1	1988	11	06.14583	23	42	07.45	-03	56	38.0	807
1986	CS1	1988	11	07.04306	23	42	02.36	-03	57	46.2	807
1986	GW	1988	09	14.10417	22	57	24.53	-05	28	34.1	19.2V 807
1986	GW	1988	09	15.13611	22	56	47.87	-05	32	58.2	807
1986	GW	1988	10	06.15278	22	46	15.65	-06	50	52.5	807
1986	GW	1988	10	07.08403	22	45	54.64	-06	53	38.6	807
1987	GG	1988	10	04.22984	23	47	54.39	-25	24	51.9	807
1987	GG	1988	10	05.30206	23	47	06.39	-25	31	38.4	807
1987	GG	1988	10	07.29028	23	45	39.54	-25	43	26.7	807
1987	GG	1988	11	04.19306	23	32	20.07	-26	45	26.5	807
1987	GG	1988	11	07.14306	23	31	50.27	-26	42	01.7	807
1988	PK	1988	11	03.05347	22	16	35.88	-12	41	44.3	807
1988	PK	1988	11	05.04306	22	18	58.33	-12	31	57.2	807
1988	PX	1988	10	08.03611	22	23	00.75	-13	39	45.4	807
1988	PM1	1988	09	14.04861	22	31	59.71	-09	03	20.0	16.0V 807
1988	PM1	1988	09	15.08472	22	31	23.97	-09	09	31.6	807
1988	PM1	1988	09	16.11458	22	30	49.80	-09	15	31.4	807
1988	PM1	1988	10	04.06389	22	25	36.81	-10	27	30.5	807
1988	PM1	1988	10	05.04028	22	25	37.16	-10	29	25.7	807
1988	PM1	1988	10	07.03472	22	25	43.71	-10	32	41.1	807

1988	PM1	1988	10	08.03611	22	25	49.97	-10	33	59.1	807
1988	PM1	1988	10	08.08611	22	25	50.19	-10	34	01.7	807
1988	PM1	1988	11	04.04375	22	40	33.45	-09	45	21.1	807
1988	PM1	1988	11	06.04236	22	42	26.56	-09	36	00.4	807
1988	PN1	1988	10	04.06389	22	23	07.26	-11	46	11.1	807
1988	PN1	1988	10	05.04028	22	23	01.83	-11	48	27.5	807
1988	PN1	1988	10	07.03472	22	22	56.56	-11	52	24.2	807
1988	PN1	1988	10	08.03611	22	22	56.95	-11	54	02.9	807
1988	PN1	1988	10	08.08611	22	22	56.88	-11	54	07.3	807
1988	PN1	1988	11	04.04375	22	35	22.51	-11	13	15.8	807
1988	PN1	1988	11	06.04236	22	37	08.08	-11	04	19.3	807
1988	PR1	1988	09	14.04861	22	32	15.25	-07	56	23.0	16.2V 807
1988	PR1	1988	09	15.08472	22	31	35.69	-08	05	26.2	807
1988	PR1	1988	09	16.11458	22	30	57.21	-08	14	18.6	807
1988	PR1	1988	10	04.06389	22	22	42.76	-10	25	45.2	807
1988	PR1	1988	10	05.04028	22	22	27.09	-10	31	24.4	807
1988	PR1	1988	10	07.03472	22	21	59.07	-10	42	26.2	807
1988	PR1	1988	10	08.03611	22	21	47.06	-10	47	42.6	807
1988	PR1	1988	10	08.08611	22	21	46.39	-10	47	57.3	807
1988	PR1	1988	11	03.05347	22	24	41.08	-12	00	35.7	807
1988	PR1	1988	11	05.04306	22	25	31.10	-12	01	22.1	807
1988	QC	1988	10	05.24861	23	32	03.22	-16	56	57.8	807
1988	QC	1988	10	06.20486	23	32	34.48	-17	03	40.8	807
1988	QC	1988	10	08.24097	23	33	44.43	-17	16	13.2	807
1988	QC1	1988	09	14.21458	23	07	17.85	-01	59	24.1	17.0V 807
1988	QC1	1988	09	15.19167	23	06	40.40	-02	07	47.5	807
1988	QG1	1988	09	14.15764	23	44	07.64	-04	48	57.7	16.2V 807
1988	QG1	1988	09	15.24653	23	43	08.54	-04	58	40.7	807
1988	QG1	1988	09	16.27153	23	42	12.49	-05	07	51.0	807
1988	RK	1988	10	04.11667	23	20	41.49	-05	56	46.3	807
1988	RR	1988	09	14.15764	23	48	15.92	-02	41	52.5	16.5V 807
1988	RR	1988	09	15.24653	23	47	14.93	-02	47	15.6	807
1988	RR	1988	09	16.27153	23	46	17.35	-02	52	20.4	807
1988	RR	1988	10	04.11667	23	30	34.35	-04	11	07.6	807
1988	RR	1988	10	05.09306	23	29	50.99	-04	14	26.6	807
1988	RR	1988	10	08.13611	23	27	44.23	-04	23	49.4	807
1988	RR	1988	11	03.15486	23	21	04.61	-04	33	01.5	807
1988	RR	1988	11	06.09722	23	21	41.73	-04	25	49.0	807
1988	RR	1988	11	08.15000	23	22	17.10	-04	19	49.6	807
1988	RP1	1988	09	16.21875	00	05	54.95	-03	42	52.4	16.0V 807
1988	RP1	1988	09	18.21181	00	03	53.60	-03	48	03.4	807
1988	RP1	1988	10	04.17361	23	47	24.47	-04	21	06.5	807
1988	RP1	1988	10	05.19653	23	46	25.36	-04	22	20.1	807
1988	RP1	1988	10	08.18750	23	43	39.12	-04	25	03.1	807
1988	RP1	1988	11	03.15486	23	30	32.79	-03	41	57.7	807
1988	RP1	1988	11	06.09722	23	30	32.42	-03	29	10.8	807
1988	RP1	1988	11	08.15000	23	30	43.07	-03	19	22.4	807
1988	RA2	1988	09	14.10417	22	42	52.61	-07	32	22.6	16.5V 807
1988	RA2	1988	09	16.11458	22	41	29.04	-07	45	14.0	807
1988	RA2	1988	10	04.06389	22	33	00.57	-09	13	46.0	807
1988	RA2	1988	10	05.04028	22	32	48.31	-09	16	52.8	807
1988	RA2	1988	10	08.08611	22	32	21.58	-09	25	17.3	807
1988	RA2	1988	11	04.04375	22	41	20.18	-09	12	45.5	807
1988	RA2	1988	11	06.04236	22	42	51.00	-09	05	58.2	807
1988	RB2	1988	09	14.10417	22	46	13.21	-09	15	26.5	17.2V 807
1988	RB2	1988	09	15.13611	22	45	31.89	-09	22	09.5	807
1988	RB2	1988	10	06.15278	22	37	16.33	-10	52	28.5	807
1988	RB2	1988	10	07.08403	22	37	13.06	-10	54	07.8	807
1988	RB2	1988	11	04.04375	22	48	30.68	-10	09	25.3	807

1988	RB2	1988	11	06.04236	22	50	10.70	-10	00	01.2	807
1988	RC2	1988	09	14.10417	22	46	22.51	-08	41	40.1	17.2V 807
1988	RC2	1988	09	15.13611	22	45	38.68	-08	46	43.4	807
1988	RC2	1988	10	05.04028	22	34	32.33	-10	02	58.8	807
1988	RC2	1988	10	06.15278	22	34	08.38	-10	05	44.3	807
1988	RC2	1988	10	07.08403	22	33	49.90	-10	07	54.6	807
1988	RC2	1988	10	08.08611	22	33	31.33	-10	10	04.2	807
1988	RC2	1988	11	04.04375	22	34	37.78	-10	09	23.3	807
1988	RC2	1988	11	06.04236	22	35	25.75	-10	04	53.2	807
1988	RE2	1988	09	14.10417	22	50	48.66	-09	49	43.9	17.2V 807
1988	RE2	1988	09	15.13611	22	50	03.49	-09	54	41.0	807
1988	RE2	1988	10	06.15278	22	37	42.81	-11	10	42.6	807
1988	RE2	1988	10	07.08403	22	37	21.10	-11	12	44.2	807
1988	RE2	1988	11	04.04375	22	36	12.09	-11	10	20.5	807
1988	RE2	1988	11	06.04236	22	36	50.99	-11	05	37.1	807
1988	RR2	1988	09	14.10417	22	54	49.35	-08	27	33.4	16.8V 807
1988	RR2	1988	09	15.13611	22	53	59.74	-08	34	15.6	807
1988	RR2	1988	10	06.15278	22	41	59.84	-10	11	49.0	807
1988	RR2	1988	10	07.08403	22	41	44.04	-10	14	10.1	807
1988	RR2	1988	11	04.04375	22	45	31.26	-10	03	36.9	807
1988	RR2	1988	11	06.04236	22	46	35.59	-09	57	27.4	807
1988	RJ3	1988	09	16.21875	00	08	22.29	+01	00	53.1	17.8V 807
1988	RJ3	1988	09	18.21181	00	06	29.44	+00	51	36.4	807
1988	RJ3	1988	10	04.17361	23	51	41.67	-00	22	05.2	807
1988	RJ3	1988	10	05.19653	23	50	49.96	-00	26	22.6	807
1988	RJ3	1988	10	08.18750	23	48	25.10	-00	38	16.6	807
1988	RJ3	1988	11	04.09306	23	36	48.99	-01	27	29.1	807
1988	RJ3	1988	11	06.14583	23	36	46.72	-01	26	19.6	807
1988	RN3	1988	09	18.21181	00	11	21.55	+00	48	39.4	18.8V 807
1988	RN3	1988	10	04.17361	23	58	55.46	-01	26	44.3	807
1988	RN3	1988	10	05.19653	23	58	11.14	-01	34	48.3	807
1988	RN3	1988	10	08.18750	23	56	07.45	-01	57	32.8	807
1988	RN3	1988	11	04.09306	23	47	55.56	-03	53	41.9	807
1988	RN3	1988	11	05.14583	23	48	03.24	-03	54	33.1	807
1988	RN3	1988	11	06.14583	23	48	12.79	-03	55	06.3	807
1988	RN3	1988	11	07.04306	23	48	23.04	-03	55	22.7	807
1988	RR3	1988	09	18.21181	00	10	18.48	-01	21	31.8	17.8V 807
1988	RR3	1988	10	04.17361	23	54	20.85	-02	35	23.3	807
1988	RR3	1988	10	05.19653	23	53	22.53	-02	39	33.8	807
1988	RR3	1988	10	08.18750	23	50	37.06	-02	51	07.2	807
1988	RR3	1988	11	04.09306	23	35	28.53	-03	31	08.1	807
1988	RR3	1988	11	05.14583	23	35	18.89	-03	30	02.2	807
1988	RR3	1988	11	06.14583	23	35	11.75	-03	28	48.8	807
1988	RR3	1988	11	07.04306	23	35	07.17	-03	27	34.1	807
1988	RS3	1988	09	18.21181	00	13	32.03	-00	49	24.0	16.2V 807
1988	RS3	1988	10	05.19653	00	02	12.78	-02	46	01.3	807
1988	RS3	1988	10	08.18750	00	00	28.71	-03	03	01.4	807
1988	RT3	1988	09	18.21181	00	13	24.59	+00	36	12.2	17.5V 807
1988	RT3	1988	10	04.17361	00	00	03.53	-00	08	20.7	807
1988	RT3	1988	10	05.19653	23	59	15.09	-00	10	51.5	807
1988	RT3	1988	10	08.18750	23	56	59.23	-00	17	38.4	807
1988	RT3	1988	11	04.09306	23	47	58.54	-00	15	06.1	807
1988	RT3	1988	11	06.14583	23	48	18.44	-00	09	18.0	807
1988	RU3	1988	09	18.21181	00	13	39.62	-00	58	08.3	17.8V 807
1988	RU3	1988	10	05.19653	00	00	09.74	-02	42	12.6	807
1988	RU3	1988	10	08.18750	23	57	57.06	-02	58	34.5	807
1988	RU3	1988	11	04.09306	23	45	10.66	-04	27	49.4	807
1988	RU3	1988	11	05.14583	23	45	00.25	-04	28	52.5	807
1988	RU3	1988	11	06.14583	23	44	51.87	-04	29	40.8	807

1988	RU3	1988	11	07.04306	23	44	45.79	-04	30	15.0	807
1988	RW3	1988	10	05.19653	00	02	02.13	-00	39	34.7	807
1988	RW3	1988	10	08.18750	23	59	57.81	-00	50	59.9	807
1988	RW3	1988	11	04.09306	23	47	43.23	-01	51	24.0	807
1988	RW3	1988	11	06.14583	23	47	23.02	-01	52	11.4	807
1988	RX3	1988	10	05.19653	00	02	18.50	-02	11	10.0	807
1988	RX3	1988	10	08.18750	00	00	12.82	-02	29	34.2	807
1988	RX3	1988	11	04.09306	23	48	26.89	-04	15	09.9	807
1988	RX3	1988	11	05.14583	23	48	18.84	-04	16	43.6	807
1988	RX3	1988	11	06.14583	23	48	12.73	-04	17	59.6	807
1988	RX3	1988	11	07.04306	23	48	08.75	-04	18	59.2	807
1988	RY3	1988	10	08.18750	00	02	00.38	-00	21	24.4	807
1988	RY3	1988	11	04.09306	23	51	09.13	-01	43	06.9	807
1988	RY3	1988	11	06.14583	23	50	58.47	-01	44	51.3	807
1988	RJ4	1988	10	04.06389	22	23	55.44	-07	54	37.8	807
1988	RJ4	1988	10	07.03472	22	23	03.09	-08	04	05.3	807
1988	RM4	1988	10	04.06389	22	28	25.56	-09	04	13.6	807
1988	RM4	1988	10	05.04028	22	28	11.38	-09	07	17.4	807
1988	RM4	1988	10	07.03472	22	27	47.60	-09	13	00.5	807
1988	RM4	1988	10	08.08611	22	27	37.76	-09	15	42.4	807
1988	RM4	1988	11	04.04375	22	34	10.42	-09	14	39.6	807
1988	RM4	1988	11	06.04236	22	35	23.85	-09	09	37.0	807
1988	RO4	1988	10	04.06389	22	25	49.84	-11	18	10.8	807
1988	RO4	1988	10	07.03472	22	24	54.89	-11	33	50.0	807
1988	RO4	1988	11	03.05347	22	25	57.11	-12	46	07.4	807
1988	RO4	1988	11	05.04306	22	26	41.66	-12	46	32.7	807
1988	RP4	1988	10	04.06389	22	18	02.92	-08	10	16.5	807
1988	RP4	1988	10	05.04028	22	17	35.51	-08	11	03.1	807
1988	RP4	1988	10	07.03472	22	16	44.79	-08	12	14.6	807
1988	RP4	1988	10	08.08611	22	16	20.90	-08	12	38.9	807
1988	RQ4	1988	09	14.04861	22	36	37.49	-07	53	49.5	18.8V 807
1988	RQ4	1988	09	15.08472	22	35	57.30	-07	58	50.8	807
1988	RQ4	1988	09	16.11458	22	35	18.67	-08	03	42.1	807
1988	RQ4	1988	10	04.06389	22	28	55.82	-09	00	17.4	807
1988	RQ4	1988	10	05.04028	22	28	53.45	-09	01	31.4	807
1988	RQ4	1988	10	07.03472	22	28	55.35	-09	03	25.2	807
1988	RQ4	1988	10	08.08611	22	28	59.60	-09	04	03.3	807
1988	RR4	1988	10	04.06389	22	24	44.64	-11	07	15.8	807
1988	RR4	1988	10	07.03472	22	23	38.35	-11	16	30.7	807
1988	RR4	1988	11	03.05347	22	22	52.58	-11	40	46.0	807
1988	RR4	1988	11	05.04306	22	23	27.64	-11	38	30.6	807
1988	RS4	1988	09	14.04861	22	37	36.81	-09	10	00.9	17.0V 807
1988	RS4	1988	09	15.08472	22	36	49.46	-09	14	07.6	807
1988	RS4	1988	09	16.11458	22	36	03.15	-09	18	07.5	807
1988	RS4	1988	10	04.06389	22	25	40.76	-10	08	50.5	807
1988	RS4	1988	10	05.04028	22	25	18.95	-10	10	24.6	807
1988	RS4	1988	10	07.03472	22	24	38.78	-10	13	12.9	807
1988	RS4	1988	10	08.03611	22	24	20.85	-10	14	24.6	807
1988	RS4	1988	10	08.08611	22	24	19.93	-10	14	27.7	807
1988	RS4	1988	11	03.05347	22	25	34.30	-09	55	01.1	807
1988	RS4	1988	11	05.04306	22	26	20.75	-09	49	44.0	807
1988	RT4	1988	09	14.04861	22	38	50.50	-09	11	32.1	17.2V 807
1988	RT4	1988	09	15.08472	22	38	07.74	-09	16	32.3	807
1988	RT4	1988	09	16.11458	22	37	25.84	-09	21	25.8	807
1988	RT4	1988	10	04.06389	22	27	59.23	-10	28	14.0	807
1988	RT4	1988	10	05.04028	22	27	39.64	-10	30	37.9	807
1988	RT4	1988	10	07.03472	22	27	03.84	-10	35	07.8	807
1988	RT4	1988	10	08.03611	22	26	48.04	-10	37	09.9	807
1988	RT4	1988	10	08.08611	22	26	47.23	-10	37	15.1	807

1988	RT4	1988	11	03.05347	22	29	02.10	-10	33	40.1	807
1988	RT4	1988	11	05.04306	22	29	54.82	-10	29	02.8	807
1988	RT4	1988	11	06.04236	22	30	23.43	-10	26	31.7	807
1988	RV4	1988	10	05.14306	22	57	42.30	-04	12	22.0	807
1988	RV4	1988	11	03.10417	22	56	00.22	-04	33	03.2	807
1988	RV4	1988	11	05.09306	22	56	44.66	-04	29	30.2	807
1988	RK5	1988	10	07.03472	22	12	27.08	-10	38	13.7	807
1988	RK5	1988	10	08.03611	22	12	19.37	-10	40	02.9	807
1988	RK5	1988	11	03.05347	22	19	28.14	-10	23	35.0	807
1988	RK5	1988	11	05.04306	22	20	45.60	-10	17	43.0	807
1988	RM5	1988	09	14.04861	22	26	49.17	-10	33	18.4	17.5V 807
1988	RM5	1988	09	15.08472	22	26	08.00	-10	44	34.8	807
1988	RM5	1988	09	16.11458	22	25	27.96	-10	55	39.9	807
1988	RR5	1988	10	04.06389	22	23	03.14	-12	02	01.6	807
1988	RR5	1988	10	07.03472	22	22	08.89	-12	00	52.9	807
1988	RR5	1988	11	03.05347	22	26	47.00	-10	43	28.9	807
1988	RR5	1988	11	05.04306	22	27	57.39	-10	33	29.8	807
1988	RZ5	1988	11	03.05347	22	10	07.97	-11	50	27.1	807
1988	RZ5	1988	11	05.04306	22	11	49.94	-11	43	56.9	807
1988	RE6	1988	10	08.03611	22	24	51.97	-13	19	13.0	807
1988	RE6	1988	11	03.05347	22	27	30.33	-12	29	30.0	807
1988	RE6	1988	11	05.04306	22	28	36.26	-12	20	25.0	807
1988	RJ6	1988	09	14.21458	23	02	27.33	-02	31	21.8	16.8V 807
1988	RJ6	1988	09	15.19167	23	01	31.69	-02	33	42.0	807
1988	RJ6	1988	10	05.14306	22	46	03.30	-03	13	19.4	807
1988	RJ6	1988	11	03.10417	22	46	25.55	-02	41	05.0	807
1988	RJ6	1988	11	05.09306	22	47	34.40	-02	33	39.6	807
1988	RK6	1988	10	06.15278	22	52	23.77	-06	29	53.4	807
1988	RK6	1988	10	07.08403	22	52	08.27	-06	36	46.7	807
1988	RS6	1988	09	14.10417	22	54	15.53	-05	58	24.6	16.8V 807
1988	RS6	1988	09	15.13611	22	53	38.57	-06	03	59.7	807
1988	RS6	1988	10	06.15278	22	47	01.11	-07	20	25.6	807
1988	RS6	1988	10	07.08403	22	47	03.12	-07	21	43.3	807
1988	RT6	1988	11	04.04375	22	45	47.02	-11	35	46.3	807
1988	RT6	1988	11	06.04236	22	46	45.74	-11	38	53.8	807
1988	RU6	1988	11	04.04375	22	36	59.11	-07	48	11.8	807
1988	RU6	1988	11	06.04236	22	37	26.42	-07	47	01.8	807
1988	RC7	1988	09	14.21458	23	07	59.88	-02	19	22.8	14.5V 807
1988	RC7	1988	09	15.19167	23	07	22.61	-02	33	18.0	807
1988	RM7	1988	09	14.04861	22	32	06.61	-07	31	24.1	19.0V 807
1988	RM7	1988	09	15.08472	22	31	24.60	-07	35	19.4	807
1988	RM7	1988	09	16.11458	22	30	43.73	-07	39	08.6	807
1988	RM7	1988	10	04.06389	22	22	03.53	-08	29	23.8	807
1988	RM7	1988	10	05.04028	22	21	47.44	-08	31	03.8	807
1988	RM7	1988	10	07.03472	22	21	18.82	-08	34	05.9	807
1988	RM7	1988	10	08.08611	22	21	06.03	-08	35	29.0	807
1988	RM8	1988	09	16.21875	00	08	49.26	-01	18	37.1	17.0V 807
1988	RM8	1988	09	18.21181	00	07	03.32	-01	20	11.2	807
1988	RM8	1988	10	04.17361	23	52	31.34	-01	29	27.6	807
1988	RM8	1988	10	05.19653	23	51	39.65	-01	29	30.2	807
1988	RM8	1988	10	08.18750	23	49	15.46	-01	28	57.0	807
1988	RM8	1988	11	04.09306	23	39	53.80	-00	23	49.8	807
1988	RM8	1988	11	06.14583	23	40	14.74	-00	13	58.4	807
1988	RS8	1988	09	16.21875	00	01	09.71	-00	30	59.2	16.8V 807
1988	RS8	1988	09	18.21181	23	59	37.32	-00	45	53.0	807
1988	RS8	1988	10	04.17361	23	47	36.44	-02	40	02.0	807
1988	RS8	1988	10	05.19653	23	46	55.92	-02	46	27.6	807
1988	RS8	1988	10	08.18750	23	45	04.86	-03	04	16.8	807
1988	RS8	1988	11	04.09306	23	39	26.48	-04	17	07.2	807

1988	RS8	1988	11	05.14583	23	39	40.17	-04	16	32.8	807
1988	RS8	1988	11	06.14583	23	39	55.08	-04	15	44.0	807
1988	RS8	1988	11	07.04306	23	40	10.29	-04	14	50.0	807
1988	RW9	1988	09	14.04861	22	38	22.67	-10	42	29.9	17.5V 807
1988	RW9	1988	09	15.08472	22	37	38.21	-10	47	18.2	807
1988	RW9	1988	09	16.11458	22	36	54.54	-10	52	00.5	807
1988	RW9	1988	10	05.04028	22	26	13.36	-11	57	54.8	807
1988	RW9	1988	10	07.03472	22	25	29.09	-12	02	10.2	807
1988	RW9	1988	10	08.03611	22	25	08.85	-12	04	05.9	807
1988	RW9	1988	10	08.08611	22	25	07.83	-12	04	11.3	807
1988	RW9	1988	11	03.05347	22	24	46.75	-12	01	53.4	807
1988	RW9	1988	11	05.04306	22	25	25.09	-11	57	41.5	807
1988	RD10*	1988	09	14.04861	22	21	52.16	-09	04	31.6	19.5V 807
1988	RD10	1988	09	15.08472	22	21	20.95	-09	05	42.1	807
1988	RE10*	1988	09	14.04861	22	23	16.99	-10	08	32.0	18.2V 807
1988	RE10	1988	09	15.08472	22	22	42.53	-10	14	29.7	807
1988	RE10	1988	09	16.11458	22	22	09.67	-10	20	16.3	807
1988	RE10	1988	10	04.06389	22	17	11.14	-11	29	42.6	807
1988	RE10	1988	10	05.04028	22	17	11.65	-11	31	35.6	807
1988	RE10	1988	10	07.03472	22	17	18.22	-11	34	49.2	807
1988	RE10	1988	10	08.03611	22	17	24.54	-11	36	07.1	807
1988	RE10	1988	10	08.08611	22	17	24.68	-11	36	10.2	807
1988	RE10	1988	11	04.04375	22	31	41.08	-10	52	03.6	807
1988	RE10	1988	11	06.04236	22	33	30.77	-10	43	19.4	807
1988	RF10*	1988	09	14.04861	22	24	43.31	-10	10	49.5	19.0V 807
1988	RF10	1988	09	15.08472	22	24	09.35	-10	14	03.9	807
1988	RF10	1988	09	16.11458	22	23	35.99	-10	17	15.1	807
1988	RF10	1988	10	04.06389	22	15	37.66	-11	02	06.5	807
1988	RF10	1988	10	05.04028	22	15	18.35	-11	03	53.4	807
1988	RF10	1988	10	07.03472	22	14	41.42	-11	07	17.8	807
1988	RF10	1988	10	08.03611	22	14	24.12	-11	08	53.3	807
1988	RF10	1988	10	08.08611	22	14	23.12	-11	08	56.6	807
1988	RF10	1988	11	03.05347	22	12	15.18	-11	19	44.8	807
1988	RF10	1988	11	05.04306	22	12	31.03	-11	18	11.0	807
1988	RG10*	1988	09	14.04861	22	25	32.17	-10	11	03.8	18.5V 807
1988	RG10	1988	09	15.08472	22	25	03.00	-10	13	22.6	807
1988	RG10	1988	09	16.11458	22	24	34.35	-10	15	38.5	807
1988	RG10	1988	10	04.06389	22	17	35.88	-10	47	00.7	807
1988	RG10	1988	10	05.04028	22	17	18.45	-10	48	12.0	807
1988	RG10	1988	10	07.03472	22	16	44.90	-10	50	27.5	807
1988	RG10	1988	10	08.03611	22	16	29.10	-10	51	30.4	807
1988	RG10	1988	10	08.08611	22	16	28.22	-10	51	32.3	807
1988	RG10	1988	11	03.05347	22	14	03.13	-10	54	07.8	807
1988	RG10	1988	11	05.04306	22	14	13.70	-10	52	22.8	807
1988	RH10*	1988	09	14.04861	22	26	06.81	-10	24	57.5	17.2V 807
1988	RH10	1988	09	15.08472	22	25	22.35	-10	29	18.3	807
1988	RH10	1988	09	16.11458	22	24	39.04	-10	33	32.1	807
1988	RH10	1988	10	04.06389	22	15	13.12	-11	27	23.9	807
1988	RH10	1988	10	05.04028	22	14	54.35	-11	29	07.1	807
1988	RH10	1988	10	07.03472	22	14	20.27	-11	32	14.7	807
1988	RH10	1988	10	08.03611	22	14	05.27	-11	33	36.4	807
1988	RH10	1988	10	08.08611	22	14	04.44	-11	33	39.7	807
1988	RH10	1988	11	03.05347	22	16	14.22	-11	19	26.2	807
1988	RH10	1988	11	05.04306	22	17	03.01	-11	14	39.8	807
1988	RJ10*	1988	09	14.04861	22	26	35.88	-08	46	28.3	19.5V 807
1988	RJ10	1988	09	15.08472	22	25	55.54	-08	50	43.1	807
1988	RJ10	1988	09	16.11458	22	25	16.17	-08	54	53.1	807
1988	RK10*	1988	09	14.04861	22	26	54.25	-09	42	12.2	19.5V 807
1988	RK10	1988	09	15.08472	22	26	17.16	-09	42	28.7	807

1988	RK10	1988	09	16.11458	22	25	41.87	-09	42	37.3	807
1988	RL10*	1988	09	14.04861	22	31	28.09	-10	32	53.6	19.2V 807
1988	RL10	1988	09	15.08472	22	31	00.59	-10	35	50.5	807
1988	RL10	1988	09	16.11458	22	30	33.55	-10	38	44.3	807
1988	RL10	1988	10	04.06389	22	23	50.66	-11	21	15.6	807
1988	RL10	1988	10	05.04028	22	23	33.34	-11	23	03.7	807
1988	RL10	1988	10	07.03472	22	22	59.70	-11	26	34.2	807
1988	RL10	1988	10	08.03611	22	22	43.71	-11	28	14.6	807
1988	RL10	1988	10	08.08611	22	22	42.89	-11	28	19.2	807
1988	RL10	1988	11	03.05347	22	19	44.57	-11	47	30.2	807
1988	RL10	1988	11	05.04306	22	19	50.54	-11	47	02.1	807
1988	RM10*	1988	09	14.04861	22	33	05.70	-08	17	52.3	17.5V 807
1988	RM10	1988	09	15.08472	22	32	23.49	-08	23	02.7	807
1988	RM10	1988	09	16.11458	22	31	42.32	-08	28	06.1	807
1988	RM10	1988	10	04.06389	22	22	44.22	-09	38	07.4	807
1988	RM10	1988	10	07.03472	22	21	54.90	-09	45	42.5	807
1988	RM10	1988	10	08.03611	22	21	41.16	-09	47	57.8	807
1988	RM10	1988	10	08.08611	22	21	40.40	-09	48	04.7	807
1988	RM10	1988	11	03.05347	22	24	24.86	-09	54	11.1	807
1988	RM10	1988	11	05.04306	22	25	16.99	-09	50	36.7	807
1988	RN10*	1988	09	14.04861	22	33	54.29	-11	19	00.5	19.8V 807
1988	RN10	1988	09	15.08472	22	33	27.46	-11	23	23.8	807
1988	RN10	1988	09	16.11458	22	33	01.04	-11	27	43.9	807
1988	RN10	1988	10	04.06389	22	26	29.03	-12	33	29.8	807
1988	RN10	1988	10	07.03472	22	25	40.24	-12	42	19.6	807
1988	RN10	1988	10	08.03611	22	25	24.91	-12	45	08.2	807
1988	RN10	1988	11	03.05347	22	22	49.98	-13	30	05.2	807
1988	RN10	1988	11	05.04306	22	22	58.32	-13	31	16.4	807
1988	RO10*	1988	09	14.04861	22	34	53.41	-08	59	46.9	20.2V 807
1988	RO10	1988	09	15.08472	22	34	26.61	-09	05	18.3	807
1988	RO10	1988	09	16.11458	22	34	00.32	-09	10	46.3	807
1988	RO10	1988	10	04.06389	22	27	31.53	-10	37	09.6	807
1988	RO10	1988	10	07.03472	22	26	43.43	-10	49	22.8	807
1988	RO10	1988	10	08.03611	22	26	28.47	-10	53	21.6	807
1988	RO10	1988	10	08.08611	22	26	27.67	-10	53	33.1	807
1988	RO10	1988	11	03.05347	22	24	05.21	-12	06	40.1	807
1988	RO10	1988	11	05.04306	22	24	14.76	-12	09	50.0	807
1988	RP10*	1988	09	14.04861	22	35	18.42	-07	31	52.8	18.5V 807
1988	RP10	1988	09	15.08472	22	34	33.43	-07	36	19.9	807
1988	RP10	1988	09	16.11458	22	33	49.40	-07	40	41.5	807
1988	RP10	1988	10	04.06389	22	23	35.74	-08	42	45.8	807
1988	RP10	1988	10	05.04028	22	23	12.66	-08	45	11.3	807
1988	RP10	1988	10	07.03472	22	22	29.25	-08	49	48.6	807
1988	RP10	1988	10	08.08611	22	22	08.42	-08	52	03.0	807
1988	RP10	1988	11	03.05347	22	21	36.20	-09	02	36.7	807
1988	RQ10*	1988	09	14.04861	22	35	40.49	-10	22	31.2	19.8V 807
1988	RQ10	1988	09	15.08472	22	35	12.84	-10	26	35.7	807
1988	RQ10	1988	09	16.11458	22	34	45.74	-10	30	37.0	807
1988	RQ10	1988	10	04.06389	22	28	00.79	-11	31	52.0	807
1988	RQ10	1988	10	05.04028	22	27	43.46	-11	34	36.9	807
1988	RQ10	1988	10	07.03472	22	27	09.88	-11	40	01.8	807
1988	RQ10	1988	10	08.03611	22	26	53.99	-11	42	39.1	807
1988	RQ10	1988	10	08.08611	22	26	53.18	-11	42	46.5	807
1988	RQ10	1988	11	03.05347	22	24	09.77	-12	22	33.6	807
1988	RQ10	1988	11	05.04306	22	24	18.09	-12	23	21.3	807
1988	RR10*	1988	09	14.04861	22	36	05.88	-07	26	07.5	20.2V 807
1988	RR10	1988	09	15.08472	22	35	38.81	-07	31	09.2	807
1988	RR10	1988	09	16.11458	22	35	12.10	-07	36	05.4	807
1988	RR10	1988	10	05.04028	22	28	21.87	-08	58	34.8	807

1988	RR10	1988	10	07.03472	22	27	49.79	-09	06	01.1	807
1988	RR10	1988	10	08.03611	22	27	34.68	-09	09	38.9	807
1988	RR10	1988	10	08.08611	22	27	33.88	-09	09	49.0	807
1988	RR10	1988	11	03.05347	22	25	12.28	-10	15	29.7	807
1988	RR10	1988	11	05.04306	22	25	22.30	-10	18	10.1	807
1988	RS10*	1988	09	14.04861	22	37	14.91	-10	47	06.5	19.5V 807
1988	RS10	1988	09	15.08472	22	36	46.89	-10	50	00.2	807
1988	RS10	1988	09	16.11458	22	36	19.33	-10	52	51.6	807
1988	RS10	1988	10	04.06389	22	29	24.25	-11	34	16.6	807
1988	RS10	1988	10	05.04028	22	29	06.17	-11	35	59.9	807
1988	RS10	1988	10	07.03472	22	28	30.95	-11	39	21.5	807
1988	RS10	1988	10	08.03611	22	28	14.16	-11	40	56.8	807
1988	RS10	1988	10	08.08611	22	28	13.35	-11	41	01.2	807
1988	RS10	1988	11	03.05347	22	24	54.44	-11	57	22.8	807
1988	RS10	1988	11	05.04306	22	24	59.01	-11	56	39.1	807
1988	RT10*	1988	09	14.04861	22	37	59.92	-09	16	03.6	19.0V 807
1988	RT10	1988	09	16.11458	22	36	40.00	-09	24	36.7	807
1988	RV10*	1988	09	14.04861	22	39	44.61	-09	27	27.1	18.5V 807
1988	RV10	1988	09	15.08472	22	39	03.77	-09	32	02.7	807
1988	RV10	1988	09	16.11458	22	38	23.58	-09	36	32.7	807
1988	RV10	1988	10	04.06389	22	28	38.22	-10	41	25.2	807
1988	RV10	1988	10	07.03472	22	27	27.90	-10	49	11.9	807
1988	RV10	1988	10	08.03611	22	27	06.24	-10	51	36.6	807
1988	RV10	1988	10	08.08611	22	27	05.13	-10	51	43.1	807
1988	RV10	1988	11	03.05347	22	24	05.96	-11	14	33.3	807
1988	RV10	1988	11	05.04306	22	24	22.87	-11	13	13.3	807
1988	RW10*	1988	09	14.04861	22	40	15.19	-08	18	16.3	18.8V 807
1988	RW10	1988	09	15.08472	22	39	31.05	-08	22	28.8	807
1988	RW10	1988	09	16.11458	22	38	47.79	-08	26	34.9	807
1988	RW10	1988	10	04.06389	22	28	54.06	-09	22	01.1	807
1988	RW10	1988	10	05.04028	22	28	32.71	-09	23	57.0	807
1988	RW10	1988	10	07.03472	22	27	53.02	-09	27	32.7	807
1988	RW10	1988	10	08.03611	22	27	35.18	-09	29	08.0	807
1988	RW10	1988	10	08.08611	22	27	34.30	-09	29	12.5	807
1988	RW10	1988	11	03.05347	22	28	31.17	-09	20	59.9	807
1988	RW10	1988	11	05.04306	22	29	15.91	-09	16	29.1	807
1988	RX10*	1988	09	14.04861	22	40	24.81	-11	10	22.2	18.5V 807
1988	RX10	1988	09	15.08472	22	39	41.41	-11	13	33.4	807
1988	RX10	1988	09	16.11458	22	38	59.01	-11	16	38.1	807
1988	RX10	1988	10	04.06389	22	29	13.23	-11	51	49.8	807
1988	RX10	1988	10	05.04028	22	28	51.75	-11	52	37.0	807
1988	RX10	1988	10	07.03472	22	28	11.56	-11	53	50.6	807
1988	RX10	1988	10	08.03611	22	27	53.40	-11	54	15.6	807
1988	RX10	1988	10	08.08611	22	27	52.43	-11	54	16.7	807
1988	RX10	1988	11	03.05347	22	28	07.07	-11	18	39.6	807
1988	RX10	1988	11	05.04306	22	28	46.01	-11	12	25.9	807
1988	RY10*	1988	09	14.04861	22	40	26.00	-10	40	25.1	18.5V 807
1988	RY10	1988	09	15.08472	22	39	56.43	-10	43	25.0	807
1988	RY10	1988	09	16.11458	22	39	27.33	-10	46	20.6	807
1988	RY10	1988	10	04.06389	22	32	12.08	-11	28	13.6	807
1988	RY10	1988	10	05.04028	22	31	53.49	-11	29	54.9	807
1988	RY10	1988	10	07.03472	22	31	17.22	-11	33	09.8	807
1988	RY10	1988	10	08.03611	22	31	00.07	-11	34	40.3	807
1988	RY10	1988	10	08.08611	22	30	59.15	-11	34	45.0	807
1988	RY10	1988	11	03.05347	22	27	57.60	-11	46	23.8	807
1988	RY10	1988	11	05.04306	22	28	05.74	-11	45	04.4	807
1988	RZ10*	1988	09	14.04861	22	40	33.90	-09	30	01.1	19.2V 807
1988	RZ10	1988	09	15.08472	22	39	52.47	-09	35	33.5	807
1988	RZ10	1988	09	16.11458	22	39	11.92	-09	40	58.5	807

1988	RZ10	1988	10	04.06389	22	29	46.48	-10	57	47.6	807
1988	RZ10	1988	10	05.04028	22	29	25.26	-11	00	50.6	807
1988	RZ10	1988	10	07.03472	22	28	45.40	-11	06	40.1	807
1988	RZ10	1988	10	08.03611	22	28	27.28	-11	09	23.6	807
1988	RZ10	1988	10	08.08611	22	28	26.34	-11	09	31.1	807
1988	RZ10	1988	11	03.05347	22	28	09.88	-11	30	10.6	807
1988	RZ10	1988	11	05.04306	22	28	44.11	-11	27	56.3	807
1988	RA11*	1988	09	14.04861	22	40	51.48	-11	34	36.6	18.2V 807
1988	RA11	1988	09	15.08472	22	40	10.93	-11	39	01.3	807
1988	RA11	1988	09	16.11458	22	39	31.24	-11	43	19.2	807
1988	RA11	1988	10	04.06389	22	30	13.63	-12	39	49.3	807
1988	RA11	1988	10	05.04028	22	29	52.39	-12	41	45.8	807
1988	RA11	1988	10	07.03472	22	29	12.41	-12	45	22.4	807
1988	RA11	1988	10	08.03611	22	28	54.11	-12	46	58.5	807
1988	RA11	1988	11	03.05347	22	28	16.31	-12	41	49.6	807
1988	RA11	1988	11	05.04306	22	28	47.94	-12	37	53.5	807
1988	RB11*	1988	09	14.10417	22	44	37.69	-08	00	26.0	18.2V 807
1988	RB11	1988	09	15.13611	22	43	53.27	-08	05	15.7	807
1988	RB11	1988	10	05.04028	22	32	17.26	-09	20	54.6	807
1988	RB11	1988	10	08.08611	22	31	08.00	-09	28	36.4	807
1988	RB11	1988	11	03.05347	22	30	05.22	-09	41	15.6	807
1988	RB11	1988	11	04.04375	22	30	21.90	-09	39	50.8	807
1988	RB11	1988	11	06.04236	22	30	59.42	-09	36	35.4	807
1988	RC11*	1988	09	14.10417	22	45	23.90	-10	01	16.1	18.2V 807
1988	RC11	1988	09	15.13611	22	44	39.44	-10	06	05.4	807
1988	RC11	1988	10	05.04028	22	32	49.93	-11	19	37.8	807
1988	RC11	1988	10	08.08611	22	31	35.50	-11	26	49.7	807
1988	RC11	1988	11	03.05347	22	29	11.02	-11	36	23.8	807
1988	RC11	1988	11	05.04306	22	29	37.01	-11	33	22.6	807
1988	RD11*	1988	09	14.10417	22	45	41.30	-09	22	32.8	18.2V 807
1988	RD11	1988	09	15.13611	22	44	56.38	-09	26	10.1	807
1988	RD11	1988	10	04.06389	22	33	17.45	-10	18	07.9	807
1988	RD11	1988	10	05.04028	22	32	49.76	-10	19	55.0	807
1988	RD11	1988	10	08.08611	22	31	29.49	-10	24	53.7	807
1988	RD11	1988	11	03.05347	22	27	13.15	-10	26	28.6	807
1988	RD11	1988	11	05.04306	22	27	25.65	-10	23	38.0	807
1988	RE11*	1988	09	14.10417	22	45	47.55	-09	28	11.4	17.5V 807
1988	RE11	1988	09	15.13611	22	44	53.85	-09	28	49.2	807
1988	RE11	1988	10	04.06389	22	32	14.20	-09	20	40.7	807
1988	RE11	1988	10	05.04028	22	31	49.52	-09	19	07.8	807
1988	RE11	1988	10	07.03472	22	31	04.18	-09	15	35.5	807
1988	RE11	1988	10	08.03611	22	30	44.03	-09	13	37.4	807
1988	RE11	1988	10	08.08611	22	30	42.98	-09	13	31.9	807
1988	RE11	1988	11	04.04375	22	32	43.14	-07	34	13.3	807
1988	RE11	1988	11	06.04236	22	33	39.50	-07	23	32.4	807
1988	RF11*	1988	09	14.10417	22	46	09.40	-09	41	22.3	19.0V 807
1988	RF11	1988	09	15.13611	22	45	24.71	-09	45	27.5	807
1988	RF11	1988	11	03.05347	22	28	05.33	-10	59	03.8	807
1988	RF11	1988	11	05.04306	22	28	21.61	-10	56	11.6	807
1988	RG11*	1988	09	14.10417	22	46	33.58	-09	03	10.6	18.5V 807
1988	RG11	1988	09	15.13611	22	45	50.81	-09	07	46.5	807
1988	RH11*	1988	09	14.10417	22	47	11.78	-06	46	59.5	19.8V 807
1988	RH11	1988	09	15.13611	22	46	42.33	-06	50	17.5	807
1988	RH11	1988	10	06.15278	22	38	13.29	-07	48	25.9	807
1988	RH11	1988	10	07.08403	22	37	56.18	-07	50	28.8	807
1988	RH11	1988	11	04.04375	22	34	16.46	-08	22	23.6	807
1988	RH11	1988	11	06.04236	22	34	24.12	-08	22	20.8	807
1988	RJ11*	1988	09	14.10417	22	47	43.56	-07	04	10.1	18.5V 807
1988	RJ11	1988	09	15.13611	22	47	03.85	-07	12	49.8	807

1988	RJ11	1988	10	06.15278	22	39	19.08	-09	22	35.8	807
1988	RJ11	1988	10	07.08403	22	39	16.79	-09	25	56.2	807
1988	RK11*	1988	09	14.10417	22	48	24.27	-06	58	05.7	17.5V 807
1988	RK11	1988	09	15.13611	22	47	43.23	-07	08	50.0	807
1988	RK11	1988	10	06.15278	22	38	20.45	-10	13	46.7	807
1988	RK11	1988	10	07.08403	22	38	12.28	-10	19	48.0	807
1988	RK11	1988	11	04.04375	22	47	45.10	-11	27	12.7	807
1988	RK11	1988	11	06.04236	22	49	24.31	-11	23	52.5	807
1988	RL11*	1988	09	14.10417	22	48	29.37	-08	12	58.9	18.8V 807
1988	RL11	1988	09	15.13611	22	47	45.48	-08	18	23.7	807
1988	RM11*	1988	09	14.10417	22	49	07.39	-09	14	00.2	19.0V 807
1988	RM11	1988	09	15.13611	22	48	38.10	-09	17	17.3	807
1988	RM11	1988	10	06.15278	22	40	03.89	-10	13	23.3	807
1988	RM11	1988	10	07.08403	22	39	46.13	-10	15	17.0	807
1988	RM11	1988	11	04.04375	22	35	35.15	-10	41	29.0	807
1988	RM11	1988	11	06.04236	22	35	39.68	-10	41	00.0	807
1988	RN11*	1988	09	14.10417	22	50	33.72	-07	07	17.3	19.5V 807
1988	RN11	1988	09	15.13611	22	50	05.73	-07	10	17.7	807
1988	RN11	1988	10	06.15278	22	41	48.33	-08	03	52.8	807
1988	RN11	1988	10	07.08403	22	41	30.75	-08	05	48.4	807
1988	RN11	1988	11	04.04375	22	36	52.50	-08	37	54.6	807
1988	RN11	1988	11	06.04236	22	36	52.79	-08	38	11.5	807
1988	RO11*	1988	09	14.10417	22	50	44.70	-08	43	45.5	18.0V 807
1988	RO11	1988	09	15.13611	22	49	58.24	-08	47	50.8	807
1988	RO11	1988	10	06.15278	22	37	31.73	-09	47	27.2	807
1988	RO11	1988	10	07.08403	22	37	10.86	-09	48	48.2	807
1988	RO11	1988	11	04.04375	22	37	02.03	-09	27	58.3	807
1988	RO11	1988	11	06.04236	22	37	47.27	-09	22	01.4	807
1988	RP11*	1988	09	14.10417	22	50	59.72	-07	53	27.1	18.2V 807
1988	RP11	1988	09	15.13611	22	50	15.85	-08	06	17.2	807
1988	RQ11*	1988	09	14.10417	22	51	44.31	-06	39	34.6	18.5V 807
1988	RQ11	1988	09	15.13611	22	50	58.26	-06	39	33.2	807
1988	RR11*	1988	09	14.10417	22	52	10.87	-09	28	46.5	18.0V 807
1988	RR11	1988	09	15.13611	22	51	22.65	-09	32	32.4	807
1988	RR11	1988	10	06.15278	22	40	59.16	-10	06	26.8	807
1988	RR11	1988	10	07.08403	22	40	51.61	-10	05	49.7	807
1988	RS11*	1988	09	14.10417	22	54	43.78	-06	08	57.5	18.0V 807
1988	RS11	1988	09	15.13611	22	54	03.75	-06	18	18.5	807
1988	RT11*	1988	09	14.10417	22	55	27.98	-08	09	26.3	19.0V 807
1988	RT11	1988	09	15.13611	22	54	34.07	-08	14	14.5	807
1988	RT11	1988	10	06.15278	22	39	40.32	-09	27	21.0	807
1988	RT11	1988	10	07.08403	22	39	13.72	-09	29	12.3	807
1988	RT11	1988	11	04.04375	22	37	11.10	-09	17	47.6	807
1988	RT11	1988	11	06.04236	22	37	52.57	-09	12	10.5	807
1988	RU11*	1988	09	14.10417	22	55	36.10	-06	59	46.8	18.5V 807
1988	RU11	1988	09	15.13611	22	54	59.85	-07	04	55.6	807
1988	RV11*	1988	09	14.10417	22	55	47.28	-06	58	15.5	18.2V 807
1988	RV11	1988	09	15.13611	22	54	53.30	-07	05	44.9	807
1988	RV11	1988	10	06.15278	22	41	18.85	-09	03	09.6	807
1988	RV11	1988	10	07.08403	22	40	58.86	-09	06	28.2	807
1988	RV11	1988	11	06.04236	22	43	52.56	-09	19	33.3	807
1988	RW11*	1988	09	14.10417	22	57	53.25	-09	34	45.1	17.0V 807
1988	RW11	1988	09	15.13611	22	57	05.98	-09	41	02.0	807
1988	RX11*	1988	09	14.10417	22	57	58.07	-07	02	22.5	17.5V 807
1988	RX11	1988	09	15.13611	22	57	13.63	-07	06	54.2	807
1988	RX11	1988	10	06.15278	22	44	26.75	-08	23	15.8	807
1988	RX11	1988	10	07.08403	22	44	01.28	-08	25	44.5	807
1988	RX11	1988	11	04.04375	22	38	48.69	-08	53	44.9	807
1988	RX11	1988	11	06.04236	22	39	01.08	-08	52	16.8	807

1988	RY11*	1988	09	14.10417	22	58	54.51	-07	06	56.8	19.5V 807
1988	RY11	1988	09	15.13611	22	58	26.85	-07	12	51.2	807
1988	RY11	1988	10	06.15278	22	50	12.28	-09	03	24.0	807
1988	RY11	1988	10	07.08403	22	49	54.77	-09	07	42.8	807
1988	RY11	1988	11	04.04375	22	45	31.72	-10	41	56.5	807
1988	RY11	1988	11	06.04236	22	45	34.44	-10	45	56.2	807
1988	RZ11*	1988	09	14.10417	22	58	54.90	-10	11	29.1	16.8V 807
1988	RZ11	1988	09	15.13611	22	58	08.35	-10	12	26.9	807
1988	RZ11	1988	10	06.15278	22	46	09.48	-10	03	59.4	807
1988	RZ11	1988	10	07.08403	22	45	51.58	-10	02	14.3	807
1988	RZ11	1988	11	04.04375	22	48	11.89	-08	12	12.6	807
1988	RZ11	1988	11	06.04236	22	49	10.65	-08	00	27.6	807
1988	RA12*	1988	09	14.10417	22	58	57.07	-06	06	59.3	17.8V 807
1988	RA12	1988	09	15.13611	22	58	07.31	-06	14	54.3	807
1988	RA12	1988	10	06.15278	22	45	02.26	-08	29	27.2	807
1988	RA12	1988	10	07.08403	22	44	42.29	-08	33	42.0	807
1988	RA12	1988	11	04.04375	22	47	28.84	-09	10	58.0	807
1988	RA12	1988	11	06.04236	22	48	36.64	-09	07	03.3	807
1988	RB12*	1988	09	14.10417	23	00	21.75	-07	00	18.3	16.8V 807
1988	RB12	1988	09	15.13611	22	59	29.00	-07	00	13.3	807
1988	RB12	1988	10	06.15278	22	46	34.26	-06	36	30.8	807
1988	RB12	1988	10	07.08403	22	46	17.54	-06	34	18.0	807
1988	RB12	1988	11	03.10417	22	50	43.92	-04	39	28.8	807
1988	RB12	1988	11	05.09306	22	51	57.13	-04	27	24.8	807
1988	RC12*	1988	09	14.10417	23	02	42.87	-05	46	56.0	17.2V 807
1988	RC12	1988	09	15.13611	23	01	54.61	-05	49	50.8	807
1988	RC12	1988	10	06.15278	22	48	12.88	-06	34	33.6	807
1988	RC12	1988	10	07.08403	22	47	46.92	-06	35	38.2	807
1988	RD12*	1988	09	14.15764	23	32	40.12	-01	42	43.1	19.2V 807
1988	RD12	1988	09	15.24653	23	32	07.27	-01	45	40.7	807
1988	RD12	1988	10	04.11667	23	23	03.60	-02	35	31.2	807
1988	RD12	1988	10	05.09306	23	22	38.23	-02	37	50.9	807
1988	RD12	1988	10	08.13611	23	21	21.51	-02	44	56.7	807
1988	RD12	1988	11	03.15486	23	14	06.52	-03	24	16.1	807
1988	RD12	1988	11	06.09722	23	13	46.91	-03	25	49.7	807
1988	RD12	1988	11	08.15000	23	13	37.07	-03	26	31.0	807
1988	RE12*	1988	09	14.15764	23	33	38.30	-02	21	05.9	20.2V 807
1988	RE12	1988	09	15.24653	23	33	07.38	-02	27	07.7	807
1988	RE12	1988	09	16.27153	23	32	38.21	-02	32	47.8	807
1988	RE12	1988	10	04.11667	23	24	37.48	-04	08	09.6	807
1988	RE12	1988	10	05.09306	23	24	14.01	-04	12	58.0	807
1988	RE12	1988	10	08.13611	23	23	03.78	-04	27	41.7	807
1988	RE12	1988	11	03.15486	23	17	04.97	-06	02	09.0	807
1988	RE12	1988	11	06.09722	23	16	56.49	-06	08	42.3	807
1988	RE12	1988	11	08.15000	23	16	54.86	-06	12	44.8	807
1988	RF12*	1988	09	14.15764	23	36	05.55	-04	22	46.3	19.5V 807
1988	RF12	1988	09	15.24653	23	35	34.45	-04	27	26.0	807
1988	RF12	1988	09	16.27153	23	35	05.20	-04	31	47.0	807
1988	RF12	1988	10	04.11667	23	26	57.10	-05	43	36.7	807
1988	RF12	1988	10	05.09306	23	26	32.84	-05	47	09.2	807
1988	RF12	1988	10	08.13611	23	25	19.81	-05	57	51.6	807
1988	RF12	1988	11	03.15486	23	18	35.56	-07	00	54.7	807
1988	RF12	1988	11	06.09722	23	18	19.67	-07	04	22.1	807
1988	RF12	1988	11	08.15000	23	18	12.50	-07	06	18.9	807
1988	RG12*	1988	09	14.15764	23	38	12.19	-03	40	21.6	17.5V 807
1988	RG12	1988	09	15.24653	23	37	08.49	-03	39	29.4	807
1988	RG12	1988	09	16.27153	23	36	08.63	-03	38	39.1	807
1988	RH12*	1988	09	14.15764	23	39	39.59	-03	32	07.5	19.2V 807
1988	RH12	1988	09	15.24653	23	39	08.35	-03	37	05.1	807

1988	RH12	1988	09	16.27153	23	38	38.98	-03	41	45.3	807
1988	RH12	1988	10	04.11667	23	30	26.75	-04	59	10.9	807
1988	RH12	1988	10	05.09306	23	30	02.29	-05	03	03.3	807
1988	RH12	1988	10	08.13611	23	28	48.42	-05	14	45.1	807
1988	RH12	1988	11	03.15486	23	22	03.97	-06	25	15.7	807
1988	RH12	1988	11	06.09722	23	21	49.14	-06	29	23.4	807
1988	RH12	1988	11	08.15000	23	21	42.86	-06	31	45.1	807
1988	RJ12*	1988	09	14.15764	23	40	17.48	-01	03	10.3	17.5V 807
1988	RJ12	1988	09	15.24653	23	39	05.92	-01	01	14.6	807
1988	RJ12	1988	09	16.27153	23	37	58.49	-00	59	26.9	807
1988	RK12*	1988	09	14.15764	23	41	06.73	-02	45	51.0	19.2V 807
1988	RK12	1988	09	15.24653	23	40	35.47	-02	50	46.7	807
1988	RK12	1988	09	16.27153	23	40	06.01	-02	55	27.1	807
1988	RK12	1988	10	04.11667	23	31	51.48	-04	13	13.1	807
1988	RK12	1988	10	05.09306	23	31	26.92	-04	17	08.1	807
1988	RK12	1988	10	08.13611	23	30	12.45	-04	29	00.7	807
1988	RK12	1988	11	03.15486	23	23	18.91	-05	42	18.5	807
1988	RK12	1988	11	06.09722	23	23	02.54	-05	46	51.4	807
1988	RK12	1988	11	08.15000	23	22	55.11	-05	49	31.9	807
1988	RL12*	1988	09	14.15764	23	42	38.45	-01	33	03.4	18.5V 807
1988	RL12	1988	09	15.24653	23	41	49.52	-01	38	28.6	807
1988	RL12	1988	09	16.27153	23	41	03.39	-01	43	36.2	807
1988	RL12	1988	10	04.11667	23	28	11.52	-03	09	36.6	807
1988	RL12	1988	10	05.09306	23	27	34.32	-03	13	47.6	807
1988	RL12	1988	10	08.13611	23	25	43.82	-03	26	12.4	807
1988	RL12	1988	11	03.15486	23	17	55.70	-04	21	22.9	807
1988	RL12	1988	11	06.09722	23	18	04.67	-04	21	02.1	807
1988	RL12	1988	11	08.15000	23	18	18.50	-04	19	57.2	807
1988	RM12*	1988	09	14.15764	23	43	54.03	-04	46	11.7	17.8V 807
1988	RM12	1988	09	15.24653	23	43	10.76	-05	01	53.4	807
1988	RM12	1988	09	16.27153	23	42	29.84	-05	16	40.5	807
1988	RN12*	1988	09	14.15764	23	46	15.42	-04	49	31.3	17.8V 807
1988	RN12	1988	09	15.24653	23	44	57.26	-04	45	05.0	807
1988	RN12	1988	09	16.27153	23	43	43.93	-04	40	54.0	807
1988	RN12	1988	10	04.11667	23	24	15.81	-03	22	33.3	807
1988	RN12	1988	10	05.09306	23	23	22.51	-03	17	54.4	807
1988	RN12	1988	10	08.13611	23	20	45.82	-03	03	07.7	807
1988	RO12*	1988	09	14.15764	23	48	27.20	-02	06	08.3	19.5V 807
1988	RO12	1988	09	15.24653	23	47	48.04	-02	10	25.4	807
1988	RO12	1988	09	16.27153	23	47	11.13	-02	14	26.9	807
1988	RO12	1988	10	04.11667	23	36	43.95	-03	21	57.6	807
1988	RO12	1988	10	05.09306	23	36	12.22	-03	25	20.6	807
1988	RO12	1988	10	08.13611	23	34	36.29	-03	35	27.0	807
1988	RO12	1988	11	03.15486	23	25	23.11	-04	31	34.3	807
1988	RO12	1988	11	06.09722	23	24	57.22	-04	33	53.6	807
1988	RO12	1988	11	08.15000	23	24	44.01	-04	34	57.4	807
1988	RP12*	1988	09	14.15764	23	48	53.42	-03	03	14.4	19.8V 807
1988	RP12	1988	09	15.24653	23	48	23.30	-03	07	00.9	807
1988	RP12	1988	09	16.27153	23	47	54.98	-03	10	34.2	807
1988	RP12	1988	10	04.11667	23	39	49.91	-04	09	51.8	807
1988	RP12	1988	10	05.09306	23	39	25.11	-04	12	51.3	807
1988	RP12	1988	10	08.13611	23	38	09.36	-04	21	53.8	807
1988	RP12	1988	11	03.15486	23	30	20.90	-05	16	40.5	807
1988	RP12	1988	11	06.09722	23	29	53.22	-05	19	51.6	807
1988	RQ12*	1988	09	14.15764	23	50	13.32	-02	14	53.2	19.5V 807
1988	RQ12	1988	09	15.24653	23	49	33.03	-02	18	39.5	807
1988	RQ12	1988	09	16.27153	23	48	55.00	-02	22	13.1	807
1988	RQ12	1988	10	04.11667	23	37	58.61	-03	22	06.8	807
1988	RQ12	1988	10	05.09306	23	37	24.92	-03	25	06.3	807

1988	RQ12	1988	10	08.13611	23	35	42.22	-03	34	06.4	807
1988	RQ12	1988	11	03.15486	23	25	18.33	-04	22	45.7	807
1988	RQ12	1988	11	06.09722	23	24	43.85	-04	24	25.3	807
1988	RQ12	1988	11	08.15000	23	24	24.63	-04	25	03.8	807
1988	RR12*	1988	09	14.15764	23	50	47.70	-02	55	44.7	15.2V 807
1988	RR12	1988	09	15.24653	23	50	04.95	-03	10	02.9	807
1988	RR12	1988	09	16.27153	23	49	24.65	-03	23	30.6	807
1988	RR12	1988	10	04.11667	23	38	19.88	-07	02	07.6	807
1988	RS12*	1988	09	14.21458	22	57	43.95	-02	01	30.3	20.2V 807
1988	RS12	1988	09	15.19167	22	57	16.19	-02	04	40.0	807
1988	RS12	1988	10	05.14306	22	48	51.69	-03	06	28.2	807
1988	RS12	1988	10	07.13750	22	48	10.78	-03	12	00.2	807
1988	RS12	1988	11	03.10417	22	43	14.08	-04	04	30.2	807
1988	RS12	1988	11	05.09306	22	43	13.14	-04	06	24.5	807
1988	RT12*	1988	09	14.21458	22	58	23.48	-01	55	55.0	19.0V 807
1988	RT12	1988	09	15.19167	22	57	55.18	-01	59	55.2	807
1988	RT12	1988	10	05.14306	22	49	32.45	-03	17	54.1	807
1988	RT12	1988	10	07.13750	22	48	53.38	-03	24	51.5	807
1988	RT12	1988	11	03.10417	22	44	57.66	-04	31	06.3	807
1988	RT12	1988	11	05.09306	22	45	03.79	-04	33	37.2	807
1988	RU12*	1988	09	14.21458	23	01	27.43	+01	18	51.7	17.8V 807
1988	RU12	1988	09	15.19167	23	00	25.93	+01	17	44.4	807
1988	RV12*	1988	09	14.21458	23	06	57.45	+01	04	24.6	18.8V 807
1988	RV12	1988	09	15.19167	23	06	25.99	+00	58	52.0	807
1988	RV12	1988	10	05.14306	22	56	43.07	-00	53	32.5	807
1988	RV12	1988	10	07.13750	22	55	54.87	-01	04	10.8	807
1988	RV12	1988	11	03.10417	22	49	48.21	-03	00	58.1	807
1988	RV12	1988	11	05.09306	22	49	44.76	-03	07	05.8	807
1988	RW12*	1988	09	14.21458	23	07	59.95	+00	34	53.3	17.8V 807
1988	RW12	1988	09	15.19167	23	07	12.03	+00	30	06.3	807
1988	RW12	1988	10	05.14306	22	54	22.78	-01	02	23.9	807
1988	RW12	1988	11	03.10417	22	54	52.08	-01	51	50.6	807
1988	RW12	1988	11	05.09306	22	55	46.84	-01	50	11.8	807
1988	RX12*	1988	09	14.21458	23	09	29.55	+01	36	25.7	17.0V 807
1988	RX12	1988	09	15.19167	23	08	49.82	+01	28	23.0	807
1988	RX12	1988	10	05.14306	22	57	17.42	-01	13	46.4	807
1988	RX12	1988	10	07.13750	22	56	27.94	-01	28	33.6	807
1988	RX12	1988	11	03.10417	22	53	57.13	-03	51	40.7	807
1988	RX12	1988	11	05.09306	22	54	26.00	-03	57	22.4	807
1988	RY12*	1988	09	14.21458	23	13	00.04	-00	29	38.4	18.2V 807
1988	RY12	1988	09	15.19167	23	12	13.83	-00	34	19.0	807
1988	RY12	1988	10	05.14306	22	58	55.25	-02	05	00.9	807
1988	RY12	1988	10	07.13750	22	57	59.43	-02	12	30.8	807
1988	RY12	1988	11	03.10417	22	55	37.25	-03	00	02.2	807
1988	RY12	1988	11	05.09306	22	56	12.70	-02	59	06.8	807
1988	RZ12*	1988	09	14.21458	23	13	48.41	-00	01	18.6	17.8V 807
1988	RZ12	1988	09	15.19167	23	13	07.92	-00	09	17.8	807
1988	RZ12	1988	10	05.14306	23	01	50.39	-02	46	07.3	807
1988	RZ12	1988	10	07.13750	23	01	08.33	-02	59	35.2	807
1988	RA13*	1988	09	14.21458	23	14	20.62	-00	58	55.5	17.5V 807
1988	RA13	1988	09	15.19167	23	13	28.61	-01	07	55.4	807
1988	RA13	1988	10	05.14306	22	59	15.31	-03	53	42.3	807
1988	RA13	1988	10	07.13750	22	58	21.95	-04	06	53.9	807
1988	RB13*	1988	09	14.27153	23	37	01.16	-20	41	41.8	18.5V 807
1988	RB13	1988	09	15.30417	23	36	18.46	-20	50	00.6	807
1988	RC13*	1988	09	14.27153	23	37	23.50	-24	04	09.9	19.8V 807
1988	RC13	1988	09	15.30417	23	36	52.78	-24	09	29.0	807
1988	RD13*	1988	09	14.27153	23	38	19.68	-21	16	51.2	18.2V 807
1988	RD13	1988	09	15.30417	23	37	30.32	-21	26	09.8	807

1988	RE13*	1988	09	14.27153	23	39	48.73	-23	13	22.4	17.5V 807
1988	RE13	1988	09	15.30417	23	38	58.60	-23	16	32.0	807
1988	RE13	1988	09	19.26042	23	35	47.57	-23	26	48.3	807
1988	RF13*	1988	09	14.27153	23	41	28.72	-23	40	37.3	17.8V 807
1988	RF13	1988	09	15.30417	23	40	21.09	-23	39	35.6	807
1988	RF13	1988	09	19.26042	23	36	04.24	-23	33	15.0	807
1988	RG13*	1988	09	14.27153	23	43	12.32	-23	47	21.5	15.8V 807
1988	RG13	1988	09	15.30417	23	42	27.21	-23	53	07.2	807
1988	RG13	1988	09	19.26042	23	39	36.31	-24	10	44.6	807
1988	RG13	1988	10	06.26042	23	29	58.66	-24	03	42.9	807
1988	RG13	1988	10	07.23819	23	29	38.43	-23	59	25.6	807
1988	RG13	1988	11	05.19792	23	33	44.54	-19	33	11.3	807
1988	RG13	1988	11	07.09167	23	34	55.21	-19	09	06.2	807
1988	RH13*	1988	09	14.27153	23	47	05.84	-19	46	09.2	18.8V 807
1988	RH13	1988	09	15.30417	23	46	30.73	-19	48	20.6	807
1988	RH13	1988	09	19.26042	23	44	15.80	-19	55	56.1	807
1988	RH13	1988	10	06.26042	23	35	00.61	-20	11	12.2	807
1988	RH13	1988	10	08.24097	23	34	02.06	-20	10	59.0	807
1988	RH13	1988	11	04.14444	23	24	45.82	-19	25	15.0	807
1988	RH13	1988	11	05.19792	23	24	34.91	-19	21	56.3	807
1988	RH13	1988	11	06.19722	23	24	25.46	-19	18	41.0	807
1988	RH13	1988	11	07.09167	23	24	17.66	-19	15	43.3	807
1988	RH13	1988	11	08.19132	23	24	08.94	-19	11	57.5	807
1988	RJ13*	1988	09	14.27153	23	51	08.69	-20	12	30.1	18.0V 807
1988	RJ13	1988	09	15.30417	23	50	03.59	-20	13	58.0	807
1988	RJ13	1988	09	19.26042	23	45	54.11	-20	17	30.7	807
1988	RJ13	1988	10	05.24861	23	30	20.39	-19	55	35.6	807
1988	RJ13	1988	10	06.20486	23	29	32.11	-19	52	26.1	807
1988	RJ13	1988	10	07.18750	23	28	43.65	-19	48	59.3	807
1988	RJ13	1988	10	08.24097	23	27	52.90	-19	45	00.9	807
1988	RJ13	1988	11	04.14444	23	16	09.01	-16	53	09.5	807
1988	RK13*	1988	09	14.27153	23	53	02.80	-22	18	55.8	17.8V 807
1988	RK13	1988	09	15.30417	23	52	16.17	-22	29	42.4	807
1988	RK13	1988	09	19.26042	23	49	16.20	-23	08	00.3	807
1988	RK13	1988	10	07.23819	23	36	55.13	-24	54	25.5	807
1988	RK13	1988	11	07.09167	23	32	07.91	-23	40	52.3	807
1988	RL13*	1988	09	14.27153	23	56	51.19	-20	31	02.0	19.2V 807
1988	RL13	1988	09	15.30417	23	56	17.58	-20	33	39.9	807
1988	RL13	1988	09	19.26042	23	54	07.91	-20	42	50.7	807
1988	RL13	1988	10	06.26042	23	45	06.04	-21	04	39.5	807
1988	RL13	1988	10	07.23819	23	44	37.19	-21	04	57.7	807
1988	RL13	1988	11	05.19792	23	34	26.95	-20	24	28.2	807
1988	RL13	1988	11	07.09167	23	34	07.66	-20	18	41.3	807
1988	SM	1988	10	04.06389	22	15	59.95	-07	41	39.6	807
1988	SP	1988	11	04.04375	22	38	57.97	-11	10	25.0	807
1988	SP	1988	11	06.04236	22	40	05.08	-11	01	00.5	807
1988	SQ	1988	10	06.15278	22	39	55.54	-10	53	36.9	807
1988	SQ	1988	10	07.08403	22	39	31.22	-10	52	46.0	807
1988	SQ	1988	11	04.04375	22	34	47.42	-09	50	55.6	807
1988	SQ	1988	11	06.04236	22	35	00.77	-09	43	55.5	807
1988	SH1	1988	09	14.21458	23	05	26.52	-00	29	52.8	17.0V 807
1988	SH1	1988	09	15.19167	23	04	35.95	-00	37	37.0	807
1988	SH1	1988	10	05.14306	22	50	01.97	-03	10	37.6	807
1988	SH1	1988	10	07.13750	22	49	01.78	-03	23	56.4	807
1988	SH1	1988	11	03.10417	22	47	16.82	-05	11	42.8	807
1988	SH1	1988	11	05.09306	22	48	02.62	-05	13	45.0	807
1988	SL1	1988	09	14.10417	22	52	19.06	-06	47	12.0	18.0V 807
1988	SL1	1988	09	15.13611	22	51	31.00	-06	52	19.3	807
1988	SL1	1988	10	06.15278	22	40	48.32	-08	02	50.8	807

1988	SL1		1988	10	07.08403	22	40	39.07	-08	04	04.5		807
1988	SM1	*	1988	09	16.16667	23	25	10.45	-16	55	51.5	16.2V	807
1988	SM1		1988	09	18.26389	23	23	35.99	-17	06	59.1		807
1988	SN1	*	1988	09	16.16667	23	25	20.34	-17	15	07.7	17.0V	807
1988	SN1		1988	09	18.26389	23	23	40.54	-17	29	17.0		807
1988	SN1		1988	10	05.24861	23	12	42.32	-18	34	14.4		807
1988	SN1		1988	10	06.20486	23	12	16.95	-18	35	09.4		807
1988	SN1		1988	10	07.18750	23	11	52.43	-18	35	48.0		807
1988	SN1		1988	11	04.14444	23	12	37.04	-17	00	19.8		807
1988	SN1		1988	11	06.19722	23	13	35.55	-16	46	11.5		807
1988	SO1	*	1988	09	16.16667	23	26	22.06	-17	39	27.4	15.2V	807
1988	SO1		1988	09	18.26389	23	24	51.26	-17	53	24.0		807
1988	SO1		1988	10	05.24861	23	13	56.49	-19	14	04.0		807
1988	SO1		1988	10	06.20486	23	13	26.69	-19	16	44.2		807
1988	SO1		1988	10	07.18750	23	12	57.08	-19	19	15.2		807
1988	SO1		1988	11	04.14444	23	07	50.19	-19	01	48.3		807
1988	SO1		1988	11	06.19722	23	08	11.45	-18	54	26.0		807
1988	SP1	*	1988	09	16.16667	23	27	22.99	-15	28	45.8	17.8V	807
1988	SP1		1988	09	18.26389	23	25	23.65	-15	54	06.6		807
1988	SQ1	*	1988	09	16.16667	23	29	01.70	-14	50	37.9	18.2V	807
1988	SQ1		1988	09	18.26389	23	27	33.87	-14	54	34.0		807
1988	SR1	*	1988	09	16.16667	23	29	12.47	-18	39	13.2	18.8V	807
1988	SR1		1988	09	18.26389	23	27	40.83	-18	51	06.6		807
1988	SS1	*	1988	09	16.16667	23	29	35.88	-17	50	42.1	15.5V	807
1988	SS1		1988	09	18.26389	23	27	32.08	-17	52	55.0		807
1988	SS1		1988	10	05.24861	23	13	09.05	-17	27	33.5		807
1988	SS1		1988	10	06.20486	23	12	32.23	-17	23	50.1		807
1988	SS1		1988	10	07.18750	23	11	56.00	-17	19	46.3		807
1988	ST1	*	1988	09	16.16667	23	29	58.58	-14	49	39.7	18.0V	807
1988	ST1		1988	09	18.26389	23	27	56.73	-14	56	13.4		807
1988	SU1	*	1988	09	16.16667	23	30	05.73	-17	58	20.5	17.5V	807
1988	SU1		1988	09	18.26389	23	28	19.60	-18	03	15.6		807
1988	SU1		1988	10	05.24861	23	15	13.71	-18	17	49.0		807
1988	SU1		1988	10	06.20486	23	14	35.85	-18	17	13.7		807
1988	SU1		1988	10	07.18750	23	13	57.86	-18	16	28.8		807
1988	SV1	*	1988	09	16.16667	23	31	31.90	-15	01	30.7	17.8V	807
1988	SV1		1988	09	18.26389	23	29	53.52	-15	18	07.8		807
1988	SV1		1988	10	05.24861	23	17	57.88	-17	00	32.3		807
1988	SV1		1988	10	06.20486	23	17	25.01	-17	04	21.1		807
1988	SV1		1988	10	07.18750	23	16	52.28	-17	08	02.2		807
1988	SV1		1988	11	04.14444	23	10	57.65	-17	16	44.4		807
1988	SV1		1988	11	06.19722	23	11	18.44	-17	10	44.8		807
1988	SW1	*	1988	09	16.16667	23	32	06.07	-19	06	14.3	19.2V	807
1988	SW1		1988	09	18.26389	23	30	56.68	-19	09	24.8		807
1988	SW1		1988	10	05.24861	23	22	08.02	-19	21	22.3		807
1988	SW1		1988	10	06.20486	23	21	41.20	-19	21	17.2		807
1988	SW1		1988	10	07.18750	23	21	14.03	-19	21	05.1		807
1988	SW1		1988	10	08.24097	23	20	45.36	-19	20	47.6		807
1988	SW1		1988	11	04.14444	23	12	24.12	-18	37	58.4		807
1988	SW1		1988	11	06.19722	23	12	06.70	-18	32	06.3		807
1988	SX1	*	1988	09	16.16667	23	33	02.43	-15	56	44.7	18.2V	807
1988	SX1		1988	09	18.26389	23	31	36.13	-16	11	17.0		807
1988	SX1		1988	10	05.24861	23	21	59.73	-17	19	07.2		807
1988	SX1		1988	10	06.20486	23	21	37.99	-17	20	04.1		807
1988	SX1		1988	10	07.18750	23	21	17.11	-17	20	43.4		807
1988	SX1		1988	10	08.24097	23	20	56.24	-17	21	03.4		807
1988	SY1	*	1988	09	16.16667	23	33	05.91	-15	06	07.8	17.2V	807
1988	SY1		1988	09	18.26389	23	31	01.30	-15	12	37.0		807
1988	SY1		1988	10	05.24861	23	16	07.80	-15	32	17.0		807

1988	SY1		1988	10	06.20486	23	15	27.25	-15	31	33.9		807
1988	SY1		1988	10	07.18750	23	14	46.89	-15	30	37.0		807
1988	SZ1	*	1988	09	16.16667	23	34	37.65	-18	01	29.2	18.2V	807
1988	SZ1		1988	09	18.26389	23	32	55.71	-18	12	59.4		807
1988	SA2	*	1988	09	16.16667	23	35	15.19	-17	42	03.5	18.0V	807
1988	SA2		1988	09	18.26389	23	33	24.94	-17	51	02.1		807
1988	SA2		1988	10	05.24861	23	21	13.34	-18	10	12.8		807
1988	SA2		1988	10	06.20486	23	20	44.88	-18	08	28.5		807
1988	SA2		1988	10	07.18750	23	20	17.25	-18	06	22.0		807
1988	SA2		1988	10	08.24097	23	19	49.42	-18	03	46.5		807
1988	SB2	*	1988	09	16.16667	23	35	22.09	-15	29	38.3	15.5V	807
1988	SB2		1988	09	18.26389	23	33	35.53	-15	44	59.1		807
1988	SB2		1988	10	05.24861	23	21	04.21	-17	03	30.7		807
1988	SB2		1988	10	06.20486	23	20	32.26	-17	05	15.3		807
1988	SB2		1988	10	07.18750	23	20	00.88	-17	06	43.8		807
1988	SB2		1988	10	08.24097	23	19	28.77	-17	07	57.4		807
1988	SC2	*	1988	09	16.16667	23	36	38.56	-18	19	09.3	17.8V	807
1988	SC2		1988	09	18.26389	23	35	05.64	-18	42	21.6		807
1988	SD2	*	1988	09	16.16667	23	37	04.20	-17	33	13.8	18.2V	807
1988	SD2		1988	09	18.26389	23	34	47.22	-17	33	22.2		807
1988	SD2		1988	10	05.24861	23	18	54.40	-16	55	45.4		807
1988	SD2		1988	10	06.20486	23	18	12.91	-16	51	39.3		807
1988	SD2		1988	10	07.18750	23	17	31.85	-16	47	14.9		807
1988	SE2	*	1988	09	16.16667	23	40	33.27	-15	58	34.0	17.5V	807
1988	SE2		1988	09	18.26389	23	38	27.27	-16	03	01.2		807
1988	SE2		1988	10	05.24861	23	23	12.20	-16	04	21.6		807
1988	SE2		1988	10	06.20486	23	22	30.13	-16	02	31.6		807
1988	SE2		1988	10	07.18750	23	21	48.19	-16	00	25.4		807
1988	SF2	*	1988	09	16.16667	23	41	37.59	-18	11	10.5	19.8V	807
1988	SF2		1988	09	18.26389	23	40	28.91	-18	14	32.8		807
1988	SF2		1988	10	05.24861	23	31	36.58	-18	29	04.6		807
1988	SF2		1988	10	06.20486	23	31	09.03	-18	29	09.1		807
1988	SF2		1988	10	07.18750	23	30	41.07	-18	29	09.3		807
1988	SF2		1988	10	08.24097	23	30	11.55	-18	29	03.7		807
1988	SF2		1988	11	06.19722	23	20	47.22	-17	46	35.6		807
1988	SF2		1988	11	08.19132	23	20	29.05	-17	41	01.4		807
1988	SG2	*	1988	09	16.16667	23	41	56.39	-15	13	43.8	17.5V	807
1988	SG2		1988	09	18.26389	23	40	13.55	-15	30	29.3		807
1988	SG2		1988	10	05.24861	23	27	50.52	-17	04	42.3		807
1988	SG2		1988	10	06.20486	23	27	17.30	-17	07	34.1		807
1988	SG2		1988	10	07.18750	23	26	44.36	-17	10	12.7		807
1988	SG2		1988	10	08.24097	23	26	10.45	-17	12	43.8		807
1988	SG2		1988	11	04.14444	23	22	09.30	-16	33	13.6		807
1988	SG2		1988	11	06.19722	23	22	41.65	-16	23	06.6		807
1988	SH2	*	1988	09	16.16667	23	43	02.75	-19	11	25.4	16.5V	807
1988	SH2		1988	09	18.26389	23	41	28.40	-19	24	00.0		807
1988	SH2		1988	10	07.23819	23	28	35.06	-20	34	24.4		807
1988	SH2		1988	10	08.24097	23	28	01.82	-20	35	46.0		807
1988	SH2		1988	11	04.14444	23	21	15.67	-19	47	46.0		807
1988	SH2		1988	11	05.19792	23	21	20.31	-19	42	58.9		807
1988	SH2		1988	11	06.19722	23	21	26.25	-19	38	13.9		807
1988	SH2		1988	11	07.09167	23	21	32.98	-19	33	53.3		807
1988	SJ2	*	1988	09	16.21875	23	57	23.98	-03	22	28.9	20.2V	807
1988	SJ2		1988	09	18.21181	23	56	29.58	-03	32	14.5		807
1988	SJ2		1988	10	05.19653	23	48	50.84	-04	51	57.6		807
1988	SK2	*	1988	09	16.21875	23	58	57.30	-00	51	41.9	19.5V	807
1988	SK2		1988	09	18.21181	23	58	01.98	-00	58	03.2		807
1988	SK2		1988	10	04.17361	23	50	42.00	-01	47	57.8		807
1988	SK2		1988	10	05.19653	23	50	15.10	-01	50	59.8		807

1988	SK2		1988	10	08.18750	23	48	58.00	-01	59	40.8	807
1988	SK2		1988	11	04.09306	23	40	18.22	-02	57	21.2	807
1988	SK2		1988	11	05.14583	23	40	06.01	-02	58	41.0	807
1988	SK2		1988	11	06.14583	23	39	55.22	-02	59	51.7	807
1988	SK2		1988	11	07.04306	23	39	46.09	-03	00	52.8	807
1988	SL2	*	1988	09	16.21875	23	59	01.14	-01	19	02.8	19.8V 807
1988	SL2		1988	09	18.21181	23	57	50.88	-01	27	47.0	807
1988	SL2		1988	10	04.17361	23	48	28.39	-02	36	27.0	807
1988	SL2		1988	10	05.19653	23	47	53.94	-02	40	36.0	807
1988	SL2		1988	10	08.18750	23	46	15.48	-02	52	26.6	807
1988	SL2		1988	11	04.09306	23	35	40.65	-04	08	12.2	807
1988	SL2		1988	11	05.14583	23	35	27.62	-04	09	46.8	807
1988	SL2		1988	11	07.04306	23	35	06.86	-04	12	18.8	807
1988	SM2	*	1988	09	16.21875	23	59	04.19	-02	01	01.5	18.5V 807
1988	SM2		1988	09	18.21181	23	57	38.72	-02	11	26.0	807
1988	SM2		1988	10	04.17361	23	46	30.74	-03	30	00.4	807
1988	SM2		1988	10	05.19653	23	45	51.42	-03	34	29.1	807
1988	SM2		1988	10	08.18750	23	44	00.85	-03	47	00.1	807
1988	SM2		1988	11	05.14583	23	34	07.81	-04	49	23.6	807
1988	SM2		1988	11	07.04306	23	34	01.88	-04	49	37.8	807
1988	SN2	*	1988	09	16.21875	00	00	11.61	-03	24	45.2	18.0V 807
1988	SN2		1988	09	18.21181	23	58	48.27	-03	48	06.9	807
1988	SO2	*	1988	09	16.21875	00	00	33.35	-00	32	36.4	17.5V 807
1988	SO2		1988	09	18.21181	23	58	46.26	-00	48	56.8	807
1988	SO2		1988	10	04.17361	23	44	37.26	-02	57	01.7	807
1988	SO2		1988	11	03.15486	23	29	00.41	-05	28	22.8	807
1988	SO2		1988	11	06.09722	23	28	41.80	-05	33	54.9	807
1988	SO2		1988	11	08.15000	23	28	37.09	-05	36	45.7	807
1988	SP2	*	1988	09	16.21875	00	00	39.43	-02	30	24.3	19.2V 807
1988	SP2		1988	09	18.21181	23	59	42.86	-02	40	43.2	807
1988	SP2		1988	10	04.17361	23	52	12.61	-04	00	29.8	807
1988	SP2		1988	10	05.19653	23	51	45.36	-04	05	16.4	807
1988	SP2		1988	10	08.18750	23	50	27.38	-04	18	54.8	807
1988	SP2		1988	11	05.14583	23	42	14.68	-05	50	51.7	807
1988	SP2		1988	11	07.04306	23	42	01.09	-05	54	21.3	807
1988	SQ2	*	1988	09	16.21875	00	01	44.91	-00	14	44.2	18.8V 807
1988	SQ2		1988	09	18.21181	00	00	35.28	-00	26	46.3	807
1988	SQ2		1988	10	04.17361	23	51	13.38	-02	02	55.2	807
1988	SQ2		1988	10	05.19653	23	50	39.21	-02	08	48.4	807
1988	SQ2		1988	10	08.18750	23	49	01.97	-02	25	40.8	807
1988	SQ2		1988	11	04.09306	23	39	35.56	-04	16	15.9	807
1988	SQ2		1988	11	05.14583	23	39	27.87	-04	18	44.8	807
1988	SQ2		1988	11	06.14583	23	39	21.71	-04	20	55.1	807
1988	SQ2		1988	11	07.04306	23	39	17.28	-04	22	46.6	807
1988	SR2	*	1988	09	16.21875	00	02	27.02	-01	04	50.9	19.8V 807
1988	SR2		1988	09	18.21181	00	01	13.46	-01	12	10.0	807
1988	SR2		1988	10	04.17361	23	51	30.10	-02	08	54.6	807
1988	SR2		1988	10	05.19653	23	50	54.77	-02	12	16.6	807
1988	SR2		1988	10	08.18750	23	49	13.86	-02	21	48.0	807
1988	SR2		1988	11	04.09306	23	38	32.33	-03	17	00.8	807
1988	SR2		1988	11	05.14583	23	38	19.32	-03	17	51.9	807
1988	SR2		1988	11	06.14583	23	38	08.04	-03	18	31.7	807
1988	SR2		1988	11	07.04306	23	37	58.70	-03	19	04.7	807
1988	SS2	*	1988	09	16.21875	00	07	48.21	-01	12	00.9	17.8V 807
1988	SS2		1988	09	18.21181	00	06	09.66	-01	26	28.6	807
1988	SS2		1988	10	04.17361	23	52	55.16	-03	17	04.1	807
1988	SS2		1988	10	05.19653	23	52	09.07	-03	23	13.6	807
1988	SS2		1988	10	08.18750	23	50	01.02	-03	40	13.5	807
1988	SS2		1988	11	04.09306	23	42	13.75	-04	41	11.2	807

1988	SS2		1988	11	05.14583	23	42	24.18	-04	39	58.5	807
1988	SS2		1988	11	06.14583	23	42	36.04	-04	38	34.2	807
1988	SS2		1988	11	07.04306	23	42	48.96	-04	37	05.5	807
1988	ST2	*	1988	09	16.21875	00	08	41.71	-02	46	10.3	16.8V 807
1988	ST2		1988	09	18.21181	00	07	14.46	-02	55	38.0	807
1988	ST2		1988	10	04.17361	23	55	36.76	-04	06	15.4	807
1988	ST2		1988	10	05.19653	23	54	54.84	-04	10	11.8	807
1988	ST2		1988	10	08.18750	23	52	55.89	-04	21	09.1	807
1988	ST2		1988	11	05.14583	23	41	31.20	-05	07	59.7	807
1988	ST2		1988	11	07.04306	23	41	19.08	-05	07	09.4	807
1988	SU2	*	1988	09	16.21875	00	09	26.51	-02	59	11.0	17.5V 807
1988	SU2		1988	09	18.21181	00	07	48.10	-03	11	23.9	807
1988	SU2		1988	10	04.17361	23	54	34.47	-04	43	14.0	807
1988	SU2		1988	10	05.19653	23	53	46.54	-04	48	22.9	807
1988	SU2		1988	11	05.14583	23	38	40.26	-06	08	29.2	807
1988	SU2		1988	11	07.04306	23	38	28.18	-06	08	00.7	807
1988	SV2	*	1988	09	16.21875	00	09	40.29	-02	51	17.9	17.2V 807
1988	SV2		1988	09	18.21181	00	08	17.78	-03	09	29.3	807
1988	SW2	*	1988	09	16.21875	00	09	46.93	-02	07	26.0	16.2V 807
1988	SW2		1988	09	18.21181	00	08	19.55	-02	16	08.4	807
1988	SW2		1988	10	04.17361	23	56	35.34	-03	21	37.0	807
1988	SW2		1988	10	05.19653	23	55	52.94	-03	25	15.5	807
1988	SW2		1988	10	08.18750	23	53	52.99	-03	35	20.0	807
1988	SW2		1988	11	04.09306	23	43	04.07	-04	12	35.0	807
1988	SW2		1988	11	05.14583	23	42	57.91	-04	11	51.8	807
1988	SW2		1988	11	06.14583	23	42	53.58	-04	11	00.5	807
1988	SW2		1988	11	07.04306	23	42	51.04	-04	10	07.4	807
1988	SX2	*	1988	09	16.21875	00	10	01.71	+00	23	33.0	19.2V 807
1988	SX2		1988	09	18.21181	00	08	47.56	+00	16	29.7	807
1988	SX2		1988	10	04.17361	23	58	40.28	-00	40	41.4	807
1988	SX2		1988	10	05.19653	23	58	02.46	-00	44	12.4	807
1988	SX2		1988	10	08.18750	23	56	14.11	-00	54	14.7	807
1988	SX2		1988	11	04.09306	23	44	32.12	-01	54	24.0	807
1988	SX2		1988	11	06.14583	23	44	05.74	-01	56	06.4	807
1988	SY2	*	1988	09	16.21875	00	10	15.40	+00	29	47.9	16.2V 807
1988	SY2		1988	09	18.21181	00	09	21.39	-00	01	34.3	807
1988	SY2		1988	10	04.17361	00	01	48.55	-04	09	48.8	807
1988	SY2		1988	10	05.19653	00	01	22.51	-04	24	33.6	807
1988	SZ2	*	1988	09	16.21875	00	10	20.14	-02	25	41.8	19.0V 807
1988	SZ2		1988	09	18.21181	00	09	10.81	-02	34	02.2	807
1988	SZ2		1988	10	04.17361	23	59	50.02	-03	38	14.4	807
1988	SZ2		1988	10	05.19653	23	59	15.32	-03	42	02.3	807
1988	SZ2		1988	10	08.18750	23	57	35.94	-03	52	46.9	807
1988	SZ2		1988	11	05.14583	23	46	24.64	-04	57	18.5	807
1988	SZ2		1988	11	07.04306	23	46	01.41	-04	58	53.4	807
1988	SA3	*	1988	09	16.21875	00	11	39.25	+00	29	46.1	19.5V 807
1988	SA3		1988	09	18.21181	00	10	33.23	+00	27	00.2	807
1988	SA3		1988	10	04.17361	00	01	36.97	+00	04	35.6	807
1988	SA3		1988	10	08.18750	23	59	26.70	-00	00	36.0	807
1988	SA3		1988	11	04.09306	23	47	56.71	-00	18	34.6	807
1988	SA3		1988	11	06.14583	23	47	22.35	-00	18	18.3	807
1988	SB3	*	1988	09	16.21875	00	12	07.66	-02	58	05.5	16.8V 807
1988	SB3		1988	09	18.21181	00	10	35.04	-03	07	33.7	807
1988	SB3		1988	10	04.17361	23	57	58.63	-04	18	55.3	807
1988	SB3		1988	10	05.19653	23	57	12.19	-04	22	56.1	807
1988	SB3		1988	10	08.18750	23	54	59.76	-04	34	06.0	807
1988	SB3		1988	11	05.14583	23	41	34.99	-05	20	46.5	807
1988	SB3		1988	11	07.04306	23	41	16.68	-05	19	42.3	807
1988	SC3	*	1988	09	16.21875	00	13	36.81	-03	12	30.2	16.8V 807

1988	SC3		1988	09	18.21181	00	12	15.85	-03	27	11.4		807
1988	SD3	*	1988	09	16.32639	23	49	22.52	-25	00	14.0	17.5V	807
1988	SD3		1988	09	18.31736	23	47	52.57	-25	15	26.6		807
1988	SD3		1988	09	19.31736	23	47	07.44	-25	22	34.4		807
1988	SD3		1988	10	04.22984	23	36	51.72	-26	26	22.6		807
1988	SD3		1988	10	05.30206	23	36	14.61	-26	27	48.5		807
1988	SD3		1988	10	07.29028	23	35	09.68	-26	29	24.0		807
1988	SE3	*	1988	09	16.32639	23	52	01.60	-26	46	21.7	18.5V	807
1988	SE3		1988	09	18.31736	23	50	16.88	-26	54	11.8		807
1988	SE3		1988	09	19.31736	23	49	24.43	-26	57	39.1		807
1988	SE3		1988	10	04.22984	23	37	19.30	-27	09	16.8		807
1988	SE3		1988	10	05.30206	23	36	34.50	-27	07	12.3		807
1988	SE3		1988	10	07.29028	23	35	15.36	-27	02	26.6		807
1988	SE3		1988	11	07.09167	23	28	05.95	-23	33	24.5		807
1988	SF3	*	1988	09	16.32639	23	54	35.37	-26	28	53.5	18.0V	807
1988	SF3		1988	09	18.31736	23	52	33.96	-26	34	29.2		807
1988	SF3		1988	09	19.31736	23	51	32.85	-26	36	54.5		807
1988	SF3		1988	10	04.22984	23	36	57.23	-26	39	55.9		807
1988	SF3		1988	10	05.30206	23	35	59.99	-26	37	42.0		807
1988	SF3		1988	10	07.29028	23	34	16.99	-26	32	43.4		807
1988	SF3		1988	11	05.19792	23	20	05.31	-23	31	55.9		807
1988	SF3		1988	11	07.09167	23	19	56.94	-23	14	30.1		807
1988	SG3	*	1988	09	16.32639	23	56	32.36	-27	13	51.3	19.2V	807
1988	SG3		1988	09	18.31736	23	55	26.78	-27	19	21.6		807
1988	SG3		1988	09	19.31736	23	54	53.76	-27	21	57.7		807
1988	SG3		1988	10	04.22984	23	46	52.87	-27	45	15.8		807
1988	SG3		1988	10	05.30206	23	46	20.30	-27	45	45.4		807
1988	SG3		1988	10	07.29028	23	45	20.95	-27	46	17.3		807
1988	SG3		1988	11	04.19306	23	35	32.73	-26	57	36.2		807
1988	SG3		1988	11	07.14306	23	35	03.75	-26	46	54.6		807
1988	SH3	*	1988	09	16.32639	23	57	50.40	-25	14	10.8	17.5V	807
1988	SH3		1988	09	18.31736	23	56	09.74	-25	26	30.8		807
1988	SH3		1988	09	19.31736	23	55	19.00	-25	32	13.0		807
1988	SH3		1988	10	04.22984	23	43	21.97	-26	14	18.0		807
1988	SH3		1988	10	05.30206	23	42	36.87	-26	14	06.2		807
1988	SH3		1988	10	07.29028	23	41	17.25	-26	12	39.5		807
1988	SH3		1988	11	05.19792	23	33	59.15	-23	29	02.3		807
1988	SH3		1988	11	07.09167	23	34	22.08	-23	10	55.7		807
1988	SJ3	*	1988	09	16.32639	23	58	42.78	-28	21	04.9	19.2V	807
1988	SJ3		1988	09	18.31736	23	57	39.00	-28	27	11.2		807
1988	SJ3		1988	09	19.31736	23	57	06.88	-28	30	05.0		807
1988	SJ3		1988	10	04.22984	23	49	15.58	-28	57	52.3		807
1988	SJ3		1988	10	05.30206	23	48	43.45	-28	58	42.5		807
1988	SJ3		1988	10	07.29028	23	47	44.83	-28	59	49.7		807
1988	SJ3		1988	11	04.19306	23	37	52.58	-28	18	43.3		807
1988	SJ3		1988	11	07.14306	23	37	21.91	-28	08	43.0		807
1988	SK3	*	1988	09	16.32639	00	01	08.03	-26	26	53.8	15.8V	807
1988	SK3		1988	09	18.31736	23	59	20.86	-26	33	42.8		807
1988	SK3		1988	09	19.31736	23	58	26.91	-26	36	38.0		807
1988	SK3		1988	10	04.22984	23	45	42.28	-26	38	43.1		807
1988	SK3		1988	10	05.30206	23	44	53.85	-26	35	48.6		807
1988	SK3		1988	10	07.29028	23	43	27.94	-26	29	24.6		807
1988	SK3		1988	11	05.19792	23	34	34.07	-22	48	24.1		807
1988	SK3		1988	11	07.09167	23	34	50.13	-22	27	32.7		807
1988	SL3	*	1988	09	16.32639	00	01	51.40	-26	27	01.6	19.0V	807
1988	SL3		1988	09	18.31736	00	00	51.04	-26	36	50.9		807
1988	SL3		1988	09	19.31736	00	00	20.62	-26	41	37.0		807
1988	SL3		1988	10	04.22984	23	52	51.46	-27	36	40.3		807
1988	SL3		1988	10	05.30206	23	52	20.72	-27	39	24.3		807

1988	SL3		1988	10	07.29028	23	51	24.73	-27	44	00.4	807
1988	SL3		1988	11	04.19306	23	42	08.83	-27	46	33.4	807
1988	SL3		1988	11	07.14306	23	41	42.43	-27	40	31.4	807
1988	TV4	*	1988	10	04.06389	22	29	52.14	-11	28	12.8	807
1988	TV4		1988	10	05.04028	22	29	18.34	-11	26	50.9	807
1988	TV4		1988	10	07.03472	22	28	13.18	-11	23	45.3	807
1988	TV4		1988	10	08.03611	22	27	42.58	-11	22	02.4	807
1988	TV4		1988	11	03.05347	22	23	08.64	-09	57	21.4	807
1988	TV4		1988	11	05.04306	22	23	29.20	-09	47	54.9	807
1988	TW4	*	1988	10	04.11667	23	36	15.44	-04	05	07.4	807
1988	TW4		1988	10	05.09306	23	35	31.30	-04	19	50.9	807
1988	TW4		1988	10	08.13611	23	33	18.73	-05	04	51.5	807
1988	TX4	*	1988	10	04.11667	23	36	45.83	-02	21	57.1	807
1988	TX4		1988	10	05.09306	23	36	06.88	-02	26	30.2	807
1988	TX4		1988	10	08.13611	23	34	09.20	-02	40	15.4	807
1988	TY4	*	1988	10	04.17361	23	48	48.57	-01	06	01.9	807
1988	TY4		1988	10	05.19653	23	48	07.68	-01	10	43.9	807
1988	TY4		1988	10	08.18750	23	46	11.75	-01	24	00.5	807
1988	TZ4	*	1988	10	05.09306	23	35	39.12	-02	07	27.6	807
1988	TZ4		1988	10	08.13611	23	33	41.39	-02	19	59.4	807
1988	TZ4		1988	11	03.15486	23	22	36.06	-03	31	19.4	807
1988	TZ4		1988	11	06.09722	23	22	07.62	-03	34	29.0	807
1988	TZ4		1988	11	08.15000	23	21	53.87	-03	36	02.3	807
1988	TA5	*	1988	10	06.15278	22	37	09.06	-09	31	56.3	807
1988	TA5		1988	10	07.08403	22	36	36.49	-09	31	41.1	807
1988	TA5		1988	11	04.04375	22	32	11.18	-08	25	21.2	807
1988	TA5		1988	11	06.04236	22	32	45.00	-08	16	28.6	807
1988	TB5	*	1988	10	06.15278	22	39	26.20	-09	52	14.5	807
1988	TB5		1988	10	07.08403	22	39	00.93	-09	55	39.4	807
1989	TY		1989	10	05.10139	00	32	15.71	+12	33	43.7	807
1989	TY		1989	10	06.19653	00	31	20.74	+12	29	54.3	807
2570	P-L		1988	10	05.19653	00	02	49.14	-00	48	52.9	807
2570	P-L		1988	10	08.18750	00	00	53.30	-01	05	17.0	807
2570	P-L		1988	11	04.09306	23	48	35.98	-02	53	27.0	807
2570	P-L		1988	11	05.14583	23	48	21.63	-02	55	53.4	807
2570	P-L		1988	11	06.14583	23	48	09.05	-02	58	03.2	807
2570	P-L		1988	11	07.04306	23	47	58.94	-02	59	53.2	807
4016	P-L		1988	10	05.14306	23	02	50.00	-04	02	34.1	807
4016	P-L		1988	10	07.13750	23	01	38.55	-04	07	23.1	807
4016	P-L		1988	11	03.10417	22	54	28.48	-04	26	22.5	807
4016	P-L		1988	11	05.09306	22	54	38.66	-04	24	03.9	807
4127	P-L		1988	09	14.15764	23	42	29.29	-01	27	19.1	18.2V 807
4127	P-L		1988	09	15.24653	23	41	41.58	-01	32	32.3	807
4127	P-L		1988	09	16.27153	23	40	56.66	-01	37	27.9	807
4127	P-L		1988	10	04.11667	23	28	37.31	-02	59	00.8	807
4127	P-L		1988	10	05.09306	23	28	02.46	-03	02	54.9	807
4127	P-L		1988	10	08.13611	23	26	19.49	-03	14	24.1	807
4127	P-L		1988	11	03.15486	23	19	39.75	-04	01	44.5	807
4127	P-L		1988	11	06.09722	23	19	55.48	-04	00	38.5	807
4127	P-L		1988	11	08.15000	23	20	13.56	-03	59	05.4	807
4598	P-L		1988	09	14.10417	22	49	45.88	-08	52	17.9	17.5V 807
4598	P-L		1988	09	15.13611	22	48	53.36	-08	56	34.4	807
4598	P-L		1988	10	06.15278	22	35	23.93	-09	54	59.7	807
4598	P-L		1988	10	07.08403	22	35	02.52	-09	56	08.0	807
4598	P-L		1988	10	08.08611	22	34	41.03	-09	57	11.6	807
4598	P-L		1988	11	04.04375	22	35	11.26	-09	28	16.2	807
4598	P-L		1988	11	06.04236	22	35	57.81	-09	22	01.3	807
6582	P-L		1988	09	16.21875	23	58	45.67	-00	24	34.6	18.0V 807
6582	P-L		1988	09	18.21181	23	57	18.87	-00	33	38.5	807

6582	P-L	1988	10	04.17361	23	45	44.12	-01	45	41.0	807
6582	P-L	1988	10	08.18750	23	43	01.81	-02	02	21.8	807
6582	P-L	1988	11	03.15486	23	31	03.25	-03	14	03.5	807
6582	P-L	1988	11	06.09722	23	30	28.31	-03	17	11.7	807
6582	P-L	1988	11	08.15000	23	30	10.15	-03	18	43.6	807
9511	P-L	1988	09	14.15764	23	45	11.93	-01	55	38.3	17.5V 807
9511	P-L	1988	09	15.24653	23	44	24.08	-02	01	04.0	807
9511	P-L	1988	09	16.27153	23	43	38.99	-02	06	11.5	807
9511	P-L	1988	10	04.11667	23	31	12.37	-03	30	16.1	807
9511	P-L	1988	10	05.09306	23	30	36.15	-03	34	19.5	807
9511	P-L	1988	10	08.13611	23	28	47.71	-03	46	26.0	807
9511	P-L	1988	11	03.15486	23	19	48.99	-04	46	39.7	807
9511	P-L	1988	11	06.09722	23	19	37.95	-04	48	01.1	807
9522	P-L	1988	11	04.04375	22	49	50.60	-08	00	53.6	807
9522	P-L	1988	11	06.04236	22	50	10.97	-07	53	46.1	807
2040	T-2	1988	11	03.15486	23	20	23.92	-03	42	24.5	807
2040	T-2	1988	11	06.09722	23	20	21.85	-03	49	32.5	807
2040	T-2	1988	11	08.15000	23	20	27.11	-03	53	39.4	807
2168	T-2	1988	11	03.15486	23	16	17.50	-04	11	04.2	807
2168	T-2	1988	11	06.09722	23	16	29.96	-04	12	04.3	807
2168	T-2	1988	11	08.15000	23	16	46.27	-04	11	55.4	807
2035	T-3	1988	09	14.21458	23	14	53.19	-02	55	57.8	18.8V 807
2035	T-3	1988	09	15.19167	23	14	21.59	-02	58	19.9	807
2035	T-3	1988	10	05.14306	23	04	32.43	-03	43	08.1	807
2035	T-3	1988	10	07.13750	23	03	43.21	-03	46	51.5	807
2035	T-3	1988	11	03.10417	22	57	17.13	-04	12	29.2	807
2035	T-3	1988	11	05.09306	22	57	11.74	-04	12	16.9	807
37		1988	09	14.10417	22	54	31.25	-09	01	55.7	807
37		1988	09	15.13611	22	53	36.27	-09	06	00.0	807
37		1988	10	06.15278	22	38	13.33	-10	03	56.3	807
37		1988	10	07.08403	22	37	45.04	-10	05	08.7	807
37		1988	11	04.04375	22	34	45.08	-09	37	15.2	807
37		1988	11	06.04236	22	35	22.24	-09	30	40.0	807
78		1988	09	14.21458	23	04	16.14	-02	19	01.2	807
78		1988	09	15.19167	23	03	22.25	-02	22	15.1	807
78		1988	10	05.14306	22	47	01.66	-03	22	58.8	807
78		1988	10	07.13750	22	45	43.72	-03	27	48.5	807
97		1988	09	14.04861	22	35	59.66	-10	00	17.7	807
97		1988	09	15.08472	22	35	12.91	-10	10	48.6	807
97		1988	09	16.11458	22	34	27.13	-10	21	09.5	807
97		1988	10	08.03611	22	22	44.90	-13	23	11.4	807
150		1988	10	04.06389	22	20	13.47	-08	08	32.5	807
150		1988	10	05.04028	22	19	56.01	-08	11	29.2	807
150		1988	10	07.03472	22	19	24.57	-08	17	06.3	807
150		1988	10	08.08611	22	19	10.28	-08	19	51.2	807
180		1988	09	14.04861	22	38	40.86	-07	52	15.0	807
180		1988	09	15.08472	22	37	51.97	-07	56	56.9	807
180		1988	09	16.11458	22	37	03.93	-08	01	33.6	807
180		1988	10	04.06389	22	25	24.82	-09	08	27.9	807
180		1988	10	05.04028	22	24	56.33	-09	11	11.0	807
180		1988	10	07.03472	22	24	01.74	-09	16	24.6	807
180		1988	10	08.03611	22	23	36.20	-09	18	49.7	807
180		1988	10	08.08611	22	23	34.91	-09	18	57.5	807
180		1988	11	03.05347	22	20	24.74	-09	37	55.7	807
180		1988	11	05.04306	22	20	47.55	-09	35	52.5	807
195		1988	10	08.03611	22	23	30.58	-13	48	39.6	807
195		1988	11	03.05347	22	21	03.24	-12	50	50.1	807
195		1988	11	05.04306	22	21	29.78	-12	43	17.1	807
200		1988	10	05.14306	23	03	59.06	+00	31	42.5	807

200	1988	10	07.13750	23	02	41.30	+00	26	21.7	807
223	1988	09	16.21875	00	06	47.88	-01	36	54.0	807
223	1988	09	18.21181	00	05	19.67	-01	45	58.6	807
223	1988	10	04.17361	23	53	23.49	-02	56	43.7	807
223	1988	10	05.19653	23	52	39.50	-03	00	53.4	807
223	1988	10	08.18750	23	50	33.83	-03	12	38.8	807
223	1988	11	04.09306	23	37	35.84	-04	15	08.0	807
223	1988	11	05.14583	23	37	21.94	-04	15	42.4	807
223	1988	11	06.14583	23	37	10.07	-04	16	05.5	807
223	1988	11	07.04306	23	37	00.63	-04	16	20.4	807
309	1988	11	06.14583	23	46	36.82	+00	17	52.8	807
317	1988	10	04.17361	00	01	25.07	-01	51	49.4	807
317	1988	10	05.19653	00	00	34.03	-01	58	07.6	807
317	1988	10	08.18750	23	58	10.27	-02	15	44.7	807
317	1988	11	04.09306	23	46	27.48	-03	37	46.3	807
317	1988	11	05.14583	23	46	25.97	-03	37	50.2	807
317	1988	11	06.14583	23	46	26.57	-03	37	38.6	807
317	1988	11	07.04306	23	46	28.90	-03	37	17.6	807
533	1988	09	16.21875	00	06	26.90	+00	56	25.5	807
533	1988	09	18.21181	00	05	02.60	+00	43	23.9	807
533	1988	10	04.17361	23	53	45.42	-01	01	09.7	807
533	1988	10	05.19653	23	53	04.44	-01	07	33.9	807
533	1988	10	08.18750	23	51	07.73	-01	25	51.2	807
533	1988	11	04.09306	23	39	42.14	-03	24	18.4	807
533	1988	11	05.14583	23	39	31.87	-03	26	53.7	807
533	1988	11	06.14583	23	39	23.49	-03	29	09.5	807
533	1988	11	07.04306	23	39	17.10	-03	31	05.2	807
570	1988	11	04.09306	23	43	02.41	-00	19	08.3	807
570	1988	11	06.14583	23	42	44.77	-00	22	43.5	807
586	1988	09	14.04861	22	24	06.99	-07	38	57.3	807
586	1988	09	15.08472	22	23	25.04	-07	43	26.7	807
586	1988	09	16.11458	22	22	44.01	-07	47	51.5	807
586	1988	10	07.03472	22	12	15.93	-08	59	50.5	807
586	1988	11	03.05347	22	11	27.75	-09	23	57.8	807
586	1988	11	05.04306	22	11	59.92	-09	22	22.6	807
621	1988	09	16.21875	00	13	39.31	-01	57	14.8	807
621	1988	09	18.21181	00	12	12.47	-02	06	34.5	807
621	1988	10	04.17361	00	00	15.28	-03	19	09.4	807
621	1988	10	05.19653	23	59	30.57	-03	23	26.0	807
621	1988	10	08.18750	23	57	22.32	-03	35	28.2	807
621	1988	11	04.09306	23	43	45.84	-04	38	39.2	807
621	1988	11	05.14583	23	43	30.32	-04	39	10.3	807
621	1988	11	06.14583	23	43	16.86	-04	39	30.2	807
621	1988	11	07.04306	23	43	06.07	-04	39	40.2	807
637	1988	09	14.10417	22	57	36.54	-06	43	33.1	807
637	1988	10	06.15278	22	44	15.64	-08	03	36.8	807
637	1988	10	07.08403	22	43	49.63	-08	06	10.6	807
637	1988	11	04.04375	22	37	49.04	-08	40	24.3	807
637	1988	11	06.04236	22	37	56.01	-08	39	36.2	807
827	1988	09	14.10417	22	55	03.97	-06	10	33.4	807
827	1988	09	15.13611	22	54	15.86	-06	18	46.7	807
827	1988	10	06.15278	22	42	38.63	-08	33	35.8	807
827	1988	10	07.08403	22	42	24.88	-08	37	34.3	807
827	1988	11	04.04375	22	49	03.98	-08	58	50.7	807
827	1988	11	06.04236	22	50	29.51	-08	53	25.9	807
903	1988	09	14.04861	22	38	39.73	-09	20	23.7	807
903	1988	09	15.08472	22	38	01.28	-09	27	30.7	807
903	1988	09	16.11458	22	37	23.58	-09	34	31.3	807
903	1988	10	04.06389	22	28	31.98	-11	19	32.1	807

903	1988	10	05.04028	22	28	11.59	-11	24	07.3	807
903	1988	10	07.03472	22	27	33.16	-11	33	07.0	807
903	1988	10	08.03611	22	27	15.54	-11	37	25.6	807
903	1988	10	08.08611	22	27	14.65	-11	37	38.1	807
903	1988	11	03.05347	22	26	37.19	-12	37	57.2	807
903	1988	11	05.04306	22	27	07.64	-12	38	35.7	807
929	1988	09	14.21458	23	00	31.98	+00	28	06.9	807
929	1988	09	15.19167	22	59	38.86	+00	20	51.3	807
929	1988	11	03.10417	22	43	27.38	-03	38	45.6	807
929	1988	11	05.09306	22	44	12.51	-03	40	03.6	807
954	1988	09	16.21875	00	08	04.50	+00	21	55.7	807
954	1988	09	18.21181	00	06	37.94	+00	11	38.3	807
954	1988	10	04.17361	23	55	06.66	-01	09	40.2	807
954	1988	10	05.19653	23	54	25.34	-01	14	30.3	807
954	1988	10	08.18750	23	52	28.37	-01	28	09.8	807
954	1988	11	04.09306	23	41	50.33	-02	42	45.8	807
954	1988	11	06.14583	23	41	38.88	-02	44	14.5	807
1076	1988	09	14.04861	22	37	46.20	-10	35	23.7	807
1076	1988	09	15.08472	22	36	54.49	-10	41	43.3	807
1076	1988	09	16.11458	22	36	03.83	-10	47	54.6	807
1076	1988	10	04.06389	22	24	20.29	-12	12	29.8	807
1076	1988	10	05.04028	22	23	54.38	-12	15	37.4	807
1076	1988	10	07.03472	22	23	06.06	-12	21	29.5	807
1076	1988	10	08.03611	22	22	44.17	-12	24	10.7	807
1076	1988	11	03.05347	22	23	04.41	-12	31	10.5	807
1076	1988	11	05.04306	22	23	51.43	-12	26	59.1	807
1079	1988	09	14.04861	22	37	51.22	-08	12	43.2	807
1079	1988	09	15.08472	22	37	04.54	-08	16	58.4	807
1079	1988	09	16.11458	22	36	18.81	-08	21	08.0	807
1079	1988	10	04.06389	22	25	34.38	-09	18	52.0	807
1079	1988	10	05.04028	22	25	09.62	-09	21	01.1	807
1079	1988	10	07.03472	22	24	22.96	-09	25	04.1	807
1079	1988	10	08.03611	22	24	01.49	-09	26	53.9	807
1079	1988	10	08.08611	22	24	00.40	-09	26	59.8	807
1079	1988	11	03.05347	22	22	56.02	-09	29	04.6	807
1079	1988	11	05.04306	22	23	29.42	-09	25	39.6	807
1117	1988	09	14.04861	22	32	09.80	-12	00	05.1	807
1117	1988	09	15.08472	22	31	30.02	-12	07	12.0	807
1117	1988	09	16.11458	22	30	51.92	-12	14	02.8	807
1117	1988	10	08.03611	22	24	32.47	-13	38	00.2	807
1124	1988	11	05.14583	23	33	40.74	-05	50	06.3	807
1124	1988	11	07.04306	23	33	23.18	-05	45	59.9	807
1218	1988	11	03.15486	23	32	12.81	-07	06	36.6	807
1218	1988	11	05.14583	23	31	51.73	-07	04	17.0	807
1218	1988	11	06.09722	23	31	44.28	-07	02	53.9	807
1218	1988	11	07.04306	23	31	38.46	-07	01	22.8	807
1218	1988	11	08.15000	23	31	33.35	-06	59	22.5	807
1227	1988	11	03.05347	22	24	09.47	-13	57	34.1	807
1227	1988	11	05.04306	22	24	41.69	-13	42	11.3	807
1295	1988	09	14.15764	23	41	11.40	-01	12	29.8	807
1295	1988	09	15.24653	23	40	27.81	-01	17	53.8	807
1295	1988	09	16.27153	23	39	46.69	-01	23	00.2	807
1295	1988	10	04.11667	23	28	15.56	-02	49	46.9	807
1295	1988	10	05.09306	23	27	41.32	-02	54	10.6	807
1295	1988	10	08.13611	23	25	58.22	-03	07	26.0	807
1295	1988	11	03.15486	23	16	51.74	-04	24	13.1	807
1295	1988	11	06.09722	23	16	34.81	-04	27	59.1	807
1295	1988	11	08.15000	23	16	28.75	-04	29	58.2	807
1368	1988	11	06.09722	23	25	27.76	-07	49	11.2	807

1368	1988	11	08.15000	23	25	14.03	-07	36	00.3	807
1376	1988	11	06.09722	23	16	07.93	-07	51	09.9	807
1376	1988	11	08.15000	23	17	31.73	-07	43	51.6	807
1380	1988	09	14.15764	23	45	26.92	-03	18	00.2	807
1380	1988	09	15.24653	23	44	33.93	-03	20	43.1	807
1380	1988	09	16.27153	23	43	44.08	-03	23	17.1	807
1380	1988	10	04.11667	23	29	52.03	-04	02	39.3	807
1380	1988	10	05.09306	23	29	10.99	-04	04	20.1	807
1380	1988	10	08.13611	23	27	07.60	-04	09	06.7	807
1380	1988	11	03.15486	23	15	58.10	-04	14	46.7	807
1380	1988	11	06.09722	23	15	32.25	-04	11	02.7	807
1380	1988	11	08.15000	23	15	20.43	-04	07	53.0	807
1389	1988	09	14.10417	22	51	26.30	-06	43	37.4	807
1389	1988	09	15.13611	22	50	40.14	-06	49	05.2	807
1389	1988	10	06.15278	22	37	55.69	-08	21	33.2	807
1389	1988	10	07.08403	22	37	32.41	-08	24	32.7	807
1389	1988	11	04.04375	22	34	53.71	-08	58	16.6	807
1389	1988	11	06.04236	22	35	22.82	-08	56	31.5	807
1458	1988	09	14.21458	22	59	37.12	-00	52	45.5	807
1458	1988	09	15.19167	22	58	56.30	-01	04	02.2	807
1458	1988	11	04.04375	22	49	26.63	-07	26	33.2	807
1458	1988	11	06.04236	22	50	18.42	-07	30	59.0	807
1578	1988	09	14.10417	22	59	05.15	-07	41	49.1	807
1578	1988	09	15.13611	22	58	26.11	-07	45	47.1	807
1578	1988	10	06.15278	22	46	49.13	-08	53	54.0	807
1578	1988	10	07.08403	22	46	24.81	-08	56	10.5	807
1578	1988	11	04.04375	22	40	43.15	-09	23	12.6	807
1578	1988	11	06.04236	22	40	50.03	-09	21	57.3	807
1671	1988	09	14.15764	23	34	09.24	-02	05	48.6	807
1671	1988	09	15.24653	23	33	15.06	-02	14	15.3	807
1671	1988	09	16.27153	23	32	23.96	-02	22	15.0	807
1704	1988	09	14.04861	22	32	48.98	-07	23	23.9	807
1704	1988	09	15.08472	22	31	53.60	-07	29	03.4	807
1704	1988	09	16.11458	22	30	59.58	-07	34	35.4	807
1704	1988	10	04.06389	22	18	56.60	-08	51	27.2	807
1704	1988	10	05.04028	22	18	31.39	-08	54	20.5	807
1704	1988	10	07.03472	22	17	44.97	-08	59	48.0	807
1704	1988	10	08.08611	22	17	23.11	-09	02	24.2	807
1704	1988	11	03.05347	22	18	33.69	-09	10	24.9	807
1704	1988	11	05.04306	22	19	24.22	-09	06	42.8	807
1734	1988	10	04.11667	23	28	06.23	-02	58	58.2	807
1734	1988	10	05.09306	23	27	38.78	-03	07	50.8	807
1734	1988	10	08.13611	23	26	20.19	-03	34	31.8	807
1734	1988	11	03.15486	23	24	48.79	-05	58	08.4	807
1734	1988	11	06.09722	23	25	49.79	-06	03	47.6	807
1734	1988	11	08.15000	23	26	40.68	-06	06	27.9	807
1742	1988	09	16.21875	00	04	06.93	-01	27	00.4	807
1742	1988	09	18.21181	00	02	37.66	-01	38	51.5	807
1742	1988	10	04.17361	23	50	43.74	-03	10	17.5	807
1742	1988	10	05.19653	23	50	01.20	-03	15	35.0	807
1742	1988	10	08.18750	23	48	01.19	-03	30	26.1	807
1742	1988	11	04.09306	23	37	40.11	-04	44	45.1	807
1742	1988	11	05.14583	23	37	36.13	-04	45	12.2	807
1742	1988	11	06.14583	23	37	33.77	-04	45	26.1	807
1742	1988	11	07.04306	23	37	33.25	-04	45	30.8	807
1761	1988	10	08.03611	22	17	04.80	-14	00	28.0	807
1761	1988	11	03.05347	22	13	28.86	-14	00	55.5	807
1761	1988	11	05.04306	22	13	42.86	-13	58	04.7	807
1768	1988	10	05.19653	00	05	03.22	-00	09	54.1	807

1768	1988	11	04.09306	23	49	13.98	-00	37	02.1	807
1768	1988	11	06.14583	23	49	08.63	-00	33	14.8	807
1824	1988	09	16.21875	00	00	56.36	-00	52	11.5	807
1824	1988	09	18.21181	23	59	21.82	-01	01	13.0	807
1824	1988	10	04.17361	23	46	48.90	-02	11	34.5	807
1824	1988	10	05.19653	23	46	03.71	-02	15	41.1	807
1824	1988	10	08.18750	23	43	55.87	-02	27	13.6	807
1824	1988	11	03.15486	23	32	02.31	-03	24	12.9	807
1824	1988	11	05.14583	23	31	43.52	-03	24	45.5	807
1824	1988	11	06.09722	23	31	36.50	-03	24	51.3	807
1824	1988	11	08.15000	23	31	25.67	-03	24	34.2	807
1870	1988	09	16.21875	00	07	02.72	+00	05	54.2	807
1870	1988	09	18.21181	00	06	08.00	-00	01	38.6	807
1870	1988	10	04.17361	23	58	46.78	-01	01	50.6	807
1870	1988	10	05.19653	23	58	19.51	-01	05	34.1	807
1870	1988	10	08.18750	23	57	01.06	-01	16	16.3	807
1870	1988	11	04.09306	23	48	07.48	-02	31	03.3	807
1870	1988	11	06.14583	23	47	43.85	-02	34	43.3	807
1907	1988	11	04.04375	22	50	29.45	-09	30	03.2	807
1911	1988	11	08.15000	23	14	52.32	-02	48	03.6	807
1938	1988	09	14.10417	22	44	11.37	-07	16	34.1	807
1938	1988	09	15.13611	22	43	17.71	-07	23	56.2	807
1938	1988	10	04.06389	22	30	49.70	-09	12	27.8	807
1938	1988	10	05.04028	22	30	25.87	-09	16	23.9	807
1938	1988	10	07.03472	22	29	42.19	-09	23	54.3	807
1938	1988	10	08.03611	22	29	22.87	-09	27	23.1	807
1938	1988	10	08.08611	22	29	21.88	-09	27	33.2	807
1938	1988	11	04.04375	22	31	29.05	-09	50	14.5	807
1938	1988	11	06.04236	22	32	24.25	-09	46	52.9	807
1975	1988	09	18.21181	00	13	05.48	-00	29	40.0	807
1975	1988	10	04.17361	00	01	34.85	-02	33	12.5	807
1975	1988	10	05.19653	00	00	52.81	-02	40	35.6	807
1975	1988	10	08.18750	23	58	53.81	-03	01	27.6	807
1975	1988	11	05.14583	23	48	27.80	-05	02	47.9	807
1975	1988	11	07.04306	23	48	25.41	-05	05	24.5	807
2002	1988	11	03.05347	22	30	03.09	-09	04	10.1	807
2002	1988	11	04.04375	22	30	26.66	-09	04	57.4	807
2002	1988	11	06.04236	22	31	18.44	-09	06	03.0	807
2016	1988	09	14.10417	22	51	42.83	-08	07	15.9	807
2016	1988	09	15.13611	22	50	58.39	-08	11	19.4	807
2016	1988	10	06.15278	22	39	11.47	-09	11	37.6	807
2016	1988	10	07.08403	22	38	52.07	-09	13	03.7	807
2016	1988	11	04.04375	22	39	06.06	-08	57	01.2	807
2016	1988	11	06.04236	22	39	51.03	-08	51	35.4	807
2034	1988	11	03.15486	23	16	46.41	-06	52	19.8	807
2034	1988	11	06.09722	23	16	36.86	-06	35	41.4	807
2034	1988	11	08.15000	23	16	40.86	-06	23	13.9	807
2039	1988	09	14.04861	22	38	20.99	-12	00	13.9	807
2039	1988	09	15.08472	22	37	38.93	-12	04	16.9	807
2039	1988	09	16.11458	22	36	57.65	-12	08	13.7	807
2039	1988	10	08.03611	22	25	12.99	-13	08	59.3	807
2039	1988	11	03.05347	22	21	43.26	-13	12	45.9	807
2071	1988	09	14.21458	22	57	16.77	-00	55	41.9	807
2071	1988	09	15.19167	22	56	23.51	-00	59	54.2	807
2071	1988	11	03.10417	22	45	02.59	-02	34	44.9	807
2071	1988	11	05.09306	22	46	08.47	-02	30	59.3	807
2110	1988	11	08.15000	23	12	47.11	-06	39	23.5	807
2207	1988	09	14.04861	22	31	59.38	-09	18	35.1	807
2207	1988	09	15.08472	22	31	31.86	-09	22	05.3	807

2207	1988	09	16.11458	22	31	04.76	-09	25	32.0	807
2207	1988	10	04.06389	22	24	23.23	-10	17	54.5	807
2207	1988	10	05.04028	22	24	06.11	-10	20	14.6	807
2207	1988	10	07.03472	22	23	33.02	-10	24	50.7	807
2207	1988	10	08.03611	22	23	17.34	-10	27	03.1	807
2207	1988	10	08.08611	22	23	16.58	-10	27	09.3	807
2207	1988	11	03.05347	22	20	35.07	-10	59	06.3	807
2207	1988	11	05.04306	22	20	43.10	-10	59	29.3	807
2238	1988	09	14.15764	23	33	09.20	-04	28	21.2	807
2238	1988	09	15.24653	23	32	19.10	-04	33	10.2	807
2238	1988	11	08.15000	23	12	07.92	-06	02	19.5	807
2276	1988	09	14.21458	23	11	01.24	-01	47	28.7	807
2276	1988	09	15.19167	23	10	09.59	-01	54	16.1	807
2276	1988	10	05.14306	22	55	49.33	-03	57	59.6	807
2276	1988	10	07.13750	22	54	52.38	-04	07	41.2	807
2276	1988	11	03.10417	22	53	05.39	-05	09	03.2	807
2276	1988	11	05.09306	22	53	45.04	-05	08	22.2	807
2317	1988	11	03.15486	23	30	34.99	-03	50	40.7	807
2317	1988	11	06.09722	23	31	04.24	-03	54	17.3	807
2317	1988	11	08.15000	23	31	33.82	-03	55	38.3	807
2339	1988	10	06.15278	22	48	07.33	-10	21	03.6	807
2339	1988	10	07.08403	22	47	45.42	-10	19	10.1	807
2339	1988	11	04.04375	22	49	52.17	-08	15	56.7	807
2357	1988	09	16.21875	23	54	34.68	-00	30	35.5	807
2357	1988	09	18.21181	23	53	38.40	-00	37	19.0	807
2357	1988	10	04.17361	23	46	13.31	-01	30	23.6	807
2357	1988	10	05.19653	23	45	46.25	-01	33	38.2	807
2357	1988	10	08.18750	23	44	29.02	-01	42	53.6	807
2357	1988	11	04.09306	23	36	02.39	-02	45	07.9	807
2357	1988	11	05.14583	23	35	51.30	-02	46	36.8	807
2357	1988	11	06.14583	23	35	41.48	-02	47	54.7	807
2357	1988	11	07.04306	23	35	33.38	-02	49	02.0	807
2386	1988	11	03.05347	22	19	16.62	-12	52	04.2	807
2386	1988	11	05.04306	22	20	13.87	-12	38	03.7	807
2387	1988	10	08.24097	23	32	19.59	-17	27	43.5	807
2387	1988	11	04.14444	23	20	48.85	-16	22	04.9	807
2387	1988	11	06.19722	23	20	34.57	-16	12	22.7	807
2458	1988	11	06.14583	23	52	45.27	-03	30	39.0	807
2472	1988	10	06.15278	22	47	30.13	-06	18	29.5	807
2472	1988	10	07.08403	22	46	54.57	-06	20	23.3	807
2496	1988	10	06.15278	22	46	38.41	-08	06	31.8	807
2496	1988	10	07.08403	22	46	09.68	-08	09	50.8	807
2496	1988	11	04.04375	22	44	25.01	-08	29	06.0	807
2496	1988	11	06.04236	22	45	12.66	-08	24	44.0	807
2501	1988	09	14.15764	23	40	12.08	-04	01	29.5	807
2501	1988	09	15.24653	23	39	08.31	-04	06	46.2	807
2501	1988	09	16.27153	23	38	08.49	-04	11	42.8	807
2501	1988	10	04.11667	23	22	10.31	-05	26	08.2	807
2542	1988	10	05.19653	00	04	28.23	-03	47	43.9	807
2542	1988	11	05.14583	23	49	14.72	-05	28	49.1	807
2542	1988	11	07.04306	23	48	48.98	-05	30	59.3	807
2586	1988	09	16.21875	23	56	34.55	-01	51	28.6	807
2586	1988	09	18.21181	23	54	54.82	-02	07	52.5	807
2586	1988	10	04.17361	23	42	05.70	-04	11	12.4	807
2586	1988	10	05.09306	23	41	26.83	-04	17	24.5	807
2586	1988	10	08.13611	23	39	23.60	-04	37	02.7	807
2586	1988	11	03.15486	23	31	19.05	-06	06	16.4	807
2586	1988	11	06.09722	23	31	36.37	-06	06	55.5	807
2586	1988	11	07.04306	23	31	45.10	-06	06	45.3	807

2586	1988	11	08.15000	23	31	57.06	-06	06	18.1	807
2599	1988	10	05.14306	23	01	42.17	-04	14	28.8	807
2599	1988	10	07.13750	23	00	09.86	-04	05	02.7	807
2599	1988	11	03.10417	22	52	23.90	-01	29	25.4	807
2599	1988	11	05.09306	22	52	46.65	-01	15	52.3	807
2674	1988	10	04.11667	23	20	43.47	-03	58	31.2	807
2674	1988	11	03.15486	23	12	17.53	-04	58	24.5	807
2690	1988	09	16.16667	23	24	53.85	-14	22	12.9	807
2690	1988	09	18.26389	23	23	25.35	-14	37	56.8	807
2690	1988	10	05.24861	23	12	44.75	-16	18	52.2	807
2690	1988	10	06.20486	23	12	15.37	-16	22	55.1	807
2690	1988	11	04.14444	23	06	28.77	-16	54	50.4	807
2690	1988	11	06.19722	23	06	47.95	-16	50	52.2	807
2751	1988	10	06.15278	22	37	06.55	-06	15	47.0	807
2751	1988	10	07.08403	22	36	37.80	-06	19	28.5	807
2751	1988	11	04.04375	22	33	55.64	-07	03	19.5	807
2751	1988	11	06.04236	22	34	36.42	-07	01	19.1	807
2833	1988	09	16.21875	23	57	07.19	+00	29	20.9	807
2833	1988	09	18.21181	23	55	32.11	+00	20	06.5	807
2833	1988	10	04.17361	23	43	07.94	-00	53	13.8	807
2859	1988	09	16.21875	00	01	15.39	-01	14	30.6	807
2859	1988	09	18.21181	23	59	25.16	-01	29	51.1	807
2859	1988	10	04.17361	23	44	45.44	-03	29	23.5	807
2859	1988	11	03.15486	23	28	30.32	-05	41	34.2	807
2859	1988	11	06.09722	23	28	11.61	-05	45	03.0	807
2859	1988	11	08.15000	23	28	07.23	-05	46	26.8	807
2881	1988	09	16.21875	00	03	12.52	-00	22	42.7	807
2881	1988	09	18.21181	00	01	23.73	-00	38	42.1	807
2881	1988	10	04.17361	23	46	46.68	-02	45	47.5	807
2881	1988	10	05.19653	23	45	53.73	-02	53	25.1	807
2881	1988	10	08.18750	23	43	24.20	-03	15	02.6	807
2881	1988	11	03.15486	23	29	54.27	-05	19	18.1	807
2881	1988	11	06.09722	23	29	30.32	-05	24	55.9	807
2881	1988	11	08.15000	23	29	22.27	-05	27	48.6	807
2890	1988	10	07.03472	22	12	04.04	-12	27	58.3	807
2890	1988	10	08.03611	22	11	45.62	-12	24	40.9	807
2890	1988	11	03.05347	22	16	21.92	-10	05	57.9	807
2890	1988	11	05.04306	22	17	38.13	-09	51	34.1	807
2922	1988	09	14.04861	22	23	48.97	-07	45	33.2	807
2922	1988	09	15.08472	22	22	59.06	-07	51	42.0	807
2922	1988	09	16.11458	22	22	10.44	-07	57	43.6	807
2922	1988	11	03.05347	22	10	33.49	-10	08	46.6	807
2922	1988	11	05.04306	22	11	16.75	-10	07	07.8	807
2931	1988	09	14.15764	23	47	25.12	-03	20	10.1	807
2931	1988	09	15.24653	23	46	32.50	-03	25	03.6	807
2931	1988	09	16.27153	23	45	42.88	-03	29	39.9	807
2931	1988	10	04.11667	23	31	55.89	-04	42	29.6	807
2931	1988	10	05.09306	23	31	15.85	-04	45	47.2	807
2931	1988	10	08.13611	23	29	16.33	-04	55	22.2	807
2931	1988	11	03.15486	23	19	55.13	-05	26	43.0	807
2931	1988	11	06.09722	23	19	50.61	-05	24	06.8	807
2931	1988	11	08.15000	23	19	54.63	-05	21	33.0	807
2934	1988	10	05.14306	22	55	45.98	-00	09	08.4	807
2934	1988	10	07.13750	22	54	52.85	-00	21	26.3	807
2934	1988	11	03.10417	22	50	17.06	-02	25	05.8	807
2934	1988	11	05.09306	22	50	31.31	-02	30	27.5	807
2953	1988	09	14.10417	22	53	43.91	-05	15	35.7	807
2953	1988	09	15.13611	22	52	56.35	-05	20	39.1	807
2953	1988	10	06.15278	22	39	47.42	-06	47	38.9	807

2953	1988	10	07.08403	22	39	23.34	-06	50	30.1	807
2953	1988	11	04.04375	22	36	33.46	-07	22	13.9	807
2953	1988	11	06.04236	22	37	02.52	-07	20	25.8	807
2958	1988	09	16.21875	23	54	31.82	+00	52	43.2	807
3016	1988	09	16.21875	00	05	19.50	-03	05	55.7	807
3016	1988	09	18.21181	00	03	47.97	-03	17	31.6	807
3016	1988	10	05.19653	23	50	47.15	-04	50	18.5	807
3016	1988	11	05.14583	23	36	35.41	-06	12	27.7	807
3016	1988	11	07.04306	23	36	23.14	-06	12	32.5	807
3022	1988	10	04.17361	00	00	36.15	-04	45	51.2	807
3022	1988	10	05.19653	23	59	52.86	-05	13	35.5	807
3053	1988	11	03.05347	22	12	02.91	-12	02	57.6	807
3053	1988	11	05.04306	22	14	00.34	-11	45	42.0	807
3068	1988	09	16.21875	00	11	45.50	-03	26	25.2	807
3068	1988	09	18.21181	00	09	42.80	-03	34	40.5	807
3068	1988	10	04.17361	23	53	05.16	-04	34	07.6	807
3068	1988	10	05.19653	23	52	04.46	-04	37	11.4	807
3068	1988	10	08.18750	23	49	11.84	-04	45	25.5	807
3068	1988	11	05.14583	23	32	19.27	-04	54	54.1	807
3068	1988	11	06.09722	23	32	08.14	-04	52	54.8	807
3068	1988	11	07.04306	23	31	58.62	-04	50	49.3	807
3068	1988	11	08.15000	23	31	49.33	-04	48	10.1	807
3107	1988	11	03.10417	22	49	26.47	-04	40	13.5	807
3107	1988	11	05.09306	22	51	02.92	-04	33	26.3	807
3161	1988	11	03.10417	22	45	13.86	-04	47	41.7	807
3161	1988	11	05.09306	22	45	22.11	-04	39	49.2	807
3195	1988	09	14.10417	22	55	03.22	-05	31	17.0	807
3195	1988	09	15.13611	22	54	16.36	-05	36	05.5	807
3195	1988	10	06.15278	22	41	24.42	-06	57	20.0	807
3195	1988	10	07.08403	22	41	01.34	-06	59	54.0	807
3195	1988	11	04.04375	22	38	54.41	-07	21	44.2	807
3195	1988	11	06.04236	22	39	27.52	-07	19	09.2	807
3214	1988	11	05.19792	23	28	05.70	-19	08	41.2	807
3214	1988	11	07.09167	23	27	59.23	-19	01	21.8	807
3241	1988	09	14.15764	23	36	43.86	-04	27	26.6	807
3241	1988	09	15.24653	23	35	54.23	-04	33	13.3	807
3241	1988	09	16.27153	23	35	07.52	-04	38	39.3	807
3241	1988	10	04.11667	23	22	10.98	-06	05	42.2	807
3408	1988	11	05.04306	22	19	06.43	-13	50	20.1	807
3449	1988	10	04.06389	22	31	19.12	-12	27	57.4	807
3449	1988	10	05.04028	22	30	53.66	-12	29	44.4	807
3449	1988	10	07.03472	22	30	05.30	-12	32	59.4	807
3449	1988	10	08.03611	22	29	43.01	-12	34	23.6	807
3449	1988	10	08.08611	22	29	41.86	-12	34	27.5	807
3449	1988	11	03.05347	22	28	15.64	-12	20	01.9	807
3449	1988	11	05.04306	22	28	48.16	-12	15	03.7	807
3451	1988	09	14.21458	23	02	46.91	+00	50	10.1	807
3451	1988	09	15.19167	23	02	20.20	+00	44	01.3	807
3451	1988	10	05.14306	22	54	15.70	-01	19	39.5	807
3451	1988	10	07.13750	22	53	36.88	-01	31	18.8	807
3451	1988	11	03.10417	22	49	12.48	-03	41	14.9	807
3451	1988	11	05.09306	22	49	14.30	-03	48	20.1	807
3453	1988	09	14.21458	23	14	36.45	+01	37	19.4	807
3453	1988	09	15.19167	23	13	41.16	+01	32	37.8	807
3453	1988	10	05.14306	22	57	31.29	-00	02	34.6	807
3453	1988	10	07.13750	22	56	20.41	-00	10	55.2	807
3453	1988	11	03.10417	22	51	10.24	-01	13	45.0	807
3453	1988	11	05.09306	22	51	35.49	-01	14	08.0	807
3656	1988	11	04.09306	23	42	35.90	-00	43	30.3	807

3656	1988	11	06.14583	23	42	20.77	-00	45	39.3	807
3665	1988	09	16.32639	23	56	26.35	-24	46	39.7	807
3665	1988	09	18.31736	23	54	45.92	-25	04	51.9	807
3665	1988	09	19.31736	23	53	55.20	-25	13	33.3	807
3665	1988	10	04.22984	23	41	49.06	-26	41	38.3	807
3665	1988	10	05.30206	23	41	02.54	-26	44	46.1	807
3665	1988	10	07.29028	23	39	39.85	-26	49	27.8	807
3665	1988	11	07.14306	23	31	30.73	-25	11	04.3	807
3668	1988	10	04.17361	23	48	35.85	-00	09	47.6	807
3668	1988	10	05.19653	23	47	43.27	-00	17	17.6	807
3668	1988	10	08.18750	23	45	15.38	-00	38	27.8	807
3668	1988	11	04.09306	23	32	47.38	-02	42	40.8	807
3668	1988	11	05.14583	23	32	42.73	-02	44	41.8	807
3668	1988	11	06.14583	23	32	39.94	-02	46	21.5	807
3668	1988	11	07.04306	23	32	39.38	-02	47	41.6	807
3906	1988	10	06.26042	23	49	44.06	-22	44	35.9	807
3910	1988	09	14.15764	23	34	20.08	-05	45	55.5	807
3910	1988	09	15.24653	23	33	19.75	-05	48	25.8	807
3910	1988	09	16.27153	23	32	23.15	-05	50	45.0	807
3912	1988	09	14.15764	23	36	53.28	-05	01	29.0	807
3912	1988	09	15.24653	23	35	51.39	-05	06	57.9	807
3912	1988	09	16.27153	23	34	53.14	-05	12	05.7	807
3925	1988	09	14.10417	22	52	20.54	-07	57	44.7	807
3925	1988	09	15.13611	22	51	43.14	-08	08	40.7	807
3929	1988	11	03.05347	22	14	40.29	-12	41	33.5	807
3929	1988	11	05.04306	22	16	16.98	-12	33	49.9	807
3933	1988	09	14.15764	23	34	13.93	-04	57	41.4	807
3933	1988	09	15.24653	23	33	25.88	-05	02	26.6	807
3933	1988	09	16.27153	23	32	40.79	-05	06	53.0	807
3933	1988	10	04.11667	23	20	31.35	-06	15	13.5	807
3937	1988	10	06.15278	22	37	58.68	-10	56	09.3	807
3937	1988	10	07.08403	22	37	31.15	-10	56	09.7	807
3937	1988	11	04.04375	22	32	19.23	-10	10	47.1	807
3937	1988	11	06.04236	22	32	35.75	-10	04	18.5	807
3942	1988	09	16.21875	00	01	04.33	-03	35	47.1	807
3942	1988	09	18.21181	23	59	06.82	-03	41	35.3	807
3942	1988	10	04.17361	23	44	11.49	-04	18	00.2	807
3942	1988	10	08.13611	23	41	05.64	-04	22	33.5	807
3942	1988	11	03.15486	23	31	51.85	-03	49	37.7	807
3942	1988	11	05.14583	23	32	01.33	-03	42	35.1	807
3942	1988	11	06.09722	23	32	08.47	-03	39	00.7	807
3942	1988	11	07.04306	23	32	17.33	-03	35	19.8	807
3942	1988	11	08.15000	23	32	29.29	-03	30	51.2	807
3949	1988	09	14.21458	23	00	19.78	+00	51	26.6	807
3949	1988	09	15.19167	22	59	24.70	+00	44	51.5	807
3949	1988	11	03.10417	22	40	46.12	-03	04	07.2	807
3949	1988	11	05.09306	22	41	27.06	-03	05	32.8	807
3954	1988	10	04.17361	00	00	32.01	-02	20	56.7	807
3954	1988	10	05.19653	23	59	36.56	-02	28	17.5	807
3954	1988	10	08.18750	23	56	59.73	-02	48	55.0	807
3954	1988	11	04.09306	23	42	57.98	-04	37	20.3	807
3954	1988	11	05.14583	23	42	50.00	-04	38	25.5	807
3954	1988	11	06.14583	23	42	44.31	-04	39	13.5	807
3954	1988	11	07.04306	23	42	40.94	-04	39	45.6	807
3973	1988	10	08.03611	22	27	22.13	-13	11	35.2	807
3973	1988	11	04.04375	22	38	32.17	-11	17	32.6	807
3973	1988	11	06.04236	22	40	09.59	-11	04	31.8	807
4032	1988	11	03.15486	23	12	33.10	-06	44	39.6	807
4032	1988	11	06.09722	23	13	56.09	-06	38	06.3	807

4032		1988	11	08.15000	23	15	03.53	-06	32	23.1	807
4054		1988	10	06.15278	22	41	52.79	-11	12	12.9	807
4054		1988	10	07.08403	22	41	26.87	-11	12	23.7	807
4054		1988	11	04.04375	22	38	32.55	-10	19	19.3	807
4054		1988	11	06.04236	22	39	05.70	-10	11	25.5	807

809 European Southern Observatory
E. Elst, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180 Brussels, Belgium
Observers E. W. Elst, G. Pizarro, O. Pizarro
Measurer E. W. Elst
1.0-m Schmidt

1978	UU1		1989	09	26.21042	01	24	25.81	+02	39	55.6	16.8	809
1978	UU1		1989	09	26.22361	01	24	25.27	+02	39	50.4		809
1978	UU1		1989	09	26.23681	01	24	24.75	+02	39	45.5		809
1978	UU1		1989	09	28.12014	01	23	16.44	+02	28	21.8		809
1978	UU1		1989	09	28.13333	01	23	15.83	+02	28	16.8		809
1978	UU1		1989	09	28.14653	01	23	15.25	+02	28	11.0		809
1979	XQ		1989	09	26.25486	01	36	15.04	+07	12	57.2	16.2	809
1979	XQ		1989	09	26.26806	01	36	14.39	+07	12	55.1		809
1979	XQ		1989	09	26.28125	01	36	13.73	+07	12	53.3		809
1988	CR1		1989	03	30.19896	14	36	39.00	-11	34	34.3		809
1988	CR1		1989	03	30.20972	14	36	38.75	-11	34	32.6		809
1988	CR1		1989	03	30.22014	14	36	38.55	-11	34	30.8		809
1988	CR1		1989	03	30.23750	14	36	37.96	-11	34	27.3		809
1988	CR1		1989	03	30.24792	14	36	37.68	-11	34	26.4		809
1988	CR1		1989	04	01.23264	14	35	43.26	-11	28	35.1		809
1988	CR1		1989	04	01.24306	14	35	42.95	-11	28	33.2		809
1988	CR1		1989	04	01.25347	14	35	42.67	-11	28	31.0		809
1988	CR1		1989	04	02.31875	14	35	11.27	-11	25	14.6	17.3	809
1988	CR1		1989	04	02.32986	14	35	10.96	-11	25	12.4		809
1988	CR1		1989	04	03.31736	14	34	40.66	-11	22	04.2		809
1988	CR1		1989	04	03.32778	14	34	40.23	-11	22	01.3		809
1988	CM2		1989	03	30.19896	14	38	48.84	-11	17	54.5		809
1988	CM2		1989	03	30.20972	14	38	48.54	-11	17	53.6		809
1988	CM2		1989	03	30.22014	14	38	48.17	-11	17	52.8		809
1988	CM2		1989	03	30.23750	14	38	47.27	-11	17	47.0		809
1988	CM2		1989	03	30.24792	14	38	47.02	-11	17	45.1		809
1988	CM2		1989	04	01.23264	14	37	46.61	-11	10	41.2		809
1988	CM2		1989	04	01.24306	14	37	46.33	-11	10	38.4		809
1988	CM2		1989	04	01.25347	14	37	46.01	-11	10	37.0		809
1988	CM2		1989	04	02.31875	14	37	11.53	-11	06	41.1	17.5	809
1988	CM2		1989	04	02.32986	14	37	11.24	-11	06	38.8		809
1988	CM2		1989	04	03.31736	14	36	38.15	-11	02	56.8		809
1988	CM2		1989	04	03.32778	14	36	37.73	-11	02	53.1		809
1989	SD1	*	1989	09	26.21042	01	19	27.92	+02	41	06.5	17.5	809
1989	SD1		1989	09	26.22361	01	19	27.27	+02	41	01.1		809
1989	SD1		1989	09	26.23681	01	19	26.69	+02	40	57.1		809
1989	SD1		1989	09	28.12014	01	18	07.31	+02	31	48.1		809
1989	SD1		1989	09	28.13333	01	18	06.59	+02	31	43.0		809
1989	SD1		1989	09	28.14653	01	18	05.91	+02	31	37.7		809
1989	SE1	*	1989	09	26.21042	01	19	50.14	+01	38	21.4	18.5	809
1989	SE1		1989	09	26.22361	01	19	49.43	+01	38	16.5		809
1989	SE1		1989	09	26.23681	01	19	48.77	+01	38	12.8		809
1989	SE1		1989	09	28.12014	01	18	15.92	+01	28	44.1		809
1989	SE1		1989	09	28.13333	01	18	15.18	+01	28	40.1		809
1989	SE1		1989	09	28.14653	01	18	14.40	+01	28	36.3		809
1989	SF1	*	1989	09	26.21042	01	20	12.21	+00	52	55.3	17.6	809
1989	SF1		1989	09	26.22361	01	20	11.59	+00	52	48.8		809

1989	SF1		1989	09	26.23681	01	20	10.93	+00	52	41.2	809
1989	SF1		1989	09	28.12014	01	18	47.97	+00	37	10.3	809
1989	SF1		1989	09	28.13333	01	18	47.28	+00	37	04.0	809
1989	SF1		1989	09	28.14653	01	18	46.62	+00	36	56.9	809
1989	SG1	*	1989	09	26.21042	01	20	32.07	+02	26	24.2	19.5 809
1989	SG1		1989	09	26.22361	01	20	31.50	+02	26	18.2	809
1989	SG1		1989	09	26.23681	01	20	30.92	+02	26	11.7	809
1989	SG1		1989	09	28.12014	01	19	10.18	+02	11	40.3	809
1989	SG1		1989	09	28.13333	01	19	09.51	+02	11	33.9	809
1989	SG1		1989	09	28.14653	01	19	08.96	+02	11	26.8	809
1989	SH1	*	1989	09	26.21042	01	21	29.47	+02	37	26.6	17.6 809
1989	SH1		1989	09	26.22361	01	21	28.70	+02	37	28.9	809
1989	SH1		1989	09	26.23681	01	21	27.78	+02	37	28.8	809
1989	SH1		1989	09	28.12014	01	19	33.22	+02	40	06.0	809
1989	SH1		1989	09	28.13333	01	19	32.39	+02	40	06.2	809
1989	SH1		1989	09	28.14653	01	19	31.47	+02	40	07.0	809
1989	SJ1	*	1989	09	26.21042	01	22	48.66	+01	52	14.2	18.2 809
1989	SJ1		1989	09	26.22361	01	22	48.02	+01	52	10.6	809
1989	SJ1		1989	09	26.23681	01	22	47.37	+01	52	06.4	809
1989	SJ1		1989	09	28.12014	01	21	21.33	+01	44	27.0	809
1989	SJ1		1989	09	28.13333	01	21	20.56	+01	44	24.0	809
1989	SJ1		1989	09	28.14653	01	21	19.87	+01	44	19.5	809
1989	SK1	*	1989	09	26.21042	01	22	54.09	+02	20	35.4	18.6 809
1989	SK1		1989	09	26.22361	01	22	53.41	+02	20	31.6	809
1989	SK1		1989	09	26.23681	01	22	52.71	+02	20	29.0	809
1989	SK1		1989	09	28.12014	01	21	24.15	+02	14	26.5	809
1989	SK1		1989	09	28.13333	01	21	23.43	+02	14	22.4	809
1989	SK1		1989	09	28.14653	01	21	22.78	+02	14	20.0	809
1989	SL1	*	1989	09	26.21042	01	23	02.41	+00	26	39.7	17.6 809
1989	SL1		1989	09	26.22361	01	23	01.70	+00	26	34.2	809
1989	SL1		1989	09	26.23681	01	23	01.04	+00	26	28.2	809
1989	SL1		1989	09	28.12014	01	21	26.47	+00	13	06.6	809
1989	SL1		1989	09	28.13333	01	21	25.61	+00	12	59.9	809
1989	SL1		1989	09	28.14653	01	21	24.88	+00	12	53.9	809
1989	SM1	*	1989	09	26.21042	01	23	22.03	+03	22	37.8	19.0 809
1989	SM1		1989	09	26.22361	01	23	21.51	+03	22	34.3	809
1989	SM1		1989	09	26.23681	01	23	20.99	+03	22	27.3	809
1989	SM1		1989	09	28.12014	01	22	08.12	+03	11	54.6	809
1989	SM1		1989	09	28.13333	01	22	07.55	+03	11	50.1	809
1989	SM1		1989	09	28.14653	01	22	06.93	+03	11	45.4	809
1989	SN1	*	1989	09	26.21042	01	23	49.92	+04	09	08.7	18.6 809
1989	SN1		1989	09	26.22361	01	23	49.34	+04	09	06.4	809
1989	SN1		1989	09	26.23681	01	23	48.68	+04	09	03.6	809
1989	SN1		1989	09	28.12014	01	22	33.51	+04	03	02.3	809
1989	SN1		1989	09	28.13333	01	22	32.86	+04	02	59.9	809
1989	SN1		1989	09	28.14653	01	22	32.30	+04	02	56.6	809
1989	SO1	*	1989	09	26.21042	01	24	45.86	+01	05	29.6	19.7 809
1989	SO1		1989	09	26.22361	01	24	45.25	+01	05	25.5	809
1989	SO1		1989	09	26.23681	01	24	44.53	+01	05	20.2	809
1989	SO1		1989	09	28.12014	01	23	19.03	+00	56	08.1	20.0 809
1989	SO1		1989	09	28.13333	01	23	18.41	+00	56	05.7	809
1989	SO1		1989	09	28.14653	01	23	17.65	+00	56	00.9	809
1989	SP1	*	1989	09	26.21042	01	25	01.65	+01	30	29.0	19.0 809
1989	SP1		1989	09	26.22361	01	25	00.99	+01	30	23.2	809
1989	SP1		1989	09	26.23681	01	25	00.36	+01	30	17.8	809
1989	SP1		1989	09	28.12014	01	23	35.93	+01	18	36.1	809
1989	SP1		1989	09	28.13333	01	23	35.20	+01	18	29.9	809
1989	SP1		1989	09	28.14653	01	23	34.48	+01	18	23.3	809
1989	SQ1	*	1989	09	26.21042	01	25	15.21	-00	27	58.9	19.0 809

1989	SQ1		1989	09	26.22361	01	25	14.50	-00	27	59.9		809
1989	SQ1		1989	09	26.23681	01	25	13.68	-00	28	01.4		809
1989	SQ1		1989	09	28.12014	01	23	34.84	-00	31	06.2		809
1989	SQ1		1989	09	28.13333	01	23	34.15	-00	31	06.8		809
1989	SQ1		1989	09	28.14653	01	23	33.57	-00	31	07.6		809
1989	SR1	*	1989	09	26.21042	01	25	23.15	+00	44	49.5	18.3	809
1989	SR1		1989	09	26.22361	01	25	22.40	+00	44	45.1		809
1989	SR1		1989	09	26.23681	01	25	21.71	+00	44	40.8		809
1989	SR1		1989	09	28.12014	01	23	42.34	+00	34	40.8	18.2	809
1989	SR1		1989	09	28.13333	01	23	41.47	+00	34	35.7		809
1989	SR1		1989	09	28.14653	01	23	40.70	+00	34	31.2		809
1989	SS1	*	1989	09	26.21042	01	25	31.82	+03	10	09.3	18.7	809
1989	SS1		1989	09	26.22361	01	25	31.16	+03	10	06.2		809
1989	SS1		1989	09	26.23681	01	25	30.47	+03	10	03.4		809
1989	SS1		1989	09	28.12014	01	23	55.63	+03	03	02.8		809
1989	SS1		1989	09	28.13333	01	23	54.92	+03	02	59.3		809
1989	SS1		1989	09	28.14653	01	23	54.21	+03	02	55.9		809
1989	ST1	*	1989	09	26.21042	01	25	36.40	+03	39	25.4	19.5	809
1989	ST1		1989	09	26.22361	01	25	35.74	+03	39	21.5		809
1989	ST1		1989	09	26.23681	01	25	35.14	+03	39	15.9		809
1989	ST1		1989	09	28.12014	01	24	09.08	+03	30	32.1		809
1989	ST1		1989	09	28.13333	01	24	08.26	+03	30	29.8		809
1989	ST1		1989	09	28.14653	01	24	07.71	+03	30	25.2		809
1989	SU1	*	1989	09	26.21042	01	25	39.58	+02	15	14.6	17.0	809
1989	SU1		1989	09	26.22361	01	25	38.80	+02	15	10.0		809
1989	SU1		1989	09	26.23681	01	25	38.06	+02	15	05.4		809
1989	SU1		1989	09	28.12014	01	23	56.05	+02	03	47.9		809
1989	SU1		1989	09	28.13333	01	23	55.25	+02	03	43.1		809
1989	SU1		1989	09	28.14653	01	23	54.47	+02	03	37.5		809
1989	SV1	*	1989	09	26.21042	01	25	44.59	+04	39	50.0	17.2	809
1989	SV1		1989	09	26.22361	01	25	44.07	+04	39	46.2		809
1989	SV1		1989	09	26.23681	01	25	43.63	+04	39	42.9		809
1989	SW1	*	1989	09	26.21042	01	26	04.48	+02	00	48.4	19.0	809
1989	SW1		1989	09	26.22361	01	26	03.99	+02	00	42.5		809
1989	SW1		1989	09	26.23681	01	26	03.54	+02	00	36.3		809
1989	SW1		1989	09	28.12014	01	24	57.71	+01	45	53.3		809
1989	SW1		1989	09	28.13333	01	24	57.19	+01	45	47.0		809
1989	SW1		1989	09	28.14653	01	24	56.62	+01	45	40.7		809
1989	SX1	*	1989	09	26.21042	01	26	25.34	-00	24	09.9	19.6	809
1989	SX1		1989	09	26.22361	01	26	24.70	-00	24	09.7		809
1989	SX1		1989	09	26.23681	01	26	24.09	-00	24	10.7		809
1989	SX1		1989	09	28.12014	01	25	01.67	-00	24	34.6		809
1989	SX1		1989	09	28.13333	01	25	00.91	-00	24	34.8		809
1989	SX1		1989	09	28.14653	01	25	00.17	-00	24	35.2		809
1989	SY1	*	1989	09	26.21042	01	26	30.96	+04	25	53.7	18.8	809
1989	SY1		1989	09	26.22361	01	26	30.47	+04	25	50.7		809
1989	SY1		1989	09	26.23681	01	26	29.98	+04	25	46.8		809
1989	SY1		1989	09	28.12014	01	25	19.54	+04	17	24.2	19.5	809
1989	SY1		1989	09	28.13333	01	25	18.87	+04	17	20.5		809
1989	SY1		1989	09	28.14653	01	25	18.32	+04	17	17.0		809
1989	SZ1	*	1989	09	26.21042	01	26	38.74	+04	35	37.2	18.5	809
1989	SZ1		1989	09	26.22361	01	26	38.03	+04	35	30.4		809
1989	SZ1		1989	09	26.23681	01	26	37.36	+04	35	24.7		809
1989	SZ1		1989	09	28.12014	01	24	58.12	+04	20	56.6	18.3	809
1989	SZ1		1989	09	28.13333	01	24	57.29	+04	20	50.6		809
1989	SZ1		1989	09	28.14653	01	24	56.52	+04	20	41.9		809
1989	SA2	*	1989	09	26.21042	01	26	43.50	+00	38	35.2	19.6	809
1989	SA2		1989	09	26.22361	01	26	42.79	+00	38	31.3		809
1989	SA2		1989	09	26.23681	01	26	42.17	+00	38	29.7		809

1989	SA2		1989	09	28.12014	01	25	13.84	+00	32	44.6	19.6	809
1989	SA2		1989	09	28.13333	01	25	13.08	+00	32	41.6		809
1989	SA2		1989	09	28.14653	01	25	12.35	+00	32	38.7		809
1989	SB2	*	1989	09	26.21042	01	27	36.57	+03	06	52.2	16.9	809
1989	SB2		1989	09	26.22361	01	27	35.85	+03	06	52.1		809
1989	SB2		1989	09	26.23681	01	27	35.17	+03	06	52.0		809
1989	SB2		1989	09	28.12014	01	26	02.79	+03	06	58.7		809
1989	SB2		1989	09	28.13333	01	26	02.06	+03	06	58.4		809
1989	SB2		1989	09	28.14653	01	26	01.27	+03	06	57.5		809
1989	SC2	*	1989	09	26.21042	01	27	40.17	+01	23	14.0	18.5	809
1989	SC2		1989	09	26.22361	01	27	39.33	+01	23	17.4		809
1989	SC2		1989	09	26.23681	01	27	38.47	+01	23	21.2		809
1989	SC2		1989	09	28.12014	01	25	42.83	+01	31	32.9		809
1989	SC2		1989	09	28.13333	01	25	41.92	+01	31	36.3		809
1989	SC2		1989	09	28.14653	01	25	40.90	+01	31	39.1		809
1989	SD2	*	1989	09	26.21042	01	27	53.41	+03	55	36.3	18.5	809
1989	SD2		1989	09	26.22361	01	27	52.63	+03	55	33.9		809
1989	SD2		1989	09	26.23681	01	27	51.83	+03	55	31.7		809
1989	SD2		1989	09	28.12014	01	26	08.98	+03	51	21.9		809
1989	SD2		1989	09	28.13333	01	26	08.15	+03	51	19.5		809
1989	SD2		1989	09	28.14653	01	26	07.43	+03	51	17.1		809
1989	SE2	*	1989	09	26.21042	01	28	23.25	+01	51	35.6	19.2	809
1989	SE2		1989	09	26.22361	01	28	22.72	+01	51	33.2		809
1989	SE2		1989	09	26.23681	01	28	22.11	+01	51	30.1		809
1989	SE2		1989	09	28.12014	01	26	59.70	+01	43	12.3		809
1989	SE2		1989	09	28.13333	01	26	59.07	+01	43	09.3		809
1989	SE2		1989	09	28.14653	01	26	58.39	+01	43	04.2		809
1989	SF2	*	1989	09	26.21042	01	29	18.92	+02	05	22.0	19.4	809
1989	SF2		1989	09	26.22361	01	29	18.29	+02	05	19.5		809
1989	SF2		1989	09	26.23681	01	29	17.52	+02	05	15.7		809
1989	SF2		1989	09	28.12014	01	27	46.69	+01	58	41.6		809
1989	SF2		1989	09	28.13333	01	27	46.11	+01	58	39.2		809
1989	SF2		1989	09	28.14653	01	27	45.40	+01	58	36.2		809
1989	SG2	*	1989	09	26.21042	01	29	21.13	+01	13	45.8	20.0	809
1989	SG2		1989	09	26.22361	01	29	20.29	+01	13	41.2		809
1989	SG2		1989	09	26.23681	01	29	19.81	+01	13	37.0		809
1989	SG2		1989	09	28.12014	01	27	38.63	+01	09	39.3		809
1989	SG2		1989	09	28.13333	01	27	38.06	+01	09	34.7		809
1989	SG2		1989	09	28.14653	01	27	37.32	+01	09	29.2		809
1989	SH2	*	1989	09	26.21042	01	29	51.65	+03	08	37.4	18.3	809
1989	SH2		1989	09	26.22361	01	29	51.07	+03	08	29.8		809
1989	SH2		1989	09	26.23681	01	29	50.53	+03	08	21.1		809
1989	SH2		1989	09	28.12014	01	28	37.46	+02	51	23.1		809
1989	SH2		1989	09	28.13333	01	28	36.91	+02	51	15.1		809
1989	SH2		1989	09	28.14653	01	28	36.29	+02	51	07.6		809
1989	SJ2	*	1989	09	26.21042	01	30	06.71	+00	31	34.1	19.0	809
1989	SJ2		1989	09	26.22361	01	30	06.10	+00	31	25.9		809
1989	SJ2		1989	09	26.23681	01	30	05.52	+00	31	17.0		809
1989	SJ2		1989	09	28.12014	01	28	48.60	+00	10	46.2		809
1989	SJ2		1989	09	28.13333	01	28	47.99	+00	10	37.0		809
1989	SJ2		1989	09	28.14653	01	28	47.49	+00	10	28.6		809
1989	SK2	*	1989	09	26.21042	01	30	09.70	-00	20	57.2	19.0	809
1989	SK2		1989	09	26.22361	01	30	08.92	-00	20	52.1		809
1989	SK2		1989	09	26.23681	01	30	08.18	-00	20	47.9		809
1989	SK2		1989	09	28.12014	01	28	26.03	-00	09	14.9		809
1989	SK2		1989	09	28.13333	01	28	25.23	-00	09	10.4		809
1989	SK2		1989	09	28.14653	01	28	24.38	-00	09	04.4		809
1989	SL2	*	1989	09	26.21042	01	30	55.19	+00	30	54.3	18.3	809
1989	SL2		1989	09	26.22361	01	30	54.56	+00	30	50.2		809

1989	SL2		1989	09	26.23681	01	30	53.99	+00	30	44.2		809
1989	SL2		1989	09	28.12014	01	29	37.34	+00	19	29.9		809
1989	SL2		1989	09	28.13333	01	29	36.63	+00	19	24.3		809
1989	SL2		1989	09	28.14653	01	29	35.97	+00	19	18.7		809
1989	SM2	*	1989	09	26.21042	01	31	09.30	-00	09	43.4	20.0	809
1989	SM2		1989	09	26.22361	01	31	08.70	-00	09	45.4		809
1989	SM2		1989	09	26.23681	01	31	08.08	-00	09	49.4		809
1989	SM2		1989	09	28.12014	01	29	45.87	-00	15	06.8	20.0	809
1989	SM2		1989	09	28.13333	01	29	45.18	-00	15	08.7		809
1989	SM2		1989	09	28.14653	01	29	44.54	-00	15	14.1		809
1989	SN2	*	1989	09	26.21042	01	31	43.13	+01	05	45.7	19.5	809
1989	SN2		1989	09	26.22361	01	31	42.69	+01	05	36.3		809
1989	SN2		1989	09	26.23681	01	31	42.39	+01	05	27.2		809
1989	SN2		1989	09	28.12014	01	30	48.09	+00	45	11.3		809
1989	SN2		1989	09	28.13333	01	30	47.62	+00	45	01.8		809
1989	SN2		1989	09	28.14653	01	30	47.10	+00	44	50.9		809
1989	SO2	*	1989	09	26.21042	01	32	14.28	+04	16	21.7	18.7	809
1989	SO2		1989	09	26.22361	01	32	13.56	+04	16	17.9		809
1989	SO2		1989	09	26.23681	01	32	12.95	+04	16	13.8		809
1989	SO2		1989	09	28.12014	01	30	44.80	+04	07	03.4		809
1989	SO2		1989	09	28.13333	01	30	44.19	+04	07	00.0		809
1989	SO2		1989	09	28.14653	01	30	43.43	+04	06	55.9		809
1989	SP2	*	1989	09	26.21042	01	32	47.87	+01	43	33.0	19.5	809
1989	SP2		1989	09	26.22361	01	32	47.30	+01	43	28.2		809
1989	SP2		1989	09	26.23681	01	32	46.76	+01	43	24.2		809
1989	SP2		1989	09	28.12014	01	31	21.63	+01	19	56.8		809
1989	SP2		1989	09	28.13333	01	31	21.10	+01	19	51.0		809
1989	SP2		1989	09	28.14653	01	31	20.47	+01	19	45.7		809
1989	SQ2	*	1989	09	26.21042	01	32	49.47	+03	07	01.4	18.0	809
1989	SQ2		1989	09	26.22361	01	32	49.02	+03	06	58.4		809
1989	SQ2		1989	09	26.23681	01	32	48.50	+03	06	54.8		809
1989	SQ2		1989	09	28.12014	01	31	39.96	+02	58	05.3		809
1989	SQ2		1989	09	28.13333	01	31	39.33	+02	58	01.0		809
1989	SQ2		1989	09	28.14653	01	31	38.86	+02	57	57.2		809
1989	SR2	*	1989	09	26.21042	01	33	20.43	+04	18	58.0	17.8	809
1989	SR2		1989	09	26.22361	01	33	19.80	+04	18	53.6		809
1989	SR2		1989	09	26.23681	01	33	19.28	+04	18	50.2		809
1989	SR2		1989	09	28.12014	01	32	03.91	+04	10	14.1		809
1989	SR2		1989	09	28.13333	01	32	03.29	+04	10	10.3		809
1989	SR2		1989	09	28.14653	01	32	02.76	+04	10	06.3		809
1989	SS2	*	1989	09	26.21042	01	33	51.92	+01	16	09.2	18.9	809
1989	SS2		1989	09	26.22361	01	33	51.16	+01	16	02.9		809
1989	SS2		1989	09	26.23681	01	33	50.48	+01	15	55.7		809
1989	SS2		1989	09	28.12014	01	32	19.15	+01	00	08.3		809
1989	SS2		1989	09	28.13333	01	32	18.47	+01	00	01.8		809
1989	SS2		1989	09	28.14653	01	32	17.66	+00	59	53.5		809
1989	ST2	*	1989	09	26.21042	01	34	35.51	-00	37	36.8	17.7	809
1989	ST2		1989	09	26.22361	01	34	34.78	-00	37	32.8		809
1989	ST2		1989	09	26.23681	01	34	33.96	-00	37	29.5		809
1989	ST2		1989	09	28.12014	01	32	48.54	-00	28	14.1		809
1989	ST2		1989	09	28.13333	01	32	47.69	-00	28	10.9		809
1989	ST2		1989	09	28.14653	01	32	46.83	-00	28	07.4		809
1989	SU2	*	1989	09	26.21042	01	35	14.12	+02	47	03.2	19.2	809
1989	SU2		1989	09	26.22361	01	35	13.38	+02	46	59.0		809
1989	SU2		1989	09	26.23681	01	35	12.77	+02	46	55.7		809
1989	SU2		1989	09	28.12014	01	33	52.00	+02	38	34.5		809
1989	SU2		1989	09	28.13333	01	33	51.34	+02	38	30.6		809
1989	SU2		1989	09	28.14653	01	33	50.69	+02	38	24.8		809
1989	SV2	*	1989	09	26.21042	01	35	20.63	+02	37	15.5	19.0	809

1989	SV2		1989	09	26.22361	01	35	20.03	+02	37	15.3	809
1989	SV2		1989	09	26.23681	01	35	19.54	+02	37	12.3	809
1989	SV2		1989	09	28.12014	01	33	59.37	+02	32	24.4	809
1989	SV2		1989	09	28.13333	01	33	58.73	+02	32	23.1	809
1989	SV2		1989	09	28.14653	01	33	58.20	+02	32	19.9	809
1989	SW2	*	1989	09	26.21042	01	35	36.77	+01	59	14.9	19.2 809
1989	SW2		1989	09	26.22361	01	35	36.24	+01	59	11.0	809
1989	SW2		1989	09	26.23681	01	35	35.67	+01	59	08.3	809
1989	SW2		1989	09	28.12014	01	34	17.64	+01	50	46.6	809
1989	SW2		1989	09	28.13333	01	34	17.06	+01	50	43.2	809
1989	SW2		1989	09	28.14653	01	34	16.50	+01	50	39.7	809
1989	SX2	*	1989	09	26.21042	01	35	55.32	-00	36	04.9	18.2 809
1989	SX2		1989	09	26.22361	01	35	54.74	-00	36	10.5	809
1989	SX2		1989	09	26.23681	01	35	54.24	-00	36	14.2	809
1989	SX2		1989	09	28.12014	01	34	44.84	-00	45	31.7	809
1989	SX2		1989	09	28.13333	01	34	44.26	-00	45	35.5	809
1989	SX2		1989	09	28.14653	01	34	43.73	-00	45	40.3	809
1989	SY2	*	1989	09	26.21042	01	36	14.22	+01	41	59.6	18.2 809
1989	SY2		1989	09	26.22361	01	36	13.74	+01	41	56.7	809
1989	SY2		1989	09	26.23681	01	36	13.26	+01	41	52.4	809
1989	SY2		1989	09	28.12014	01	35	03.27	+01	32	19.9	809
1989	SY2		1989	09	28.13333	01	35	02.75	+01	32	16.8	809
1989	SY2		1989	09	28.14653	01	35	02.27	+01	32	12.4	809
1989	SZ2	*	1989	09	26.21042	01	36	41.85	+04	35	52.4	17.5 809
1989	SZ2		1989	09	26.22361	01	36	41.60	+04	35	47.2	809
1989	SZ2		1989	09	26.23681	01	36	41.40	+04	35	42.4	809
1989	SZ2		1989	09	26.25486	01	36	40.85	+04	35	31.5	18.3 809
1989	SZ2		1989	09	26.26806	01	36	40.41	+04	35	21.5	809
1989	SZ2		1989	09	26.28125	01	36	39.97	+04	35	12.8	809
1989	SZ2		1989	09	28.12014	01	35	44.89	+04	14	16.2	17.5 809
1989	SZ2		1989	09	28.13333	01	35	44.49	+04	14	05.9	809
1989	SZ2		1989	09	28.14653	01	35	44.00	+04	13	57.1	809
1989	SZ2		1989	09	28.26111	01	35	40.16	+04	12	42.7	809
1989	SZ2		1989	09	28.27431	01	35	39.68	+04	12	32.1	809
1989	SZ2		1989	09	28.28750	01	35	39.21	+04	12	23.4	809
1989	SA3	*	1989	09	26.21042	01	37	48.03	+01	17	19.5	17.3 809
1989	SA3		1989	09	26.22361	01	37	47.48	+01	17	16.8	809
1989	SA3		1989	09	26.23681	01	37	47.01	+01	17	14.4	809
1989	SA3		1989	09	28.12014	01	36	33.41	+01	11	14.6	809
1989	SA3		1989	09	28.13333	01	36	32.86	+01	11	12.9	809
1989	SA3		1989	09	28.14653	01	36	32.23	+01	11	10.2	809
1989	SB3	*	1989	09	26.21042	01	37	54.94	+00	52	03.3	16.9 809
1989	SB3		1989	09	26.22361	01	37	54.35	+00	51	56.7	809
1989	SB3		1989	09	26.23681	01	37	53.76	+00	51	48.9	809
1989	SB3		1989	09	28.12014	01	36	36.47	+00	36	54.4	809
1989	SB3		1989	09	28.13333	01	36	35.83	+00	36	48.5	809
1989	SB3		1989	09	28.14653	01	36	35.18	+00	36	41.3	809
1989	SC3	*	1989	09	26.21042	01	38	42.56	+00	59	02.5	18.0 809
1989	SC3		1989	09	26.22361	01	38	41.76	+00	59	02.0	809
1989	SC3		1989	09	26.23681	01	38	40.99	+00	58	59.6	809
1989	SC3		1989	09	28.12014	01	36	58.01	+00	55	34.6	809
1989	SC3		1989	09	28.13333	01	36	57.13	+00	55	32.1	809
1989	SC3		1989	09	28.14653	01	36	56.33	+00	55	29.8	809
1989	SD3	*	1989	09	26.21042	01	34	52.10	+04	41	26.5	18.6 809
1989	SD3		1989	09	26.22361	01	34	51.48	+04	41	26.1	809
1989	SD3		1989	09	26.23681	01	34	50.83	+04	41	24.6	809
1989	SD3		1989	09	26.25486	01	34	50.06	+04	41	28.4	18.2 809
1989	SD3		1989	09	26.26806	01	34	49.46	+04	41	26.3	809
1989	SD3		1989	09	26.28125	01	34	48.76	+04	41	25.2	809

1989	SD3		1989	09	28.26111	01	33	17.48	+04	38	17.1		809
1989	SD3		1989	09	28.27431	01	33	16.84	+04	38	14.7		809
1989	SD3		1989	09	28.28750	01	33	16.20	+04	38	13.8		809
1989	SE3	*	1989	09	26.21042	01	37	27.61	+04	19	16.0	18.0	809
1989	SE3		1989	09	26.22361	01	37	26.95	+04	19	14.2		809
1989	SE3		1989	09	26.23681	01	37	26.29	+04	19	11.9		809
1989	SE3		1989	09	26.25486	01	37	25.47	+04	19	13.2	19.5	809
1989	SE3		1989	09	26.26806	01	37	24.74	+04	19	11.8		809
1989	SE3		1989	09	26.28125	01	37	24.06	+04	19	10.1		809
1989	SE3		1989	09	28.26111	01	35	50.63	+04	15	51.4		809
1989	SE3		1989	09	28.27431	01	35	50.00	+04	15	49.4		809
1989	SE3		1989	09	28.28750	01	35	49.27	+04	15	47.9		809
1989	SF3	*	1989	09	26.21042	01	38	30.44	+04	00	56.4	18.0	809
1989	SF3		1989	09	26.22361	01	38	29.94	+04	00	55.6		809
1989	SF3		1989	09	26.23681	01	38	29.39	+04	00	54.2		809
1989	SF3		1989	09	26.25486	01	38	28.71	+04	00	54.4	18.4	809
1989	SF3		1989	09	26.26806	01	38	28.18	+04	00	53.2		809
1989	SF3		1989	09	26.28125	01	38	27.65	+04	00	52.9		809
1989	SF3		1989	09	28.26111	01	37	15.47	+03	58	43.0		809
1989	SF3		1989	09	28.27431	01	37	14.89	+03	58	42.1		809
1989	SF3		1989	09	28.28750	01	37	14.36	+03	58	40.9		809
1989	SG3	*	1989	09	26.25486	01	34	21.55	+05	34	50.7	19.6	809
1989	SG3		1989	09	26.26806	01	34	21.08	+05	34	47.9		809
1989	SG3		1989	09	26.28125	01	34	20.49	+05	34	44.8		809
1989	SG3		1989	09	28.26111	01	32	54.36	+05	29	08.8		809
1989	SG3		1989	09	28.27431	01	32	53.66	+05	29	06.3		809
1989	SG3		1989	09	28.28750	01	32	53.07	+05	29	02.7		809
1989	SH3	*	1989	09	26.25486	01	35	32.93	+05	47	52.1	18.2	809
1989	SH3		1989	09	26.26806	01	35	32.41	+05	47	49.0		809
1989	SH3		1989	09	26.28125	01	35	31.88	+05	47	45.5		809
1989	SH3		1989	09	28.26111	01	34	21.93	+05	39	40.5		809
1989	SH3		1989	09	28.27431	01	34	21.41	+05	39	37.1		809
1989	SH3		1989	09	28.28750	01	34	20.87	+05	39	34.0		809
1989	SJ3	*	1989	09	26.25486	01	36	23.68	+05	58	43.9	18.5	809
1989	SJ3		1989	09	26.26806	01	36	23.15	+05	58	41.3		809
1989	SJ3		1989	09	26.28125	01	36	22.64	+05	58	36.2		809
1989	SJ3		1989	09	28.26111	01	35	12.73	+05	50	33.4		809
1989	SJ3		1989	09	28.27431	01	35	12.19	+05	50	29.6		809
1989	SJ3		1989	09	28.28750	01	35	11.64	+05	50	25.5		809
1989	SK3	*	1989	09	26.25486	01	36	28.87	+06	11	00.9	18.4	809
1989	SK3		1989	09	26.26806	01	36	28.42	+06	10	55.6		809
1989	SK3		1989	09	26.28125	01	36	27.90	+06	10	49.4		809
1989	SK3		1989	09	28.26111	01	35	14.66	+05	57	05.6		809
1989	SK3		1989	09	28.27431	01	35	14.09	+05	56	59.0		809
1989	SK3		1989	09	28.28750	01	35	13.65	+05	56	54.0		809
1989	SL3	*	1989	09	26.25486	01	37	18.08	+05	54	50.8	19.0	809
1989	SL3		1989	09	26.26806	01	37	17.88	+05	54	44.2		809
1989	SL3		1989	09	26.28125	01	37	17.62	+05	54	37.4		809
1989	SL3		1989	09	28.26111	01	36	50.09	+05	40	06.1		809
1989	SL3		1989	09	28.27431	01	36	49.82	+05	39	59.3		809
1989	SL3		1989	09	28.28750	01	36	49.57	+05	39	53.4		809
1989	SM3	*	1989	09	26.25486	01	37	19.29	+03	16	26.9	20.0	809
1989	SM3		1989	09	26.26806	01	37	18.28	+03	16	24.0		809
1989	SM3		1989	09	26.28125	01	37	17.66	+03	16	21.3		809
1989	SM3		1989	09	28.26111	01	35	39.87	+03	11	28.5		809
1989	SM3		1989	09	28.27431	01	35	39.21	+03	11	26.6		809
1989	SM3		1989	09	28.28750	01	35	38.33	+03	11	23.8		809
1989	SN3	*	1989	09	26.25486	01	37	26.31	+06	32	44.6	18.5	809
1989	SN3		1989	09	26.26806	01	37	25.85	+06	32	38.3		809

1989	SN3		1989	09	26.28125	01	37	25.35	+06	32	33.3	809
1989	SN3		1989	09	28.26111	01	36	17.12	+06	20	31.3	18.4 809
1989	SN3		1989	09	28.27431	01	36	16.66	+06	20	28.0	809
1989	SN3		1989	09	28.28750	01	36	16.11	+06	20	23.0	809
1989	SO3	*	1989	09	26.25486	01	37	34.57	+05	16	05.6	18.6 809
1989	SO3		1989	09	26.26806	01	37	34.09	+05	15	58.1	809
1989	SO3		1989	09	26.28125	01	37	33.61	+05	15	51.4	809
1989	SO3		1989	09	28.26111	01	36	32.46	+04	58	16.0	809
1989	SO3		1989	09	28.27431	01	36	31.95	+04	58	08.6	809
1989	SO3		1989	09	28.28750	01	36	31.46	+04	58	00.2	809
1989	SP3	*	1989	09	26.25486	01	38	40.45	+07	03	55.0	19.5 809
1989	SP3		1989	09	26.26806	01	38	39.95	+07	03	43.7	809
1989	SP3		1989	09	26.28125	01	38	39.43	+07	03	32.9	809
1989	SP3		1989	09	28.26111	01	37	22.20	+06	35	24.7	809
1989	SP3		1989	09	28.27431	01	37	21.70	+06	35	12.7	809
1989	SP3		1989	09	28.28750	01	37	21.19	+06	35	02.8	809
1989	SQ3	*	1989	09	26.25486	01	39	13.18	+05	13	21.5	19.0 809
1989	SQ3		1989	09	26.26806	01	39	12.74	+05	13	17.9	809
1989	SQ3		1989	09	26.28125	01	39	12.20	+05	13	13.1	809
1989	SQ3		1989	09	28.26111	01	37	57.14	+05	04	31.2	809
1989	SQ3		1989	09	28.27431	01	37	56.51	+05	04	27.2	809
1989	SQ3		1989	09	28.28750	01	37	55.98	+05	04	24.2	809
1989	SR3	*	1989	09	26.25486	01	39	50.69	+05	02	27.1	19.5 809
1989	SR3		1989	09	26.26806	01	39	50.19	+05	02	23.6	809
1989	SR3		1989	09	26.28125	01	39	49.77	+05	02	19.5	809
1989	SR3		1989	09	28.26111	01	38	40.72	+04	54	29.2	809
1989	SR3		1989	09	28.27431	01	38	40.18	+04	54	25.3	809
1989	SR3		1989	09	28.28750	01	38	39.62	+04	54	21.8	809
1989	SS3	*	1989	09	26.25486	01	39	57.56	+06	29	23.7	19.0 809
1989	SS3		1989	09	26.26806	01	39	57.04	+06	29	20.0	809
1989	SS3		1989	09	26.28125	01	39	56.27	+06	29	16.1	809
1989	SS3		1989	09	28.26111	01	38	20.85	+06	26	05.6	809
1989	SS3		1989	09	28.27431	01	38	20.33	+06	26	01.4	809
1989	SS3		1989	09	28.28750	01	38	19.74	+06	25	56.0	809
1989	ST3	*	1989	09	26.25486	01	40	05.58	+05	45	18.1	20.0 809
1989	ST3		1989	09	26.26806	01	40	05.00	+05	45	14.9	809
1989	ST3		1989	09	26.28125	01	40	04.49	+05	45	10.9	809
1989	ST3		1989	09	28.26111	01	38	46.99	+05	34	29.0	809
1989	ST3		1989	09	28.27431	01	38	46.38	+05	34	23.9	809
1989	ST3		1989	09	28.28750	01	38	45.78	+05	34	19.6	809
1989	SU3	*	1989	09	26.25486	01	40	13.14	+06	49	53.0	18.8 809
1989	SU3		1989	09	26.26806	01	40	12.70	+06	49	48.2	809
1989	SU3		1989	09	26.28125	01	40	12.22	+06	49	43.2	809
1989	SU3		1989	09	28.26111	01	39	02.86	+06	36	59.1	809
1989	SU3		1989	09	28.27431	01	39	02.36	+06	36	54.1	809
1989	SU3		1989	09	28.28750	01	39	01.87	+06	36	48.7	809
1989	SV3	*	1989	09	26.25486	01	40	21.25	+05	12	26.0	18.8 809
1989	SV3		1989	09	26.26806	01	40	20.79	+05	12	19.8	809
1989	SV3		1989	09	26.28125	01	40	20.37	+05	12	14.5	809
1989	SV3		1989	09	28.26111	01	39	20.98	+04	57	32.9	809
1989	SV3		1989	09	28.27431	01	39	20.52	+04	57	26.3	809
1989	SV3		1989	09	28.28750	01	39	19.99	+04	57	20.3	809
1989	SW3	*	1989	09	26.25486	01	40	22.97	+06	46	31.6	19.6 809
1989	SW3		1989	09	26.26806	01	40	22.42	+06	46	30.9	809
1989	SW3		1989	09	26.28125	01	40	21.81	+06	46	29.2	809
1989	SW3		1989	09	28.26111	01	38	50.89	+06	42	40.4	809
1989	SW3		1989	09	28.27431	01	38	50.22	+06	42	38.0	809
1989	SW3		1989	09	28.28750	01	38	49.59	+06	42	36.3	809
1989	SX3	*	1989	09	26.25486	01	40	23.51	+06	36	25.1	18.8 809

1989	SX3		1989	09	26.26806	01	40	22.97	+06	36	23.1	809
1989	SX3		1989	09	26.28125	01	40	22.52	+06	36	19.9	809
1989	SX3		1989	09	28.26111	01	38	58.50	+06	29	37.0	809
1989	SX3		1989	09	28.27431	01	38	57.87	+06	29	33.7	809
1989	SX3		1989	09	28.28750	01	38	57.31	+06	29	31.3	809
1989	SY3	*	1989	09	26.25486	01	40	53.12	+03	55	28.1	20.0 809
1989	SY3		1989	09	26.26806	01	40	52.49	+03	55	23.1	809
1989	SY3		1989	09	26.28125	01	40	51.82	+03	55	16.6	809
1989	SY3		1989	09	28.26111	01	39	17.82	+03	44	10.3	809
1989	SY3		1989	09	28.27431	01	39	17.12	+03	44	05.5	809
1989	SY3		1989	09	28.28750	01	39	16.41	+03	44	00.4	809
1989	SZ3	*	1989	09	26.25486	01	40	55.57	+03	20	41.0	18.6 809
1989	SZ3		1989	09	26.26806	01	40	55.05	+03	20	36.4	809
1989	SZ3		1989	09	26.28125	01	40	54.38	+03	20	30.6	809
1989	SZ3		1989	09	28.26111	01	39	32.99	+03	09	53.4	809
1989	SZ3		1989	09	28.27431	01	39	32.37	+03	09	49.2	809
1989	SZ3		1989	09	28.28750	01	39	31.77	+03	09	44.0	809
1989	SA4	*	1989	09	26.25486	01	41	05.29	+07	34	48.4	18.2 809
1989	SA4		1989	09	26.26806	01	41	04.75	+07	34	46.0	809
1989	SA4		1989	09	26.28125	01	41	04.24	+07	34	43.2	809
1989	SA4		1989	09	28.26111	01	39	44.87	+07	27	43.6	809
1989	SA4		1989	09	28.27431	01	39	44.27	+07	27	41.4	809
1989	SA4		1989	09	28.28750	01	39	43.78	+07	27	38.3	809
1989	SB4	*	1989	09	26.25486	01	41	16.50	+03	11	54.5	19.2 809
1989	SB4		1989	09	26.26806	01	41	15.80	+03	11	50.9	809
1989	SB4		1989	09	26.28125	01	41	15.31	+03	11	45.6	809
1989	SB4		1989	09	28.26111	01	39	53.12	+02	59	17.2	809
1989	SB4		1989	09	28.27431	01	39	52.56	+02	59	11.4	809
1989	SB4		1989	09	28.28750	01	39	51.93	+02	59	05.8	809
1989	SC4	*	1989	09	26.25486	01	41	19.55	+06	06	11.3	20.0 809
1989	SC4		1989	09	26.26806	01	41	19.10	+06	06	04.7	809
1989	SC4		1989	09	26.28125	01	41	18.61	+06	05	56.4	809
1989	SC4		1989	09	28.26111	01	40	13.91	+05	48	04.5	809
1989	SC4		1989	09	28.27431	01	40	13.45	+05	47	57.5	809
1989	SC4		1989	09	28.28750	01	40	12.94	+05	47	49.7	809
1989	SD4	*	1989	09	26.25486	01	41	58.92	+02	37	19.1	19.3 809
1989	SD4		1989	09	26.26806	01	41	58.17	+02	37	18.7	809
1989	SD4		1989	09	26.28125	01	41	57.54	+02	37	17.2	809
1989	SD4		1989	09	28.26111	01	40	13.86	+02	36	12.8	809
1989	SD4		1989	09	28.27431	01	40	13.06	+02	36	12.0	809
1989	SD4		1989	09	28.28750	01	40	12.29	+02	36	11.3	809
1989	SE4	*	1989	09	26.25486	01	42	23.54	+05	35	54.2	19.8 809
1989	SE4		1989	09	26.26806	01	42	23.09	+05	35	47.6	809
1989	SE4		1989	09	26.28125	01	42	22.63	+05	35	40.5	809
1989	SE4		1989	09	28.26111	01	41	25.54	+05	18	46.8	809
1989	SE4		1989	09	28.27431	01	41	25.14	+05	18	39.9	809
1989	SE4		1989	09	28.28750	01	41	24.70	+05	18	34.0	809
1989	SF4	*	1989	09	26.25486	01	42	32.83	+05	52	11.7	19.5 809
1989	SF4		1989	09	26.26806	01	42	32.23	+05	52	10.9	809
1989	SF4		1989	09	26.28125	01	42	31.57	+05	52	09.2	809
1989	SF4		1989	09	28.26111	01	41	05.02	+05	49	04.6	809
1989	SF4		1989	09	28.27431	01	41	04.44	+05	49	03.6	809
1989	SF4		1989	09	28.28750	01	41	03.86	+05	49	01.2	809
1989	SG4	*	1989	09	26.25486	01	42	34.46	+07	24	13.7	18.3 809
1989	SG4		1989	09	26.26806	01	42	33.83	+07	24	13.3	809
1989	SG4		1989	09	26.28125	01	42	33.21	+07	24	12.4	809
1989	SG4		1989	09	28.26111	01	40	58.47	+07	22	01.2	809
1989	SG4		1989	09	28.27431	01	40	57.80	+07	21	59.7	809
1989	SG4		1989	09	28.28750	01	40	57.12	+07	21	58.6	809

1989	SH4	*	1989	09	26.25486	01	44	32.81	+06	01	54.6	18.8	809
1989	SH4		1989	09	26.26806	01	44	32.13	+06	01	52.3		809
1989	SH4		1989	09	26.28125	01	44	31.39	+06	01	48.4		809
1989	SH4		1989	09	28.26111	01	42	57.05	+05	55	58.3		809
1989	SH4		1989	09	28.27431	01	42	56.30	+05	55	55.8		809
1989	SH4		1989	09	28.28750	01	42	55.55	+05	55	53.4		809
1989	SJ4	*	1989	09	26.25486	01	45	24.72	+04	55	42.1	19.6	809
1989	SJ4		1989	09	26.26806	01	45	23.99	+04	55	32.8		809
1989	SJ4		1989	09	26.28125	01	45	23.43	+04	55	27.2		809
1989	SJ4		1989	09	28.26111	01	43	59.11	+04	45	17.2		809
1989	SJ4		1989	09	28.27431	01	43	58.53	+04	45	12.1		809
1989	SJ4		1989	09	28.28750	01	43	57.91	+04	45	05.0		809
1989	SK4	*	1989	09	26.25486	01	45	24.82	+06	32	27.1	18.8	809
1989	SK4		1989	09	26.26806	01	45	24.36	+06	32	20.7		809
1989	SK4		1989	09	26.28125	01	45	23.97	+06	32	15.2		809
1989	SK4		1989	09	28.26111	01	44	22.86	+06	17	16.6		809
1989	SK4		1989	09	28.27431	01	44	22.34	+06	17	10.3		809
1989	SK4		1989	09	28.28750	01	44	21.86	+06	17	03.8		809
1989	SL4	*	1989	09	26.25486	01	45	54.91	+03	48	21.7	18.2	809
1989	SL4		1989	09	26.26806	01	45	54.33	+03	48	17.1		809
1989	SL4		1989	09	26.28125	01	45	53.77	+03	48	13.1		809
1989	SL4		1989	09	28.26111	01	44	48.60	+03	39	00.9		809
1989	SL4		1989	09	28.27431	01	44	48.08	+03	38	56.2		809
1989	SL4		1989	09	28.28750	01	44	47.58	+03	38	52.4		809
1989	SM4	*	1989	09	26.25486	01	46	02.01	+06	47	43.1	18.6	809
1989	SM4		1989	09	26.26806	01	46	01.43	+06	47	39.9		809
1989	SM4		1989	09	26.28125	01	46	00.93	+06	47	35.5		809
1989	SM4		1989	09	28.26111	01	44	49.33	+06	39	28.1		809
1989	SM4		1989	09	28.27431	01	44	48.85	+06	39	24.5		809
1989	SM4		1989	09	28.28750	01	44	48.32	+06	39	21.8		809
1989	SN4	*	1989	09	26.25486	01	46	18.60	+06	28	42.4	19.0	809
1989	SN4		1989	09	26.26806	01	46	18.02	+06	28	36.6		809
1989	SN4		1989	09	26.28125	01	46	17.49	+06	28	32.4		809
1989	SN4		1989	09	28.26111	01	44	56.33	+06	17	35.5		809
1989	SN4		1989	09	28.27431	01	44	55.76	+06	17	29.9		809
1989	SN4		1989	09	28.28750	01	44	55.20	+06	17	25.0		809
1989	SO4	*	1989	09	26.25486	01	46	20.83	+07	10	43.3	18.9	809
1989	SO4		1989	09	26.26806	01	46	20.18	+07	10	42.2		809
1989	SO4		1989	09	26.28125	01	46	19.63	+07	10	41.0		809
1989	SO4		1989	09	28.26111	01	44	57.20	+07	06	17.1		809
1989	SO4		1989	09	28.27431	01	44	56.62	+07	06	14.9		809
1989	SO4		1989	09	28.28750	01	44	56.01	+07	06	12.8		809
1989	SP4	*	1989	09	26.25486	01	47	08.33	+06	05	01.6	20.0	809
1989	SP4		1989	09	26.26806	01	47	07.68	+06	05	00.6		809
1989	SP4		1989	09	26.28125	01	47	07.09	+06	04	58.1		809
1989	SP4		1989	09	28.26111	01	45	42.09	+06	03	15.7		809
1989	SP4		1989	09	28.27431	01	45	41.45	+06	03	15.1		809
1989	SP4		1989	09	28.28750	01	45	40.79	+06	03	14.2		809
1989	SQ4	*	1989	09	26.25486	01	47	13.05	+05	18	25.0	19.8	809
1989	SQ4		1989	09	26.26806	01	47	12.45	+05	18	20.6		809
1989	SQ4		1989	09	26.28125	01	47	11.81	+05	18	16.0		809
1989	SQ4		1989	09	28.26111	01	45	45.17	+05	07	58.2		809
1989	SQ4		1989	09	28.27431	01	45	44.54	+05	07	54.2		809
1989	SQ4		1989	09	28.28750	01	45	43.88	+05	07	49.3		809
1989	SR4	*	1989	09	26.25486	01	47	17.73	+06	41	03.8	19.0	809
1989	SR4		1989	09	26.26806	01	47	17.33	+06	41	03.3		809
1989	SR4		1989	09	26.28125	01	47	16.74	+06	41	03.2		809
1989	SR4		1989	09	28.26111	01	46	00.54	+06	37	50.3		809
1989	SR4		1989	09	28.27431	01	45	59.97	+06	37	49.5		809

1989	SR4		1989	09	28.28750	01	45	59.42	+06	37	48.4	809
1989	SS4	*	1989	09	26.25486	01	48	01.52	+07	19	07.6	18.5 809
1989	SS4		1989	09	26.26806	01	48	01.24	+07	19	04.9	809
1989	SS4		1989	09	26.28125	01	48	01.02	+07	19	01.2	809
1989	SS4		1989	09	28.26111	01	47	15.54	+07	10	31.7	809
1989	SS4		1989	09	28.27431	01	47	15.29	+07	10	27.3	809
1989	SS4		1989	09	28.28750	01	47	14.94	+07	10	24.1	809
1989	ST4	*	1989	09	26.25486	01	48	45.85	+06	09	16.8	18.8 809
1989	ST4		1989	09	26.26806	01	48	45.25	+06	09	14.5	809
1989	ST4		1989	09	26.28125	01	48	44.52	+06	09	11.2	809
1989	ST4		1989	09	28.26111	01	47	19.13	+06	03	36.2	809
1989	ST4		1989	09	28.27431	01	47	18.52	+06	03	34.3	809
1989	ST4		1989	09	28.28750	01	47	17.90	+06	03	32.2	809
1989	SU4	*	1989	09	26.25486	01	48	57.64	+04	17	54.9	19.6 809
1989	SU4		1989	09	26.26806	01	48	57.02	+04	17	49.4	809
1989	SU4		1989	09	26.28125	01	48	56.54	+04	17	44.7	809
1989	SU4		1989	09	28.26111	01	47	45.49	+04	05	35.5	809
1989	SU4		1989	09	28.27431	01	47	44.97	+04	05	31.0	809
1989	SU4		1989	09	28.28750	01	47	44.36	+04	05	25.2	809
1989	SV4	*	1989	09	26.25486	01	49	10.26	+04	28	54.4	20.0 809
1989	SV4		1989	09	26.26806	01	49	09.52	+04	28	53.1	809
1989	SV4		1989	09	26.28125	01	49	08.78	+04	28	51.1	809
1989	SV4		1989	09	28.26111	01	47	23.63	+04	23	35.3	19.7 809
1989	SV4		1989	09	28.27431	01	47	23.00	+04	23	34.7	809
1989	SV4		1989	09	28.28750	01	47	22.28	+04	23	34.5	809
1989	SW4	*	1989	09	26.25486	01	50	01.40	+07	19	31.8	17.8 809
1989	SW4		1989	09	26.26806	01	50	00.92	+07	19	28.9	809
1989	SW4		1989	09	26.28125	01	50	00.47	+07	19	24.7	809
1989	SW4		1989	09	28.26111	01	48	57.70	+07	11	13.1	809
1989	SW4		1989	09	28.27431	01	48	57.23	+07	11	08.6	809
1989	SW4		1989	09	28.28750	01	48	56.76	+07	11	05.5	809
1989	SX4	*	1989	09	26.25486	01	50	09.06	+05	28	21.0	18.0 809
1989	SX4		1989	09	26.26806	01	50	08.70	+05	28	11.5	809
1989	SX4		1989	09	26.28125	01	50	08.31	+05	28	02.4	809
1989	SX4		1989	09	28.26111	01	49	16.85	+05	04	58.8	809
1989	SX4		1989	09	28.27431	01	49	16.48	+05	04	49.7	809
1989	SX4		1989	09	28.28750	01	49	16.04	+05	04	39.7	809
1989	SY4	*	1989	09	26.25486	01	50	09.72	+04	09	52.7	19.4 809
1989	SY4		1989	09	26.26806	01	50	09.26	+04	09	50.8	809
1989	SY4		1989	09	26.28125	01	50	08.75	+04	09	50.0	809
1989	SY4		1989	09	28.26111	01	49	04.47	+04	06	47.3	809
1989	SY4		1989	09	28.27431	01	49	03.95	+04	06	46.3	809
1989	SY4		1989	09	28.28750	01	49	03.33	+04	06	45.0	809
1989	SZ4	*	1989	09	26.25486	01	50	15.87	+06	50	55.0	18.6 809
1989	SZ4		1989	09	26.26806	01	50	15.24	+06	50	53.1	809
1989	SZ4		1989	09	26.28125	01	50	14.68	+06	50	50.2	809
1989	SZ4		1989	09	28.26111	01	48	47.48	+06	44	19.4	809
1989	SZ4		1989	09	28.27431	01	48	46.77	+06	44	15.7	809
1989	SZ4		1989	09	28.28750	01	48	46.19	+06	44	13.7	809
1989	SA5	*	1989	09	26.25486	01	50	55.83	+04	30	39.4	18.7 809
1989	SA5		1989	09	26.26806	01	50	55.30	+04	30	36.3	809
1989	SA5		1989	09	26.28125	01	50	54.91	+04	30	33.6	809
1989	SA5		1989	09	28.26111	01	49	58.16	+04	24	29.7	809
1989	SA5		1989	09	28.27431	01	49	57.69	+04	24	26.7	809
1989	SA5		1989	09	28.28750	01	49	57.20	+04	24	22.8	809
1989	SB5	*	1989	09	26.25486	01	51	05.13	+05	24	45.6	19.6 809
1989	SB5		1989	09	26.26806	01	51	04.58	+05	24	42.6	809
1989	SB5		1989	09	26.28125	01	51	04.08	+05	24	40.6	809
1989	SB5		1989	09	28.26111	01	49	39.45	+05	18	11.3	809

1989	SB5		1989	09	28.27431	01	49	38.88	+05	18	08.9	809
1989	SB5		1989	09	28.28750	01	49	38.23	+05	18	06.9	809
1989	SC5	*	1989	09	26.25486	01	52	04.03	+07	07	42.6	18.8 809
1989	SC5		1989	09	26.26806	01	52	03.54	+07	07	36.2	809
1989	SC5		1989	09	26.28125	01	52	03.13	+07	07	28.8	809
1989	SC5		1989	09	28.26111	01	51	03.29	+06	49	58.6	809
1989	SC5		1989	09	28.27431	01	51	02.83	+06	49	50.7	809
1989	SC5		1989	09	28.28750	01	51	02.35	+06	49	43.5	809
1989	SD5	*	1989	09	26.25486	01	52	24.68	+04	15	34.5	18.6 809
1989	SD5		1989	09	26.26806	01	52	24.17	+04	15	31.0	809
1989	SD5		1989	09	26.28125	01	52	23.66	+04	15	26.6	809
1989	SD5		1989	09	28.26111	01	51	09.20	+04	05	32.8	809
1989	SD5		1989	09	28.27431	01	51	08.61	+04	05	28.5	809
1989	SD5		1989	09	28.28750	01	51	08.04	+04	05	24.1	809
1989	SE5	*	1989	09	26.25486	01	52	25.79	+07	16	16.4	18.4 809
1989	SE5		1989	09	26.26806	01	52	25.37	+07	16	10.1	809
1989	SE5		1989	09	26.28125	01	52	24.80	+07	16	05.2	809
1989	SE5		1989	09	28.26111	01	51	14.28	+07	02	30.6	809
1989	SE5		1989	09	28.27431	01	51	13.74	+07	02	24.7	809
1989	SE5		1989	09	28.28750	01	51	13.17	+07	02	18.3	809
1989	SF5	*	1989	09	26.25486	01	54	05.71	+06	27	11.3	18.5 809
1989	SF5		1989	09	26.26806	01	54	05.08	+06	27	10.0	809
1989	SF5		1989	09	26.28125	01	54	04.50	+06	27	06.2	809
1989	SF5		1989	09	28.26111	01	52	49.82	+06	19	45.0	809
1989	SF5		1989	09	28.27431	01	52	49.26	+06	19	42.2	809
1989	SF5		1989	09	28.28750	01	52	48.64	+06	19	38.6	809
1989	SG5	*	1989	09	26.25486	01	54	37.31	+05	25	33.0	18.1 809
1989	SG5		1989	09	26.26806	01	54	36.70	+05	25	27.6	809
1989	SG5		1989	09	26.28125	01	54	36.14	+05	25	21.8	809
1989	SG5		1989	09	28.26111	01	53	13.78	+05	12	49.3	809
1989	SG5		1989	09	28.27431	01	53	13.16	+05	12	44.1	809
1989	SG5		1989	09	28.28750	01	53	12.49	+05	12	39.0	809
1989	SH5	*	1989	09	26.25486	01	55	03.35	+04	50	26.6	19.0 809
1989	SH5		1989	09	26.26806	01	55	02.90	+04	50	23.4	809
1989	SH5		1989	09	26.28125	01	55	02.37	+04	50	18.4	809
1989	SH5		1989	09	28.26111	01	53	53.24	+04	39	55.1	809
1989	SH5		1989	09	28.27431	01	53	52.74	+04	39	50.2	809
1989	SH5		1989	09	28.28750	01	53	52.17	+04	39	46.4	809
1989	SJ5	*	1989	09	26.25486	01	55	04.81	+05	50	39.5	18.2 809
1989	SJ5		1989	09	26.26806	01	55	04.13	+05	50	37.1	809
1989	SJ5		1989	09	26.28125	01	55	03.53	+05	50	34.7	809
1989	SJ5		1989	09	28.26111	01	53	29.55	+05	44	58.6	809
1989	SJ5		1989	09	28.27431	01	53	28.89	+05	44	56.5	809
1989	SJ5		1989	09	28.28750	01	53	28.21	+05	44	54.5	809
1989	TJ		1989	09	26.21042	01	29	15.57	+03	13	34.4	17.1 809
1989	TJ		1989	09	26.22361	01	29	14.98	+03	13	31.5	809
1989	TJ		1989	09	26.23681	01	29	14.42	+03	13	28.4	809
1989	TJ		1989	09	28.12014	01	27	53.81	+03	06	54.1	809
1989	TJ		1989	09	28.13333	01	27	53.15	+03	06	51.3	809
1989	TJ		1989	09	28.14653	01	27	52.53	+03	06	48.3	809
1989	TN		1989	09	26.21042	01	40	30.03	+03	28	21.6	17.0 809
1989	TN		1989	09	26.22361	01	40	29.39	+03	28	17.0	809
1989	TN		1989	09	26.23681	01	40	28.78	+03	28	12.7	809
1989	TN		1989	09	26.25486	01	40	28.05	+03	28	08.3	18.2 809
1989	TN		1989	09	26.26806	01	40	27.34	+03	28	03.5	809
1989	TN		1989	09	26.28125	01	40	26.74	+03	28	00.0	809
1989	TN		1989	09	28.26111	01	38	56.80	+03	17	40.1	809
1989	TN		1989	09	28.27431	01	38	56.15	+03	17	35.7	809
1989	TN		1989	09	28.28750	01	38	55.44	+03	17	31.3	809

1989	TX	1989	09	26.21042	01	37	44.98	+01	40	29.1	16.5	809
1989	TX	1989	09	26.22361	01	37	44.50	+01	40	23.9		809
1989	TX	1989	09	26.23681	01	37	43.98	+01	40	18.2		809
1989	TX	1989	09	28.12014	01	36	38.87	+01	27	54.1		809
1989	TX	1989	09	28.13333	01	36	38.28	+01	27	49.5		809
1989	TX	1989	09	28.14653	01	36	37.79	+01	27	43.4		809
4271	T-3	1989	09	26.25486	01	44	53.38	+02	36	13.2	17.6	809
4271	T-3	1989	09	26.26806	01	44	53.02	+02	36	11.6		809
4271	T-3	1989	09	26.28125	01	44	52.60	+02	36	09.7		809
4271	T-3	1989	09	28.26111	01	43	59.06	+02	31	26.8		809
4271	T-3	1989	09	28.27431	01	43	58.66	+02	31	25.4		809
4271	T-3	1989	09	28.28750	01	43	58.22	+02	31	23.0		809
90		1989	09	26.25486	01	39	55.66	+07	33	59.0	10.0	809
90		1989	09	26.26806	01	39	55.07	+07	33	56.2		809
90		1989	09	26.28125	01	39	54.49	+07	33	52.8		809
90		1989	09	28.26111	01	38	36.63	+07	26	36.2		809
90		1989	09	28.27431	01	38	36.01	+07	26	32.7		809
90		1989	09	28.28750	01	38	35.45	+07	26	30.2		809
1517		1989	09	26.21042	01	24	30.63	+02	04	42.6	16.0	809
1517		1989	09	26.22361	01	24	30.01	+02	04	39.6		809
1517		1989	09	26.23681	01	24	29.36	+02	04	35.6		809
1517		1989	09	28.12014	01	23	02.41	+01	56	52.3		809
1517		1989	09	28.13333	01	23	01.67	+01	56	48.8		809
1517		1989	09	28.14653	01	23	00.93	+01	56	45.3		809
2031		1989	09	26.21042	01	23	52.18	+04	41	40.2	15.5	809
2031		1989	09	26.22361	01	23	51.61	+04	41	32.3		809
2031		1989	09	26.23681	01	23	51.11	+04	41	24.9		809
2031		1989	09	28.12014	01	22	43.78	+04	24	46.8		809
2031		1989	09	28.13333	01	22	43.19	+04	24	39.1		809
2031		1989	09	28.14653	01	22	42.62	+04	24	32.2		809
2410		1989	09	26.25486	01	41	46.96	+06	29	43.2	16.8	809
2410		1989	09	26.26806	01	41	46.29	+06	29	39.1		809
2410		1989	09	26.28125	01	41	45.64	+06	29	34.3		809
2410		1989	09	28.26111	01	40	12.37	+06	18	15.1		809
2410		1989	09	28.27431	01	40	11.66	+06	18	09.3		809
2410		1989	09	28.28750	01	40	10.99	+06	18	05.1		809
2560		1989	09	26.25486	01	42	07.33	+03	11	31.3	16.9	809
2560		1989	09	26.26806	01	42	06.78	+03	11	26.7		809
2560		1989	09	26.28125	01	42	06.22	+03	11	22.0		809
2560		1989	09	28.26111	01	40	51.68	+02	58	49.1		809
2560		1989	09	28.27431	01	40	51.10	+02	58	44.2		809
2560		1989	09	28.28750	01	40	50.50	+02	58	38.6		809
2688		1989	09	26.21042	01	21	12.29	+03	13	11.9	16.9	809
2688		1989	09	26.22361	01	21	11.73	+03	13	08.8		809
2688		1989	09	26.23681	01	21	11.18	+03	13	04.6		809
2688		1989	09	28.12014	01	19	53.42	+03	04	36.9		809
2688		1989	09	28.13333	01	19	52.78	+03	04	33.0		809
2688		1989	09	28.14653	01	19	52.15	+03	04	28.6		809
2779		1989	09	26.25486	01	55	09.82	+05	41	13.1	17.5	809
2779		1989	09	26.26806	01	55	09.18	+05	41	08.6		809
2779		1989	09	26.28125	01	55	08.55	+05	41	05.1		809
2779		1989	09	28.26111	01	53	38.39	+05	31	54.9		809
2779		1989	09	28.27431	01	53	37.78	+05	31	51.8		809
2779		1989	09	28.28750	01	53	37.06	+05	31	48.2		809
3189		1989	09	26.25486	01	55	11.47	+06	42	29.6	17.0	809
3189		1989	09	26.26806	01	55	11.08	+06	42	22.8		809
3189		1989	09	26.28125	01	55	10.71	+06	42	18.2		809
3650		1989	09	26.21042	01	34	59.98	-00	09	13.3	16.8	809
3650		1989	09	26.22361	01	34	59.28	-00	09	13.8		809

3650		1989 09 26.23681	01 34 58.59	-00 09 14.2						809
3650		1989 09 28.12014	01 33 22.96	-00 09 49.7						809
3650		1989 09 28.13333	01 33 22.20	-00 09 50.1						809
3650		1989 09 28.14653	01 33 21.44	-00 09 50.4						809

871 Akou
K. Kawanishi, 2045-1, Kariya, Akou, Hyogo-Ken 678-02, Japan
0.20-m f/4.8 reflector

1989 SJ		1989 10 04.60174	01 08 05.94	+10 24 57.1			15.0			871
1989 SJ		1989 10 04.62396	01 08 04.80	+10 24 49.9						871
1989 SK		1989 10 04.64063	02 00 44.71	+22 18 35.6			16.0		E	871
1989 SK		1989 10 04.66146	02 00 44.11	+22 18 37.1					E	871
1989 TG1		1989 10 21.60521	01 48 57.65	+20 55 50.0			16.0			871
1989 TG1		1989 10 21.62604	01 48 56.48	+20 55 32.6						871
2847		1989 10 04.60174	01 09 42.97	+11 02 08.8			15.0			871
2847		1989 10 04.62396	01 09 41.64	+11 01 58.4						871

877 Okutama
N. Kawasato, 3-51, Hana-Koganei, Kodaira, Tokyo 187, Japan
Observer T. Hioki
Measurers N. Kawasato, T. Hioki
0.30-m f/3.8 hyperboloid astrocamera

1980 RZ3		1989 10 08.70637	02 18 30.98	+18 53 07.7						877
1980 RZ3		1989 10 08.72421	02 18 30.13	+18 53 15.6						877
1982 SX2		1989 10 08.70637	02 20 25.71	+18 03 57.7			17			877
1982 SX2		1989 10 08.72421	02 20 24.70	+18 04 00.8						877
1982 UP6		1989 10 08.73785	02 20 35.1	+21 35 01			16		D	877
1982 UP6		1989 10 08.75483	02 20 34.5	+21 34 50					D	877
1989 TM1	*	1989 10 08.67431	02 08 57.7	+14 30 51			17.5		W	877
1989 TM1		1989 10 08.69263	02 08 56.6	+14 30 54					W	877
1989 TM1		1989 10 09.69178	02 08 03.74	+14 32 45.0						877
1989 TM1		1989 10 09.70799	02 08 02.77	+14 32 48.6						877
1989 TT1	*	1989 10 09.66215	01 48 34.5	+14 26 22			17.5		W	877
1989 TT1		1989 10 09.67951	01 48 33.6	+14 26 15					W	877
1989 TT1		1989 10 25.57951	01 34 48.27	+12 22 17.5						877
1989 TT1		1989 10 25.59688	01 34 47.45	+12 22 08.4						877

881 Toyota
T. Furuta, Mitsuike 17-2, Kakiya-Cho, Tokai, Aichi-Ken 477, Japan
Observer K. Suzuki
Measurer T. Furuta
0.31-m f/5.7 reflector

1989 TB		1989 10 09.61771	01 46 12.01	+08 29 36.3			15.0			881
1989 TB		1989 10 09.64132	01 46 11.20	+08 29 26.6						881
1989 TH	*	1989 10 04.55660	01 26 50.37	+14 48 32.1			15.5			881
1989 TH		1989 10 04.58021	01 26 49.41	+14 48 13.3						881
1989 TH		1989 10 05.56563	01 26 11.42	+14 35 05.8						881
1989 TH		1989 10 05.59896	01 26 09.91	+14 34 37.6						881
1989 TW	*	1989 10 04.54479	01 21 59.5	+19 07 00			16.5			881
1989 TW		1989 10 04.56840	01 21 58.43	+19 06 56.3						881
1989 TW		1989 10 08.55278	01 18 25.8	+18 50 01						881
1989 UH	*	1989 10 20.53819	01 38 15.98	+07 19 56.0			16.0			881
1989 UH		1989 10 20.55208	01 38 15.30	+07 19 53.7						881
1989 UH		1989 10 23.52500	01 35 24.7	+07 17 17						881
1989 UH		1989 10 23.53819	01 35 23.7	+07 17 14						881

888 Gekko
Y. Oshima, Gekko Observatory, Kan-nami, Shizuoka 419-01, Japan
Observer Y. Oshima

1989	TS1	*	1989	10	09.63333	00	05	20.53	+02 24 14.2	17.0	888
1989	TS1		1989	10	09.66667	00	05	19.27	+02 24 12.2		888
1989	TS1		1989	10	23.53403	23	58	24.16	+02 09 36.9	17.5	888
1989	TS1		1989	10	23.56667	23	58	23.22	+02 09 34.7		888
1989	TS1		1989	10	24.66458	23	57	54.48	+02 08 44.4	17.5	888
1989	TS1		1989	10	25.59028	23	57	30.70	+02 08 03.0	17.5	888
1989	TS1		1989	10	25.62292	23	57	29.85	+02 08 00.8		888
1989	TU1	*	1989	10	09.69722	02	24	33.13	+24 54 52.1	16.5	888
1989	TU1		1989	10	09.72986	02	24	32.14	+24 54 47.0		888
1989	TU1		1989	10	23.61250	02	16	11.49	+23 52 44.1	16.5	888
1989	TU1		1989	10	23.64583	02	16	10.00	+23 52 31.5		888
1989	TU1		1989	10	24.64722	02	15	26.06	+23 46 00.4	16.5	888
1989	TU1		1989	10	24.68125	02	15	24.54	+23 45 47.0		888
1989	TU1		1989	10	25.66736	02	14	40.87	+23 39 09.0	16.5	888
1989	TU1		1989	10	25.70069	02	14	39.25	+23 38 55.0		888
1989	UG	*	1989	10	23.68264	03	13	51.78	+26 35 00.7	17.0	888
1989	UG		1989	10	23.71528	03	13	49.41	+26 35 03.8		888
1989	UG		1989	10	24.65556	03	12	48.37	+26 36 16.7	17.0	888
1989	UG		1989	10	24.68958	03	12	46.10	+26 36 18.3		888
1989	UG		1989	10	25.71944	03	11	37.36	+26 37 24.0	17.0	888
1989	UG		1989	10	25.75208	03	11	35.08	+26 37 25.6		888

897 YGCO Chiyoda Station
T. Kojima, 45 Shimonakamori, Chiyoda-cyo, Ora-Gun, Gunma-ken, 370-07 Japan
Observer T. Kojima
0.25-m f/3.4 Wright-Schmidt camera

1989	SY		1989	10	08.66910	02	26	17.91	+15 07 24.5	16	897
1989	SY		1989	10	08.70833	02	26	16.28	+15 07 40.0		897
1989	TX		1989	10	08.57240	01	29	15.07	+00 18 41.3	15	897
1989	TX		1989	10	08.61458	01	29	12.92	+00 18 26.7		897
1989	TX		1989	10	20.50833	01	19	37.51	-00 48 27.3	15.5	897
1989	TX		1989	10	20.57014	01	19	34.37	-00 48 43.7		897
1989	TQ1	*	1989	10	08.58003	01	36	28.26	-02 16 12.4	15	897
1989	TQ1		1989	10	08.62222	01	36	25.52	-02 16 08.4		897
1989	TQ1		1989	10	20.50833	01	23	34.90	-01 47 06.3	15	897
1989	TQ1		1989	10	20.57014	01	23	30.72	-01 46 53.9		897
263			1989	10	08.66910	02	31	26.82	+15 05 57.7	15	897
263			1989	10	08.70833	02	31	25.29	+15 05 49.1		897
2393			1989	10	20.47494	23	29	26.88	+07 18 57.2	15	897
2393			1989	10	20.49803	23	29	26.50	+07 18 47.2		897

* * * * *

ORBITAL ELEMENTS.

Orbital elements have been computed by the following contributors:

D. D. Balam, Dept. of Physics and Astronomy, University of Victoria, Victoria, BC V8W 2Y2, Canada
C. M. Bardwell, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A. (B)
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff,

AZ 86001, U.S.A. (E)
E. Goffin, Agfa-Gevaert N.V., Mortsel, Belgium
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. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2357, Australia (m)
S. Nakano, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A. (N)
H. Oishi, 5-3-14 Ikeda, Niiza, Saitama 352, Japan

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.

Periodic Comet Helin-Roman-Alu 1 (1989w)

T 1987 Oct. 18.14537 ET				Nakano
q 3.7070228		(1950.0)	P	Q
n 0.10364985	Peri.	216.86242	+0.32979337	+0.93007391
a 4.4883868	Node	72.89722	-0.82065813	+0.36719053
e 0.1740857	Incl.	9.74999	-0.46664394	+0.01155982
P 9.51				

From 12 observations 1989 Sept. 7-Oct. 23.

Comet Levy (1987 XXX)

Epoch 1987 Nov. 21.0 ET = JDE 2447120.5

T 1987 Nov. 29.94718 ET				Marsden
q 1.1741762		(1950.0)	P	Q
z +0.0018603	Peri.	326.52164	+0.01894897	+0.53345315
+/-0.0000456	Node	288.06343	-0.60401182	-0.66787989
e 0.9978157	Incl.	62.80486	-0.79675006	+0.51900308

From 30 observations 1988 Mar. 22-July 18, mean residual 0".7.

Comet Shoemaker-Holt (1988g)

Epoch 1988 Feb. 9.0 ET = JDE 2447200.5

T 1988 Feb. 14.22162 ET				Marsden
q 1.1744657		(1950.0)	P	Q
z +0.0018476	Peri.	326.52171	+0.01893977	+0.53346241
+/-0.0000227	Node	288.06325	-0.60401628	-0.66787531
e 0.9978301	Incl.	62.80400	-0.79674690	+0.51899946

From 60 observations 1988 May 13-Oct. 20, mean residual 0".9.

Comet Helin-Roman (1989s)
T 1989 Aug. 20.29094 ET Marsden

		(1950.0)	P	Q
q 1.3244901	Peri.	154.90386	+0.76306401	-0.18069549
	Node	127.90753	-0.64060499	-0.33887683
e 1.0	Incl.	128.14050	+0.08578211	-0.92331557

From 15 observations 1989 Sept. 5-30.

Comet Okazaki-Levy-Rudenko (1989r)
T 1989 Nov. 11.91825 ET Nakano

		(1950.0)	P	Q
q 0.6423516	Peri.	150.57737	-0.07435638	-0.03901171
	Node	274.81452	+0.60073189	+0.79583147
e 1.0	Incl.	90.14647	+0.79598513	-0.60426017

From 64 observations 1989 Aug. 24-Oct. 23.

Comet Helin-Roman-Alu (1989v)
T 1989 Dec. 15.79565 ET Nakano

		(1950.0)	P	Q
q 1.0496947	Peri.	67.92342	+0.28551936	-0.95334116
	Node	7.79673	+0.36214108	+0.01257227
e 1.0	Incl.	46.30071	+0.88731760	+0.30163317

From 20 observations 1989 Oct. 1-Oct. 23.

One-opposition minor planets

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1987 QG	10.0	870902	337.59	38.27	323.08	35.98	0.3213	3.8668	5	3	E	N
1987 QQ	13.0	870902	29.40	34.93	259.57	2.12	0.2679	2.2758	33	4		N
1987 QT	14.0	870902	338.73	45.53	333.81	8.32	0.2197	2.3775	33	5		N
1987 QV3	13.5	870922	19.38	109.40	233.33	7.06	0.1788	2.6805	57	5	D	N
1987 QS5	12.5	870902	344.68	27.29	333.01	10.39	0.1347	3.0754	9	0		N
1987 QH10	14.0	870922	6.09	4.25	336.44	5.23	0.3170	2.1674	28	5		N
1987 QV10	11.5	870902	353.61	211.63	143.61	10.88	0.1103	3.0003	27	4		N
1987 RB	14.0	870902	14.50	122.86	192.51	3.45	0.2464	2.5400	6	7		N
1987 RD	13.0	870902	2.58	16.86	319.40	5.35	0.1996	2.7776	6	7		N
1987 RA3	13.0	870922	27.34	171.07	138.20	4.07	0.2381	2.5019	21	3		N
1987 SC	13.0	870922	344.85	181.16	210.53	17.42	0.1682	2.6822	35	5	D	N
1987 SD	14.0	870902	358.67	165.52	183.90	16.20	0.2472	2.7994	3	7		M
1987 SN	13.5	870922	55.83	337.82	298.03	5.34	0.2350	2.1512	5	4		N
1987 SQ	13.0	870922	339.97	58.96	323.98	3.56	0.1611	3.1570	22	5		N
1987 SU	14.5	870922	352.66	16.14	349.37	3.81	0.1104	2.1621	29	6		N
1987 SR1	13.0	870922	45.47	111.97	184.64	11.03	0.1805	2.5732	76	6	D	N
1987 SU1	13.5	870922	349.45	121.93	254.07	6.13	0.1298	2.2360	9	5		N
1987 SG3	14.5	871012	33.13	121.15	186.81	22.26	0.3186	2.3404	66	0		M
1987 SH3	15.0	871012	286.40	265.67	189.36	24.23	0.1105	1.8900	66	0		M
1987 SL3	13.0	870902	299.99	93.47	317.72	10.07	0.0855	3.1590	29	0		M
1987 SF4	14.5	870922	31.84	141.43	171.76	1.78	0.2289	2.3158	11	5		N
1987 SQ4	15.0	870902	356.34	150.12	196.21	7.06	0.2097	2.7559	29	4		N
1987 SR4	14.5	870902	43.90	316.34	312.45	7.52	0.2897	2.4063	29	4		N
1987 SL12	14.0	870922	22.89	354.79	312.52	0.40	0.3544	2.9994	21	8		N
1987 SN12	13.5	870922	15.79	183.17	144.57	1.55	0.2130	2.5688	12	0		N
1987 SP12	13.0	870922	348.41	188.34	185.81	2.72	0.2669	3.1072	30	0		N
1987 SR12	14.0	870922	45.42	117.01	177.00	4.25	0.1562	2.2751	31	0		N
1987 SE13	12.5	870922	323.81	305.61	96.43	2.86	0.1910	3.1603	29	9		N
1987 SP15	11.5	871012	352.13	5.35	31.15	1.11	0.0997	3.0737	9	3		N
1987 TA	14.0	870922	9.13	17.25	340.17	4.55	0.2424	2.3128	37	0		M
1987 TG	14.0	870922	349.71	355.98	32.35	9.15	0.2744	2.6562	26	4		N
1987 UB	14.0	871012	24.40	138.51	199.40	7.25	0.1836	2.3920	34	6		N

1987	UZ	13.0	871101	88.11	266.93	19.21	27.53	0.0797	3.0228	39	5	N
1987	UT1	16.0	871012	14.09	41.86	297.52	6.04	0.3168	2.3014	65	9	M
1987	UU1	13.5	871012	28.36	20.47	322.91	2.74	0.1666	2.3086	30	7	N
1987	UE2	13.0	870922	320.39	128.19	316.66	4.29	0.3385	3.1431	53	4	N
1987	VB	13.0	871121	348.65	129.33	283.12	2.91	0.1427	2.2423	71	0	N
1987	WP	13.0	871121	285.69	293.10	233.73	21.04	0.2769	2.4030	34	5	N
1988	PK	14.5	880916	0.95	175.44	163.29	4.11	0.2377	2.4168	85	0	E
1988	PX	16.7	880916	10.98	308.25	13.16	5.39	0.3433	2.2005	56	6	E
1988	PM1	14.6	880916	9.07	164.39	165.95	2.44	0.2269	2.3718	85	0	E
1988	PN1	14.9	880916	352.99	199.69	155.29	3.02	0.1988	2.4126	85	0	E
1988	QC1	15.8	880827	13.06	124.10	194.00	3.39	0.2534	2.2461	30	4	E
1988	QG1	14.0	880916	303.43	290.72	153.32	4.57	0.3006	2.3818	60	7	D M
1988	RK	13.4	880916	348.68	193.41	175.98	12.35	0.1867	2.4009	26	5	E
1988	RT	9.5	881006	330.70	103.74	280.43	6.97	0.0626	5.3058	58	6	B
1988	RA2	14.1	881006	359.35	182.90	171.63	2.51	0.1903	2.4564	58	0	E
1988	RB2	15.2	881006	18.88	173.61	152.62	2.73	0.2039	2.2999	58	0	E
1988	RE2	12.5	881006	323.25	284.87	117.52	2.00	0.1945	3.1200	58	0	D M
1988	RJ3	15.1	881006	58.82	291.86	356.80	2.32	0.1547	2.3989	58	0	E
1988	RN3	17.0	881006	6.60	180.54	176.16	4.00	0.1460	2.3139	59	0	E
1988	RR3	15.2	881006	264.46	86.10	21.21	3.34	0.0703	2.2399	59	0	E
1988	RS3	15.4	880916	359.92	200.65	156.87	2.51	0.2437	2.3577	29	9	E
1988	RT3	16.3	881006	352.96	10.89	7.19	2.46	0.2310	2.3840	58	0	E
1988	RU3	14.4	881006	85.74	122.08	151.74	2.99	0.0377	2.6855	59	0	E
1988	RW3	14.4	881006	41.71	288.03	22.40	1.70	0.1400	3.1768	58	0	E
1988	RX3	15.2	881006	27.77	165.91	166.63	4.60	0.0717	2.7872	59	0	E
1988	RY3	14.5	881006	13.80	173.05	171.86	1.37	0.1849	3.1575	58	0	E
1988	RJ4	13.2	880916	351.19	150.64	203.91	2.15	0.0935	2.6541	36	0	E
1988	RM4	13.8	881006	44.99	111.90	176.61	2.64	0.1856	2.4819	66	0	E
1988	RO4	12.3	881006	311.93	245.00	161.55	11.06	0.1227	2.9986	65	0	E
1988	RP4	13.4	880916	287.11	96.57	333.40	5.22	0.1187	2.3656	37	0	E
1988	RQ4	16.6	880916	355.77	161.46	191.60	0.79	0.2254	2.2578	37	0	E
1988	RS4	13.2	881006	36.86	308.56	357.31	1.12	0.0720	2.7436	65	0	E
1988	RT4	13.3	881006	335.65	237.12	150.79	1.74	0.2350	3.1738	66	0	E
1988	RV4	13.1	881006	21.96	22.19	302.68	1.63	0.1759	2.6602	65	0	E
1988	RK5	14.0	881006	73.62	83.76	178.32	1.65	0.1160	2.2212	64	0	E
1988	RR5	14.0	881006	65.44	259.15	14.61	2.51	0.1022	2.1986	64	0	E
1988	RZ5	13.8	881006	9.24	165.08	170.25	3.38	0.1125	2.3625	63	0	E
1988	RE6	13.9	881006	311.72	340.02	79.43	1.89	0.2042	2.3740	61	0	E
1988	RJ6	15.1	881006	336.50	69.59	326.07	4.20	0.2386	2.3808	60	0	E
1988	RK6	15.1	880916	354.35	176.99	179.85	6.66	0.1416	2.2855	31	0	E
1988	RS6	15.7	880916	10.05	144.40	186.94	1.13	0.2518	2.2008	29	0	E
1988	RM7	14.2	880916	28.48	4.33	296.93	1.36	0.1919	3.0418	29	0	E
1988	RM8	15.6	881006	351.04	12.21	8.02	4.97	0.2334	2.3829	55	9	E
1988	RE10	16.3	881006	7.69	176.76	161.89	2.92	0.2296	2.5449	53	0	E
1988	RG10	11.8	881006	351.33	7.60	341.73	3.51	0.0491	5.1768	52	0	E
1988	RH10	13.4	881006	47.92	174.22	119.57	0.56	0.0424	2.7827	52	0	E
1988	RJ10	15.0	880827	332.62	166.56	200.51	0.96	0.0504	3.2265	2	3	E M
1988	RK10	18.0	880827	356.61	357.78	343.78	2.61	0.2759	2.4298	2	3	M
1988	RL10	12.1	881006	164.38	32.81	141.83	3.37	0.0389	5.1922	52	0	E
1988	RN10	12.8	881006	107.85	77.26	152.97	16.53	0.0254	5.1683	52	8	E
1988	RO10	13.4	881006	57.88	118.98	159.63	23.71	0.0513	5.2085	52	9	E
1988	RP10	14.4	881006	296.43	134.35	278.31	0.94	0.0240	2.9295	50	8	E
1988	RQ10	13.0	881006	292.60	264.93	154.02	11.75	0.0914	5.1877	52	0	E
1988	RR10	13.5	881006	51.33	121.41	163.79	17.28	0.0615	5.1476	52	9	E
1988	RS10	12.4	881006	132.04	80.83	126.29	2.87	0.0254	5.2299	52	0	E
1988	RV10	13.4	881006	156.15	35.42	148.17	2.87	0.1203	3.1965	52	9	E
1988	RW10	15.2	881006	342.74	36.56	335.21	0.46	0.1479	3.0820	52	0	E
1988	RX10	14.6	881006	1.99	320.99	23.44	2.54	0.1310	3.2414	52	0	E

1988	RY10	12.0	881006	352.90	239.69	111.35	2.22	0.0859	5.2129	52	0	E
1988	RZ10	15.0	881006	40.01	148.73	153.69	4.57	0.0551	3.1070	52	0	E
1988	RA11	13.8	881006	18.02	203.89	120.97	3.11	0.0785	3.3316	52	9	E
1988	RB11	14.3	881006	317.07	247.28	162.38	0.95	0.1966	3.1778	53	7	E
1988	RC11	13.9	881006	294.74	306.04	125.28	2.17	0.1694	3.1460	52	6	E
1988	RD11	13.3	881006	155.68	184.34	359.95	3.35	0.1441	3.0450	52	7	E
1988	RE11	14.8	881006	18.00	335.07	351.05	7.25	0.1584	2.6990	53	9	E
1988	RH11	13.3	881006	23.12	132.70	183.73	1.91	0.1061	5.2573	53	6	E
1988	RJ11	17.1	881006	32.35	134.76	169.62	4.25	0.2331	2.3013	23	4	E
1988	RM11	12.3	881006	327.77	239.19	140.11	3.35	0.0426	5.1407	53	6	E
1988	RN11	12.4	881006	113.28	52.85	170.80	1.41	0.0768	5.2986	53	6	E
1988	RO11	14.6	881006	337.22	1.43	21.96	1.29	0.1836	3.0355	53	6	E
1988	RR11	16.9	881006	14.13	291.40	44.06	1.08	0.1907	2.1763	23	4	E
1988	RT11	15.9	881006	303.09	45.66	16.35	1.38	0.1307	2.5651	53	6	E
1988	RV11	15.9	881006	74.00	96.39	165.16	2.94	0.1538	2.2462	53	5	E
1988	RX11	12.8	881006	138.17	140.48	62.05	0.28	0.1168	3.0856	53	6	E
1988	RY11	12.8	881006	319.23	228.23	163.77	24.69	0.0565	5.2553	53	6	E
1988	RZ11	14.2	881006	3.62	339.19	7.09	5.23	0.2944	3.1832	53	6	E
1988	RA12	15.7	881006	332.53	223.61	170.13	3.63	0.1776	2.4381	53	6	E
1988	RC12	13.6	881006	352.76	16.76	344.64	5.04	0.1293	3.1506	23	4	E
1988	RD12	12.7	881006	22.63	349.48	339.34	3.94	0.0678	5.2726	55	8	E
1988	RE12	14.2	881006	14.09	162.33	173.86	15.28	0.1396	5.1503	55	9	E
1988	RG12	17.0	880827	348.95	3.25	357.46	5.24	0.2168	2.1728	2	3	M
1988	RH12	13.0	881006	352.16	198.36	167.56	9.49	0.1284	5.2418	55	9	E
1988	RJ12	14.0	880827	327.42	38.94	351.53	17.35	0.1296	2.7661	2	3	M
1988	RL12	15.1	881006	330.81	197.93	202.67	0.39	0.1792	3.0757	55	9	E
1988	RM12	15.5	880827	354.27	187.60	167.31	15.27	0.1408	2.5655	2	3	E M
1988	RN12	15.5	881006	32.13	307.56	358.55	16.94	0.2650	2.7690	24	6	E
1988	RO12	13.9	881006	170.55	84.92	101.87	0.61	0.0243	3.9310	55	9	E
1988	RP12	12.8	881006	137.62	60.07	156.83	4.36	0.0334	5.2327	53	8	E
1988	RQ12	13.8	881006	269.24	102.72	9.05	3.51	0.2082	3.9287	55	9	E
1988	RR12	13.2	880916	7.68	174.20	169.45	11.52	0.1741	2.5211	20	4	E
1988	RS12	13.5	881006	318.01	158.04	237.30	3.60	0.0652	5.2627	52	6	E
1988	RT12	12.9	881006	12.95	133.73	197.01	6.50	0.1594	5.2371	52	6	E
1988	RV12	12.6	881006	223.78	311.87	185.78	16.22	0.1621	3.9842	52	6	E
1988	RW12	15.7	881006	30.85	30.02	280.26	3.15	0.2140	2.5582	52	5	E
1988	RX12	13.4	881006	354.40	167.37	194.09	9.81	0.1032	3.0124	52	6	E
1988	RY12	15.4	881006	11.76	63.33	276.68	2.53	0.1525	2.8063	52	6	E
1988	RZ12	15.6	881006	357.19	165.81	196.28	5.46	0.2139	2.7084	23	4	E
1988	RA13	15.7	881006	62.61	84.86	194.15	4.45	0.1451	2.1663	23	4	E
1988	RE13	13.0	880827	55.29	211.14	65.52	13.32	0.1167	3.2207	5	3	M
1988	RF13	14.0	880827	33.17	268.37	30.23	17.53	0.1393	2.7735	5	3	M
1988	RG13	14.8	881006	21.94	222.68	100.79	8.93	0.2476	2.2012	54	7	E
1988	RH13	12.2	881006	340.05	328.18	45.16	16.01	0.0683	5.1166	55	0	E
1988	RJ13	14.6	881006	69.17	240.71	37.11	14.46	0.0705	2.5807	51	8	E
1988	RK13	15.1	881006	20.49	206.86	124.11	15.01	0.1360	2.5475	54	5	E
1988	RL13	12.5	881006	30.85	257.28	58.70	15.83	0.0830	5.2531	54	7	E
1988	SQ	10.9	881006	40.89	294.46	354.54	12.74	0.1880	3.9598	49	0	E
1988	SH1	13.9	881006	308.93	219.09	204.38	4.67	0.1664	2.3953	52	9	E
1988	SL1	16.0	880916	8.51	120.61	214.61	0.23	0.1805	2.2209	23	7	M
1988	SN1	15.1	881006	23.45	209.93	114.26	7.55	0.1642	2.3423	51	7	E
1988	SO1	11.5	881006	337.40	260.61	121.21	11.09	0.1167	3.0083	51	7	E
1988	SU1	13.0	881006	170.56	138.87	40.97	11.53	0.0415	2.9950	21	5	E
1988	SV1	14.5	881006	333.28	254.31	130.34	10.41	0.0517	2.6450	51	7	E
1988	SW1	12.2	881006	89.21	216.46	31.52	16.89	0.0918	5.1905	51	8	E
1988	SX1	16.7	881006	5.47	235.56	114.43	6.68	0.2397	2.4488	22	6	E
1988	SY1	14.4	881006	70.63	227.04	49.38	7.42	0.0748	2.3894	21	5	E
1988	SA2	16.6	881006	33.56	217.29	91.33	6.40	0.2087	2.2124	22	6	E

1988	SB2	13.7	881006	357.56	250.70	110.91	6.69	0.1346	2.2634	22	6	E
1988	SD2	15.9	881006	51.75	245.36	37.78	9.80	0.2058	2.3703	21	5	E
1988	SE2	14.8	881006	45.83	255.71	44.78	8.78	0.1115	2.4570	21	5	E
1988	SG2	15.1	881006	30.46	197.09	121.84	8.58	0.1287	2.4320	51	8	E
1988	SH2	12.8	881006	18.86	223.13	108.56	11.35	0.1101	2.9962	52	8	E
1988	SJ2	13.6	881006	26.33	161.63	168.49	14.89	0.0500	5.2000	19	3	E E
1988	SK2	12.4	881006	107.57	83.04	158.10	1.63	0.1056	5.2512	52	9	E
1988	SL2	14.1	881006	263.55	312.76	162.42	3.18	0.1714	3.9169	52	8	E
1988	SM2	14.5	881006	48.34	158.65	140.17	1.94	0.1434	3.2330	52	7	E
1988	SP2	13.1	881006	23.99	157.59	169.60	12.70	0.1590	5.1943	52	7	E
1988	SQ2	14.0	881006	324.82	236.69	176.21	8.27	0.1990	3.9375	52	9	E
1988	SR2	14.2	881006	91.41	228.64	23.57	2.18	0.1520	3.9307	52	9	E
1988	SS2	16.2	881006	4.47	207.56	151.30	2.07	0.1391	2.2264	52	9	E
1988	ST2	12.8	881006	45.96	223.86	80.58	2.26	0.1286	3.1822	52	7	E
1988	SU2	14.0	881006	158.68	83.37	119.71	2.69	0.0180	2.5920	52	6	E
1988	SW2	12.6	881006	14.97	286.30	55.79	2.17	0.1624	3.1766	52	9	E
1988	SX2	14.1	881006	313.92	56.16	11.47	2.29	0.1930	4.0245	51	7	E
1988	SY2	14.7	881006	2.93	184.31	176.33	12.58	0.2723	2.6115	19	4	E
1988	SZ2	13.3	881006	136.67	97.48	124.26	3.00	0.0435	3.9646	52	7	E
1988	SA3	12.8	881006	314.00	50.75	2.66	17.78	0.0558	5.1932	51	6	E
1988	SD3	14.7	881006	23.43	208.55	114.06	14.56	0.1907	2.6889	21	6	E
1988	SE3	15.5	881006	26.52	233.83	85.45	13.63	0.1608	2.6838	52	7	E
1988	SF3	14.2	881006	261.93	44.41	57.46	16.05	0.0934	2.5754	52	8	E
1988	SG3	12.4	881006	32.36	232.26	80.47	19.58	0.0854	5.2190	52	8	E
1988	SH3	14.9	881006	6.74	251.40	97.35	12.93	0.1451	2.5224	52	8	E
1988	SJ3	12.3	881006	333.14	293.35	88.14	20.97	0.0621	5.2766	52	8	E
1988	SL3	12.4	881006	12.40	218.09	121.88	25.15	0.0905	5.1917	52	8	E
1988	XU	14.0	881205	31.70	327.63	60.13	2.90	0.2283	2.2539	6	0	N
1989	NE	12.9	890713	5.51	149.68	139.39	15.84	0.1605	2.5839	30	0	E
1989	NX	13.0	890802	352.46	184.66	133.42	26.80	0.2444	2.2949	75	0	M
1989	QH	15.5	891001	15.09	29.69	306.10	2.77	0.1493	2.1688	34	9	N
1989	QK	13.5	890911	338.25	196.20	177.10	9.21	0.1702	2.7662	35	8	M
1989	QL	12.0	890911	69.28	152.41	100.88	22.67	0.0734	1.9268	44	0	M
1989	QO	14.0	890911	288.61	307.56	107.37	24.14	0.1211	1.9187	31	9	M
1989	QS	13.5	890822	353.08	269.84	58.56	15.42	0.1117	2.5617	11	8	M
1989	QV	12.0	890822	268.59	37.29	24.21	23.51	0.1255	3.1628	29	0	M
1989	RB	13.5	890911	9.63	323.45	0.66	19.59	0.3225	2.5564	29	8	B
1989	RG	14.5	890911	313.93	99.05	312.39	3.86	0.1642	2.2658	31	9	M
1989	RJ	14.5	890911	313.18	215.08	206.04	3.67	0.2399	2.2551	31	8	N
1989	RL	15.0	890911	4.69	154.50	176.38	3.09	0.1805	2.2202	30	0	M
1989	RT	14.5	890911	39.61	337.98	322.99	6.82	0.1232	2.3550	30	9	M
1989	RW	12.5	890911	60.38	47.05	214.30	9.67	0.1312	2.8718	28	0	M
1989	RX	13.5	890911	340.22	131.08	236.80	7.16	0.1960	2.6877	28	0	M
1989	RZ	13.0	890911	328.70	81.64	340.55	21.20	0.3409	2.4160	29	8	B
1989	RA1	14.0	890911	53.85	109.35	162.35	22.76	0.2129	2.3542	31	0	B
1989	RP1	12.5	890911	23.26	154.26	162.22	13.02	0.2347	2.6555	31	8	M
1989	RQ1	13.5	890911	2.34	195.43	153.80	7.72	0.2883	2.3390	30	8	B
1989	RT1	14.5	890911	3.52	350.43	357.39	13.45	0.2949	2.4010	28	8	B
1989	RY1	12.5	890911	32.83	146.40	156.40	15.39	0.2853	2.7745	30	8	M
1989	RH2	15.0	890911	348.55	36.05	320.07	9.08	0.2845	2.1836	29	7	M
1989	RO2	13.0	890911	341.67	44.97	354.27	23.18	0.2968	2.4344	31	6	M
1989	SF	13.5	891001	328.30	85.78	324.87	3.70	0.0859	2.1497	15	0	N
1989	SH	11.5	891001	24.25	5.69	334.40	9.28	0.2312	3.1427	10	8	N
1989	SJ	13.0	891001	359.83	55.37	318.17	1.61	0.1917	2.2661	7	9	N
1989	SL	14.0	891001	18.66	110.19	244.05	6.16	0.1784	2.2865	9	9	N
1989	SO	12.0	891001	11.29	107.32	257.38	4.51	0.2132	3.2599	10	0	N
1989	SR	12.0	891001	1.41	128.50	240.06	8.83	0.0964	2.9868	24	0	N

1989 ST	13.0	891001	358.98	92.41	278.87	5.19	0.0743	2.3072	22	8		N
1989 SU	13.0	891001	30.73	31.31	291.52	4.12	0.2344	2.5336	24	9		N
1989 SX	13.5	891021	3.95	355.48	27.41	6.70	0.3009	2.5592	25	0		N
1989 SY	13.0	891021	338.42	45.67	25.61	12.75	0.2875	2.5632	23	0		N
1989 SB2	14.0	891001	358.33	338.97	36.30	5.73	0.1815	2.1319	13	8	E	N
1989 SZ2	14.5	890911	2.53	185.96	179.32	10.81	0.1883	2.6099	7	0		B
1989 TC	13.5	891001	11.90	352.59	1.98	25.85	0.0497	1.9441	9	8		M
1989 TD	14.5	891001	9.59	44.56	307.59	3.20	0.2671	2.4377	5	7		M
1989 TG	12.5	891001	333.13	68.51	330.07	8.89	0.1418	3.0438	22	8		M
1989 TN	15.0	891001	30.65	219.51	102.15	3.14	0.2801	2.3851	7	6		N
1989 TQ	13.0	891001	47.67	58.68	237.46	6.23	0.2244	2.3234	3	6	E	M
1989 TY	14.3	891001	108.28	276.75	332.89	9.02	0.1345	2.9962	4	4		E
1989 TG1	10.5	891001	236.64	308.07	219.11	38.87	0.2192	2.8826	17	6		N
1989 TJ1	12.0	891001	43.06	330.07	324.54	1.96	0.3269	3.0769	16	6		N
1989 TN1	14.0	891001	346.88	39.08	342.93	12.14	0.1792	2.7121	16	7		m
1989 TS1	9.5	891021	72.63	277.47	1.09	19.63	0.1312	5.1211	18	9		N
1989 TU1	14.0	891021	345.82	159.36	260.17	6.65	0.2856	2.6602	16	8		N
1989 UG	14.0	891021	37.04	332.16	1.82	6.63	0.3113	2.4081	2	6		N

1987 QV3 = 1987 UL2 (S. Nakano)
1987 SC = 1987 UM2 (D. W. E. Green)
1987 SR1 = 1987 WD3 (S. Nakano)
1988 QG1 = 1988 UZ (B. G. Marsden)
1988 RE2 = 1988 SR (F. N. Bowman, MPC 14462)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Goffin
(79) Eurynome Obs. 792 M 324.74378 Peri. 200.39588
H 7.83 G 0.18 Opp. 72 n 0.25794163 Node 206.34521
rms res. 1".0 (M-N) 1863-1987 e 0.1928938 Incl. 4.62911

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Goffin
(146) Lucina Obs. 232 M 206.66465 Peri. 144.05957
H 8.15 G 0.13 Opp. 52 n 0.21962563 Node 83.72100
rms res. 1".0 (M-N) 1875-1987 e 0.0646140 Incl. 13.09715

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Goffin
(216) Kleopatra Obs. 929 M 312.38004 Peri. 179.39403
H 7.53 G 0.25 Opp. 61 n 0.21088850 Node 215.15068
rms res. 0".7 (M-N) 1880-1989 e 0.2494946 Incl. 13.11017

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Goffin
(449) Hamburga Obs. 120 M 285.41535 Peri. 45.97040
H 9.66 G 0.15 Opp. 33 n 0.24154091 Node 85.54699
rms res. 1".0 (M-N) 1899-1988 e 0.1693658 Incl. 3.09406

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Goffin
(511) Davida Obs. 741 M 244.48186 Peri. 339.02539
H 6.17 G 0.02 Opp. 64 n 0.17426246 Node 107.32013
rms res. 0".9 (M-N) 1903-1988 e 0.1782489 Incl. 15.93938

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(521) Brixia Obs. 95 M 341.13656 Peri. 315.58387
H 8.5 G 0.25 Opp. 27 n 0.21708531 Node 89.49774
rms res. 1".12 (M-P) 1904-1989 e 0.2794085 Incl. 10.57247

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(1480) Aunus Obs. 28 M 307.78937 Peri. 64.61050
H 13.4 G 0.25 Opp. 12 n 0.30153033 Node 63.24960
rms res. 1".24 (M-P) 1938-1987 e 0.1096649 Incl. 4.86217

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(1561) Fricke Obs. 40 M 118.13436 Peri. 30.43678
H 10.9 G 0.25 Opp. 12 n 0.17391023 Node 231.91029
rms res. 1".12 (M-P) 1941-1988 e 0.1424659 Incl. 4.37233

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(2559) 1981 UH Obs. 27 M 218.70617 Peri. 86.90354
H 12.5 G 0.25 Opp. 6 n 0.21152537 Node 350.11058
rms res. 1".19 (M-P) 1930-1988 e 0.1522069 Incl. 8.88076

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(2635) Huggins Obs. 29 M 84.38121 Peri. 270.99169
H 13.25 G 0.25 Opp. 10 n 0.29559274 Node 276.50866
rms res. 1".26 (M-P) 1935-1987 e 0.0784013 Incl. 4.16817

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(2640) Hallstrom Obs. 34 M 7.86470 Peri. 191.29457
H 13.3 G 0.25 Opp. 7 n 0.26541554 Node 4.03272
rms res. 0".98 (M-P) 1941-1987 e 0.0866827 Incl. 6.64536

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(2690) Ristiina Obs. 14 M 30.26977 Peri. 263.68446
H 11.00 G 0.25 Opp. 5 n 0.18633026 Node 135.89857
rms res. 0".90 (M-P) 1938-1988 e 0.1185822 Incl. 11.42985

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(2804) Yrjo Obs. 14 M 29.87718 Peri. 167.69158
H 11.9 G 0.25 Opp. 6 n 0.18838665 Node 109.12518
rms res. 0".99 (M-P) 1941-1989 e 0.0771129 Incl. 11.22424

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(3017) 1981 UL Obs. 22 M 254.64405 Peri. 215.49287
H 12.0 G 0.25 Opp. 4 n 0.23430473 Node 257.45520
rms res. 0".74 (M-P) 1970-1987 e 0.1312336 Incl. 11.85469

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(3035) A924 EJ Obs. 54 M 91.19525 Peri. 28.82863
H 12.6 G 0.25 Opp. 8 n 0.23051832 Node 179.68434
rms res. 1".17 (M-P) 1924-1986 e 0.1316580 Incl. 2.58841

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(3147) Samantha Obs. 17 M 358.37402 Peri. 241.31040
H 14.2 G 0.25 Opp. 7 n 0.23201268 Node 215.76983
rms res. 1".04 (M-P) 1976-1988 e 0.1958074 Incl. 3.55157

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano
(3304) Pearce Obs. 20 M 357.35009 Peri. 59.34131
H 13.0 G 0.25 Opp. 5 n 0.18432284 Node 320.12035
rms res. 1".62 (M-P) 1977-1989 e 0.2740791 Incl. 2.20421

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano
(3330) 1985 RU1 Obs. 37 M 292.54233 Peri. 305.56432
H 11.2 G 0.25 Opp. 5 n 0.17738465 Node 9.58677
rms res. 1".17 (M-P) 1933-1985 e 0.2171902 Incl. 10.30160

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(3372) 1976 SP4 Obs. 20 M 316.55306 Peri. 19.50083
H 12.3 G 0.25 Opp. 5 n 0.22287261 Node 18.90753
rms res. 1".39 (M-P) 1972-1987 e 0.1392017 Incl. 3.28293

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(3453) Dostoevsky Obs. 26 M 184.54247 Peri. 317.89238
H 11.80 G 0.25 Opp. 6 n 0.26696738 Node 300.44526
rms res. 1".30 (M-P) 1940-1988 e 0.0843173 Incl. 4.50599

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(3538) 6548 P-L Obs. 25 M 226.80351 Peri. 263.39951
H 13.5 G 0.25 Opp. 4 n 0.22923134 Node 170.04423
rms res. 1".09 (M-P) 1960-1986 e 0.2654993 Incl. 4.20825

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(3665) 1979 FE Obs. 26 M 63.02026 Peri. 279.87092
H 12.60 G 0.25 Opp. 5 n 0.26198238 Node 114.88671
rms res. 1".28 (M-P) 1941-1988 e 0.0891899 Incl. 15.05774

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(3837) Carr Obs. 23 M 39.57123 Peri. 40.28923
H 13.0 G 0.25 Opp. 6 n 0.26105162 Node 233.40036
rms res. 1".23 (M-P) 1979-1989 e 0.0721884 Incl. 4.83629

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
(4177) 1987 SS1 Obs. 30 M 116.79530 Peri. 159.43872
H 12.9 G 0.25 Opp. 3 n 0.16360033 Node 210.15515
rms res. 0".76 (M-P) 1984-1989 e 0.2803505 Incl. 17.15766

(4227)* 1942 DC = 1974 WJ = 1983 GR1
Discovered 1942 Feb. 17 by L. Oterma at Turku.
Id. T. Kobayashi (MPC 14341)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 298.50706 (1950.0) P Q
n 0.26589259 Peri. 19.82453 -0.88653920 -0.46134300
a 2.3951455 Node 132.65161 +0.41781581 -0.83065437
e 0.1553456 Incl. 2.71182 +0.19869121 -0.31173059
P 3.71 H 13.5 G 0.25
Residuals in seconds of arc
420217 062 0.1+ 0.0 741118 095 0.1- 0.9+ 881007 807 1.8- 1.8-
420217 062 0.8- 0.1- 830409 095 0.1- 0.4+ 881104 807 0.5+ 0.6+
420219 062 1.0+ 1.9- 830411 095 0.5+ 0.3+ 881106 807 0.7+ 1.2+
420313 062 0.8- 0.8+ 881006 807 1.0+ 0.5-

(4228)* 1968 OC1 = 1986 WB9
Discovered 1968 July 25 by G. Plougin and Y. Belyaev at Cerro El Roble.
Id. K. Hurukawa (MPC 12450)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 357.95574 (1950.0) P Q
n 0.28182702 Peri. 112.42829 +0.90552792 +0.41967165
a 2.3039920 Node 222.82697 -0.41515591 +0.84605173
e 0.1362232 Incl. 5.26756 -0.08754860 +0.32874332
P 3.50 H 14.0 G 0.25
Residuals in seconds of arc
680725 805 0.4- 0.5- 780510 675 0.7- 0.4+ 880511 413 1.9+ 0.1+
680728 805 0.2+ 0.7+ 861130 381 1.0- 0.6+ 880511 413 1.6- 0.1-
680730 805 0.1- 0.0 861130 381 0.1- 0.0 890707 675 0.5+ 0.7-
680823 805 0.1+ 1.0+ 861201 381 0.6+ 0.1- 890707 675 0.1- 0.4-
780509 675 0.5+ 0.3- 861201 381 0.5+ 0.7-

(4229)* 1971 BK = 1971 FM = 1938 FM = 1982 DY2 = 1982 DD6 = 1984 SF4

Discovered 1971 Jan. 22 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Id. G. R. Kastel' (d, MPC 3705), S. Nakano (d, MPC 10752; unpublished), E. Bowell (MPC 11637), B. G. Marsden (unpublished)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M	52.95925	(1950.0)	P	Q
n	0.26970597	Peri. 322.28342	-0.54553901	-0.83755897
a	2.3725152	Node 160.72211	+0.78912831	-0.52528354
e	0.1793026	Incl. 5.16144	+0.28224757	-0.15024039
P	3.65	H 13.2	G 0.25	

Residuals in seconds of arc

380319	024	1.0+ 0.1+	820221	704	1.7+ 2.2+	840928	033	0.3- 1.0+
710122	095	0.7- 1.0+	820222	010	0.5- 0.4-	840928	033	0.3- 0.3+
710128	095	3.8- 4.2-	820222	704	0.7+ 0.1+	890110	054	0.7+ 0.8+
710319	095	1.2+ 2.8+	820227	010	0.2+ 0.8-	890110	054	0.3- 0.3-

(4230)* 1973 ST1 = 1978 JB2 = 1979 OD

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

Id. S. Nakano (MPC 12940)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	193.71041	(1950.0)	P	Q
n	0.12557404	Peri. 27.55085	-0.99084392	+0.13375164
a	3.9494455	Node 160.11004	-0.13167608	-0.92721418
e	0.1307241	Incl. 3.10152	-0.02982857	-0.34983476
P	7.85	H 11.9	G 0.25	

Residuals in seconds of arc

730919	675	1.0- 0.8-	730930	675	1.3+ 1.5+	790725	675	1.6- 1.2+
730919	675	0.3- 0.1+	730930	675	0.7- 0.2-	880914	807	0.2- 0.5-
730920	675	0.9- 0.3+	730930	675	1.2+ 0.9+	880915	807	0.5+ 0.2-
730924	675	0.3+ 0.2+	731004	675	1.1+ 0.0	880916	807	0.4+ 0.3+
730924	675	1.7- 1.0+	731004	675	0.5- 2.2+	881004	807	0.2+ 0.3-
730925	675	(0.3- 3.1-)	731004	675	0.3- 0.0	881005	807	0.4- 0.1+
730925	675	1.2- 0.1-	731004	675	0.0 0.3-	881007	807	0.0 0.6-
730929	675	1.0- 0.5-	731005	675	0.8+ 1.6-	881008	807	0.1- 0.3-
730929	675	2.2+ 2.3-	731005	675	1.2- 0.3+	881008	807	0.3+ 0.2-
730929	675	0.2- 0.7+	731005	675	0.1+ 0.6+	881103	807	0.2- 0.1-
730929	675	1.0+ 0.6+	780506	095	0.3- 1.1-	881105	807	0.1+ 0.1-
730930	675	0.6+ 1.9-	790724	675	1.5+ 0.5+			

(4231)* 1976 WD = 1976 YV3 = 1977 AT = 1979 SP10 = 1986 XK1

Discovered 1976 Nov. 11 at the Harvard College Observatory's Agassiz Station.

Id. H. Oishi (d, JAM 1999), E. Bowell (MPC 11504), L. D. Schmadel (ibid.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Balam

M	21.72404	(1950.0)	P	Q
n	0.29018301	Peri. 76.07668	+0.90773053	+0.39279529
a	2.2595471	Node 260.62860	-0.41889074	+0.82874742
e	0.0653614	Incl. 8.59387	-0.02357611	+0.39860954
P	3.40	H 12.9	G 0.25	

Residuals in seconds of arc

761120	801	0.2- 0.3-	861204	688	0.8+ 0.1+	890906	657	0.9+ 0.2+
761216	095	1.8- 1.0+	861204	688	0.7- 1.2-	890928	657	0.2- 0.6+
770113	095	1.1+ 0.8+	890904	657	0.5+ 0.6+	890928	657	0.5+ 0.0
770120	095	1.8+ 0.7-	890904	801	0.5- 0.4+			
790929	095	0.0 0.4+	890906	657	1.2- 1.5-			

(4232)* 1977 CD = 1978 SH2 = 1986 SZ

Discovered 1977 Feb. 13 by M. R. Cesco at the Felix Aguilar Observatory, El Leoncito.

Id. S. Nakano (MPC 12320)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M	292.11106	(1950.0)	P	Q
n	0.36589893	Peri. 277.70543	-0.16631581	-0.98598707
a	1.9359551	Node 182.01160	+0.98567540	-0.16586079
e	0.0834996	Incl. 21.70628	+0.02798309	-0.01787978
P	2.69	H 13.4	G 0.25	

Residuals in seconds of arc

770213	808	0.8-	0.3+	860929	010	3.4-	3.0-	880507	657	0.2-	1.2-
770215	808	0.0	0.8+	860929	010	2.1+	0.8+	880513	688	2.0-	0.1-
770218	808	0.5-	0.8-	880317	675	1.5+	1.8-	880513	688	0.5+	0.8+
770220	808	0.8+	0.8-	880322	801	(4.6+	0.3+)	891004	675	0.9+	0.8-
770220	808	0.1-	0.8-	880322	675	0.2+	2.5-	891004	675	1.0+	0.3-
780926	095	1.1+	0.3-	880418	801	0.4-	2.4+	891006	675	0.7-	0.8-
860908	095	(2.2+	10.8-)	880507	657	1.0+	1.8-	891006	675	1.0-	1.2-

(4233)* 1977 RO7 = 1976 GP5 = 1980 KE2

Discovered 1977 Sept. 11 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. C. M. Bardwell (MPC 12568)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	140.02360	(1950.0)	P	Q
n	0.26458215	Peri. 112.15589	+0.44815326	+0.89394150
a	2.4030475	Node 184.47974	-0.84280994	+0.42055850
e	0.1840501	Incl. 3.83234	-0.29804373	+0.15491659
P	3.73	H 13.6	G 0.25	

Residuals in seconds of arc

760402	095	0.8-	1.4-	771016	675	0.9+	0.3-	771022	675	2.7+	1.0-
770911	095	2.0+	0.0	771016	675	0.8-	0.7-	800518	808	0.3-	2.6-
771007	675	0.0	2.0-	771017	675	0.4-	0.4+	880912	801	1.3-	1.4+
771011	675	1.2-	0.6+	771017	675	0.4+	0.2-	881013	801	0.2-	1.3+
771011	675	1.8-	0.0	771021	675	1.0-	0.5+	881108	807	0.8+	0.2-
771012	675	0.9+	0.8-	771021	675	1.7-	0.3+				
771012	675	0.8+	1.0-	771022	675	1.4+	1.9-				

(4234)* 1978 JT1 = 1978 LS = 1949 GL = 1977 DS1

Discovered 1978 May 6 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. B. G. Marsden (d, MPC 9203), T. Kobayashi (MPC 11144)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	324.65803	(1950.0)	P	Q
n	0.17207021	Peri. 230.04562	+0.05912853	+0.99804572
a	3.2013434	Node 43.35727	-0.90661822	+0.06216420
e	0.1718142	Incl. 1.68710	-0.41778850	+0.00635197
P	5.73	H 12.2	G 0.25	

Residuals in seconds of arc

490404	760	1.1+	0.1+	780506	095	0.5+	0.4+	890326	046	(4.9-	0.5-)
490404	760	1.5+	1.4+	780509	095	2.0-	1.9+	890326	046	0.1-	2.2-
770218	381	1.2-	0.4+	780606	119	0.8-	0.5-	890327	046	1.3-	0.7-
770218	381	0.4-	1.7+	780606	119	0.2-	0.7-	890327	046	0.9+	1.5-
770219	381	0.2-	1.2+	861202	688	0.9-	0.7-	890328	046	(0.3-	3.6-)
770219	381	1.0-	1.2+	861202	688	2.2+	0.4-	890328	046	1.8+	2.4-

(4235)* 1978 SL5 = 1968 UA1 = 1979 YD8 = 1984 YD4 = 1986 EK2

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

Id. S. Nakano (MPC 11638)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	152.16652		(1950.0)	P	Q
n	0.19101685	Peri.	303.01255	+0.08135646	+0.99663338
a	2.9859894	Node	331.64876	-0.90711618	+0.06982188
e	0.0305316	Incl.	1.22479	-0.41294232	+0.04297454
P	5.16	H	12.2	G 0.25	

Residuals in seconds of arc

681022	095	0.8-	0.3+		860309	413	0.6-	0.3-	860402	413	1.6+	0.3-
780927	095	1.1-	1.5+		860309	413	1.8+	0.5-	860402	413	2.0+	0.1+
781003	095	0.1+	0.4-		860310	809	0.2-	0.1-	860409	413	1.3+	0.0
781007	095	1.6+	1.1+		860310	809	0.1-	0.4+	860409	413	1.7+	0.4-
791223	095	(4.8+ | 3.2+)		860310	413	2.1-	1.2+	860409	413	1.2+	0.7-
841227	095	0.5-	0.3-		860310	413	2.2-	1.4+	860409	413	0.5+	0.5+
841229	095	1.3-	1.3-		860314	809	1.0-	0.6-	880916	807	0.5+	0.4+
841231	095	1.5+	0.7+		860314	809	0.8-	0.4-	880918	807	0.8+	0.1-
860305	809	0.5-	1.2+		860314	071	(1.5- | 3.5-)	881004	807	1.2-	0.6-
860305	809	0.6-	2.4+		860314	071	1.0-	2.8-	881008	807	0.4-	0.6-

(4236)* 1979 FV1 = 1934 GC = 1951 XQ = 1954 JT = 1957 WL = 1972 BW = 1982 TE = 1985 DJ

Discovered 1979 Mar. 23 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. A. Lowe (k, MPC 10033), B. G. Marsden (ibid.), S. Nakano

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M	251.06252		(1950.0)	P	Q
n	0.15427433	Peri.	172.34981	-0.94695092	-0.32044360
a	3.4430258	Node	348.86691	+0.28771839	-0.81135185
e	0.0278452	Incl.	7.28720	+0.14318550	-0.48890088
P	6.39	H	11.4	G 0.25	

Residuals in seconds of arc

340403	024	0.9+	0.9+		850216	809	0.8+	0.1+	850221	809	0.2-	0.1-
511205	711	0.5-	0.5+	Y	850216	046	(3.9- | 0.9-)	850221	809	0.1-	0.2-
540509	839	0.2-	2.0-		850216	046	2.4-	0.0	850222	675	1.5+	0.8+
571123	760	0.0	0.4+		850217	809	0.2-	0.0	850224	809	0.2-	0.3+
571123	760	0.7-	1.1-		850217	809	0.1-	0.1+	850224	809	0.0	0.1+
720120	033	(4.1- | 1.1+)		850217	809	0.1+	0.2+	850224	809	0.1+	0.2+
720120	033	1.8+	0.1+		850218	809	0.4+	0.5-	850226	809	0.8-	0.2+
790323	095	1.2-	0.4+		850218	809	0.6+	0.7-	850226	809	0.7-	0.1+
790329	095	1.0-	2.3+		850218	809	0.7+	0.8-	850226	809	0.6-	0.1+
820916	095	(1.3+ | 3.3+)		850219	809	0.4-	1.1-	850227	809	0.4-	0.4+
820919	095	(3.7+ | 3.6+)		850219	809	0.2-	1.1-	850227	809	0.5-	0.5+
820921	095	1.4+	1.1+		850219	809	0.2-	1.1-	850227	809	0.1-	0.6+
821011	688	(2.5- | 3.8-)		850220	809	0.6-	0.6-	850228	809	1.0-	0.1-
821011	688	0.7-	1.9-		850220	809	0.4-	0.6-	850228	809	0.7-	0.1-
850214	809	1.2+	0.1-		850220	809	0.4-	0.6-	850228	809	0.6-	0.1-
850214	809	1.0+	0.1+		850220	675	1.0+	0.3+	880914	807	0.1+	0.5-
850214	809	0.9+	0.2+		850220	046	2.4+	0.2+	880915	807	0.1-	0.2-
850216	809	0.7+	0.2-		850220	046	1.8-	1.2-	880916	807	0.2+	0.4+
850216	809	0.7+	0.0		850221	809	0.3-	0.2-	881004	807	1.0+	0.8-

(4237)* 1979 SD4 = 1966 RF = 1975 TR5 = 1975 VR7 = 1984 YC4 = 1988 VL4

Discovered 1979 Sept. 24 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi

M 107.23010	(1950.0)	P	Q
n 0.22907891	Peri. 345.25240	+0.96890317	-0.24598828
a 2.6453266	Node 29.03008	+0.23223162	+0.86667613
e 0.0950700	Incl. 3.16188	+0.08541154	+0.43400719
P 4.30	H 13.0	G 0.25	

Residuals in seconds of arc

660915 095	0.7+	1.4+	790924 095	0.3+	2.4+	881103 054	0.2+	0.4+
751014 095	0.4-	0.2-	790924 095	0.6+	0.5-	881103 054	0.5+	0.5-
751106 095	0.7-	0.1+	841227 095	0.1-	0.1+	881104 054	0.7+	1.4+
790827 095	1.2-	3.4-	841229 095	0.9-	0.4+			
790902 095	0.4-	1.0-	841231 095	0.5+	1.7-			

(4238)* 1980 GF = 1980 DS5 = 1980 FO10 = 1969 HA = 1982 YL2 = 1984 JB2 = 1984 KD1

Discovered 1980 Apr. 13 by A. Mrkos at Klet.

Id. B. G. Marsden (d, MPC 9203), N. S. Chernykh (MPC 11852), S. Nakano (ibid.; unpublished)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M 192.41070	(1950.0)	P	Q
n 0.26411044	Peri. 41.66279	-0.99376866	+0.10988735
a 2.4059079	Node 144.63306	-0.10888147	-0.92120162
e 0.0765766	Incl. 1.84860	-0.02384706	-0.37324570
P 3.73	H 13.8	G 0.25	

Residuals in seconds of arc

690422 095	1.9-	4.1-	800414 046	0.6+	0.8+	840502 095	0.9+	0.5-
781028 675	0.4+	1.4-	800414 046	(3.6+	0.7+)	840525 095	0.1+	2.5+
781029 675	0.5+	0.4-	800415 046	0.2-	0.0	850915 095	1.0-	2.6-
800221 095	1.7+	1.1-	800415 046	0.5-	0.0	850920 095	0.6+	0.5-
800316 095	0.5+	2.0-	800416 046	(3.0-	0.1-)	891002 071	1.1-	0.6-
800412 046	0.4+	0.5+	800416 046	1.4-	0.7+	891003 071	0.2+	2.2+
800412 046	1.1+	0.8+	810730 033	0.9+	0.2-	891003 071	(4.3+	0.2+)
800413 046	1.4-	1.0-	810730 033	1.0+	1.0-			
800413 046	1.6-	0.3+	821222 095	0.5+	1.4-			

(4239)* 1980 OE = 1977 SC3 = 1977 TT4

Discovered 1980 July 17 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. T. Urata (MPC 5551)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M 316.06786	(1950.0)	P	Q
n 0.30743991	Peri. 19.30279	+0.69063273	+0.72292006
a 2.1741819	Node 294.38336	-0.66639580	+0.62521286
e 0.1864693	Incl. 1.27855	-0.28096810	+0.29410110
P 3.21	H 14.3	G 0.25	

Residuals in seconds of arc

770922 095	2.4+	0.7+	800917 688	1.1-	2.8-	890408 809	0.3+	1.8-
771007 095	1.2-	0.7-	801002 688	2.3+	0.8-	890408 809	0.4-	1.0-
800717 688	0.6-	0.4-	820122 801	(6.5+	0.9+)	890409 809	0.9-	0.9-
800717 688	0.2+	1.8-	820226 801	0.9-	1.1-	890409 809	0.7+	1.0-
800808 688	0.8-	0.1-	830704 688	1.7+	0.4+	890409 809	1.3+	1.1-
800808 688	0.1-	1.0+	830704 688	0.5-	0.4+	890410 809	1.4-	0.6-
800904 095	(5.0-	1.2-)	860604 801	0.6+	1.9+	890410 809	0.7-	0.1+
800907 688	0.4+	0.1-	860609 801	0.6-	1.2+			
800907 688	0.8+	1.0-	890408 809	1.6-	1.2-			

(4240)* 1981 EY20 = 1948 TX1

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

Id. S. J. Bus (MPC 10384), S. Nakano; 1989 GB4 = 1948 TX1 (MPC 14795) is invalid

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5			Nakano
M 85.96423	(1950.0)	P	Q
n 0.19531971	Peri. 22.70625	+0.95995166	+0.27988196
a 2.9419729	Node 321.03364	-0.26001495	+0.87325019
e 0.1063406	Incl. 1.14858	-0.10433140	+0.39887365
P 5.05	H 13.3	G 0.25	

Residuals in seconds of arc

481007	094(30.7-	21.9-)X	810302	413	2.6-	1.0+	810408	413	2.3+	0.9-
770612	675	0.7-	0.0	810303	413	1.9+	0.2-	810411	413	0.4-	0.1+
770612	675	2.2+	0.3+	810303	413	0.7-	1.0+	810411	413	1.1+	0.4-
770613	675	1.4-	1.4-	810307	413	0.4-	0.2-	810426	413	1.6+	2.5-
770613	675	0.2-	0.8+	810316	413	1.5-	0.6+	810430	413	1.6-	0.0
781003	675	0.4-	0.5-	810316	413	1.9+	0.6-	810502	413	0.7-	0.9-
781004	675	0.7+	0.2-	810329	413	1.2-	1.0+	881008	807	0.8+	0.4-
810209	413	0.1+	1.0-	810329	413	0.4+	0.7+	881104	807	0.2+	0.3-
810213	413	1.3-	0.1+	810408	413	(3.3+	0.7-)	881106	807	0.6-	0.5-

(4241)* 1981 EX46 = 1243 T-2

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

Id. S. Nakano (MPC 15077).

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5			Bowell
M 53.12818	(1950.0)	P	Q
n 0.19459892	Peri. 122.65251	+0.98577966	-0.16731588
a 2.9492331	Node 246.98344	+0.14792713	+0.90810738
e 0.0733835	Incl. 0.97214	+0.07972463	+0.38385724
P 5.06	H 15.2	G 0.25	

Residuals in seconds of arc

730924	675	1.2-	0.2-	731004	675	0.3+	0.4-	810316	413	0.0	0.1-
730924	675	1.4-	0.9-	731005	675	2.4+	0.8-	810316	413	1.9-	0.2+
730925	675	1.1-	0.8-	731005	675	2.4+	1.8-	810426	413	0.8+	2.0-
730925	675	1.3-	0.8+	791220	675	1.9-	0.1-	810502	413	0.6-	1.4-
730929	675	0.8+	0.7-	791220	675	2.0+	1.0+	880914	807	0.4-	0.5+
730929	675	0.2+	0.8+	810209	413	1.1-	0.8-	880915	807	0.1+	0.7+
730930	675	1.9+	2.1+	810302	413	1.4-	0.9+	881006	807	0.3+	0.3-
730930	675	1.2-	0.1+	810307	413	1.3+	1.1-	881007	807	0.7-	0.5-
731004	675	0.3+	3.0-	810311	413	0.9+	0.9-	881104	807	0.5+	0.1+

(4242)* 1981 FQ = 1979 YA10 = 1987 KC1

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

Id. S. J. Bus (k, MPC 12010), B. G. Marsden (ibid.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5			Bowell
M 157.77701	(1950.0)	P	Q
n 0.17978935	Peri. 202.86223	-0.60254887	+0.79807710
a 3.1090431	Node 30.08532	-0.73132568	-0.55074317
e 0.1531743	Incl. 0.31933	-0.31952717	-0.24444817
P 5.48	H 12.7	G 0.25	

Residuals in seconds of arc

770908	675	0.9+	1.8-	810306	809	0.9+	0.9-	810316	413	0.4-	0.3-
770909	675	0.6+	1.6-	810306	809	1.0+	0.7-	810316	413	1.0+	0.1+
781028	675	0.2-	0.2-	810306	809	1.1+	0.6-	810328	801	2.8+	0.9+
781029	675	0.7-	0.3-	810307	809	0.2+	0.6-	810329	413	0.2-	0.1-
791220	675	0.9-	1.1-	810307	809	0.4+	0.5-	810329	413	0.5+	0.0
791220	675	0.9+	0.2+	810307	809	0.5+	0.6-	810401	801	(3.1-	2.8+)
810202	413	0.1+	1.5-	810307	413	0.3-	0.9+	810407	413	0.4-	0.1+
810213	413	0.3+	1.2-	810307	413	0.5+	0.5+	810407	413	0.9+	0.2+
810301	809	1.2-	0.0	810308	809	0.7-	0.0	810408	413	1.3+	0.1+
810301	809	0.9-	0.2-	810308	809	0.7-	0.3-	810411	413	0.2+	0.5+
810301	809	0.5-	0.4-	810308	809	0.7-	0.4-	810426	413	1.0+	2.0-
810302	413	0.7-	0.7+	810308	095	0.8-	0.1-	810430	413	(4.0-	0.6+)
810302	413	0.2+	0.3-	810309	809	0.9-	0.5-	810502	413	0.1+	0.3+
810303	809	0.8-	0.3-	810309	809	0.7-	0.5-	870530	413	0.4-	1.2+
810303	809	0.8-	0.1-	810309	809	0.6-	0.5-	870530	413	0.5-	0.9-
810303	809	1.2-	0.4-	810310	809	0.2+	0.5+	880914	807	0.2+	0.5-
810303	413	0.6-	0.3+	810310	809	0.1+	0.5+	880915	807	0.4+	0.2-
810303	413	1.5+	0.5-	810310	809	0.2+	0.3+	880916	807	1.3+	0.0
810304	809	2.0-	0.6-	810311	809	0.3+	0.5+	881004	807	0.6-	0.7+
810304	809	1.8-	0.1-	810311	809	0.3+	0.5+	881005	807	0.2-	0.3+
810304	809	1.5-	0.2+	810311	809	0.3+	0.4+	881007	807	0.2-	0.2-
810305	809	0.5-	0.1+	810312	809	0.6+	0.1+	881008	807	0.1-	0.9-
810305	809	0.8-	0.0	810312	809	0.8+	0.2+	881103	807	0.7+	0.6-
810305	809	1.1-	0.1+	810312	809	1.1+	0.3+	881105	807	1.0+	1.5-

(4243)* 1981 GF1 = 1983 SV = 1988 RQ9

Discovered 1981 Apr. 4 by A. C. Gilmore and P. M. Kilmartin at Mount John University Observatory.

Id. T. Kobayashi (MPC 15064)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Marsden

M	75.97703	(1950.0)	P	Q	
n	0.18658572	Peri.	358.57792	+0.95912101	+0.28008320
a	3.0330794	Node	344.96699	-0.25806504	+0.80688722
e	0.1137810	Incl.	8.98328	-0.11614355	+0.52008309
P	5.28	H	12.5	G	0.25

Residuals in seconds of arc

760628	413	0.1+	0.3-	830917	095	1.1+	1.5-	880914	809	0.2+	0.9+
770808	413	0.3-	0.7+	880905	809	0.4-	0.5-	880914	809	0.3+	0.8+
770808	413	0.2-	0.1+	880905	809	0.3-	0.3-	880914	809	0.2+	0.6+
810404	474	(1.1+	13.6+)	880905	809	0.4-	0.3-	880918	809	1.3-	0.3-
810404	474	(0.7+	13.9+)	880908	809	1.0+	0.3-	880918	809	1.2-	0.2-
810405	474	(2.1+	7.6+)	880908	809	1.2+	0.1+	880918	809	1.1-	0.3-
810405	474	(1.4+	7.9+)	880908	809	1.3+	0.3+	880919	809	1.3-	0.6-
810412	474	1.8-	1.1-	880909	809	0.9+	0.3+	880919	809	1.3-	0.5-
810412	474	0.5-	0.2+	880909	809	1.0+	0.2+	880919	809	1.1-	0.4-
810430	474	0.1-	0.6-	880909	809	1.0+	0.2+	881103	807	0.6+	1.6-
810430	474	0.4+	0.6-	880911	809	0.4+	0.2+	881105	807	0.5+	0.9-
810503	474	0.0	0.3-	880911	809	0.4+	0.3+				
810503	474	0.1-	1.0-	880911	809	0.6+	0.1-				

(4244)* 1981 TO3 = 1976 YS5

Discovered 1981 Oct. 7 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Id. K. Hurukawa (MPC 10028)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	150.71134	(1950.0)	P	Q
N	0.17232777	Peri. 273.33568	+0.99936635	+0.01783546
a	3.1981528	Node 85.64396	-0.00403388	+0.91657436
e	0.1716568	Incl. 1.77025	-0.03536421	+0.39946631
P	5.72	H 12.3	G 0.25	

Residuals in seconds of arc

761216	095	0.5+	1.5-	871020	688	0.5-	0.3+	890129 888 0.6+ 0.5+
761218	095	0.0	1.7-	871020	688	1.2+	1.1+	890203 888 0.5- 1.0+
761220	095	0.2-	1.1-	871117	801	1.7-	0.6+	890203 888 0.4+ 0.1+
811007	095	(6.1-	1.3-)	871119	688	(3.3+	2.1+)	890227 888 0.5- 0.7+
811022	095	0.5-	0.2+	871119	688	0.1+	0.8+	890227 888 0.0 0.3+
811024	095	0.5+	0.4-	890129	888	0.6+	0.4+	

(4245)* 1981 UC10 = 1955 QH1 = 1977 RQ8

Discovered 1981 Oct. 29 at the Purple Mountain Observatory.

Id. E. Bowell (k, MPC 10942), S. Nakano (ibid.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	76.92398	(1950.0)	P	Q
n	0.26929166	Peri. 25.33071	+0.91327768	-0.40733684
a	2.3749480	Node 358.70620	+0.36767542	+0.82516291
e	0.1685516	Incl. 1.94996	+0.17532447	+0.39138584
P	3.66	H 13.6	G 0.25	

Residuals in seconds of arc

550825	760	0.4-	0.3-	811024	095	(4.1+	1.5+)	881006 807 1.1+ 0.3-
550825	760	1.0+	0.3-	811029	330	0.0	0.8+	881007 807 0.3+ 1.1-
770908	675	1.0-	1.0+	811127	330	0.7+	0.2+	881104 807 0.2+ 0.8-
770909	675	0.9-	1.2+	811201	330	0.7-	0.4-	

(4246)* 1982 SY2 = 1968 DS = 1969 VM = 1978 JN

Discovered 1982 Sept. 24 by F. Borngen at Tautenburg.

Id. D. W. E. Green (MPC 13686), L. D. Schmadel (ibid.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M	110.59382	(1950.0)	P	Q
n	0.29892936	Peri. 238.73525	+0.10057223	+0.99440358
a	2.2152547	Node 37.07963	-0.89356472	+0.10457806
e	0.1749686	Incl. 3.07602	-0.43752409	+0.01499830
P	3.30	H 13.6	G 0.25	

Residuals in seconds of arc

680227	095	0.2+	0.1-	820924	033	0.4+	0.5-	880512 688 0.9- 0.8+
691111	095	1.0-	0.4-	820924	033	0.9+	0.4-	880512 688 0.9+ 1.1+
780505	095	0.3+	1.0-	820926	095	0.6+	1.3-	890907 033 0.3- 0.5+
820916	095	1.4-	0.2-	821015	095	0.4-	1.4+	890908 033 0.2+ 0.6+
820920	095	2.5+	1.7+	821022	095	2.2-	0.5-	890908 033 0.1- 0.7+

(4247)* 1983 WC = 1973 AK1 = 3050 T-3 = 1988 RW9

Discovered 1983 Nov. 28 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. S. J. Bus, B. G. Marsden

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Marsden

M	16.70039	(1950.0)	P	Q
n	0.17343377	Peri. 291.04368	+0.57125311	-0.82022541
a	3.1845417	Node 124.08324	+0.76582138	+0.51949979
e	0.2276502	Incl. 2.07602	+0.29527528	+0.23947913
P	5.68	H 12.9	G 0.25	

Residuals in seconds of arc

730101	095	0.0	0.5+	831205	688	0.7-	0.7-	880911 809	0.3- 0.2+
771016	675	0.8+	0.1+	831205	688	1.9-	0.3-	880911 809	0.3- 0.1+
771016	675	0.7+	0.6+	831206	688	0.1-	0.2-	880914 807	0.3- 0.9-
771017	675	0.0	1.7+	831206	688	0.1-	1.8+	880915 807	0.9+ 0.3-
771017	675	0.2+	1.3+	831209	688	0.0	0.8-	880916 807	1.2+ 0.6-
771021	675	0.1-	1.2+	831209	688	0.3-	0.2+	881005 807	0.1+ 0.2-
771021	675	0.4-	1.0+	840102	688	2.2-	1.8-	881007 807	0.3+ 0.2-
771022	675	0.9-	0.8-	840104	688	1.6+	0.4-	881008 807	0.4+ 0.7-
771022	675	1.7-	1.2-	840104	688	3.6+	1.0-	881008 807	1.0+ 0.5-
831128	688	1.8-	0.5-	880910	809	0.2-	0.1+	881103 807	0.5- 0.7-
831128	688	0.4+	1.2+	880910	809	0.2-	0.0	881105 807	0.2- 0.2-
831201	688	2.4+	0.1-	880910	809	0.6-	0.1+		
831201	688	0.1+	0.2-	880911	809	0.3-	0.6+		

(4248)* 1984 HX

Discovered 1984 Apr. 23 by A. C. Gilmore and P. M. Kilmartin at Mount John University Observatory.

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	351.06288	(1950.0)	P	Q	
n	0.28177741	Peri.	118.42115	+0.43883478	-0.89474407
a	2.3042624	Node	305.31282	+0.78479293	+0.42652227
e	0.1036236	Incl.	5.82433	+0.43763465	+0.13233220
P	3.50	H	14.2	G 0.25	

Residuals in seconds of arc

780901	675	2.2-	0.4-	840503	474	0.2-	1.2+	850916 474	0.6- 0.4-
780901	675	0.5+	0.2+	840503	474	0.8+	0.4+	850916 474	0.5+ 0.3+
780902	675	1.5-	0.0	840521	474	0.1-	0.1+	880611 474	0.6- 0.4-
780902	675	2.6+	1.4+	840521	474	0.3-	0.1-	880611 474	0.8- 0.5-
840423	474	0.5+	0.3-	840530	474	0.8+	0.2-	880714 474	0.3+ 0.2+
840423	474	0.3-	0.3-	840530	474	0.5+	0.9-	880714 474	1.4+ 0.7-
840428	474	0.1-	0.5+	850813	474	(12.9-	1.1+)		
840428	474	1.2-	1.0+	850813	474	(13.3-	0.7+)		

(4249)* 1984 SC2 = 1981 EH49 = 1986 AQ1

Discovered 1984 Sept. 29 by A. Mrkos at Klet.

Id. S. Nakano (MPC 11425)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M	264.60612	(1950.0)	P	Q	
n	0.19296390	Peri.	162.61302	-0.53667326	-0.84212766
a	2.9658692	Node	319.80032	+0.76404543	-0.45837039
e	0.1074129	Incl.	4.70482	+0.35807315	-0.28410841
P	5.11	H	11.8	G 0.25	

Residuals in seconds of arc

810308	095	0.1-	0.2-	841006	046	(5.5-	0.5-)	890928 400	1.8+ 1.7+
840929	046	0.6+	0.2-	860111	688	0.9-	1.0-	890928 400	0.2- 1.2+
840930	046	0.9+	0.4-	860111	688	1.6-	0.5-	891008 400	0.8+ 0.7+
840930	046	0.8+	0.7-	860117	688	1.2+	1.0+	891008 400	0.8- 2.7-
841001	046	0.6-	0.6-	860117	688	1.6+	1.2+		
841006	046	0.7-	0.4-	890928	400	2.8-	1.5+		

(4250)* 1984 UG = 1950 TB2 = 1977 LQ1 = 1978 RH5 = 1978 TW3

Discovered 1984 Oct. 20 by Z. Vavrova at Klet.

Id. T. Kobayashi (MPC 11857)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Balam
M 29.93915 (1950.0) P Q
n 0.17541719 Peri. 253.32274 +0.68365946 +0.72879663
a 3.1604914 Node 59.87130 -0.65154740 +0.63314224
e 0.1188504 Incl. 2.53659 -0.32877915 +0.26074197
P 5.62
Residuals in seconds of arc

501015 024	0.9+	1.4-	841021 046	2.9-	0.3+	890903 657	0.2+	0.3+
770613 675	0.4-	0.0	841029 688	1.7+	0.5-	890904 657	0.2-	0.7+
770614 675	0.1-	0.0	841029 688	2.6+	0.5-	890904 657	1.7+	0.9+
780906 095	1.3-	0.7+	841031 688	0.6-	1.0-	890906 657	0.8-	0.9-
781004 095	2.1-	0.6+	841031 688	1.0+	0.3-	890906 657	0.0	1.4-
841020 046	1.3-	2.0+	880611 293	(9.9+	1.7-)			

(4251)* 1985 JK1 = 1962 CY = 1988 CF2
Discovered 1985 May 11 by C. S. Shoemaker at Palomar.
Id. T. Kobayashi (MPC 13153)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 53.13805 (1950.0) P Q
n 0.26471067 Peri. 132.66443 -0.38023257 +0.92337961
a 2.4022696 Node 114.91725 -0.86466803 -0.33461051
e 0.1790030 Incl. 3.34087 -0.32828705 -0.18816457
P 3.72 H 14.0 G 0.25
Residuals in seconds of arc

620210 033	0.3-	1.7-	880216 809	0.5+	0.3+	880223 809	0.3-	0.6-
620210 033	(6.4+	3.5-)	880216 809	0.4-	0.2+	880223 809	0.5-	0.9-
850511 675	0.1+	0.5-	880217 809	0.7+	0.5+	890706 675	0.1-	0.9-
850514 675	0.2+	0.3-	880217 809	0.4+	0.2-	890706 675	0.0	1.5-
850524 675	1.1-	1.3+	880217 809	0.1-	0.6+	890710 675	0.4+	0.1+
850524 675	1.0+	0.3+	880221 809	0.1-	0.3+	890802 675	0.0	0.4+
880211 809	0.7-	1.1+	880221 809	0.3+	0.0	890802 675	(0.7+	4.0-)
880215 809	1.4+	1.4-	880221 809	1.9-	0.4+			
880216 809	0.3+	0.1-	880223 809	0.1+	0.4-			

(4252)* 1985 RG4 = 1984 HE
Discovered 1985 Sept. 11 by H. Debehogne at the European Southern Observatory.
Id. L. D. Schmadel (MPC 10837)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 80.38475 (1950.0) P Q
n 0.22805038 Peri. 57.01176 -0.75042576 +0.65772135
a 2.6532745 Node 163.79453 -0.65712245 -0.73180169
e 0.1386960 Incl. 13.53109 -0.07107228 -0.17851867
P 4.32 H 12.8 G 0.25
Residuals in seconds of arc

840419 046	2.9+	0.4-	850915 809	0.3+	0.6+	850920 809	0.3-	0.5-
840419 046	2.9+	1.0-	850915 809	0.6+	0.6+	850920 809	0.2-	0.7-
840424 046	3.0-	1.4-	850915 809	0.5+	0.4+	850920 809	0.2-	0.6-
840424 046	2.6-	0.6-	850916 809	1.8+	0.2-	880312 293	2.4-	0.1+
840425 046	0.5+	0.0	850916 809	2.0+	0.2-	880312 293	2.3+	1.4+
840425 046	1.1-	0.6+	850916 809	2.3+	0.5-	890710 801	0.8-	1.1+
850911 809	0.2+	0.4-	850917 809	0.6-	0.2+	890729 801	0.3-	0.6+
850911 809	0.5+	0.4-	850917 809	0.4-	0.3+	890729 675	1.8+	0.0
850911 809	0.5+	0.2-	850917 809	0.4-	0.3+	890729 675	0.8-	0.4-
850912 809	0.8-	0.4+	850918 809	1.5-	1.1-	890801 801	0.8-	0.2+
850912 809	0.9-	0.3+	850918 809	1.5-	1.1-	890801 675	2.2+	0.1+
850912 809	0.5-	0.1+	850918 809	1.2-	1.0-	890801 675	1.2-	1.8+

(4253)* 1985 TN3 = 1981 WN7 = 1984 MW
Discovered 1985 Oct. 11 by C. S. Shoemaker at Palomar.
Id. S. Nakano (MPC 14350), B. G. Marsden (ibid.), L. D. Schmadel (ibid.)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M	16.70678	(1950.0)	P	Q
n	0.23255466	Peri. 340.78836	+0.82704613	+0.55822964
a	2.6189026	Node 344.72615	-0.47725137	+0.63511515
e	0.1767775	Incl. 14.54061	-0.29702834	+0.53386180
P	4.24	H 13.0	G 0.25	

Residuals in seconds of arc

811125	095	2.7+	1.5+	851013	675	0.2+	0.4-	890907	046	0.6+	0.8-
840623	413	1.9-	1.1-	851108	675	(7.5-	3.0-)	890908	046	1.6-	0.2+
840623	413	0.2+	0.1-	851108	675	0.1+	2.5-	890908	046	0.7+	1.6+
850915	675	1.2-	0.6-	890901	801	0.1-	0.4+	890925	801	0.7+	0.2+
850915	675	0.7-	0.8-	890904	801	1.1+	0.8+	891002	071	2.4-	1.2-
851011	675	0.6-	0.4-	890907	046	1.5+	0.7+	891002	071	(3.6-	2.6-)

(4254)* 1985 UT3 = 1947 TB = 1951 SU = 1961 AG = 1970 EX1 = 1979 HJ4
= 1981 WG4 = 1981 WX7 = 1983 ER1 = 1983 FL
Discovered 1985 Oct. 24 by C.-I. Lagerkvist at the Uppsala Kvistaberg Station.
Id. B. G. Marsden (MPC 14021), T. A. Vinogradova, S. Nakano (d)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M	304.25526	(1950.0)	P	Q
n	0.23308456	Peri. 227.61023	+0.36134223	-0.92874166
a	2.6149319	Node 201.63487	+0.90784263	+0.37070096
e	0.1595031	Incl. 12.99242	+0.21272882	-0.00444018
P	4.23	H 12.1	G 0.25	

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

471111	078(0.19-	0.01+)X		830311	381	0.2+	1.1+	890903	657	1.0-	0.2+
510929	094(0.16-	0.04-)X		830311	381	0.5-	1.0+	890904	801	1.1+	0.3+
610110	690	0.9-	0.5-	830316	095	0.8-	0.0	890906	657	0.5-	1.5-
610110	690	0.1-	0.9-	850921	095	0.6-	2.4+	890906	657	0.3-	0.1+
610115	690	0.3+	2.9-	851018	095	0.7+	2.5+	890906	046	1.6+	0.1-
700303	805	0.2+	0.2+	851024	049	1.9-	0.9+	890906	046	0.4+	0.6-
700303	805	0.5+	0.1+	851024	049	1.5-	0.2+	890907	046	0.1+	0.8-
700303	805	0.2-	0.4+	851024	049	1.5+	2.1-	890925	801	0.6-	0.6+
790424	095	1.0+	0.4-	851024	049	1.7+	0.7-	890928	657	0.2-	1.0-
811119	808(33.9+	25.9+)		851112	095	0.8+	0.2-				
811125	095	0.2-	3.1+	890903	657	0.7-	0.1+				

(4255)* 1986 GW = 1977 CN1
Discovered 1986 Apr. 4 by Spacewatch at Kitt Peak.
Id. S. J. Bus (MPC 11155)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	113.04252	(1950.0)	P	Q
n	0.12520331	Peri. 78.72429	-0.13429277	+0.99093765
a	3.9572380	Node 183.56165	-0.92598927	-0.12650754
e	0.1606020	Incl. 2.61290	-0.35285879	-0.04514875
P	7.87	H 13.6	G 0.25	

Residuals in seconds of arc

770211	675	1.6-	1.4-	860409	691	0.4+	0.8+	860514	691	0.0	0.0
770212	675	0.4+	2.5-	860415	691	0.4+	0.8+	860514	691	0.0	0.8-
860404	691	0.4-	1.2-	860415	691	0.8+	0.8+	860514	691	0.2-	0.3-
860404	691	0.6-	0.7-	860415	691	0.5+	1.1+	860517	691	0.0	1.0+
860404	691	1.1-	0.8-	860501	691	0.9-	0.1+	860517	691	0.6-	0.3+
860409	691	0.2+	0.2+	860501	691	0.1+	0.6+	860517	691	0.2-	0.5+
860409	691	1.0+	0.1+	860501	691	0.8-	0.2+	860607	691	0.4+	0.3+

860607 691 0.2+ 0.1- 870523 691 0.2- 0.3+ 870524 691 0.4- 0.9-
860607 691 0.7+ 1.0+ 870523 691 0.2+ 0.0 880914 807 0.7- 1.2+
860608 691 0.2+ 0.1- 870523 691 0.3- 0.7- 880915 807 0.1- 0.4+
860608 691 0.8+ 0.5+ 870524 691 0.6+ 1.7- 881006 807 0.7+ 0.3+
860608 691 0.7+ 0.2- 870524 691 0.2+ 1.6- 881007 807 0.1- 1.3-

(4256)* 1986 TX = 1985 GO1

Discovered 1986 Oct. 3 by T. Seki at Geisei.

Id. T. Urata (NOC 1563), S. Nakano (MPC 11350)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M	13.74072	(1950.0)	P	Q
n	0.27341797	Peri. 225.74768	+0.46618221	+0.88324105
a	2.3509930	Node 72.10153	-0.79574277	+0.44361616
e	0.0701805	Incl. 3.04748	-0.38661039	+0.15195380
P	3.60	H 13.7	G 0.25	

Residuals in seconds of arc

850415 688 1.1- 0.2- 861013 372 0.3+ 0.9+ 880216 875 1.7+ 2.8+
850415 688 0.8+ 0.7- 861013 372 1.1- 2.6+ 880216 875 1.6- 2.1+
850424 675 (8.9- 0.6-) 861027 010(17.5- 2.5-) 880221 372 (9.4- 0.7-)
850425 675(12.7- 2.7-) 861027 010(18.8- 0.4-) 880221 372 (7.7- 0.5+)
861003 095 0.3+ 0.3+ 861027 010(12.5- 1.9-) 890625 372 0.0 1.6+
861003 372 0.9+ 2.1- 861030 372 0.5- 1.4+ 890625 372 0.8+ 1.2+
861003 372 2.0+ 0.5- 861030 372 1.4- 0.2+ 890705 372 (2.5+ 5.6+)
861008 372 2.6- 1.7- 861104 095 (3.5- 2.7+) 890705 372 (0.3- 7.1+)
861008 372 0.2+ 1.0- 880123 511 1.7+ 0.2+ 890803 372 0.0 0.1+
861008 095 2.4+ 0.3- 880123 511 (6.3+ 0.6+) 890803 372 1.3- 2.0+
861011 372 0.2- 1.6+ 880213 875 (5.3- 4.7-)Y
861011 372 1.1- 0.8+ 880213 875 (2.4- 7.0-)Y

(4257)* 1987 QA

Discovered 1987 Aug. 23 by J. Mueller at Palomar.

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bardwell

M	312.68673	(1950.0)	P	Q
n	0.46632944	Peri. 278.88026	-0.00446898	-0.99177281
a	1.6469263	Node 168.68824	+0.95793327	+0.03246591
e	0.4686313	Incl. 40.70965	-0.28695624	+0.12382512
P	2.11	H 16.1	G 0.25	

Residuals in seconds of arc

870823 675 1.4+ 0.7- 871118 474 (0.1+ 3.8+) 890523 675 0.2- 1.0+
870823 675 0.9- 0.1- 880121 474 0.3+ 1.4+ 890523 675 0.1- 1.4+
870823 675 1.8- 1.6+ 880121 474 2.4+ 1.2+ 890614 675 0.3+ 0.5+
870826 675 1.9+ 1.4- 880125 474 1.5- 1.6- 890614 675 0.4+ 0.6+
870826 675 0.5+ 0.2+ 880125 474 1.4+ 1.7- 890614 675 0.4+ 0.2+
870903 675 0.9- 2.4- 880212 691 0.8- 0.5- 890615 675 0.3+ 0.9+
870903 675 0.3- 0.5- 880212 691 0.4- 0.3- 890615 675 0.2+ 0.7+
870904 675 1.6+ 1.1- 880212 691 0.7- 0.7- 890615 675 0.2+ 0.7+
870904 675 0.6- 1.7+ 880213 691 1.5+ 0.6+ 890826 801 0.8+ 0.6+
870915 474 1.0- 1.2+ 880213 691 1.1+ 0.5+ 890901 801 0.8+ 1.2-
870915 474 (5.1- 6.9+) 880213 691 1.0+ 0.7+ 890901 675 0.8- 1.7-
870919 474 0.1+ 1.6+ 880317 568 0.5- 0.4- 890901 675 (1.0- 3.9-)
871018 474 1.5- 2.2+ 880520 688 0.7- 0.8- 890908 568 0.1- 0.5+
871018 474 0.6+ 1.3- 880520 688 0.6- 0.8- 890925 801 2.9- 2.1-
871118 474 (0.6+ 4.0+) 890523 675 0.3- 1.8+ 891001 801 0.3- 0.7-

(4258)* 1987 RZ2 = 1969 AW = 1972 TA4 = 1980 DJ5 = 1980 FD10 = 1982 TF3 = 1988 XZ3

Discovered 1987 Sept. 1 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Id. S. Nakano (MPC 15248)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kaneda

M	153.63282	(1950.0)	P	Q
n	0.19376180	Peri. 275.40041	+0.92152511	+0.38349685
a	2.9577214	Node 62.06145	-0.32327752	+0.84468492
e	0.0721553	Incl. 3.95962	-0.21513511	+0.37341337
P	5.09	H 12.2	G 0.25	

Residuals in seconds of arc

690115	095	1.2+ 2.1-	821021	095	1.2- 0.5-	881207	399	1.0+ 0.7-
721005	095	(5.4+ 9.7-)	870901	095	1.1- 2.3+	881207	399	0.4+ 0.5-
721013	095	(7.2+ 8.9-)	870922	095	1.6+ 0.7+	881207	399	0.2+ 1.3-
800221	095	2.1+ 2.3+	870925	095	1.2+ 1.0+	881211	399	1.0- 1.3+
800316	095	0.6- 2.7+	881201	054	0.4- 0.6+	881211	399	0.0 1.4+
821015	095	2.4- 0.1-	881207	399	0.8- 0.3+	881211	399	0.0 0.5+

(4259)* 1988 SB3 = 1964 WO = 1976 GL4 = 1979 YD3 = 1984 YA4

Discovered 1988 Sept. 16 by S. J. Bus at Cerro Tololo.

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Marsden

M	4.84648	(1950.0)	P	Q
n	0.20020579	Peri. 15.88614	+0.25154271	-0.96684896
a	2.8939096	Node 59.56318	+0.88229721	+0.21041691
e	0.0519262	Incl. 2.92022	+0.39784155	+0.14466449
P	4.92	H 12.7	G 0.25	

Residuals in seconds of arc

641127	330	0.8+ 0.9-	841229	095	0.1- 0.1+	881005	807	0.4+ 0.2+
641203	330	0.3- 0.4+	841231	095	0.6+ 0.2+	881008	807	0.1- 1.5-
760402	095	1.0+ 2.3+	880916	807	0.2+ 1.1+	881105	807	0.9- 0.9+
791224	095	1.2- 1.1-	880918	807	0.5+ 0.7+	881107	807	0.9- 0.9+
841227	095	0.5+ 0.9+	881004	807	0.6- 0.3+			

(4260)* 1989 AX = 1932 ET = 1978 WT14 = 1982 PO = 1985 FX1

Discovered 1989 Jan. 4 by S. Ueda and H. Kaneda at Kushiro.

Id. S. Nakano (MPC 14205)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano

M	100.06773	(1950.0)	P	Q
n	0.20556069	Peri. 323.47019	+0.58589318	-0.80837859
a	2.8434309	Node 90.59515	+0.75633650	+0.52018486
e	0.0636128	Incl. 3.26994	+0.29100564	+0.27555721
P	4.79	H 12.0	G 0.25	

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

320314	024	1.1- 2.6-	850322	688	1.8- 0.7-	890106	399	0.1+ 0.1-
320315	024	(0.09- 0.07-)	870902	095	1.3+ 0.7+	890106	399	0.4+ 0.1-
781128	330	0.7+ 0.1-	870920	095	1.9- 1.4-	890106	399	1.3- 0.4-
820814	095	0.9- 0.8-	870922	095	1.5+ 0.5+	890113	399	0.1- 0.7+
820816	095	1.3+ 2.8-	890104	399	0.5+ 0.2-	890113	399	0.3- 0.5+
850322	688	2.1+ 0.5-	890104	399	0.7+ 1.4-	890113	399	1.0- 0.4+

(4261)* 1989 BJ = 1978 RR16 = 1978 VN = 1980 BV2

Discovered 1989 Jan. 28 by Y. Oshima at Gekko.

Id. H. Oishi (MPC 14358)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	155.88147	(1950.0)	P	Q
n	0.21131640	Peri. 101.25989	+0.99225318	-0.11532156
a	2.7915618	Node 265.37434	+0.08798247	+0.91487929
e	0.1140995	Incl. 2.65674	+0.08770809	+0.38690673
P	4.66	H 12.5	G 0.25	

Residuals in seconds of arc

780908	010	(8.2-	41.9-)	870923	095	0.7+	0.9-	890205	888	0.5+	0.3+
780909	010	0.1+	0.4-	871023	095	0.2-	1.5+	890205	888	0.5+	0.6-
781030	010	0.7-	0.1-	890128	888	0.4-	0.5-	890207	888	0.4+	0.8+
781101	010	0.2-	0.7-	890128	888	0.8-	0.7-	890207	888	0.7-	0.6+
781101	010	1.1+	0.2-	890129	888	0.2+	0.7-	890210	888	0.7+	0.5+
800124	095	0.4+	0.8+	890129	888	0.1+	0.3-	890210	888	0.3+	0.0
870903	095	0.2-	0.3+	890203	888	0.1-	0.4+	890226	888	0.4+	0.1-
870917	095	1.1-	0.8+	890203	888	0.9-	0.5+	890226	888	(2.3-	2.7-)

(4262)* 1989 CO = 1931 TH3 = 1955 KA = 1955 MD = 1976 NF

Discovered 1989 Feb. 5 by M. Arai and H. Mori at Yorii.

Id. B. G. Marsden (MPC 14955), S. Kanda (d, MPC 1596)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	258.02211		(1950.0)	P	Q
n	0.28243397	Peri.	183.47276	+0.67218295	+0.73368168
a	2.3006899	Node	128.79285	-0.67614585	+0.66300553
e	0.2203323	Incl.	7.32730	-0.30165687	+0.14877791
P	3.49	H	12.9	G 0.25	

Residuals in seconds of arc

311010	690	0.2-	0.3-	890111	033	0.5-	0.1-	890210	033	0.7-	0.5-
311012	690	0.1+	0.3+	890112	033	0.5-	0.0	890210	033	0.7-	0.0
550517	760	2.4-	0.3+	890202	033	1.1-	0.7-	890213	875	(60.3-	51.9+)
550517	760	1.9+	1.4-	890204	033	0.6-	0.6-	890301	875	1.1+	0.1-
550619	760	0.4+	0.2-	890205	875	1.4+	0.8+	890301	875	1.6+	0.4+
550619	760	0.2+	0.7+	890205	875	1.6+	0.9+	890307	033	0.6-	0.6-
760701	095	0.1+	0.8+	890207	875	0.3-	1.0+	890310	033	0.4-	0.1-
890110	033	0.8-	0.4+	890207	875	0.7+	0.3+	890310	033	0.2-	0.4-

(4263)* 1989 RL2 = 1935 KE = 1952 OS = 1969 TS3 = 1972 OB = 1978 EK
= 1981 AT1 = 1982 PF = 1988 DK5

Discovered 1989 Sept. 7 by M. Yanai and K. Watanabe at Kitami.

Id. D. W. E. Green, H. Kaneda

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kaneda

M	101.05033		(1950.0)	P	Q
n	0.29509611	Peri.	306.92255	-0.42582111	+0.90036469
a	2.2343973	Node	297.64484	-0.79462900	-0.41946635
e	0.1394532	Incl.	5.80218	-0.43271369	-0.11572124
P	3.34	H	12.7	G 0.25	

Residuals in seconds of arc

350528	078	(16.6-	12.6-)X	880220	413	1.2+	0.1-	890920	400	0.2-	1.8-
520726	760	0.2+	0.6-	880220	413	1.6+	0.4+	890920	400	1.2-	0.4-
691011	095	0.4-	0.3-	880313	413	1.3-	0.3+	890920	400	1.1+	2.0-
691014	095	1.9+	1.2+	880313	413	1.3+	0.8-	890926	400	0.3+	2.3-
720721	095	0.7+	1.6+	890831	046	0.6-	0.6+	890926	400	(2.3+	3.8-)
720803	095	1.0-	0.5-	890831	046	1.4-	0.2-	890929	400	1.5-	1.6+
780315	414	2.8-	0.4-	890907	400	0.4+	0.4-	890929	400	2.6-	2.1+
780315	414	0.3-	0.6-	890907	400	1.8+	1.6+	891008	391	2.1+	1.1+
810108	381	0.3-	0.2-	890907	400	0.5+	1.4+	891008	391	(3.6+	0.9+)
810108	381	0.2-	0.3+	890907	046	1.6+	1.0-	891009	391	0.9-	0.3+
820814	095	0.1+	0.6-	890907	046	0.2-	1.1-	891009	391	0.2-	1.2-

(4264)* 1989 TB = 1974 VX1 = 1985 PJ1

Discovered 1989 Oct. 2 by K. F. J. Cwach at Siding Spring.

Id. B. G. Marsden (k), R. H. McNaught (1984 obs.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Marsden
M 357.28987 (1950.0) P Q
n 0.26176223 Peri. 197.29059 +0.92906911 -0.36987596
a 2.4202751 Node 184.42592 +0.34620189 +0.87396510
e 0.2839918 Incl. 3.51388 +0.13028754 +0.31524084
P 3.77 H 13.4 G 0.25
Residuals in seconds of arc

741115 095	0.2-	0.9+	850812 046	0.9+	0.5+	891002 413	0.2+	0.9-
840305 413	0.4+	0.1+	850812 046	0.8-	1.6-	891006 413	0.1-	0.8+
840312 413	0.9+	0.1-	850813 046	1.8+	0.2+	891008 403	(1.5-	4.5-)Y
840329 413	0.7+	0.1-	850813 046	(4.7+	2.7+)	891008 403	(4.3-	2.5-)Y
840329 413	0.4-	0.4+	890923 413	0.6-	0.2-	891009 881	1.4+	0.4+
840531 413	1.5-	0.3-	890928 413	1.5-	0.2-	891009 881	2.2+	1.6+
850811 046	2.0-	1.4+	891001 413	0.2-	0.3-	891020 413	0.8-	1.7-
850811 046	(3.6-	0.4-)	891002 413	0.5-	0.6-			

(4265)* 1989 TX = A917 TB = 1940 WM = 1955 VJ = 1974 VH2 = 1983 AP1
Discovered 1989 Oct. 8 by Y. Mizuno and T. Furuta at Kani.
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano
M 3.20491 (1950.0) P Q
n 0.26048840 Peri. 242.96678 +0.98340681 -0.17094419
a 2.4281590 Node 126.81496 +0.18134550 +0.91709919
e 0.1998115 Incl. 4.35112 +0.00498647 +0.36014881
P 3.78 H 12.8 G 0.25
Residuals in seconds of arc

171008 094	(25.3+	17.8-)X	830112 046	0.4+	1.9-	891008 403	1.7-	0.3+
401129 062	0.8-	1.1+	890926 809	0.9+	1.7-	891008 403	0.5-	0.2-
401129 062	0.8-	1.3+	890926 809	1.0+	1.7-	891008 897	0.7-	1.3+
401204 062	0.1+	0.5+	890926 809	0.4+	2.2-	891009 403	1.8-	0.4-
551110 760	0.5+	0.5+	890928 809	2.5+	0.4-	891009 403	1.4-	1.3+ Y
551110 760	0.3+	0.3-	890928 809	1.3+	0.2+	891020 897	0.6-	1.0+
741115 095	0.9+	1.4-	890928 809	1.7+	0.6-	891020 897	0.9-	1.9+
830112 046	0.6-	1.0-	891008 897	0.1-	0.2-			

1968 OF = 1989 TF
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Bardwell
Id. C. M. Bardwell (k), R. H. McNaught (1982 obs.)
M 14.24319 (1950.0) P Q
n 0.28455072 Peri. 119.65221 +0.95449719 +0.28880750
a 2.2892705 Node 223.67996 -0.29700821 +0.89816931
e 0.1530870 Incl. 6.17873 -0.02685581 +0.33148471
P 3.46 H 14.0 G 0.25
Residuals in seconds of arc

680718 805	0.5+	0.7+	821104 413	0.2+	0.8+	891005 494	0.3+	0.4+
680719 805	0.1-	1.3-	821104 413	0.0	0.5+	891008 413	0.3-	0.1-
680725 805	0.3+	0.3-	891004 494	0.2-	0.9-	891008 413	0.3+	1.5+
680728 805	0.6-	0.9+	891004 494	0.3-	0.2-	891020 413	0.6+	0.8-
680822 805	0.3-	0.5+	891005 494	0.6+	0.4-	891020 413	0.6+	0.3-

1969 QR = 1988 DP
Id. C. M. Bardwell (MPC 12958)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 46.99378 (1950.0) P Q
n 0.29704686 Peri. 54.98854 +0.40202998 +0.90901872
a 2.2246041 Node 239.07875 -0.87621660 +0.34714526
e 0.1420094 Incl. 7.35375 -0.26573740 +0.23059734
P 3.32 H 14.3 G 0.25

Residuals in seconds of arc

690822	029	1.2+	1.5+		880222	413	1.9-	0.8+		880310	413	0.2+	0.6+
690822	029	0.1+	0.1-		880222	413	0.1-	1.0-		880310	413	1.7+	0.2-
690902	029	0.1-	0.5-		880223	413	1.2-	0.1-		890901	801	1.6-	0.9-
690904	029	0.5-	0.7-		880223	413	2.4+	0.5-		890903	801	1.2+	1.8+
690918	029	0.6-	0.7-		880225	413	0.2+	0.2+					
880219	413	2.1-	0.4+		880225	413	1.0+	0.3+					

1969 TB3 = 1987 SS

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		(J-P)		Nakano	
M	211.75332	(1950.0)		P	Q
n	0.27352020	Peri.	88.29157	+0.95926172	+0.27800566
a	2.3504119	Node	255.56489	-0.27543535	+0.88065385
e	0.1544539	Incl.	2.97709	-0.06286743	+0.38361655
P	3.60	H	13.5	G 0.25	

Residuals in seconds of arc

691009	095	2.7-	1.4+		870828	095	0.6+	0.6-		870919	688	2.1+	0.6+
691011	095	2.9+	1.3+		870916	095	1.1-	0.9-		870926	688	0.7-	0.1+
691014	095	0.0	3.1-		870919	688	1.1-	0.2+		870926	688	0.1+	0.9+

1971 SS1 = 1982 SY = 1988 XY3

Id. C. M. Bardwell (MPC 13588), S. Nakano

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Nakano	
M	63.62094	(1950.0)		P	Q
n	0.17923032	Peri.	357.05456	+0.42586828	-0.90442354
a	3.1155046	Node	67.73866	+0.83064741	+0.37960899
e	0.2024828	Incl.	1.58378	+0.35869360	+0.19471794
P	5.50	H	12.4	G 0.25	

Residuals in seconds of arc

710923	095	0.5+	2.4+		881207	399	0.3+	0.1-		881211	399	0.5-	0.3+
711011	095	1.3-	0.7+		881207	399	1.2+	0.3-		881212	054	1.2-	0.2+
711021	095	0.8+	2.9-		881207	399	1.3+	1.3-		881213	054	0.1+	0.1+
820917	801	(5.4-	3.5-)		881207	399	0.4+	0.8-		890110	054	0.3-	0.3+
820919	095	0.6+	0.1-		881211	399	0.3-	0.3+		890110	054	0.6-	0.4-
820928	095	0.5-	0.1-		881211	399	0.1+	0.4-					
881201	054	0.6+	0.8+		881211	399	1.0-	1.6+					

1971 SN2 = 1983 XT

Id. S. Nakano (MPC 9472)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Bowell	
M	77.78481	(1950.0)		P	Q
n	0.17365461	Peri.	261.86338	+0.96285235	+0.26688751
a	3.1818413	Node	82.65032	-0.22855442	+0.88647477
e	0.1676365	Incl.	2.37307	-0.14379926	+0.37806551
P	5.68	H	12.0	G 0.25	

Residuals in seconds of arc

710926	095	2.4-	1.0+		820817	095	0.6+	1.9-		831205	046	0.9+	0.8+
711013	095	2.2+	0.7-		831204	046	0.2-	1.6-		831208	046	0.4-	0.1-
711014	095	0.1-	0.2+		831204	046	0.3-	1.4-		831208	046	0.8+	0.2+
711015	095	0.3-	1.0+		831205	046	0.4-	0.6+		881015	071	0.3-	0.6+

1973 ST = 1988 RF10

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		(J-P)		Marsden	
M	194.55056	(1950.0)		P	Q
n	0.12593592	Peri.	103.94364	-0.99228793	+0.12391402
a	3.9418840	Node	83.17447	-0.11491312	-0.91006103
e	0.0785594	Incl.	0.18223	-0.04647184	-0.39551769
P	7.83	H	12.5	G 0.25	

Residuals in seconds of arc

730919	675	0.2-	1.4-	730930	675	0.1+	0.3-	881004	807	0.2- 1.0+
730919	675	0.4+	1.4+	730930	675	0.3-	1.0+	881005	807	0.5- 0.7+
730920	675	0.1-	0.1+	731004	675	0.1-	0.6-	881007	807	0.3+ 0.2-
730924	675	0.1+	0.4-	731004	675	0.1+	0.4+	881008	807	0.3+ 0.9-
730924	675	0.7-	0.3+	731005	675	1.5+	1.1-	881008	807	1.3- 0.5+
730925	675	0.6+	0.7-	731005	675	1.2-	1.2+	881103	807	0.3+ 0.5-
730925	675	0.8-	0.1-	880914	807	0.6-	0.5-	881105	807	0.3+ 0.6-
730929	675	0.8+	0.2+	880915	807	0.7+	0.3+			
730929	675	0.2-	0.0	880916	807	0.8+	0.1-			

1973 SW4 = 1973 UJ4 = 1969 TY2
Id. B. G. Marsden (d, MPC 9064), K. Hurukawa (MPC 9162)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	66.71584	(1950.0)	P	Q	
n	0.25650783	Peri.	61.72473	+0.96883526	-0.24455514
a	2.4532151	Node	312.40140	+0.20444361	+0.87922519
e	0.1503764	Incl.	3.05719	+0.13986081	+0.40884698
P	3.84	H	13.2	G 0.25	

Residuals in seconds of arc

691009	095	0.2+	0.3-	730928	095	2.1+	1.6+	860110	801	0.9- 2.0+
691011	095	1.2+	2.5-	731029	095	0.3-	0.6+	860204	801	0.6+ 0.2-
730927	095	2.9-	1.0+	851220	801	0.0	3.0-			

1975 TK6 = 1977 AS1 = 1988 SK3
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	95.46573	(1950.0)	P	Q	
n	0.22765205	Peri.	259.86719	+0.89943598	+0.37310341
a	2.6563739	Node	77.93356	-0.25028309	+0.86665207
e	0.1746803	Incl.	13.45950	-0.35829220	+0.33122203
P	4.33	H	13.0	G 0.25	

Residuals in seconds of arc

751005	808	0.6-	0.8+	751010	808	0.7+	0.1-	881004	807	0.1+ 1.3-
751005	808	0.5-	0.3-	751010	808	0.3+	0.5-	881005	807	0.2+ 0.4-
751006	808	0.5+	1.3-	770113	095	0.0	0.4-	881007	807	0.5- 0.3+
751006	808	0.7-	0.3+	880916	807	0.1+	0.3+	881105	807	1.2- 0.1-
751009	808	1.5+	0.0	880918	807	0.3-	0.5+	881107	807	0.6- 1.7+
751009	808	0.4-	0.8-	880919	807	1.1+	0.8+			

1976 SA = 1981 WC8 = 1983 HH1 = 1989 RK
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi

M	335.03202	(1950.0)	P	Q	
n	0.22399659	Peri.	206.55920	+0.99197919	-0.12143920
a	2.6851906	Node	160.32145	+0.12633683	+0.94369102
e	0.0613780	Incl.	5.97766	+0.00403672	+0.30773329
P	4.40	H	13.3	G 0.25	

Residuals in seconds of arc

760923	801	0.4+	0.3-	760928	095	0.4+	1.0-	890902	511	2.8+ 1.6+
760924	095	0.9+	3.0+	811125	095	0.1+	0.1-	890902	511	0.2+ 2.3-
760925	801	0.7-	0.4-	830416	033	0.5+	2.4+	890904	511	1.1- 0.2+
760925	801	2.3-	2.7+	830416	033	0.7+	2.1+	890904	511	1.9- 0.3+

1976 SV10 = 1976 UA3 = 1983 ER
Id. B. G. Marsden (d, MPC 9065), S. Nakano (MPC 9753)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 34.57709 (1950.0) P Q
n 0.21802671 Peri. 6.03659 +0.50241033 +0.86401720
a 2.7339858 Node 294.12705 -0.79472682 +0.44664585
e 0.0737080 Incl. 2.04261 -0.34057766 +0.23233975
P 4.52 H 12.7 G 0.25
Residuals in seconds of arc

760925 801	1.7+	0.4-	830316 688	0.3-	0.9-	890902 511	0.2+	1.0-
761024 381	0.7-	1.2+	830316 688	1.0-	1.9-	890904 801	1.1-	1.1-
761024 381	0.8-	1.1-	851107 688	1.5+	1.6-	890904 511	0.2+	0.4+
761026 095 (3.3+	5.4+)		851107 688	1.4-	0.6-	890904 511	2.0+	0.4-
830310 688	0.4-	1.3-	860113 801	0.7+	1.3+			
830310 688	0.4-	0.5-	890902 511	0.1+	1.3-			

1977 DY8 = 1978 NJ5
Id. S. Nakano (MPC 12940)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 115.93979 (1950.0) P Q
n 0.31089654 Peri. 352.61353 +0.92130336 -0.38769119
a 2.1580365 Node 30.25224 +0.35971017 +0.82051568
e 0.0597082 Incl. 3.40554 +0.14767772 +0.42005900
P 3.17 H 14.3 G 0.25
Residuals in seconds of arc (or two decimals in units of degrees)

770219 381	1.4+	1.1-	780711 675(0.09+	0.03+)Y		881105 046	0.2-	0.9-
770219 381	0.3-	0.8-	780713 675(0.09+	0.03+)Y		881105 046	0.5+	0.5+
770312 381	0.1-	0.9+	881006 801	2.8-	2.7+	881110 046	1.1+	1.2+
770312 381	1.0-	0.5+	881104 046 (4.8-	0.3-)		881110 046	0.0	0.9-
770315 381	1.3+	0.2+	881104 046	0.8-	1.8-	881111 801	0.1-	1.3+
770315 381	1.2-	1.1+	881105 888 (0.6+	5.9-)		881206 801	0.6-	0.8+
780710 675(0.09+	0.03+)Y		881105 888	2.5+	2.0-			

1978 PD3 = 1978 RZ2 = 1989 TR
Id. B. G. Marsden (d, MPC 7139), S. Nakano
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
M 356.44853 (1950.0) P Q
n 0.27234445 Peri. 45.00759 +0.97731399 -0.20327418
a 2.3571718 Node 326.58767 +0.15084425 +0.86516495
e 0.1192961 Incl. 6.20016 +0.14867207 +0.45844217
P 3.62 H 14.0 G 0.25
Residuals in seconds of arc

780808 095	0.3-	0.3+	780910 809	1.2+	2.0-	891007 403	0.1+	0.3+	
780903 095	4.2-	1.0+	780910 809	1.8+	1.8+	891008 403	2.0-	1.4+	Y
780906 809	1.0+	1.0-	780910 809	0.5+	0.5-	891008 403	0.9+	1.8-	
780910 809	0.0	0.3+	891007 403	0.8+	0.4+				

1978 SP5 = 1987 QK12
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
M 136.62312 (1950.0) P Q
n 0.21353114 Peri. 194.72324 +0.93541248 -0.35348518
a 2.7722312 Node 185.99209 +0.33093582 +0.88253781
e 0.1124411 Incl. 3.95026 +0.12443864 +0.31012132
P 4.62 H 13.0 G 0.25
Residuals in seconds of arc

780927 095	1.7-	0.0	781007 095	1.6+	1.0-	870828 095	0.4+	1.6+
781003 095	1.0-	1.9-	781102 095	1.0+	2.8+	870916 095	0.5-	1.2-

1978 SX6 = 1985 BH2 = 1988 TV4
Id. S. J. Bus (k), B. G. Marsden
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	5.95484		(1950.0)	P	Q
n	0.19073722	Peri.	76.70137	+0.35100099	-0.93594105
a	2.9889131	Node	352.56077	+0.75101659	+0.29957178
e	0.1758879	Incl.	12.71932	+0.55926057	+0.18512453
P	5.17	H	12.5	G 0.25	

Residuals in seconds of arc

780926	095	1.0+	0.3+	850121	688	0.7+	1.6-	881007	807	0.1+	0.1-
781002	095	0.9-	0.9+	850121	688	1.2-	0.6+	881008	807	1.0+	1.1-
781008	095	0.1+	0.9-	881004	807	0.3-	0.1+	881103	807	0.2+	0.8-
781101	095	1.2-	1.1+	881005	807	0.0	0.6+	881105	807	0.5+	0.9-

1978 UL2 = 1961 UQ = 1986 EJ3 = 1989 SW4
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Bardwell

M	349.84958		(1950.0)	P	Q
n	0.17689335	Peri.	264.40215	+0.82218267	-0.56819718
a	3.1428904	Node	130.21726	+0.53834599	+0.75667810
e	0.1816874	Incl.	2.56479	+0.18493040	+0.32340412
P	5.57	H	12.5	G 0.25	

Residuals in seconds of arc

611018	760	1.3+	2.0+	781029	330	0.6+	0.7+	890926	809	0.6-	0.8-
611018	760	1.7-	1.5-	781101	095	1.8-	1.5-	890926	809	0.9-	1.8-
781009	095	3.4-	1.0+	781103	330	1.3+	0.0	890928	809	0.6+	1.1+
781028	675	1.5+	0.1-	860312	809	0.3-	0.5-	890928	809	0.5+	0.0
781029	675	1.2+	0.3+	890926	809	0.1+	1.1-	890928	809	0.3+	0.3+

1978 VT4 = 1988 RF11
Id. S. J. Bus
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	320.05309		(1950.0)	P	Q
n	0.17871833	Peri.	70.02536	-0.25966603	-0.96557633
a	3.1214519	Node	35.03634	+0.87566251	-0.24213261
e	0.1373334	Incl.	1.53308	+0.40717160	-0.09504819
P	5.51	H	14.0	G 0.25	

Residuals in seconds of arc

781105	675	0.3-	0.5-	781129	675	0.8-	0.0	881103	807	0.6-	0.5-
781106	675	0.9+	0.0	781130	675	1.0-	0.2-	881105	807	0.1+	0.9+
781107	675	0.4-	0.7+	880914	807	0.5+	0.1+				
781108	675	1.7+	0.0	880915	807	0.1-	0.3-				

1978 VD5 = 1980 FR8 = 1988 TX4
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano

M	332.01284		(1950.0)	P	Q
n	0.18207722	Peri.	284.35067	-0.30241704	-0.95317491
a	3.0829501	Node	183.25295	+0.88263578	-0.27954834
e	0.1319929	Incl.	1.24424	+0.35985833	-0.11537031
P	5.41	H	14.5	G 0.25	

Residuals in seconds of arc

781105	675	0.2-	0.2-	781129	675	0.3+	0.2+	881005	807	0.2+	0.1-
781106	675	0.4+	0.3-	781130	675	0.4-	1.0-	881008	807	0.3+	0.3+
781107	675	0.2+	0.9+	800323	809	0.0	0.1-				
781108	675	0.4-	0.4+	881004	807	0.4-	0.4-				

1978 VE5 = 1970 AG = 1987 SJ27
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
M 171.96597 (1950.0) P Q
n 0.21263604 Peri. 284.92697 +0.97947114 +0.15051561
a 2.7800056 Node 66.56327 -0.07578549 +0.89134828
e 0.2362168 Incl. 8.40400 -0.18679628 +0.42760180
P 4.64 H 12.5 G 0.25
Residuals in seconds of arc

700104	095	0.5+	2.3-	781107	675	0.0	1.1+	781130	675	0.8-	0.1+
781105	675	0.1-	0.7-	781108	675	0.1+	0.7+	870927	095	0.1+	2.3-
781106	675	0.1-	0.5+	781129	675	0.4-	0.9+	871023	095	0.8+	1.1+

1978 VG5 = 1988 TZ4
Id. S. J. Bus
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 306.60169 (1950.0) P Q
n 0.18010086 Peri. 169.44515 -0.64915879 -0.76062957
a 3.1054570 Node 321.03267 +0.69715858 -0.59181917
e 0.1441250 Incl. 0.54299 +0.30424131 -0.26681965
P 5.47 H 12.9 G 0.25
Residuals in seconds of arc

781105	675	0.4+	0.0	781129	675	0.1+	0.1-	881103	807	0.0	0.3-
781106	675	0.4-	0.3-	781130	675	0.4-	0.9-	881106	807	0.2-	0.3-
781107	675	0.9+	1.0+	881005	807	0.2+	0.6+	881108	807	0.3+	0.2-
781108	675	0.6-	0.5+	881008	807	0.4-	0.0				

1978 VJ8 = 1988 TY4
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
M 158.70029 (1950.0) P Q
n 0.17758322 Peri. 68.86674 -0.26272546 +0.96486940
a 3.1347455 Node 185.90205 -0.89068060 -0.24313847
e 0.1068682 Incl. 0.85929 -0.37103018 -0.09955264
P 5.55 H 13.5 G 0.25
Residuals in seconds of arc

781105	675	0.6+	0.1+	781108	675	0.1-	0.2-	881004	807	0.5-	0.4+
781106	675	1.3-	1.1-	781129	675	0.1-	0.3+	881005	807	0.3+	0.6-
781107	675	0.7+	1.2+	781130	675	0.0	0.3-	881008	807	0.2+	0.1+

1978 VE15 = 1978 WB15 = 1982 YY4 = 1989 UB
Id. C. M. Bardwell (MPC 12671), K. Ichikawa
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Ichikawa
M 355.04778 (1950.0) P Q
n 0.26834761 Peri. 320.71566 +0.82496277 -0.56267805
a 2.3805196 Node 73.60477 +0.53149162 +0.74032336
e 0.2073365 Incl. 3.17874 +0.19223185 +0.36785152
P 3.67 H 13.9 G 0.25
Residuals in seconds of arc

781028	675	0.3-	0.8-	781124	049	2.0+	1.1-	891023	403	0.2-	1.5+
781029	675	0.0	0.4-	821224	095	0.2+	1.3+	891023	403	0.3+	1.2+
781101	095	1.7-	0.3-	891020	403	1.6+	0.7- Y	891026	403	1.1-	0.1-
781124	049	1.5+	1.4-	891020	403	3.6-	0.5+ Y	891026	403	1.7+	1.0+

1979 MS6 = 1984 YO3 = 1987 SM19
Id. D. W. E. Green, S. Nakano
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	32.57313	(1950.0)		P	Q
n	0.26102142	Peri.	271.13492	-0.89898556	-0.42932276
a	2.4248571	Node	243.44577	+0.43040335	-0.82934569
e	0.0755799	Incl.	5.55840	+0.08110441	-0.35758592
P	3.78	H	13.0	G 0.25	

Residuals in seconds of arc

790623	413	1.1+	2.4-	790726	675	0.5+	0.7+	841227	095	0.1-	2.8-
790624	413	0.8-	2.1-	790726	675	0.2+	1.2+	870917	095	1.1-	1.0+
790625	413	0.1-	1.8-	790727	675	1.0-	0.7+	870923	095	0.8+	0.1-
790629	413	0.0	1.2-	790728	413	0.6-	0.0				
790724	413	0.2+	0.3-	790822	675	1.7+	1.9+				

1979 OK15 = 1985 FP1 = 1985 HA
Id. S. Nakano (MPC 11147)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	42.76781	(1950.0)		P	Q
n	0.29722681	Peri.	131.68837	+0.28008416	+0.95932691
a	2.2237061	Node	154.51229	-0.90328473	+0.27580857
e	0.1682624	Incl.	4.70285	-0.32500701	+0.06017902
P	3.32	H	14.5	G 0.25	

Residuals in seconds of arc

790721	095	1.2+	0.0	850322	688	(2.3+	3.6-)	861104	095	0.1-	1.0+
790730	095	0.5+	0.7+	850418	691	0.1+	1.0+	890901	801	1.5-	1.7+
790820	095	1.6-	1.2-	850418	691	0.2+	0.4+	890903	801	1.0+	0.3-
850322	688	0.2-	0.1+	850418	691	0.4+	0.3+				

1980 JC = 1949 SL1 = 1987 SX1 = 1987 ST9 = 1989 CO8
Id. T. Kobayashi (MPC 14344; unpublished), S. Nakano (ibid.; unpublished), K. Ichikawa
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi

M	273.50992	(1950.0)		P	Q
n	0.31202923	Peri.	318.64993	+0.62207288	+0.78292911
a	2.1528108	Node	349.81126	-0.70770408	+0.55850043
e	0.1557444	Incl.	2.22923	-0.33493322	+0.27404249
P	3.16	H	13.3	G 0.25	

Residuals in seconds of arc

490925	760(0.06-	0.02-)X	870921	071	2.4-	0.8-	890211	809	0.1-	0.3+	
800511	046 (1.6-	5.8-)	870923	095	0.8+	1.2-	890211	809	0.3+	0.1+	
800511	046	2.6-	2.2- Y	870926	688	2.3+	0.7+	890212	809	0.2+	1.0+
800513	046	2.2+	0.3-	870926	688	1.8-	0.2-	890212	809	0.3+	0.7+
800513	046	0.4+	2.7+	870927	399	0.9-	0.9+	890212	809	0.7+	0.8+
800514	046	0.7-	0.3-	870927	399	0.7+	0.8+	890213	809	0.5-	1.0-
800514	046	0.5+	0.3-	870927	399	2.6+	1.7+	890213	809	0.3-	1.1-
870903	095	1.0+	0.6-	871023	095	1.5+	2.0-	890213	809	0.1+	1.1-
870921	071	3.1-	0.4+	890211	809	0.3-	0.4+				

1981 DC2 = 1978 VY13 = 1987 UX8
Id. L. D. Schmadel, S. Nakano
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	225.74065	(1950.0)		P	Q
n	0.22738602	Peri.	99.02193	+0.79038112	+0.59530454
a	2.6584454	Node	224.61181	-0.61107874	+0.74941201
e	0.2047566	Incl.	11.88219	-0.04336427	+0.28981745
P	4.33	H	13.0	G 0.25	

Residuals in seconds of arc

781101	095	1.1-	4.7+	810306	413	4.5+	2.4-	810408	413	0.4+	1.2+
810204	413	0.1+	0.7+	810308	413	1.2-	0.7+	810409	413	0.6-	0.7+
810208	413	3.8-	0.1-	810308	413	0.6+	0.4-	810409	413	1.0+	0.4-
810209	413	0.3+	1.3+	810312	413	1.1-	0.2+	810501	413	2.1+	0.4-
810228	413	2.6-	0.1-	810312	413	1.4+	0.8-	810503	413	0.2+	0.6+
810228	413	0.4+	0.1-	810407	413	1.0-	1.4+	871023	095	0.0	1.8-
810306	413	0.8+	0.0	810408	413	0.8-	1.8+				

1981 ED19 = 1987 SH6
Id. S. Nakano, B. G. Marsden

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		(J-P)		Marsden	
M 214.50393		(1950.0)		P	Q
n 0.22553263	Peri.	141.65941		+0.63008939	+0.77647297
a 2.6729900	Node	167.38922		-0.72196855	+0.58994861
e 0.0754429	Incl.	2.30475		-0.28591741	+0.22147316
P 4.37	H	12.5	G	0.25	

Residuals in seconds of arc

810202	413	0.6-	0.4+	810311	413	0.8+	0.3-	810411	413	1.0-	0.7-
810213	413	0.2-	1.1+	810316	413	0.8-	0.4+	810411	413	0.8+	1.8-
810302	413	1.5-	0.0	810316	413	2.0+	1.1-	810502	413	1.1+	1.8-
810303	413	1.4-	0.2+	810329	413	0.8-	0.3+	810503	413	0.2+	1.6-
810303	413	1.3+	0.7-	810329	413	0.0	0.1-	870917	095	0.3-	0.3-
810307	413	0.4-	0.9+	810407	413	1.8-	0.2-	870921	046	1.6+	1.7-
810307	413	1.1+	0.6-	810407	413	0.7+	1.5-	870921	046	0.6+	2.8-
810311	413	0.3-	1.0+	810408	413	1.3-	0.4+				

1981 EL20
Id. S. J. Bus (1988 obs.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Bowell	
M 108.95539		(1950.0)		P	Q
n 0.18443785	Peri.	311.81796		+0.42201517	+0.90538392
a 3.0565817	Node	342.96739		-0.77725587	+0.33480078
e 0.1073178	Incl.	9.17869		-0.46666530	+0.26112907
P 5.34	H	14.2	G	0.25	

Residuals in seconds of arc

810209	413	0.7-	0.4-	810315	413	2.1-	0.6+	810502	413	2.3+	0.5-
810213	413	0.7+	0.3-	810315	413	0.0	0.4+	880914	807	1.4-	0.4-
810302	413	2.0-	1.4+	810316	413	0.3-	1.3-	880915	807	0.6+	0.8-
810302	413	(5.5+	0.6-)	810316	413	2.1-	0.4+	880916	807	0.3-	0.1+
810303	413	0.9-	0.4+	810405	413	(5.3+	1.4-)	881004	807	0.6+	0.1-
810303	413	2.5+	1.0-	810405	413	0.3+	0.4+	881005	807	0.2-	0.5+
810307	413	2.0-	0.7+	810406	413	0.0	0.6+	881007	807	0.5+	0.3-
810307	413	0.6+	0.0	810406	413	0.3+	0.2-	881008	807	0.3+	0.7+
810311	413	0.5+	0.5-	810412	413	1.3-	0.4+	881008	807	0.7+	0.8-
810311	413	0.6-	0.8-	810412	413	1.9+	0.3-				
810311	413	2.3+	0.8-	810430	413	0.4+	0.2-				

1981 EK22
Id. S. J. Bus (1988 obs.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Bowell	
M 270.10947		(1950.0)		P	Q
n 0.19742620	Peri.	253.57256		-0.95324234	-0.30192901
a 2.9210088	Node	268.85251		+0.28196751	-0.87315571
e 0.0600167	Incl.	0.74262		+0.10873530	-0.38267215
P 4.99	H	14.6	G	0.25	

Residuals in seconds of arc

810209	413	0.2-	1.6-	810307	413	0.7-	0.7+	810411	413	(7.2-	3.4+)
810209	413	1.2+	1.8-	810307	413	2.1+	0.0	810426	413	1.0+	2.1-
810213	413	0.3+	0.0	810311	413	0.1-	1.5+	810502	413	0.6-	1.3-
810302	413	3.0-	1.0+	810311	413	1.1+	0.1+	881103	807	0.9+	0.7-
810302	413	2.7-	0.7+	810316	413	1.9+	0.4+	881106	807	0.5+	0.1-
810303	413	0.6+	0.4-	810329	413	2.1+	0.7-	881108	807	0.9-	0.5-
810303	413	1.3-	0.7+	810408	413	2.3-	1.0+				

1981 ED24
Id. S. J. Bus (1988 obs.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Bowell
M 12.51044		(1950.0)	P	Q
n 0.19530826	Peri.	243.64273	+0.63138850	-0.77459527
a 2.9420878	Node	167.00418	+0.75690707	+0.60527790
e 0.0265650	Incl.	9.40604	+0.16864235	+0.18341437
P 5.05	H	14.3	G 0.25	

Residuals in seconds of arc

810202	413	0.2-	1.1-	810316	413	1.8-	0.7+	810426	413	0.2+	1.2-
810213	413	1.0-	1.8-	810316	413	1.3+	0.4+	810502	413	0.3-	1.2+
810302	413	1.4-	0.3+	810329	413	0.2+	0.9+	880914	807	0.2+	0.5-
810302	413	0.2+	1.1-	810408	413	1.2+	1.1-	880915	807	0.1+	0.4-
810303	413	0.3+	0.2-	810408	413	0.0	0.4+	881006	807	1.1+	0.4-
810307	413	1.7-	1.2+	810411	413	2.8+	2.1-	881007	807	0.9-	0.9-
810311	413	1.0-	1.2+	810411	413	0.7+	0.2-				

1981 EH24
Id. S. J. Bus (1988 obs.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Bowell
M 26.51043		(1950.0)	P	Q
n 0.20162401	Peri.	24.12253	+0.59777165	-0.80144443
a 2.8803232	Node	29.17766	+0.72904309	+0.53368184
e 0.0714752	Incl.	2.21761	+0.33341449	+0.26994539
P 4.89	H	15.3	G 0.25	

Residuals in seconds of arc

810209	413	1.1-	0.8-	810311	413	2.0-	0.1-	880918	807	1.3+	0.7-
810213	413	1.0+	0.7-	810316	413	(3.8+	4.1-)	881004	807	1.1-	0.9-
810302	413	1.7-	0.5+	810329	413	(6.3+	2.6-)	881103	807	0.3+	0.5-
810303	413	0.0	0.2-	810329	413	2.0+	0.1-	881106	807	0.8-	0.6+
810303	413	0.1+	1.2+	810426	413	2.7+	2.3-	881108	807	0.9-	0.5+
810307	413	0.5-	0.0	810502	413	0.8-	1.6+				
810311	413	(5.6+	2.0-)	880916	807	1.3+	0.3+				

1981 EO26
Id. S. J. Bus (1988 obs.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Bowell
M 10.26088		(1950.0)	P	Q
n 0.20116773	Peri.	140.64787	+0.29069125	-0.95670780
a 2.8846769	Node	292.44850	+0.87382778	+0.27159976
e 0.0501906	Incl.	0.89580	+0.38977379	+0.10461239
P 4.90	H	14.7	G 0.25	

Residuals in seconds of arc

810212	413	0.2+	0.3+	810311	413	0.8-	0.2+	810410	413	2.5+	0.3+
810212	413	0.5-	0.3+	810315	413	0.0	0.2+	810501	413	0.0	1.0-
810213	413	0.0	0.6-	810315	413	0.3+	1.1+	810503	413	1.6-	0.8-
810302	413	1.3+	0.6-	810405	413	1.7-	1.0+	881104	807	0.2+	1.2-
810302	413	(4.3-	1.2+)	810405	413	(4.1+	1.4-)	881106	807	0.3+	0.1+
810306	413	(3.6+	2.9-)	810406	413	0.3-	0.0				
810306	413	0.3-	0.4-	810406	413	0.2+	1.0-				

1981 ED27 = 1976 GX6
Id. S. J. Bus (1988 obs.), W. Landgraf, L. D. Schmadel
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	188.50386	(1950.0)	P	Q
n	0.19110779	Peri. 59.58537	-0.58550136	+0.81047534
a	2.9850481	Node 174.47466	-0.79270423	-0.56778156
e	0.0579239	Incl. 10.67091	-0.16972969	-0.14406186
P	5.16	H 12.5	G 0.25	

Residuals in seconds of arc

760404	095	0.6+	2.9+	810311	413	0.2+	0.7-	880914	807	0.2+	1.4-
810209	413	0.2+	0.4-	810315	413	0.3-	1.5-	880915	807	0.2+	2.3-
810212	413	1.0-	2.0-	810405	413	0.2+	0.3+	880916	807	0.9+	3.1-
810212	413	0.1+	0.4-	810405	413	2.2+	1.2-	881004	807	0.1-	0.3-
810212	413	2.0-	1.0+	810406	413	0.6-	0.3-	881005	807	0.2+	0.9-
810213	413	0.4-	0.6+	810406	413	0.6+	1.6-	881008	807	0.2+	1.1-
810302	413	1.0-	0.4+	810407	413	0.9-	0.2-	881103	807	0.9+	0.3-
810302	413	0.4+	1.2-	810407	413	0.4+	1.5-	881106	807	0.3-	0.1-
810306	413	0.8-	0.3-	810410	413	0.9-	0.0	881108	807	0.3-	0.7+
810306	413	1.2+	0.9-	810410	413	0.5+	0.8-				
810311	413	0.5-	0.1-	810501	413	0.5-	0.9-				

1981 EZ28 = 1989 RV
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi

M	16.90823	(1950.0)	P	Q
n	0.28472155	Peri. 354.66736	+0.91803372	+0.37143194
a	2.2883502	Node 341.54643	-0.34563137	+0.57816641
e	0.1490618	Incl. 25.99853	-0.19430144	+0.72647224
P	3.46	H 14.9	G 0.25	

Residuals in seconds of arc

810214	413	0.2-	0.2+	810310	413	0.6-	0.7+	890904	511	0.1+	0.5+
810301	413	1.5-	0.4-	810310	413	1.0+	0.7-	890904	511	1.0+	2.3+
810301	413	1.9+	0.3-	810312	413	0.2-	0.5+	890905	511	0.4-	0.2-
810302	413	0.5-	0.3-	810312	413(	5.9+	0.4+)	890907	511	0.3-	0.1+
810307	413	1.1-	0.7+	890903	511	0.0	1.4-	890907	511	0.4+	1.9-
810307	413	0.5+	0.0	890903	511	1.5-	0.6-				

1981 EU29 = 1988 RA10
Id. S. J. Bus (1988 obs.), B. G. Marsden
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	68.19200	(1950.0)	P	Q
n	0.18958488	Peri. 7.74432	+0.98742801	+0.14927540
a	3.0010124	Node 343.39681	-0.15301862	+0.82022123
e	0.1035620	Incl. 10.48288	-0.03963879	+0.55222639
P	5.20	H 12.5	G 0.25	

Residuals in seconds of arc

810212	413	1.3+	0.8+	880914	809	3.0-	0.5+	880918	809	1.5+	0.2-
810301	413	0.8+	0.6-	880914	809	2.8-	0.4+	880918	809	1.6+	0.3-
810306	413	2.1-	0.4+	880914	809	2.6-	0.5+	880920	809	0.1-	0.0
810306	413	2.9+	0.0	880915	807	2.2+	0.5-	880920	809	0.1+	0.1-
810308	413	1.2-	0.9-	880915	809	0.9-	0.2-	880920	809	0.2+	0.1-
810308	413	0.1+	0.7+	880915	809	0.9-	0.3-	881006	807	1.0+	0.9+
810501	413	1.4-	0.3+	880915	809	0.8-	0.1-	881007	807	0.0	0.6+
880914	807	2.7+	0.6-	880918	809	1.4+	0.1+				

1981 EH34
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 358.62047 (1950.0) P Q
n 0.19858046 Peri. 81.85635 +0.30002368 -0.95391901
a 2.9096787 Node 350.68016 +0.86274423 +0.27354563
e 0.0226039 Incl. 1.74461 +0.40701128 +0.12333413
P 4.96 H 13.5 G 0.25
Residuals in seconds of arc

770612	675	2.0+	0.4+	810311	413	1.2-	1.3+	810408	413	0.8+	0.1+
770613	675	2.1-	0.9-	810311	413	1.1+	0.6-	810411	413	0.5-	0.9+
810202	413	1.5+	1.1-	810316	413	(4.7+	2.9-)	810411	413	0.8+	0.8-
810302	413	1.2-	0.4+	810329	413	1.3-	0.4+	810502	413	1.3+	0.7+
810302	413	0.8-	1.8-	810329	413	0.6+	0.4-	810503	413	0.8+	0.3+
810303	413	0.9-	0.2-	810407	413	1.9-	0.5+	880914	807	0.5-	0.6-
810303	413	0.6+	1.7-	810407	413	2.3+	0.2-	880915	807	0.5+	0.2-
810307	413	0.9-	0.4+	810408	413	1.1-	0.6+	880916	807	0.6+	0.6-

1981 UB10 = 1970 WG1 = 1988 SS1
Id. S. J. Bus (k), B. G. Marsden
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
M 95.52126 (1950.0) P Q
n 0.26847796 Peri. 312.22334 +0.99414181 +0.03861624
a 2.3797490 Node 45.83859 +0.01514507 +0.87501167
e 0.1561822 Incl. 8.08951 -0.10701720 +0.48255918
P 3.67 H 13.5 G 0.25
Residuals in seconds of arc

701123	033	0.2-	0.5+	811029	330	3.5-	0.1+	880918	807	2.3+	0.2-
811024	095	1.2+	0.1+	811127	330	(10.9-	1.2+)	881005	807	1.1-	0.1+
811024	095	0.6+	3.4+	811201	330	0.4-	1.2-	881006	807	1.3-	0.2+
811028	095	2.6+	3.0-	880916	807	1.2+	0.3+	881007	807	1.4-	0.5-

1981 UT15 = 1981 UV5 = 1976 UD2
Id. S. Nakano (MPC 10757)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 273.20634 (1950.0) P Q
n 0.20506029 Peri. 359.11348 +0.99872500 -0.05044141
a 2.8480548 Node 3.77958 +0.04649917 +0.90371411
e 0.0790389 Incl. 1.74695 +0.01965200 +0.42515464
P 4.81 H 13.0 G 0.25
Residuals in seconds of arc

761024	381	0.4+	0.7+	811030	381	0.5-	0.8-	861201	046	1.7+	0.3-
761024	381	1.0-	0.6+	861128	801	1.3-	0.6+	861202	688	1.9-	0.1+
761026	095	0.2+	0.5-	861129	046	1.0+	0.7-	861202	688	0.6+	0.5-
811024	095	0.4+	0.6+	861129	046	2.7+	0.6-	861203	046	0.8-	0.3-
811024	095	0.5+	1.3-	861130	046	0.3-	0.7+	861203	046	1.7-	0.7+
811024	095	(0.4+	5.3+)	861130	046	0.2+	1.3+	861204	010	(14.0-	4.5-)
811030	381	(6.0+	0.9-)	861201	046	0.5-	0.3-				

1982 VB1 = 1989 SW
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
M 5.04053 (1950.0) P Q
n 0.27474043 Peri. 144.30219 +0.99198241 -0.10716801
a 2.3434473 Node 222.00717 +0.07958477 +0.94143896
e 0.1377854 Incl. 5.74387 +0.09816901 +0.31969941
P 3.59 H 14.0 G 0.25

Residuals in seconds of arc

821114	381	0.1-	1.1+	821213	381	0.0	0.7+	890928 400	0.9+	1.2-
821114	381	1.9-	0.0	821214	381	0.8+	0.2+	891008 400	1.8-	4.6-
821115	688	2.5+	1.0+	821214	381	0.0	0.6-	891008 400	0.9-	2.5+
821115	688	1.3-	2.4-	890928	400	2.0+	0.7+			
821213	381	0.1+	0.1+	890928	400	0.2-	2.6+			

1983 TE1 = 1979 SD12
Id. T. Kobayashi (MPC 11144)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5			Bowell
M 190.69292	(1950.0)	P	Q
n 0.25336543	Peri. 173.72118	+0.91832056	-0.39263753
a 2.4734576	Node 209.55641	+0.35858109	+0.87890814
e 0.1513508	Incl. 5.84456	+0.16765129	+0.27084358
P 3.89	H 13.7	G 0.25	

Residuals in seconds of arc

790918	675	0.2+	0.3-	831013	046	(1.2-	3.5-)	871123 046	1.2-	0.5+
790918	675	1.8+	1.4+	831013	046	(3.4-	4.2-)	871123 046	0.7-	0.3-
790919	675	2.1-	0.2+	831014	046	1.0+	2.1-	871124 688	(1.5+	4.2+)
790919	675	0.5-	1.6+	831014	046	(0.4+	4.3-)	871124 688	2.5+	1.5+
831005	046	1.5-	0.6-	871020	688	(4.5-	0.0)	871125 046	0.5-	1.8-
831005	046	0.1+	0.3-	871020	688	0.1-	2.6+	871125 046	1.4-	0.7-
831007	046	1.5+	2.5-	871119	688	(0.3+	4.0+)			
831007	046	(1.2-	5.6-)	871119	688	1.0+	1.3+			

1983 VN7 = 1988 RC2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)			Marsden
M 42.28285	(1950.0)	P	Q
n 0.18182480	Peri. 237.26483	+0.91985155	-0.39193345
a 3.0858027	Node 145.80220	+0.36882059	+0.85010345
e 0.1830792	Incl. 1.64807	+0.13358332	+0.35172757
P 5.42	H 13.0	G 0.25	

Residuals in seconds of arc

831030	675	0.2-	1.4+	880908	046	0.9+	3.9-	881005 807	0.5-	0.9+
831104	688	0.9+	0.1+	880909	046	1.0+	2.2+	881006 807	0.2-	0.4+
831104	675	0.8-	2.7+	880909	046	2.5-	0.2-	881007 807	0.8-	0.3-
831104	688	0.7-	0.9-	880910	046	0.4+	1.6-	881008 807	0.1-	0.8+
831107	688	0.7-	3.6-	880910	046	0.3+	0.3-	881104 807	0.7-	1.3+
831107	688	1.9+	0.7-	880914	807	0.4+	1.1+	881106 807	0.1+	1.8+
880908	046	0.4+	2.0-	880915	807	1.0+	1.3+			

1984 YE4 = 1989 EA

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5			Kobayashi
M 138.43519	(1950.0)	P	Q
n 0.27264062	Peri. 348.07109	+0.46719054	-0.87739382
a 2.3554597	Node 73.99352	+0.82021058	+0.38399245
e 0.1440181	Incl. 6.51996	+0.33013271	+0.28762804
P 3.62	H 13.8	G 0.25	

Residuals in seconds of arc

841227	095	0.5-	1.6+	890301	402	(16.9-	1.7-)	890308 402	1.7-	1.6-
841229	095	1.4+	1.0-	890301	402	(16.2-	1.3+)	890308 402	1.4-	1.9-
841230	095	0.7-	0.8-	890302	402	1.6+	1.4+			
841231	095	0.3-	0.1+	890302	402	1.4+	2.1+			

1985 KC = 1979 QT3
Id. W. Landgraf (MPC 9966)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 74.10504 (1950.0) P Q
n 0.30148509 Peri. 301.26191 +0.25835214 +0.96563110
a 2.2027176 Node 343.63727 -0.84836358 +0.21268168
e 0.0306675 Incl. 5.80090 -0.46209675 +0.14940911
P 3.27 H 14.3 G 0.25
Residuals in seconds of arc

790822	809	(26.6-	1.1-)	850528	474	0.5+	0.5+	880325	809	1.3-	0.6+
790822	809	(27.4-	2.3-)	850616	474	0.1+	0.0	880326	809	1.7+	0.3-
790822	809	(25.8-	2.4-)	850616	474	0.3-	0.9+	880326	809	0.3-	0.7+
790823	809	(25.5-	3.0-)	880318	474	0.2+	0.4+	880411	474	1.5-	0.9-
790823	809	(23.3-	3.4-)	880318	474	0.4+	0.2+	880411	474	1.1-	0.5-
850524	474	0.3-	0.5-	880319	809	1.6+	0.2-	890901	474	1.1-	0.2+
850524	474	0.3-	0.3-	880319	809	0.2+	0.9+	890901	474	0.2+	0.8+
850525	474	0.0	0.4-	880320	809	0.3-	0.2+	890909	474	0.8+	1.0+
850525	474	0.9-	0.0	880320	809	1.3+	1.8+	890909	474	1.3-	0.5+
850528	474	1.1+	0.6-	880325	809	0.4+	0.2-				

1985 PG2 = 1989 TJ
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
M 342.73174 (1950.0) P Q
n 0.25928282 Peri. 336.49889 +0.77761509 -0.62584488
a 2.4356848 Node 62.38373 +0.58708557 +0.68843995
e 0.1743041 Incl. 3.90049 +0.22504509 +0.36656324
P 3.80 H 14.0 G 0.25
Residuals in seconds of arc

850813	095	0.3-	0.1+	890926	809	0.7+	0.6+	890928	809	2.2-	0.0
850817	095	0.6+	0.2-	890926	809	1.2+	0.2+	891002	071	1.9+	3.0-
850824	095	0.2-	0.0	890928	809	1.4-	0.2+	891003	071	0.9+	0.8+
890926	809	0.8+	0.8+	890928	809	2.1-	0.2+	891003	071	0.2+	0.3+

1985 TM1 = 1989 TA
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Bardwell
M 338.68188 (1950.0) P Q
n 0.25247618 Peri. 31.45545 +0.61129737 -0.78810624
a 2.4792671 Node 21.13608 +0.67817663 +0.47467582
e 0.2178665 Incl. 11.54060 +0.40791174 +0.39188189
P 3.90 H 13.5 G 0.25
Residuals in seconds of arc

850915	413	0.1-	0.6+	851015	688	0.1+	0.1-	891001	413	1.0-	0.9+
850915	413	0.1-	0.5-	851107	688	0.5-	0.8+	891002	413	1.2-	0.1+
851012	688	1.2+	0.8-	851107	688	1.1+	0.3-	891002	413	0.2-	0.1-
851015	688	1.0-	0.1+	890928	413	1.6-	0.2-	891006	413	3.1+	0.6-

1985 VN = 1989 TH
Id. T. Furuta
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Ichikawa
M 18.36195 (1950.0) P Q
n 0.23762558 Peri. 137.86195 +0.96855444 +0.21938435
a 2.5815158 Node 210.07138 -0.23949545 +0.94989260
e 0.2186889 Incl. 13.54506 +0.06741092 +0.22265347
P 4.15 H 13.0 G 0.25
Residuals in seconds of arc

851022	095	0.0	0.7+	851115	054	0.2-	1.1+	891004	881	0.2+	0.7-
851109	095	0.6-	2.4-	851115	054	0.0	0.7+	891005	881	0.8+	1.3+
851111	095	0.3+	0.6-	851120	095	(0.4+	13.8+)	891005	881	1.0-	0.1-
851114	054	0.5+	0.6+	891004	881	0.1+	0.5-				

1986 AO2 = 1988 TA5
Id. S. J. Bus
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell
M 19.81802 (1950.0) P Q
n 0.25619325 Peri. 85.34980 +0.16988379 -0.98539420
a 2.4552229 Node 354.82469 +0.84463565 +0.15173186
e 0.1459396 Incl. 7.47653 +0.50767126 +0.07730272
P 3.85 H 13.4 G 0.25
Residuals in seconds of arc
860112 688 0.5- 0.4+ 860308 675 (3.7- 1.7-) 881104 807 0.4+ 0.1-
860112 688 0.2- 0.2- 860308 675 2.9- 0.7+ 881106 807 0.1+ 0.1+
860306 675 1.4+ 1.6- 881006 807 0.3- 0.5+
860306 675 2.4+ 0.8+ 881007 807 0.2- 0.4-

1986 CC2 = 1962 PJ = 1973 QJ1
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi
M 116.35497 (1950.0) P Q
n 0.26924396 Peri. 54.84170 +0.97152238 -0.20833565
a 2.3752285 Node 316.86685 +0.12496352 +0.85523171
e 0.2820790 Incl. 9.50268 +0.20131663 +0.47452605
P 3.66 H 13.8 G 0.25
Residuals in seconds of arc
620803 760 0.9- 0.6+ 860212 809 0.5- 1.1+ 860214 809 0.3- 0.7-
620803 760 1.5+ 1.5- 860212 809 0.2+ 1.0+ 860214 809 0.2- 0.6-
620809 760 1.2- 1.2+ 860213 809 0.3+ 0.7+ 860215 809 0.2- 0.8-
730829 095 1.1- 2.6- 860213 809 0.1+ 0.6+ 860215 809 0.1- 0.8-
730902 095 0.9+ 1.8+ 860213 809 0.2+ 0.7+ 860215 809 0.1- 0.8-
860212 809 0.1+ 1.1+ 860214 809 0.6- 0.7-

1986 EL = 1957 FA = 1977 RK2 = 1988 TW4
Id. S. J. Bus (k), B. G. Marsden
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
M 15.83503 (1950.0) P Q
n 0.27039214 Peri. 292.17416 -0.34842222 -0.93724781
a 2.3685045 Node 178.06951 +0.93717427 -0.34858666
e 0.2458549 Incl. 22.66390 +0.01750267 +0.00734042
P 3.65 H 13.5 G 0.25
Residuals in seconds of arc
570321 012(85.5+ 9.1-) 860308 675 0.3+ 1.7+ 881004 807 0.1- 0.6+
770909 095 0.0 1.3- 860308 675 0.3- 0.6+ 881005 807 0.1+ 0.6+
860307 675 0.3- 1.3- 860403 675 0.0 0.7- 881008 807 0.1- 0.6-
860307 675 0.2+ 0.8- 860404 675 0.1+ 0.4-

1986 RF7 = 1986 SG3 = 1976 OL
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Oishi
M 359.60878 (1950.0) P Q
n 0.30135639 Peri. 170.33568 +0.76470290 +0.64409766
a 2.2033447 Node 149.53947 -0.59367855 +0.71578895
e 0.1605637 Incl. 2.16769 -0.25054992 +0.26978580
P 3.27 H 14.5 G 0.25
Residuals in seconds of arc
760727 095 0.1- 0.3+ 860906 095 1.6+ 3.3+ 860929 095 0.8+ 0.2+
760801 095 0.2+ 0.6- 860909 095 2.2- 2.1- 861002 095 0.2- 1.2-

1986 UQ = 1976 JZ10 = 1989 TF1
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
M 36.39235 (1950.0) P Q
n 0.31983920 Peri. 93.47083 +0.84973096 +0.52625193
a 2.1176253 Node 234.77915 -0.49786349 +0.78105990
e 0.1236913 Incl. 2.23632 -0.17346248 +0.33616117
P 3.08 H 14.0 G 0.25
Residuals in seconds of arc

760502 809	0.5-	2.0-	861103 046	0.7+	2.2-	861109 046	0.5+	0.3-
861005 095	0.8-	1.4+	861107 046	1.6+	0.5-	891004 374	1.5-	1.2-
861012 095	0.6+	1.3+	861107 046	2.4+	0.8-	891004 374	3.5-	2.6-
861028 046 (3.0-	5.3-)		861109 046	3.0-	0.7+	891007 374	1.6+	0.2+
861028 046 (1.7-	6.1-)		861109 046	0.1-	1.5+	891007 374	3.5+	3.3+
861103 046	0.1-	2.3-	861109 046	1.3-	0.2-			

1987 BC2 = 1965 UU = 1972 VH1 = 1989 SV
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi
M 345.62184 (1950.0) P Q
n 0.28634272 Peri. 120.01603 +0.82989580 -0.55385843
a 2.2797049 Node 273.69406 +0.48585852 +0.77664291
e 0.1974397 Incl. 3.86034 +0.27425253 +0.30011103
P 3.44 H 13.8 G 0.25
Residuals in seconds of arc

651030 760(84.0-	12.8-)X		870202 809	0.1+	0.1+	890929 399	1.5+	0.7+
721109 095	0.0	0.1-	870202 809	1.2+	0.6-	890929 399	0.3-	0.1+
870129 809	0.0	0.2+	870203 809	1.1-	0.9+	890929 399	1.1-	1.3+
870129 809	0.7-	0.8-	870203 809	0.2-	0.4+	891003 399	0.7-	0.4+
870130 809	1.5-	1.0-	870203 809	1.1+	0.5-	891003 399	0.2-	1.0-
870130 809	1.4-	0.4-	870203 809	0.4+	0.4+	891003 399	0.7+	1.3-
870131 809	0.6+	1.5+	870205 809	0.2-	0.1+			
870131 809	0.9+	0.1+	870205 809	0.9+	0.3-			

1987 QM = 1987 SX
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Marsden
M 157.94055 (1950.0) P Q
n 0.21049455 Peri. 11.76355 +0.96483405 +0.22873047
a 2.7988233 Node 333.88832 -0.25866373 +0.73846499
e 0.2745652 Incl. 17.11564 -0.04677956 +0.63431209
P 4.68 H 13.5 G 0.25
From 10 observations 1987 Aug. 25-Nov. 17, mean residual 1".2.

1987 QS = 1989 CX4
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
M 221.47327 (1950.0) P Q
n 0.27434248 Peri. 7.28396 +0.85237900 +0.51797654
a 2.3457130 Node 321.24480 -0.48534819 +0.73255887
e 0.1443773 Incl. 6.58303 -0.19464627 +0.44165349
P 3.59 H 14.5 G 0.25
Residuals in seconds of arc

870821 033	0.3+	0.4+	870917 095	0.2+	0.7+	890203 033	0.1-	0.3+
870822 033	0.9-	0.2-	870923 095	0.2-	0.6-			
870823 033	0.6+	0.4-	890202 033	0.1+	0.3-			

1987 QD6 = A921 EB = 1971 QV1 = 1971 SB1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Nakano	
M 175.22798		(1950.0)		P	Q
n 0.18413664	Peri.	111.81878		+0.49613124	+0.86782825
a 3.0599141	Node	188.08573		-0.85048198	+0.47949110
e 0.1179089	Incl.	11.05894		-0.17474035	+0.13023984
P 5.35	H	11.0	G	0.25	

Residuals in seconds of arc

210307 024	0.1-	0.5-	870822 675	1.7+	3.0+	870902 095	0.0	4.7-
710830 095	6.3+	6.0+	870827 675	1.8-	0.9-	870923 095	(5.3-	14.9-)
710916 095	6.7-	3.7-	870827 675	1.8-	0.2+			
870822 675	1.2+	1.8+	870827 095	1.4+	1.8-			

1987 SJ5 = 1976 GW3 = 1981 JZ1 = 1982 SN6

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5			(J-P)	Marsden	
M 193.90292		(1950.0)		P	Q
n 0.19822910	Peri.	98.41136		+0.47484251	+0.87854276
a 2.9131218	Node	200.19019		-0.85493690	+0.44650419
e 0.2391505	Incl.	8.63828		-0.20882406	+0.16969567
P 4.97	H	13.0	G	0.25	

Residuals in seconds of arc

760402 095	0.1+	0.2+	820916 095	0.1+	0.5-	870930 054	0.2-	0.1+
810505 675	0.3-	0.1+	870903 095	0.3-	0.3-	870930 054	0.4-	0.2+
810506 675	0.3+	0.1-	870929 054	0.4-	0.1-	871002 054	1.0+	0.9+

1987 SZ6 = 1965 TB

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5			(J-P)	Nakano	
M 131.15210		(1950.0)		P	Q
n 0.17743969	Peri.	78.27278		+0.98452241	+0.08311874
a 3.1364358	Node	276.81840		-0.14033853	+0.90123624
e 0.1675424	Incl.	8.93964		+0.10497961	+0.42528169
P 5.55	H	10.5	G	0.25	

Residuals in seconds of arc

651001 095	0.2-	0.1-	870918 095	0.0	0.0	870929 026	0.2+	0.6-
651002 095	0.2+	0.1+	870923 095	0.2-	0.5+	870930 026	0.0	0.1+

1987 SX17 = 1976 SE8 = 1980 WV1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Kobayashi	
M 224.38914		(1950.0)		P	Q
n 0.27201796	Peri.	93.98944		+0.89941002	+0.43381320
a 2.3590528	Node	240.30806		-0.42149660	+0.82831037
e 0.2507964	Incl.	3.53424		-0.11576802	+0.35455329
P 3.62	H	13.4	G	0.25	

Residuals in seconds of arc

760928 095	0.1-	2.7+	801130 095	1.0-	2.5+	870920 095	0.1-	3.0-
760928 095	0.8-	2.3+	801210 095	0.9+	0.2-	871002 095	2.3+	0.5+
760929 095	1.2-	0.2+	870918 095	0.4-	4.1-			

1987 UM1 = 1972 GA1 = 1977 TJ7 = 1977 VF2 = 1982 FH4

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5			(J-P)	Nakano	
M 108.00890		(1950.0)		P	Q
n 0.29161976	Peri.	251.48082		-0.67242192	-0.73908031
a 2.2521239	Node	240.84114		+0.69521078	-0.61205147
e 0.1012339	Incl.	2.63277		+0.25402902	-0.28134196
P 3.38	H	12.5	G	0.25	

Residuals in seconds of arc

720412 095	1.1-	2.2-	820316 323	1.6+	0.4+	871002 095	2.4+	1.1-
771010 095	0.2-	1.8+	820317 323	2.3-	1.0-	871027 372	0.2-	0.8+
771106 095	0.3-	0.9+	820317 323	1.0-	0.0	871027 372	3.4-	1.9-
820316 323	1.5+	0.5-	870918 095	1.2+	3.3-	871028 372	1.9+	0.5-

1987 UP2 = 1987 WD1 = 1950 RF = 1980 OK

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		(J-P)		Nakano	
M 201.51305		(1950.0)		P	Q
n 0.29369261	Peri.	155.74070		+0.81409057	-0.57834540
a 2.2415146	Node	239.69655		+0.52232295	+0.76882252
e 0.2725533	Incl.	3.49691		+0.25384108	+0.27281593
P 3.36	H	13.5	G	0.25	

Residuals in seconds of arc

500911 711 (0.9-	8.6-)Y		870926 095	0.9+	1.5-	871122 897	0.5-	1.5-
500912 062	0.6+	0.6-	871002 095	1.1-	1.6+	871122 897	0.5+	0.1-
500912 062	0.1-	0.4-	871025 054	0.4+	1.1+			
800717 095	0.2-	0.4+	871025 054	0.4-	0.9+			

1987 UQ3 = 1959 VG = 1979 HO4 = 1984 YG6

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		(J-P)		Nakano	
M 234.47011		(1950.0)		P	Q
n 0.27877194	Peri.	257.34023		+0.92679331	+0.35955510
a 2.3207991	Node	81.50652		-0.28768016	+0.86536499
e 0.1240123	Incl.	6.29875		-0.24144209	+0.34908961
P 3.54	H	13.0	G	0.25	

Residuals in seconds of arc

591110 760	2.2-	10.1+	841223 010	0.1+	3.3-	871026 054	1.3+	0.1+
790424 095	0.6-	1.9-	870927 095	2.6+	4.7-	871026 054	0.5-	0.6-
841223 010	0.4-	4.9-	871023 095	0.4-	1.1-			

1988 BE5 = 5027 T-2

Id. R. H. McNaught (1985 obs.), S. Nakano (MPC 15087)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		(J-P)		Nakano	
M 148.84440		(1950.0)		P	Q
n 0.23177186	Peri.	281.11221		-0.76891223	-0.62461007
a 2.6248013	Node	220.43936		+0.63729410	-0.73163223
e 0.1334801	Incl.	12.14942		+0.05128556	-0.27308706
P 4.25	H	13.5	G	0.25	

Residuals in seconds of arc

730919 675 (4.5+	1.8+)		730925 675	0.3-	0.2-	880128 413	0.0	0.4+
730920 675	0.2-	0.3-	730925 675	0.3-	1.2-	880223 413	0.1-	0.1+
730920 675	0.2+	0.6+	850915 413	0.8+	1.6-	880223 413	0.6-	0.5+
730924 675	0.8+	0.8+	850915 413	0.9-	1.8+	880312 413	1.0+	0.4-
730924 675	0.3-	0.4+	880128 413	1.1-	0.1+	880312 413	0.7+	0.3-

1988 PY

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5				Bardwell	
M 7.07543		(1950.0)		P	Q
n 0.08398858	Peri.	63.50872		+0.96880341	-0.22873465
a 5.1640355	Node	309.55837		+0.15934420	+0.86971774
e 0.1230762	Incl.	7.10766		+0.18981407	+0.43734599
P 11.74	H	10.0	G	0.25	

From 17 observations 1988 Aug. 13-Nov. 8, mean residual 0".9.

1988 PX2 = 1976 JA3 = 1978 TH2
Id. T. Kobayshi; 1978 RJ6 = 1978 TH2 (MPC 9203) is invalid
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi

M 29.77392	(1950.0)	P	Q	
n 0.18929226	Peri. 208.69167	+0.86688866	-0.49848632	
a 3.0040983	Node 181.22930	+0.48516587	+0.84548298	
e 0.0724905	Incl. 10.55702	+0.11453443	+0.19149390	
P 5.21	H 12.5	G 0.25		

Residuals in seconds of arc

760503 095	0.0	0.1-	880812 511	0.0	0.7-	880818 511	0.3-	0.3+
781003 095	0.4-	1.6-	880814 511	0.8-	0.4+	880818 511	2.3+	2.1+
781007 095	0.5+	1.5+	880815 511	0.3+	0.8-			
880812 511	1.4-	1.0-	880818 511	0.3-	0.1-			

1988 RU = 1988 PK4 = 1977 SP1 = 1977 TV4 = 1983 GJ
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Bardwell

M 9.52391	(1950.0)	P	Q	
n 0.08218145	Peri. 157.98221	+0.95152209	-0.29469340	
a 5.2394742	Node 219.49805	+0.25747466	+0.91983523	
e 0.0994759	Incl. 7.96163	+0.16826324	+0.25895742	
P 11.99	H 9.0	G 0.25		

Residuals in seconds of arc

770919 095	0.4-	0.2-	830407 675	2.0-	0.8+	880916 675	0.2+	1.1-
770922 095	1.7+	0.1-	830407 675	2.2+	0.3-	881008 675	1.0-	0.9+
771007 095	1.2-	0.2-	880810 688	1.2+	0.1+	881010 675	0.0	0.3+
830404 675	2.8-	0.8+	880810 688	1.7+	0.4+	881106 675	1.1-	0.9+
830404 675	2.6+	1.3-	880911 675	0.3+	1.3-	881108 675	1.7-	0.4+

1988 RT6 = 1971 HV = 1979 HT5
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Bardwell

M 135.66955	(1950.0)	P	Q	
n 0.24304249	Peri. 122.07646	+0.38822769	+0.92056877	
a 2.5430142	Node 170.47150	-0.90841218	+0.39009366	
e 0.1238846	Incl. 14.98646	-0.15513406	+0.01949575	
P 4.06	H 13.0	G 0.25		

Residuals in seconds of arc

710427 095	0.2-	1.1-	880912 809	0.2+	0.6+	880918 809	0.0	0.4-
790428 095	0.3+	1.7+	880912 809	0.2+	0.6+	880918 809	0.1+	0.1-
880908 809	0.4-	0.1-	880914 809	0.4-	0.1+	880920 809	0.5-	0.7-
880908 809	0.1-	0.2-	880914 809	0.1-	0.4+	880920 809	0.4-	0.8-
880908 809	0.1+	0.2-	880914 809	0.2-	0.3+	880920 809	0.3-	0.9-
880909 809	0.1+	0.1-	880915 809	0.0	0.1+	881104 807	1.1+	0.4+
880909 809	0.3+	0.1-	880915 809	0.1+	0.2+	881106 807	0.1+	1.2+
880909 809	0.6+	0.2-	880915 809	0.0	0.2+			
880912 809	0.2+	0.8+	880918 809	0.5-	0.3-			

1988 RK11 = 1976 UO20 = 1980 TK
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M 68.72719	(1950.0)	P	Q	
n 0.24407693	Peri. 220.61566	+0.87421914	-0.48491256	
a 2.5358239	Node 168.31707	+0.47089021	+0.83447277	
e 0.2746258	Incl. 6.95196	+0.11833557	+0.26175373	
P 4.04	H 15.5	G 0.25		

Residuals in seconds of arc

761021 808	0.7-	0.4-	801003 046	1.4-	2.7+	881006 807	2.2-	1.5-
761021 808	0.4-	0.4-	801005 046	2.7+	2.8+	881007 807	3.1-	2.8-
761024 808	1.8-	1.4-	801005 046	3.5+	2.4+	881104 807	0.2+	1.7-
761024 808	0.4-	1.9-	880914 807	1.8+	0.1+	881106 807	0.2-	1.3-
801003 046	0.8-	1.5+	880915 807	1.8+	0.2+			

1988 RB12 = 1972 VG = 1980 TZ7 = 1984 SL1
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
M 99.60476 (1950.0) P Q
n 0.24234477 Peri. 344.90124 +0.90817811 +0.41828616
a 2.5478928 Node 350.32706 -0.37363010 +0.79306491
e 0.2503184 Incl. 5.39102 -0.18871423 +0.44281457
P 4.07 H 15.0 G 0.25
Residuals in seconds of arc

721108 095	1.2-	0.9-	840929 046	2.2-	0.8+	880915 807	0.1-	0.3+
801010 095	2.0+	2.1+	840929 046	3.1-	0.3-	881006 807	1.9+	0.9+
801015 095	4.0+	2.6+	840930 046	1.0-	0.2+	881007 807	1.1+	0.4-
840927 046	1.7-	1.8-	840930 046	0.7-	1.0-	881103 807	1.8+	0.9-
840927 046	0.7-	0.8-	880914 807	0.5+	0.2+	881105 807	0.0	1.4-

1988 SO2 = 1980 EY1 = 1983 BR = 1985 VH
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
M 302.71011 (1950.0) P Q
n 0.28769658 Peri. 352.82919 -0.97210808 -0.23429791
a 2.2725518 Node 173.59159 +0.21957435 -0.92493355
e 0.1159668 Incl. 5.40110 +0.08241960 -0.29933662
P 3.43 H 14.0 G 0.25
Residuals in seconds of arc

800315 095	0.5-	1.7-	851115 054	0.4+	1.8+	881103 807	0.9+	0.4-
830121 688	0.3+	1.0-	851115 054	0.5+	0.4+	881106 807	0.0	0.4+
830121 688	0.5-	0.6-	880916 807	0.9+	0.8-	881108 807	0.3+	0.1+
851111 095	1.9-	2.3-	880918 807	0.6+	1.5-			
851114 054	0.8+	1.6+	881004 807	1.5-	1.4-			

1988 VW = 1976 SP6 = 1982 ST11
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kaneda
M 47.80631 (1950.0) P Q
n 0.17268310 Peri. 134.92204 +0.61037231 -0.79202096
a 3.1937640 Node 277.45769 +0.72320965 +0.56348546
e 0.0995237 Incl. 0.70405 +0.32313069 +0.23491901
P 5.71 H 12.4 G 0.25
Residuals in seconds of arc

760925 095	0.0	0.0	881105 046	(2.6+	4.9-)	881111 399	0.7-	0.3-
820928 095	0.2+	0.3-	881105 046	(3.4+	3.6-)	881111 399	1.1-	0.8-
881102 399	0.1+	0.7+	881106 399	0.9+	0.8+	881111 399	(3.2-	0.2-)
881102 399	0.6-	0.8+	881106 399	0.7-	0.1+	881111 046	(1.0+	3.8-)
881102 399	2.8+	1.6+	881106 399	1.0-	1.4+	881111 046	0.9-	1.7-
881104 033	1.6+	0.2-	881108 399	1.5-	0.6-	881114 399	0.7-	2.1-
881104 046	(1.1-	4.8-)	881108 399	0.2-	0.6-	881114 399	0.6-	2.5-
881104 046	(3.0-	6.4-)	881110 046	(0.0	4.9-)	881114 399	1.6+	1.5+
881104 033	0.9+	0.5+	881111 399	0.1+	1.6+			

1989 AQ = 1976 UF3 = 1987 RC3
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi
M 79.70242 (1950.0) P Q
n 0.17294609 Peri. 337.98557 +0.53117535 -0.84657920
a 3.1905254 Node 79.91463 +0.78236993 +0.47469237
e 0.1708197 Incl. 1.97937 +0.32519231 +0.24077128
P 5.70 H 11.6 G 0.25
Residuals in seconds of arc

761026 095	0.3+	0.6-	890104 399	2.0+	0.6+	890113 399	1.4-	1.0+
870902 095	0.1+	1.3-	890104 399	0.8+	1.1+	890113 399	0.0	0.5-
870922 095	0.4-	1.9+	890106 399	1.6+	1.5-	890113 399	2.7-	0.2-
890104 399	0.8-	0.5+	890106 399	0.5-	1.1-			
890104 399	0.7+	0.0	890106 399	0.4+	0.2+			

1989 BT = 1978 TP5 = 1987 SG18
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
M 84.38942 (1950.0) P Q
n 0.20970612 Peri. 175.37801 +0.06952931 -0.99546119
a 2.8058396 Node 270.62525 +0.91312049 +0.08973882
e 0.1849838 Incl. 3.72606 +0.40171713 -0.03168553
P 4.70 H 11.5 G 0.25
Residuals in seconds of arc

781008 095	0.0	0.2-	890202 046	1.2-	0.7-	890205 872	1.1+	0.4+
870916 095	1.6-	0.1-	890203 046	(3.0-	0.3-)	890207 046	1.0-	0.2-
870923 095	1.5+	0.4+	890203 046	1.1-	0.7-	890207 046	0.7-	0.9-
890129 872	0.0	1.2+	890204 872	1.9+	2.1+	890210 872	(3.5+	0.1+)
890129 872	1.5-	0.4+	890204 872	1.1+	0.6-	890210 872	0.8+	0.6+
890202 046	0.5-	0.1+	890205 872	1.3+	1.5-			

1989 KB = 1979 YB4
Id. R. H. McNaught (1975 obs.), B. G. Marsden
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
M 343.39257 (1950.0) P Q
n 0.27367744 Peri. 240.87783 +0.70240148 +0.59804826
a 2.3495115 Node 79.59499 -0.43588838 +0.79009580
e 0.2430605 Incl. 23.10516 -0.56270194 +0.13448754
P 3.60 H 13.0 G 0.25
Residuals in seconds of arc

750716 413	0.2-	0.1+	890531 675	0.9-	1.9-	890605 675	0.5+	0.6+
750716 413	0.4+	0.3-	890601 675	0.4-	1.9-	890705 675	(2.3-	6.7-)
791218 095	3.7+	6.1-	890602 675	0.9+	0.1-	890708 675	(1.1-	4.6-)
890503 413	1.0-	0.6+	890602 675	1.2+	0.5-	890729 675	0.9-	0.3-
890503 413	1.2-	0.1-	890603 675	(3.9+	0.0)	890729 675	1.5-	0.6-
890531 675	0.1-	0.4-	890605 675	0.5-	0.5-	890825 413	0.9-	0.0

1989 LW
Id. R. H. McNaught (1985, 1988 obs.)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
M 1.52672 (1950.0) P Q
n 0.26912129 Peri. 90.38469 +0.64519135 +0.72065530
a 2.3759550 Node 223.53357 -0.76065410 +0.63703319
e 0.2746821 Incl. 21.61642 +0.07164822 +0.27357751
P 3.66 H 13.5 G 0.25
Residuals in seconds of arc

850608 413	0.3+	1.6+	890606 675	0.8-	0.4-	890701 675	0.7-	1.6-
850608 413	0.4-	1.2+	890606 675	1.2-	0.2-	890701 675	0.6+	1.1-
880320 413	0.2+	0.4-	890629 675	1.2+	0.5-	890806 801	0.3+	2.6+
880320 413	0.6-	1.3-	890629 675	1.1+	0.2-			

1989 ML
Epoch 1989 June 3.0 ET = JDE 2447680.5 Bardwell
M 334.47187 (1950.0) P Q
n 0.69729687 Peri. 182.80168 +0.28702452 +0.95524604
a 1.2594789 Node 103.88594 -0.87739421 +0.29214453
e 0.1303079 Incl. 4.22780 -0.38444288 +0.04643894
P 1.41 H 19.5 G 0.25
From 8 observations 1989 June 6-July 3.

1989 QF
Epoch 1989 Sept. 11.0 ET = JDE 2447780.5 Marsden

M	78.58909	(1950.0)	P	Q
n	0.79766746	Peri. 239.49628	-0.72271169	+0.69089629
a	1.1514758	Node 344.17896	-0.60823258	-0.64863268
e	0.4130019	Incl. 3.93551	-0.32823915	-0.31927725
P	1.24	H 17.0	G 0.25	

From 12 observations 1989 Aug. 31-Oct. 21.

1989 QG = 1951 RE = 1982 YH2
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kaneda

M	358.61048	(1950.0)	P	Q
n	0.25948756	Peri. 178.91042	+0.99717642	+0.07472831
a	2.4343986	Node 176.77582	-0.06985272	+0.95925491
e	0.0694512	Incl. 7.56839	-0.02756435	+0.27248062
P	3.80	H 12.9	G 0.25	

Residuals in seconds of arc

510904	024	0.4- 2.8-	890825	400	0.8+ 2.8+	890831	400	0.4- 1.9-
510905	024	0.6- 2.9-	890825	400	0.2+ 2.3+	890831	400	2.1- 2.7-
510906	024	1.9+ 2.3+	890829	400	1.1+ 0.4+	890923	400	0.5+ 1.9+
821221	095	0.0 0.2-	890829	400	(0.5+ 3.7-)	890923	400	0.1- 0.1-
890825	400	(0.3- 3.5+)	890831	400	1.7- 0.1+	890923	400	0.8+ 0.8+

1989 RB2 = 1950 DC = 1973 AZ
Id. B. G. Marsden, E. Goffin
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	109.29424	(1950.0)	P	Q
n	0.21098280	Peri. 293.21155	-0.67053029	+0.73462470
a	2.7945092	Node 294.26057	-0.63234301	-0.63890687
e	0.1669505	Incl. 6.51965	-0.38798382	-0.22830803
P	4.67	H 13.0	G 0.25	

Residuals in seconds of arc

500217	024	1.6- 0.7+	890904	511	1.7- 1.1-	890907	511	2.3- 1.5-
500223	024	1.7+ 0.4-	890904	511	1.5+ 0.8+	890907	511	1.4+ 0.8+
730101	095	0.0 0.1-	890905	511	1.5- 0.3+	891002	071	2.6+ 1.0+

1989 RM2 = 1967 RD1 = 1979 FQ = 1980 RA3
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano

M	21.03458	(1950.0)	P	Q
n	0.22408476	Peri. 42.97999	+0.87956205	+0.46913360
a	2.6844915	Node 288.88392	-0.45607142	+0.78387160
e	0.1551922	Incl. 4.80604	-0.13553397	+0.40676649
P	4.40	H 12.5	G 0.25	

Residuals in seconds of arc

670912	095	0.6- 4.3+	890831	046	0.6+ 1.9-	890920	400	0.2+ 0.5+
671003	095	1.5- 0.0	890907	400	(10.4+ 4.4-)	890926	400	1.8- 0.7+
790323	414	2.0+ 4.0+	890907	400	(11.2+ 5.3-)	890926	400	1.5- 1.0+
790323	414	0.3- 0.6+	890907	400	(11.2+ 4.5-)	890929	400	0.0 1.3+
800904	095	1.2+ 2.0-	890920	400	0.5- 1.7+	890929	400	0.4- 2.1-
890831	046	1.1+ 1.7-	890920	400	1.6+ 1.2+			

1989 SA = 1981 WN8
Id. B. G. Marsden, R. H. McNaught (1976 obs.)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	351.57318	(1950.0)	P	Q
n	0.23669086	Peri. 299.26431	+0.93107967	-0.27866686
a	2.5883078	Node 77.75770	+0.35719430	+0.82758491
e	0.1866118	Incl. 13.94120	-0.07418136	+0.48728636
P	4.16	H 13.5	G 0.25	

Residuals in seconds of arc

760527	413	0.4+ 0.3-	890919	413	0.0 0.5+	890926	413	1.0+ 1.4-
760527	413	0.5- 0.2-	890921	413	2.6- 0.5-	891003	413	0.1+ 1.0+
811125	095	0.3+ 0.7-	890921	413	0.4- 0.1+	891020	413	0.5+ 1.5+
890919	413	0.6+ 0.9-	890922	413	0.7+ 0.1+			

1989 SB = 1979 SZ5 = 1979 UW2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		(J-P)			Ichikawa
M 29.30444		(1950.0)		P	Q
n 0.29611459	Peri.	330.36779		+0.75006165	+0.66127086
a 2.2292753	Node	348.21446		-0.59532842	+0.66760441
e 0.2201606	Incl.	3.18002		-0.28808262	+0.34208947
P 3.33	H	14.5	G	0.25	

Residuals in seconds of arc

790923	095	0.3- 0.6+	890924	403	0.3+ 0.1- Y	891004	403	0.3- 1.0+
791016	095	0.1+ 0.2-	890924	403	1.3+ 1.6- Y	891004	403	0.4- 0.8-
890923	403	0.4+ 0.2-	890929	403	2.5+ 1.6+ Y			
890923	403	1.4- 0.3+	890929	403	2.1- 0.5-			

1989 SD = 1976 JK3 = 1986 UJ2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		(J-P)			Ichikawa
M 353.44477		(1950.0)		P	Q
n 0.32211529	Peri.	347.33115		+0.95336845	-0.30117106
a 2.1076380	Node	30.21921		+0.28017965	+0.85901946
e 0.1520003	Incl.	2.23303		+0.11219608	+0.41398255
P 3.06	H	14.5	G	0.25	

Residuals in seconds of arc

760503	809	0.2- 0.6-	890923	403	0.5- 2.0- Y	890929	403	(4.7- 0.4-)
861027	010	2.2+ 0.1-	890924	403	0.6- 1.4+	891004	403	0.8+ 1.3-
861027	010	2.1- 0.2-	890924	403	0.4+ 0.4+ Y	891004	403	2.7+ 0.6-
890923	403	0.8+ 1.9+ Y	890929	403	3.5- 0.1+			

1989 SK = 1977 UX = 1981 ST7 = 1987 HH2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		(J-P)			Nakano
M 331.28003		(1950.0)		P	Q
n 0.24521570	Peri.	104.33715		+0.38715077	-0.91996427
a 2.5279670	Node	322.69714		+0.80196352	+0.36889359
e 0.2168846	Incl.	5.82271		+0.45493823	+0.13260191
P 4.02	H	13.0	G	0.25	

Residuals in seconds of arc

771016	330	1.1+ 0.2-	870423	010	0.4+ 0.0	891004	871	0.8+ 0.3-
810929	095	0.4+ 1.4+	890930	374	2.2+ 0.5+	891007	374	0.8- 0.7-
811002	095	2.2- 0.9-	890930	374	0.6+ 1.2+	891007	374	1.3+ 0.6+
870423	010	0.2- 0.2+	890930	374	1.3- 0.0	891009	374	2.4- 0.6-
870423	010	0.4+ 0.9+	891004	871	(3.6- 0.2-)	891009	374	(1.2- 3.1-)

1989 SS = 1979 VO2 = 1979 YH6

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Kaneda
M 279.78415		(1950.0)		P	Q
n 0.18737935	Peri.	230.46349		-0.16863525	-0.97403786
a 3.0245091	Node	229.92060		+0.95401881	-0.12276679
e 0.0846827	Incl.	11.38470		+0.24781095	-0.19020665
P 5.26	H	11.8	G	0.25	

Residuals in seconds of arc

791114	095	0.7- 0.4-	890929	399	0.6+ 0.3+	891021	399	2.3- 1.5-
791223	095	0.7+ 0.4+	891003	399	0.2- 0.5+	891021	399	0.7- 0.2-
890929	399	0.6+ 1.0+	891003	399	1.5+ 0.5-	891021	399	0.9+ 1.5+
890929	399	0.1+ 1.0-	891003	399	0.6- 0.0			

1989 SL5
Id. R. H. McNaught (1984 obs.)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Marsden

M	6.24711	(1950.0)		P	Q
n	0.19352435	Peri.	188.36914	+0.83612413	+0.48019752
a	2.9601404	Node	139.22915	-0.47680784	+0.87522161
e	0.5470599	Incl.	23.95591	-0.27120237	-0.05828781
P	5.09	H	17.0	G 0.25	

Residuals in seconds of arc

840806	413	2.2+	0.2-	890905	413	0.9- 1.0+	890924 413	0.4- 0.7-
840806	413	2.1-	0.4-	890924	413	0.5+ 0.8+	891003 413	0.6+ 0.0
890904	413	1.1+	0.2-	890924	413	0.6- 0.3-	891008 413	0.6+ 0.1+
890905	413	0.3-	0.4-	890924	413	0.1- 0.2+		

1989 TE = 1982 TB
Id. B. G. Marsden, D. A. Pickup (1978 obs.)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	12.41138	(1950.0)		P	Q
n	0.27979727	Peri.	73.02043	+0.94660503	+0.31623336
a	2.3151258	Node	268.50953	-0.31448722	+0.86290142
e	0.2624809	Incl.	3.59789	-0.07096971	+0.39420504
P	3.52	H	14.5	G 0.25	

Residuals in seconds of arc

780507	413	0.5+	1.1-	890613	413	0.3+ 1.1+	891005 494	0.5+ 0.2+
780723	413	3.6-	0.8-	890907	046	1.7- 0.1-	891008 413	0.4+ 0.9+
780803	413	2.8+	0.7-	890907	046	0.6- 0.4-	891008 413	0.5- 1.2+
821011	688	0.4+	2.1-	891004	494	0.0 0.2-	891020 413	0.4+ 0.5+
821011	688	1.3+	2.2-	891004	494	0.8+ 0.5+	891020 413	0.1- 0.2-
890607	413	0.7-	0.5+	891005	494	0.5- 0.6+		

1989 TB1 = 1981 CE = 1984 BK1 = 1986 WD10
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Ichikawa

M	320.12332	(1950.0)		P	Q
n	0.31126059	Peri.	53.49582	+0.42524060	-0.90503210
a	2.1563578	Node	11.34958	+0.81442835	+0.37812454
e	0.1113188	Incl.	2.72177	+0.39481247	+0.19477866
P	3.17	H	14.6	G 0.25	

Residuals in seconds of arc

810202	046	0.6-	1.2-	861130	381	2.0- 2.6+	891009 403	1.4+ 1.1-
810202	046	0.5+	0.4+	861130	381	0.5+ 0.1+	891009 403	0.4- 0.7-
840124	381	0.1-	2.0-	861201	381	0.4+ 0.0	891020 403	0.1- 0.8+
840124	381	0.4-	0.1+	861201	381	0.7+ 0.4-	891020 403	0.4- 1.6+
840124	381	0.2+	1.2+	891008	403	1.7- 1.0-		
840124	381	0.1-	0.5-	891008	403	1.9+ 1.4-		

1989 TH1 = 1935 QR = 1962 SD
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano

M	354.94548	(1950.0)		P	Q
n	0.22000141	Peri.	46.03052	+0.86830931	-0.49436184
a	2.7176067	Node	343.46430	+0.40442272	+0.75293539
e	0.2903637	Incl.	8.19357	+0.28719541	+0.43439000
P	4.48	H	12.0	G 0.25	

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

350820	078(0.08-	0.01+)X		891008	402	0.0 0.3+	891020 402	1.0+ 0.4-
620922	760	0.3+	0.0	891009	402	1.2- 0.4+	891025 402	0.9+ 0.4+
620923	760	0.2-	0.2-	891020	402	0.1+ 0.2+	891025 402	0.8- 0.8-

2780 P-L = 1974 SG3 = 1988 RW11
Id. E. Bowell (k), B. G. Marsden
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	334.94157	(1950.0)	P	Q
n	0.20888261	Peri. 317.52025	-0.21745720	-0.97466490
a	2.8132093	Node 144.94471	+0.91819138	-0.22246290
e	0.1179835	Incl. 5.22959	+0.33111473	-0.02320761
P	4.72	H 12.5	G 0.25	

Residuals in seconds of arc

600924	675	0.3-	0.8+	600929	675	0.5-	0.1+	880915	807	0.7-	0.5+
600926	675	0.7+	0.3+	740921	095	0.8+	2.4-				
600928	675	0.4-	0.1+	880914	807	0.3+	0.8+				

3034 P-L = 1984 FH2 = 1986 RR9
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi

M	215.61735	(1950.0)	P	Q
n	0.18917643	Peri. 111.95468	+0.96948621	+0.20352637
a	3.0053245	Node 236.54846	-0.23696407	+0.92083962
e	0.1205146	Incl. 9.42642	+0.06280540	+0.33261300
P	5.21	H 12.3	G 0.25	

Residuals in seconds of arc

600924	675	0.1-	1.9+	600926	675	0.7+	0.3-	600929	675	0.8+	1.4-
600924	675	0.2-	1.4+	600926	675	0.5-	0.2-	600929	675	0.2-	1.7-
600924	675	1.5-	0.2+	600927	675	0.0	0.0	840330	095	0.3-	0.1-
600925	675	1.0-	1.6+	600927	675	1.1+	0.0	860908	095	1.3-	0.7+
600925	675	1.4-	0.2-	600928	675	0.4+	0.3-	860911	095	0.6-	2.1-
600925	675	0.2+	0.7+	600928	675	0.8+	0.6-				
600926	675	0.4-	0.9+	600928	675	1.1+	1.4-				

3097 P-L = 1978 NH1
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi

M	126.63366	(1950.0)	P	Q
n	0.21034926	Peri. 356.82621	+0.34634081	+0.93140164
a	2.8001119	Node 293.41427	-0.85794526	+0.26619992
e	0.1987445	Incl. 7.00904	-0.37944429	+0.24825105
P	4.69	H 14.0	G 0.25	

Residuals in seconds of arc

600924	675	0.6+	0.3-	600927	675	0.3-	0.6-	780710	809	0.1-	0.7-
600925	675	0.5-	0.6-	600929	675	0.3+	0.8+	780711	809	0.3+	0.2+
600926	675	0.2-	0.7+	780709	809	0.4-	0.5+				

4119 P-L = 1989 RZ1
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi

M	18.49833	(1950.0)	P	Q
n	0.30530817	Peri. 138.25518	+0.85845923	+0.51267108
a	2.1842907	Node 190.93132	-0.48868444	+0.80892169
e	0.2162343	Incl. 4.44610	-0.15567678	+0.28777432
P	3.23	H 15.4	G 0.25	

Residuals in seconds of arc

600924	675	0.5-	0.2+	601017	675	0.6+	0.0	890904	511	0.8-	0.2-
600925	675	0.3+	0.2-	601022	675	0.4-	0.1-	890904	511	0.5-	0.0
600926	675	0.1+	0.2+	601025	675	0.2+	0.1-	890908	511	0.4-	0.4-
600928	675	0.1+	0.0	601026	675	0.5-	0.1-	890908	511	1.7+	0.5+

7063 P-L = 1974 OC1 = 1985 SK2
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi

M	82.97050	(1950.0)	P	Q
n	0.27614455	Peri. 68.33452	+0.65810038	+0.74996483
a	2.3354921	Node 242.99799	-0.71551109	+0.59532722
e	0.2110216	Incl. 4.29695	-0.23440939	+0.28833705
P	3.57	H 14.2	G 0.25	

Residuals in seconds of arc

601017	675	0.0	0.6-	601026	675	0.1-	0.2-	850919 095	0.4+	0.7-
601022	675	0.1+	0.3+	740719	808	0.3-	0.3-	850921 095	0.7-	0.7+
601024	675	0.1+	0.3+	740719	808	0.2+	0.3+			

1041 T-2 = 1983 RK8 = 1988 RM10
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden

M	79.19024	(1950.0)	P	Q
n	0.19472965	Peri. 160.49559	+0.91424548	+0.40515145
a	2.9479188	Node 175.60091	-0.37629021	+0.85158489
e	0.1131626	Incl. 2.04550	-0.15020277	+0.33264917
P	5.06	H 13.5	G 0.25	

Residuals in seconds of arc

730919	675	0.6+	0.4-	730930	675	0.0	0.5+	731005 675	0.8-	0.2+
730919	675	0.7+	0.6-	730930	675	0.5-	1.5+	830911 095	(10.3-	2.1-)
730920	675	1.0-	0.1-	730930	675	0.9+	0.6-	880914 807	0.4-	0.4+
730924	675	1.3+	1.6-	730930	675	0.7-	1.3+	880915 807	0.1+	0.4+
730924	675	0.4-	1.0-	731004	675	0.7+	0.6-	880916 807	0.1+	0.6+
730925	675	1.5-	2.8-	731004	675	1.0-	0.2-	881004 807	0.2-	0.2-
730925	675	0.3-	1.5-	731004	675	0.6+	0.0	881007 807	0.2-	0.5-
730929	675	0.2+	0.9+	731004	675	1.0+	0.4-	881008 807	0.3+	0.1+
730929	675	0.2-	0.7+	731005	675	0.7-	2.1+	881008 807	0.0	0.2-
730929	675	0.6+	0.1+	731005	675	1.1-	0.6+	881103 807	0.1+	0.5-
730929	675	0.4+	1.8+	731005	675	1.0+	0.2+	881105 807	0.3+	0.5-

2040 T-2 = 1981 EM42
Id. S. Nakano (MPC 15081)
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M	21.65245	(1950.0)	P	Q
n	0.19557135	Peri. 221.60331	+0.65159026	-0.75837659
a	2.9394487	Node 187.78986	+0.72512712	+0.62935292
e	0.0169864	Incl. 7.28101	+0.22275723	+0.16964626
P	5.04	H 14.8	G 0.25	

Residuals in seconds of arc

730919	675	0.2-	1.7-	731004	675	0.2+	0.2+	810311 413	2.2+	2.0-
730919	675	0.3+	0.2+	731004	675	1.6+	1.1+	810315 413	0.2+	1.0-
730920	675	1.8-	0.5-	731005	675	0.5+	1.3-	810405 413	2.2-	0.6-
730924	675	1.2-	1.1+	731005	675	2.0+	0.8-	810405 413	(4.4+	5.3-)
730924	675	1.9-	0.0	810212	413	0.2+	0.7-	810501 413	0.1+	1.7-
730925	675	1.0-	1.8-	810212	413	0.2+	0.3-	810501 413	1.9+	1.4-
730925	675	0.7+	1.9-	810302	413	1.7-	1.3+	881103 807	0.1+	0.5-
730929	675	0.4+	0.6+	810302	413	(3.9-	3.3+)	881106 807	0.2+	0.7-
730929	675	0.3+	1.0+	810306	413	0.5-	0.5+	881108 807	0.1-	0.6+
730930	675	0.7+	0.1-	810306	413	1.2-	0.6+			
730930	675	0.4+	0.1-	810311	413	0.3-	0.1+			

2108 T-2 = 1987 QB3
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi
M 229.16950 (1950.0) P Q
n 0.27769068 Peri. 110.82239 +0.64693011 +0.76234450
a 2.3268150 Node 199.52101 -0.71778758 +0.60096845
e 0.1055050 Incl. 3.03158 -0.25741489 +0.24014118
P 3.55 H 14.8 G 0.25
Residuals in seconds of arc

730919	675	0.5+	1.6-	730929	675	0.4+	0.8+	870827	809	0.6-	0.6-
730919	675	1.4+	0.6-	730930	675	1.2+	0.0	870827	809	1.1+	0.7-
730920	675	1.1-	2.2-	730930	675	0.8+	0.0	870828	809	3.4-	1.0-
730924	675	0.5-	1.0+	731004	675	0.7+	0.6+	870828	809	2.4-	0.1+
730924	675	0.3+	0.7+	731004	675	0.4+	0.7-	870828	809	1.7-	0.9-
730925	675	1.3-	0.2+	731005	675	0.5-	0.2+	870829	809	2.0+	0.7+
730925	675	1.6-	0.2+	731005	675	1.1-	0.6+	870829	809	2.1+	1.3+
730929	675	0.3+	0.5+	870827	809	0.6-	1.1-	870829	809	3.4+	2.5+

3105 T-3 = 1988 RS8
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
M 110.47445 (1950.0) P Q
n 0.26627778 Peri. 172.45236 +0.95503171 +0.29639591
a 2.3928398 Node 170.29510 -0.27444169 +0.89385420
e 0.1810902 Incl. 2.71800 -0.11223278 +0.33641363
P 3.70 H 15.0 G 0.25
Residuals in seconds of arc

771007	675	0.7+	1.5-	771017	675	0.9-	2.1+	880918	807	1.6+	0.3-
771011	675	1.2-	0.7-	771021	675	0.4+	0.6+	881004	807	0.7-	0.1-
771011	675	0.1-	1.0+	771021	675	0.1+	1.1+	881005	807	1.0-	0.1+
771012	675	0.2+	0.3-	771022	675	1.0+	1.4-	881008	807	0.3-	0.6-
771012	675	0.4-	0.1-	771022	675	0.2-	3.9-	881104	807	0.3-	0.8+
771016	675	0.0	0.8+	880912	071	1.2-	0.0	881105	807	0.6+	0.4-
771016	675	0.7+	0.5-	880912	071	(35.3-	3.0-)	881106	807	0.0	0.5+
771017	675	0.2-	2.3+	880916	807	1.2+	0.5+	881107	807	0.2-	0.0

4035 T-3 = 1988 SF2
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
M 135.00269 (1950.0) P Q
n 0.08225911 Peri. 206.02224 -0.55702650 +0.81541939
a 5.2361760 Node 30.87398 -0.69825849 -0.35714714
e 0.0665081 Incl. 17.87653 -0.44961823 -0.45556244
P 11.98 H 12.0 G 0.25
Residuals in seconds of arc

771011	675	1.0+	0.2-	771017	675	0.3-	0.4-	881005	807	0.6-	0.2-
771011	675	0.5+	0.7+	771017	675	0.5+	0.3+	881006	807	0.4-	0.2+
771012	675	1.0-	0.5-	771021	675	0.1-	0.1-	881007	807	0.5-	0.1-
771012	675	0.3-	1.2-	771021	675	0.2+	0.0	881008	807	0.1+	0.8-
771016	675	1.2-	0.6+	880916	807	0.6+	0.6+	881106	807	1.0+	0.5+
771016	675	0.6+	0.8+	880918	807	0.1+	0.3+	881108	807	0.3-	0.5-

4118 T-3 = 1980 FL2
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi
M 99.48757 (1950.0) P Q
n 0.18243687 Peri. 174.12988 +0.99059059 +0.13666931
a 3.0788910 Node 177.97240 -0.13237734 +0.97017512
e 0.1051057 Incl. 11.73622 -0.03473518 +0.20020426
P 5.40 H 13.5 G 0.25

Residuals in seconds of arc

771007 675	1.0-	0.8+	771017 675	0.4-	1.0-	800316 809	0.1+	0.0
771011 675	1.8+	0.3-	771021 675	0.2-	0.8-	800317 809	0.1+	0.2+
771011 675	0.5+	0.2-	771021 675	0.2-	1.0+	800317 809	0.3+	0.0
771012 675	0.2-	1.0-	771022 675	0.6-	0.5-	800317 809	0.4-	0.1-
771012 675	0.3-	0.7-	771022 675	0.6+	0.6+	800317 809	0.6-	0.6-
771016 675	0.5-	1.6+	800316 809	0.2-	0.5+	800323 809	0.1+	0.3-
771016 675	0.4+	1.6+	800316 809	0.5+	0.3-			
771017 675	0.0	1.2-	800316 809	0.0	0.4+			

4317 T-3 = 1988 RK12

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M 44.79210		(1950.0)	P	Q	
n 0.08431563	Peri.	167.55228	+0.92945181	+0.36797017	
a 5.1506733	Node	170.72238	-0.35113167	+0.90452876	
e 0.1040283	Incl.	9.56250	-0.11325140	+0.21546620	
P 11.69	H	12.7	G 0.25		

Residuals in seconds of arc

771011 675	2.4+	0.4+	771017 675	1.3-	0.5+	880916 807	0.6+	0.9-
771011 675	2.5+	0.0	771021 675	1.4-	1.0+	881004 807	0.7-	0.2+
771012 675	0.3+	1.9-	771021 675	0.7-	0.4+	881005 807	0.9+	0.3+
771012 675	0.7+	1.4-	771022 675	2.7-	0.1-	881008 807	0.0	0.0
771016 675	0.0	0.3-	771022 675	0.3+	2.6+	881103 807	0.3+	0.4-
771016 675	1.2+	0.5-	880914 807	0.6-	0.0	881106 807	0.2-	0.2-
771017 675	1.1-	0.8-	880915 807	0.2+	0.5+	881108 807	0.5-	0.7+

4369 T-3 = 1988 RF12

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Bowell

M 13.29314		(1950.0)	P	Q	
n 0.08357300	Peri.	210.43339	+0.96729197	-0.25014911	
a 5.1811408	Node	163.88918	+0.25236052	+0.93216442	
e 0.0791441	Incl.	8.72443	+0.02569863	+0.26171535	
P 11.79	H	12.6	G 0.25		

Residuals in seconds of arc

771016 675	0.5+	1.1-	771022 675	1.7-	1.0-	881005 807	0.1-	0.6+
771016 675	0.3+	0.5-	771022 675	1.1+	2.9+	881008 807	0.0	0.0
771017 675	0.3-	0.2-	880914 807	0.6-	0.1+	881103 807	0.4+	0.6-
771017 675	0.0	0.9-	880915 807	0.0	0.6-	881106 807	0.2-	0.2-
771021 675	0.0	1.4+	880916 807	0.4+	0.6+	881108 807	0.5-	0.3-
771021 675	0.1+	0.5-	881004 807	0.5+	0.3+			

* * * * *

NEW NAMES OF MINOR PLANETS.

(3289) Mitani = 1934 RP

Discovered 1934 Sept. 7 by K. Reinmuth at Heidelberg.

Named in honor of Tetsuyasu Mitani, discoverer of (1619) Ueta and independent recoverer of periodic comet Honda-Mrkos-Pajdusakova in 1954. He worked at Ikoma-san Solar Observatory of Kyoto Imperial University during 1944-1945 and under the difficult conditions following World War II he enthusiastically made astrometric observations of Pluto, comets and minor planets at Kyoto University's Kwasan Observatory. From 1957 to 1960 he was engaged in occultation observations for the geodetic survey (U.S. Army Map Service, Far East). Name proposed by H. Oishi, who found the identifications involving this minor planet, endorsed by I. Hasegawa and K. Hurukawa.

(3634) Iwan = 1980 FV
Discovered 1980 Mar. 16 by C.-I. Lagerkvist at the European Southern Observatory,
Named in honor of Iwan P. Williams, of Queen Mary College, London, in recognition of his well-known work on meteor streams and interest in comets and minor planets. The discoverer appreciates their long and fruitful collaboration.

(3948) Bohr = 1985 RF
Discovered 1985 Sept. 15 by P. Jensen and K. Augustesen at Brorfelde.
Named in memory of the world-famous Danish physicist Niels Bohr (1885-1962), who received the Nobel prize for his atomic theory in 1922.

(4042) Okhotsk = 1989 AT1
Discovered 1989 Jan. 15 by K. Endate and K. Watanabe at Kitami.
Named for the sea that extends between the northeast coast of Hokkaido and the Kamchatka Peninsula. The sea of Okhotsk, which is completely covered by ice floes from January to March, holds rich gifts of salmon, scallops and crabs for the people of the north.

(4094) Aoshima = 1987 QC
Discovered 1987 Aug. 26 by W. Kakei and M. Kizawa at Shizuoka.
Named in memory of Masaki Aoshima (1947-1987), founder of the Shizuoka City Amateur Astronomers' Society and an active advisor to beginning amateur astronomers. He died of a heart attack on his way home from an observing session just one month after this minor planet was discovered. Name also suggested by many amateur astronomers in Shizuoka.

(4095) Ishizuchisan = 1987 SG
Discovered 1987 Sept. 16 by T. Seki at Geisei.
Named for the highest mountain on Shikoku, the island on which the Geisei Station is located. The mountain has an altitude of 1982 m and is sacred to many Japanese.

(4096) Kushiro = 1987 VC
Discovered 1987 Nov. 15 by S. Ueda and H. Kaneda at Kushiro.
Named for a city of population of 220 000 on the Pacific coast of Hokkaido. Its main industries are paper making, coal mining and fishing, and the citizens are especially proud of the fact that they have the largest fish catch in Japan. Behind the city area there are huge, wild fields that form Kushiro's Marsh National Park. In spite of the prevalence of fog during the summer months the first discoverer maintains his observing station there.

(4097) Tsurugisan = 1987 WW
Discovered 1987 Nov. 18 by T. Seki at Geisei.
Name for the second highest mountain on Shikoku island. There is a meteorological observatory on the 1955-m summit.

(4103) Chahine = 1989 EB
Discovered 1989 Mar. 4 by E. F. Helin at Palomar.
Named in honor of Moustafa Chahine, chief scientist of the Jet Propulsion Laboratory, where he coordinates the research of scientists on the world's foremost unmanned space probes. For 30 years he has played a key role in JPL's space activities. His own scientific research is in the fields of atmospheric science and of remote sensing, both of which have advanced by his innovations and insight. His most recent involvement is in the project Mission to Planet Earth. Chahine possesses that rare quality that combines exceptional scientific and administrative skills. His friends

and colleagues have the greatest respect and admiration for his remarkable sensitivity, vision and outstanding leadership.

(4107) Rufino = 1989 GT

Discovered 1989 Apr. 7 by E. F. Helin at Palomar.

Named in honor of Rufus J. Walker, an ardent supporter of the U.S. space program and a man of exceptional kindness and gentleness. As both friend and doctor he has often made the difference in enabling the discoverer to accomplish her goals by his sincere interest and restorative qualities. As manager of medical services at the Jet Propulsion Laboratory for the past decade, he has maintained a high level of comprehensive and compassionate medical services for employees. He has introduced, staffed and enriched a broad spectrum of counseling services that have aided countless employees and their families in coping with the inherent problems of emotional stress, substance abuse and alcoholism. Name endorsed by his longtime JPL associate and personal friend, Richard House.

(4116) Elachi = 1982 SU

Discovered 1982 Sept. 20 by E. F. Helin at Palomar.

Named in honor of Charles Elachi, assistant laboratory director for Space Science and Instruments, Jet Propulsion Laboratory. His expertise is in radar sensing from space, including the successful Shuttle imaging radar experiments. He has particular interest in the assessment of the surfaces of the earth and other planets, from the standpoints of both measurement (his Ph.D. is in electrical sciences) and interpretation (he also holds an advanced degree in geology). His accomplishments include almost 200 papers, two textbooks, numerous honors and participation in almost every radar survey from space since the early 1970s.

(4126) Mashu = 1988 BU

Discovered 1988 Jan. 19 by K. Endate and K. Watanabe at Kitami.

Named for one of the lakes in Akan National Park, which is located in eastern Hokkaido, a one-hour drive from Kitami and Kushiro. The caldera lake is 20 km in circumference, covers an area of 19.6 square km and has a maximum depth of 212 m. No rivers flow into or out of the lake, which is one of the most transparent in the world, although its surface is almost always shrouded in fog.

(4127) Kyogoku = 1988 BA2

Discovered 1988 Jan. 25 by S. Ueda and H. Kaneda at Kushiro.

Named for the second discoverer’s birthplace, a town of population 4000 located approximately 70 km southwest of Sapporo at the foot of the 1893-m Yotei, one of the most beautiful mountains in Hokkaido. The town is known for its production of potatoes, asparagus and wheat, and nearby Fukidashi park provides high-quality mineral water, which has gained in popularity among the tourists.

* * * * *

EPHEMERIDES.

Comet Helin-Roman-Alu (1989v) Elements MPC 15380

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1989	11 10	21 00.25	+27 38.1	0.561	1.206	98.2	54.4	10.6
1989	11 20	20 25.01	+33 40.8					
1989	11 30	19 56.47	+38 30.5	0.688	1.083	78.3	63.2	10.5
1989	12 10	19 31.84	+42 34.6					
1989	12 20	19 08.83	+46 10.0	0.788	1.052	71.9	62.7	10.7
1989	12 30	18 45.83	+49 31.4					

1990 01 09	18 20.85	+52 54.1	0.830	1.125	76.2	58.1	11.1
1990 01 19	17 50.76	+56 28.9					
1990 01 29	17 10.07	+60 15.3	0.825	1.278	89.3	50.4	11.6

1989 SL5 a,e,i = 2.96, 0.55, 24 Elements MPC 15422

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 10	23 40.79	-40 57.1	0.945	1.549	106.3	37.9	19.2
1989 11 20	00 02.21	-37 39.3					
1989 11 30	00 22.23	-34 05.8	1.166	1.658	100.5	35.8	19.7
1989 12 10	00 41.25	-30 24.4					
1989 12 20	00 59.53	-26 41.8	1.416	1.779	94.0	33.5	20.2
1989 12 30	01 17.29	-23 02.2					
1990 01 09	01 34.74	-19 29.4	1.694	1.906	86.5	31.0	20.7

Periodic Comet Helin-Roman-Alu 1 (1989w) Elements MPC 15379

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1989 11 10	01 38.42	+00 56.4	3.547	4.463	154.7	5.4	17.2
1989 11 20	01 33.81	+00 51.5					
1989 11 30	01 30.33	+00 55.6	3.755	4.491	133.5	9.2	17.4
1989 12 10	01 28.21	+01 08.9					
1989 12 20	01 27.51	+01 30.9	4.042	4.519	113.1	11.6	17.6
1989 12 30	01 28.24	+02 00.7					
1990 01 09	01 30.33	+02 37.6	4.372	4.547	93.9	12.5	17.8
1990 01 19	01 33.67	+03 20.2					
1990 01 29	01 38.15	+04 07.6	4.711	4.575	76.1	12.1	18.0
1990 02 08	01 43.63	+04 58.7					
1990 02 18	01 49.98	+05 52.4	5.028	4.602	59.3	10.6	18.1
1990 02 28	01 57.08	+06 48.0					
1990 03 10	02 04.82	+07 44.6	5.301	4.629	43.4	8.5	18.3

Periodic Comet Helin-Roman-Crockett (1989b) Elements MPC 14460

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1989 11 10	11 59.24	+03 57.3	4.320	3.743	48.9	11.5	19.9
1989 11 20	12 08.87	+03 02.9					
1989 11 30	12 17.77	+02 14.2	4.091	3.766	64.1	13.6	19.8
1989 12 10	12 25.82	+01 32.1					
1989 12 20	12 32.86	+00 57.7	3.827	3.789	80.4	14.8	19.7
1989 12 30	12 38.76	+00 31.9					
1990 01 09	12 43.33	+00 15.5	3.548	3.812	98.0	14.8	19.6
1990 01 19	12 46.43	+00 09.2					
1990 01 29	12 47.93	+00 13.3	3.284	3.835	117.2	13.2	19.4
1990 02 08	12 47.73	+00 27.9					
1990 02 18	12 45.85	+00 52.1	3.068	3.859	138.0	9.9	19.3
1990 02 28	12 42.40	+01 24.5					
1990 03 10	12 37.63	+02 02.7	2.935	3.883	160.0	5.0	19.2
1990 03 20	12 31.95	+02 43.3					
1990 03 30	12 25.84	+03 23.0	2.914	3.908	173.1	1.8	19.2
1990 04 09	12 19.85	+03 57.9					
1990 04 19	12 14.51	+04 25.3	3.011	3.932	152.9	6.7	19.3
1990 04 29	12 10.22	+04 43.0					
1990 05 09	12 07.28	+04 50.0	3.209	3.956	132.0	10.9	19.5
1990 05 19	12 05.83	+04 46.2					
1990 05 29	12 05.91	+04 32.1	3.479	3.981	112.6	13.6	19.7
1990 06 08	12 07.48	+04 08.4					
1990 06 18	12 10.43	+03 36.3	3.787	4.005	95.0	14.6	19.9
1990 06 28	12 14.63	+02 56.8					
1990 07 08	12 19.94	+02 11.0	4.103	4.029	78.7	14.3	20.1
1990 07 18	12 26.23	+01 20.0					
1990 07 28	12 33.37	+00 24.6	4.404	4.053	63.4	12.9	20.3

1990 08 07	12 41.24	-00 34.4						
1990 08 17	12 49.74	-01 35.9	4.671	4.077	48.9	10.8	20.5	

Periodic Comet Russell 4 (1984 I) Elements MPC 12136

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		m2
1989 11 30	07 32.97	+25 37.5	1.859	2.660	-1.71	+1.6	20.6	
1989 12 10	07 30.53	+26 16.3						
1989 12 20	07 25.34	+27 00.6	1.656	2.594	-1.94	+1.5	20.2	
1989 12 30	07 17.79	+27 46.5						
1990 01 09	07 08.77	+28 28.9	1.552	2.532	-2.01	+0.5	20.0	
1990 01 19	06 59.55	+29 03.4						
1990 01 29	06 51.45	+29 27.3	1.558	2.473	-1.88	-0.7	19.9	
1990 02 08	06 45.68	+29 40.4						
1990 02 18	06 43.01	+29 44.0	1.657	2.419	-1.67	-1.3	19.9	
1990 02 28	06 43.73	+29 39.8						
1990 03 10	06 47.86	+29 29.2	1.815	2.370	-1.50	-1.0	20.0	
1990 03 20	06 55.09	+29 12.7						
1990 03 30	07 05.07	+28 50.1	2.003	2.326	-1.40	-0.2	20.2	

Periodic Comet Russell 3 (1989d) Elements MPC 14154

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1989 11 30	13 36.18	-19 30.9	3.427	2.728	38.7	13.1	19.0	
1989 12 10	13 53.03	-20 56.6						
1989 12 20	14 09.85	-22 17.4	3.204	2.684	50.2	16.4	18.8	
1989 12 30	14 26.55	-23 32.4						
1990 01 09	14 42.99	-24 40.6	2.953	2.644	62.3	19.2	18.6	
1990 01 19	14 59.02	-25 41.0						
1990 01 29	15 14.45	-26 33.0	2.682	2.609	75.1	21.4	18.3	
1990 02 08	15 29.03	-27 15.8						
1990 02 18	15 42.52	-27 48.8	2.403	2.579	88.8	22.5	18.0	
1990 02 28	15 54.60	-28 11.5						
1990 03 10	16 04.93	-28 23.1	2.130	2.555	103.8	22.2	17.7	
1990 03 20	16 13.19	-28 23.3						
1990 03 30	16 19.02	-28 11.0	1.879	2.536	120.5	19.8	17.4	
1990 04 09	16 22.17	-27 45.3						
1990 04 19	16 22.51	-27 05.4	1.675	2.524	139.5	15.0	17.1	
1990 04 29	16 20.14	-26 10.6						
1990 05 09	16 15.47	-25 01.4	1.543	2.518	160.8	7.6	17.0	
1990 05 19	16 09.27	-23 40.3						
1990 05 29	16 02.49	-22 11.9	1.506	2.518	175.9	1.7	16.9	
1990 06 08	15 56.24	-20 42.8						
1990 06 18	15 51.43	-19 19.6	1.573	2.525	153.9	10.2	17.0	
1990 06 28	15 48.69	-18 07.8						
1990 07 08	15 48.38	-17 10.5	1.728	2.538	133.6	16.9	17.2	
1990 07 18	15 50.53	-16 28.6						
1990 07 28	15 55.04	-16 01.2	1.946	2.557	115.8	20.9	17.5	
1990 08 07	16 01.72	-15 46.0						
1990 08 17	16 10.31	-15 40.6	2.202	2.582	100.2	22.7	17.8	
1990 08 27	16 20.58	-15 42.2						
1990 09 06	16 32.29	-15 48.2	2.477	2.613	86.2	22.6	18.1	
1990 09 16	16 45.22	-15 56.2						
1990 09 26	16 59.21	-16 04.1	2.755	2.648	73.3	21.3	18.4	
1990 10 06	17 14.07	-16 10.0						
1990 10 16	17 29.65	-16 12.3	3.025	2.688	61.1	18.9	18.7	
1990 10 26	17 45.82	-16 09.8						
1990 11 05	18 02.43	-16 01.3	3.274	2.733	49.3	16.0	18.9	
1990 11 15	18 19.36	-15 46.2						
1990 11 25	18 36.50	-15 23.9	3.496	2.781	37.7	12.5	19.2	

Periodic Comet Brorsen-Metcalf (1989o) Elements MPC 14747

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1989	11 30	13 52.76	-24 32.7	2.368	1.650	34.3	19.7	19.0
1989	12 10	14 09.32	-27 03.1					
1989	12 20	14 23.96	-29 17.7	2.500	1.950	46.0	21.3	19.9
1989	12 30	14 36.65	-31 19.8					
1990	01 09	14 47.25	-33 11.7	2.560	2.234	59.8	22.4	20.5
1990	01 19	14 55.58	-34 55.1					
1990	01 29	15 01.38	-36 30.8	2.559	2.504	75.6	22.4	21.0
1990	02 08	15 04.38	-37 58.7					
1990	02 18	15 04.30	-39 17.8	2.522	2.763	93.4	20.9	21.4
1990	02 28	15 00.92	-40 25.4					
1990	03 10	14 54.21	-41 18.0	2.483	3.011	112.8	17.7	21.8

1978 VE15 a,e,i = 2.38, 0.21, 3 Elements MPC 15405

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 10	02 32.05	+11 25.9	0.906	1.891	171.6	4.4	15.4
1989	11 20	02 23.77	+11 17.5					
1989	11 30	02 18.03	+11 22.9	0.988	1.902	148.8	15.6	16.0
1989	12 10	02 15.72	+11 44.7					
1989	12 20	02 17.06	+12 22.4	1.144	1.919	128.6	23.6	16.6
1989	12 30	02 21.85	+13 14.1					
1990	01 09	02 29.77	+14 16.9	1.349	1.942	111.8	28.0	17.1

1978 VT4 a,e,i = 3.12, 0.14, 2 Elements MPC 15404

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 10	04 34.97	+23 04.9	1.846	2.782	156.5	8.2	18.0
1989	11 20	04 27.13	+22 54.8					
1989	11 30	04 18.22	+22 39.8	1.778	2.764	178.6	0.5	17.4
1989	12 10	04 09.35	+22 21.8					
1989	12 20	04 01.63	+22 03.7	1.824	2.748	155.2	8.6	17.9
1989	12 30	03 55.90	+21 48.7					
1990	01 09	03 52.75	+21 39.6	1.970	2.734	132.7	15.3	18.3
1990	01 19	03 52.38	+21 37.8					
1990	01 29	03 54.76	+21 43.7	2.184	2.722	112.9	19.5	18.6

1981 ED27 a,e,i = 2.99, 0.06, 11 Elements MPC 15409

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 10	05 11.19	+08 39.7	2.278	3.152	146.6	10.0	17.3
1989	11 20	05 04.69	+08 01.2					
1989	11 30	04 56.87	+07 30.3	2.190	3.149	163.6	5.1	17.1
1989	12 10	04 48.52	+07 09.6					
1989	12 20	04 40.49	+07 01.0	2.217	3.145	156.7	7.1	17.2
1989	12 30	04 33.56	+07 05.1					
1990	01 09	04 28.36	+07 21.4	2.352	3.140	136.7	12.4	17.5
1990	01 19	04 25.28	+07 48.2					
1990	01 29	04 24.45	+08 23.6	2.567	3.135	116.7	16.3	17.8

7063 P-L a,e,i = 2.34, 0.21, 4 Elements MPC 15424

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 10	05 23.22	+22 33.0	1.588	2.468	145.5	13.1	17.8
1989	11 20	05 14.45	+22 05.8					
1989	11 30	05 03.68	+21 34.4	1.533	2.511	170.2	3.8	17.4
1989	12 10	04 52.22	+21 00.5					
1989	12 20	04 41.49	+20 27.3	1.591	2.551	164.0	6.1	17.7
1989	12 30	04 32.69	+19 58.2					
1990	01 09	04 26.61	+19 36.4	1.756	2.589	140.1	14.1	18.2
1990	01 19	04 23.58	+19 23.3					
1990	01 29	04 23.59	+19 19.2	2.001	2.624	119.0	19.2	18.7

1978 VG5 a,e,i = 3.11, 0.14, 1 Elements MPC 15405

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 10	05 27.17	+23 58.2	1.970	2.835	144.5	11.7	17.3
1989 11 20	05 21.31	+23 54.2					
1989 11 30	05 13.42	+23 46.6	1.839	2.811	167.8	4.2	16.8
1989 12 10	05 04.39	+23 35.3					
1989 12 20	04 55.30	+23 21.1	1.819	2.788	167.6	4.3	16.8
1989 12 30	04 47.26	+23 06.1					
1990 01 09	04 41.19	+22 52.7	1.910	2.767	144.0	12.1	17.2
1990 01 19	04 37.69	+22 43.3					
1990 01 29	04 37.00	+22 39.0	2.087	2.747	122.7	17.6	17.5

1988 PX2 a,e,i = 3.00, 0.07, 11 Elements MPC 15417

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 10	05 40.29	+09 09.1	2.008	2.837	139.8	13.0	16.9
1989 11 20	05 35.00	+08 25.4					
1989 11 30	05 27.82	+07 49.8	1.905	2.847	159.0	7.1	16.6
1989 12 10	05 19.53	+07 25.5					
1989 12 20	05 11.07	+07 14.7	1.909	2.858	161.4	6.3	16.6
1989 12 30	05 03.38	+07 18.0					
1990 01 09	04 57.31	+07 35.0	2.021	2.870	143.2	11.8	16.9
1990 01 19	04 53.39	+08 03.5					
1990 01 29	04 51.90	+08 41.1	2.221	2.882	123.3	16.6	17.3

1041 T-2 a,e,i = 2.95, 0.11, 2 Elements MPC 15424

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 10	05 55.20	+20 40.0	2.157	2.968	138.1	12.9	18.2
1989 11 20	05 49.80	+20 31.9					
1989 11 30	05 42.32	+20 24.0	2.040	2.990	161.1	6.1	17.8
1989 12 10	05 33.48	+20 16.5					
1989 12 20	05 24.23	+20 09.5	2.033	3.012	173.4	2.2	17.7
1989 12 30	05 15.56	+20 03.8					
1990 01 09	05 08.38	+20 00.7	2.143	3.034	149.8	9.4	18.1
1990 01 19	05 03.31	+20 00.9					
1990 01 29	05 00.68	+20 05.1	2.351	3.055	127.8	14.8	18.5

1974 VS a,e,i = 2.88, 0.08, 3 Elements MPC 15239

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 10	06 02.26	+25 08.5	2.050	2.851	136.5	13.8	16.5
1989 11 20	05 57.16	+25 20.1					
1989 11 30	05 49.65	+25 29.8	1.922	2.867	159.4	6.9	16.2
1989 12 10	05 40.45	+25 36.0					
1989 12 20	05 30.60	+25 37.6	1.901	2.882	175.2	1.6	15.9
1989 12 30	05 21.20	+25 34.9					
1990 01 09	05 13.34	+25 29.4	1.996	2.898	151.5	9.3	16.4
1990 01 19	05 07.76	+25 23.2					
1990 01 29	05 04.84	+25 18.2	2.189	2.913	129.2	15.2	16.8

1981 EU29 a,e,i = 3.00, 0.10, 10 Elements MPC 15409

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 10	06 14.55	+37 31.3	2.196	2.956	132.4	14.3	17.3
1989 11 20	06 09.46	+38 03.5					
1989 11 30	06 01.61	+38 26.8	2.066	2.977	152.7	8.8	17.0
1989 12 10	05 51.71	+38 36.7					
1989 12 20	05 40.88	+38 30.5	2.037	2.997	164.8	4.9	16.8
1989 12 30	05 30.39	+38 08.0					
1990 01 09	05 21.47	+37 32.2	2.121	3.018	150.7	9.2	17.1
1990 01 19	05 14.98	+36 47.9					
1990 01 29	05 11.36	+36 00.2	2.306	3.038	130.4	14.3	17.4

(4241) 1981 EX46 a,e,i = 2.95, 0.07, 1 Elements MPC 15391

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 10	06 11.00	+23 09.8	2.074	2.857	134.5	14.3	19.8
1989	11 20	06 06.65	+23 07.1					
1989	11 30	05 59.86	+23 04.0	1.936	2.871	157.2	7.6	19.4
1989	12 10	05 51.29	+22 59.7					
1989	12 20	05 41.88	+22 53.5	1.901	2.885	178.2	0.6	19.0
1989	12 30	05 32.70	+22 46.0					
1990	01 09	05 24.81	+22 38.1	1.983	2.899	154.0	8.6	19.5
1990	01 19	05 19.00	+22 31.4					
1990	01 29	05 15.71	+22 27.1	2.166	2.914	131.5	14.7	19.9

1981 EH34 a,e,i = 2.91, 0.02, 2 Elements MPC 15410

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 10	06 18.67	+25 46.1	2.078	2.844	132.8	14.8	18.1
1989	11 20	06 14.83	+25 54.1					
1989	11 30	06 08.39	+26 01.0	1.920	2.845	155.2	8.4	17.7
1989	12 10	05 59.89	+26 05.0					
1989	12 20	05 50.27	+26 04.5	1.863	2.846	177.3	0.9	17.3
1989	12 30	05 40.64	+25 59.2					
1990	01 09	05 32.14	+25 49.9	1.922	2.847	155.7	8.2	17.7
1990	01 19	05 25.69	+25 38.8					
1990	01 29	05 21.84	+25 27.8	2.084	2.849	133.1	14.6	18.1

1978 VD5 a,e,i = 3.08, 0.13, 1 Elements MPC 15404

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 10	06 29.23	+21 36.0	1.964	2.710	130.2	16.2	18.9
1989	11 20	06 27.02	+21 31.6					
1989	11 30	06 22.10	+21 29.4	1.789	2.700	152.0	9.9	18.5
1989	12 10	06 14.88	+21 28.8					
1989	12 20	06 06.19	+21 29.1	1.709	2.691	175.6	1.6	18.0
1989	12 30	05 57.08	+21 29.6					
1990	01 09	05 48.74	+21 30.3	1.741	2.684	159.4	7.4	18.3
1990	01 19	05 42.19	+21 31.9					
1990	01 29	05 38.13	+21 35.1	1.876	2.679	136.6	14.6	18.7

2780 P-L a,e,i = 2.81, 0.12, 5 Elements MPC 15423

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 10	06 40.61	+16 29.9	1.775	2.499	126.9	18.5	16.6
1989	11 20	06 39.45	+16 18.8					
1989	11 30	06 35.34	+16 14.4	1.600	2.491	148.0	12.1	16.1
1989	12 10	06 28.61	+16 17.7					
1989	12 20	06 20.00	+16 28.6	1.511	2.486	170.0	4.0	15.7
1989	12 30	06 10.59	+16 46.3					
1990	01 09	06 01.69	+17 09.6	1.530	2.482	161.4	7.2	15.9
1990	01 19	05 54.47	+17 37.0					
1990	01 29	05 49.78	+18 07.4	1.652	2.481	139.0	15.1	16.3

1988 RT6 a,e,i = 2.54, 0.12, 15 Elements MPC 15417

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 10	06 48.08	+03 18.0	2.160	2.813	122.0	17.4	17.7
1989	11 20	06 45.45	+02 27.1					
1989	11 30	06 40.32	+01 47.2	1.990	2.825	140.9	12.7	17.4
1989	12 10	06 33.03	+01 22.2					
1989	12 20	06 24.21	+01 15.2	1.906	2.835	156.3	8.0	17.2
1989	12 30	06 14.74	+01 28.0					
1990	01 09	06 05.66	+01 59.8	1.930	2.843	153.3	9.0	17.2
1990	01 19	05 57.89	+02 47.7					
1990	01 29	05 52.15	+03 47.8	2.058	2.849	135.9	13.9	17.5

1971 SN2 a,e,i = 3.18, 0.17, 2 Elements MPC 15401

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 10	06 57.35	+23 05.5	2.564	3.222	123.8	14.8	17.3
1989 11 20	06 55.01	+23 14.9					
1989 11 30	06 50.31	+23 27.2	2.391	3.253	145.7	9.8	17.0
1989 12 10	06 43.55	+23 41.2					
1989 12 20	06 35.32	+23 55.1	2.312	3.285	169.4	3.2	16.7
1989 12 30	06 26.38	+24 07.3					
1990 01 09	06 17.66	+24 16.7	2.352	3.315	166.1	4.1	16.8
1990 01 19	06 10.03	+24 23.1					
1990 01 29	06 04.15	+24 27.2	2.508	3.345	142.7	10.3	17.2

(4259) 1988 SB3 a,e,i = 2.89, 0.05, 3 Elements MPC 15398

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 30	07 17.36	+24 38.8	1.924	2.751	139.6	13.4	17.0
1989 12 10	07 12.09	+25 02.2					
1989 12 20	07 04.45	+25 27.2	1.799	2.755	162.8	6.1	16.6
1989 12 30	06 55.18	+25 50.5					
1990 01 09	06 45.41	+26 09.2	1.782	2.759	171.7	3.0	16.4
1990 01 19	06 36.36	+26 21.8					
1990 01 29	06 29.07	+26 28.0	1.879	2.764	148.1	10.8	16.9
1990 02 08	06 24.31	+26 29.1					
1990 02 18	06 22.41	+26 26.5	2.066	2.770	126.5	16.7	17.3

1983 VN7 a,e,i = 3.09, 0.18, 2 Elements MPC 15411

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 30	07 20.12	+20 22.1	2.010	2.825	138.4	13.4	17.5
1989 12 10	07 14.84	+20 31.3					
1989 12 20	07 07.42	+20 44.9	1.909	2.860	161.7	6.2	17.1
1989 12 30	06 58.61	+21 00.9					
1990 01 09	06 49.43	+21 17.1	1.917	2.896	173.4	2.2	16.9
1990 01 19	06 40.95	+21 32.1					
1990 01 29	06 34.07	+21 45.1	2.040	2.932	149.6	9.8	17.4
1990 02 08	06 29.46	+21 55.9					
1990 02 18	06 27.40	+22 04.6	2.258	2.968	127.8	15.2	17.9

1978 SX6 a,e,i = 2.99, 0.18, 13 Elements MPC 15404

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 30	07 43.68	+39 55.1	1.714	2.498	133.5	16.6	16.4
1989 12 10	07 39.43	+40 41.3					
1989 12 20	07 31.69	+41 18.7	1.603	2.515	152.1	10.5	16.1
1989 12 30	07 21.27	+41 39.5					
1990 01 09	07 09.63	+41 37.6	1.586	2.534	160.5	7.4	16.0
1990 01 19	06 58.52	+41 11.4					
1990 01 29	06 49.45	+40 23.8	1.673	2.556	147.1	12.1	16.3
1990 02 08	06 43.52	+39 20.9					
1990 02 18	06 41.11	+38 09.5	1.849	2.580	128.2	17.5	16.7

(4247) 1983 WC a,e,i = 3.18, 0.23, 2 Elements MPC 15393

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 30	07 42.73	+20 01.2	1.810	2.587	133.2	16.1	17.0
1989 12 10	07 39.49	+20 13.0					
1989 12 20	07 33.63	+20 31.8	1.691	2.619	155.6	8.9	16.7
1989 12 30	07 25.75	+20 55.4					
1990 01 09	07 16.85	+21 20.7	1.670	2.654	179.1	0.3	16.2
1990 01 19	07 08.11	+21 44.5					
1990 01 29	07 00.63	+22 05.1	1.762	2.691	155.8	8.6	16.8
1990 02 08	06 55.31	+22 21.4					
1990 02 18	06 52.61	+22 33.2	1.952	2.730	133.6	15.2	17.3

1975 TK6 a,e,i = 2.66, 0.17, 13 Elements MPC 15402

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 30	08 14.16	+27 57.2	2.167	2.874	127.3	15.8	17.7
1989 12 10	08 11.15	+29 03.0					
1989 12 20	08 05.29	+30 14.8	2.015	2.903	149.0	10.1	17.4
1989 12 30	07 56.89	+31 26.9					
1990 01 09	07 46.73	+32 32.6	1.962	2.931	167.8	4.1	17.1
1990 01 19	07 35.90	+33 25.9					
1990 01 29	07 25.62	+34 03.3	2.027	2.957	156.6	7.6	17.4
1990 02 08	07 17.05	+34 24.3					
1990 02 18	07 10.97	+34 30.7	2.199	2.981	135.1	13.5	17.8

(3977) 1983 LM a,e,i = 2.64, 0.17, 13 Elements MPC 14172

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 30	08 18.23	+04 17.3	2.470	3.086	120.2	16.0	17.5
1989 12 10	08 15.67	+03 33.0					
1989 12 20	08 10.86	+03 00.2	2.265	3.085	140.1	11.8	17.2
1989 12 30	08 04.05	+02 41.3					
1990 01 09	07 55.75	+02 38.0	2.148	3.083	158.3	6.8	16.8
1990 01 19	07 46.72	+02 50.3					
1990 01 29	07 37.83	+03 16.8	2.142	3.078	158.2	6.8	16.8
1990 02 08	07 29.98	+03 54.5					
1990 02 18	07 23.85	+04 39.4	2.247	3.072	140.1	11.9	17.1

1985 RU2 a,e,i = 2.24, 0.16, 3 Elements MPC 11420

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 30	08 24.28	+23 28.1	1.378	2.099	124.3	22.8	17.6
1989 12 10	08 23.44	+23 48.4					
1989 12 20	08 18.65	+24 19.1	1.248	2.135	145.9	15.0	17.2
1989 12 30	08 10.22	+24 55.8					
1990 01 09	07 59.15	+25 32.0	1.197	2.172	169.9	4.5	16.7
1990 01 19	07 47.01	+26 00.7					
1990 01 29	07 35.60	+26 17.6	1.249	2.209	162.5	7.7	17.0
1990 02 08	07 26.56	+26 21.5					
1990 02 18	07 20.88	+26 14.4	1.401	2.246	139.4	16.6	17.6

(3942) 1977 RH7 a,e,i = 2.39, 0.20, 5 Elements MPC 14006

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 30	08 27.02	+25 25.1	2.147	2.821	124.1	16.8	18.0
1989 12 10	08 24.37	+25 53.6					
1989 12 20	08 18.79	+26 28.8	1.964	2.834	146.1	11.2	17.6
1989 12 30	08 10.51	+27 07.0					
1990 01 09	08 00.22	+27 43.0	1.874	2.845	168.9	3.8	17.2
1990 01 19	07 48.95	+28 11.7					
1990 01 29	07 37.93	+28 29.7	1.900	2.853	161.9	6.1	17.4
1990 02 08	07 28.40	+28 35.8					
1990 02 18	07 21.23	+28 31.1	2.038	2.859	139.0	13.1	17.8

1977 RR6 a,e,i = 2.44, 0.17, 5 Elements MPC 12123

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 11 30	08 28.92	+25 32.8	1.714	2.405	123.7	20.0	18.0
1989 12 10	08 27.19	+25 54.6					
1989 12 20	08 22.01	+26 23.9	1.569	2.444	145.3	13.2	17.6
1989 12 30	08 13.68	+26 56.2					
1990 01 09	08 03.05	+27 25.7	1.510	2.481	168.5	4.5	17.2
1990 01 19	07 51.41	+27 46.6					
1990 01 29	07 40.27	+27 55.5	1.561	2.518	162.7	6.7	17.4
1990 02 08	07 31.02	+27 51.9					
1990 02 18	07 24.59	+27 37.6	1.717	2.554	139.9	14.4	17.9

(3973) 1981 UC1 a,e,i = 2.36, 0.21, 2 Elements MPC 14171

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 30	08 28.69	+20 33.1	2.102	2.763	122.7	17.5	17.8
1989	12 10	08 26.27	+20 50.5					
1989	12 20	08 20.98	+21 17.1	1.921	2.784	144.9	11.7	17.5
1989	12 30	08 13.06	+21 50.6					
1990	01 09	08 03.14	+22 26.9	1.830	2.803	169.5	3.7	17.1
1990	01 19	07 52.24	+23 01.5					
1990	01 29	07 41.53	+23 30.6	1.856	2.818	164.8	5.3	17.2
1990	02 08	07 32.19	+23 51.9					
1990	02 18	07 25.11	+24 04.9	1.995	2.830	140.8	12.7	17.6

1988 VT a,e,i = 2.73, 0.12, 12 Elements MPC 14954

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 30	08 22.99	+05 08.8	2.347	2.959	119.4	16.9	18.0
1989	12 10	08 20.82	+04 20.3					
1989	12 20	08 16.31	+03 43.3	2.159	2.975	139.4	12.4	17.7
1989	12 30	08 09.69	+03 20.3					
1990	01 09	08 01.52	+03 13.0	2.055	2.991	158.2	7.0	17.4
1990	01 19	07 52.57	+03 21.4					
1990	01 29	07 43.75	+03 43.9	2.062	3.005	159.6	6.6	17.4
1990	02 08	07 35.96	+04 17.6					
1990	02 18	07 29.93	+04 58.4	2.179	3.017	141.6	11.7	17.7

1979 FD2 a,e,i = 2.43, 0.15, 3 Elements MPC 14013

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 30	08 17.89	+17 00.0	1.529	2.238	124.4	21.3	17.6
1989	12 10	08 18.69	+16 57.2					
1989	12 20	08 16.16	+17 07.7	1.328	2.208	145.1	14.8	17.1
1989	12 30	08 10.37	+17 31.7					
1990	01 09	08 01.86	+18 07.0	1.206	2.179	168.8	5.0	16.5
1990	01 19	07 51.75	+18 48.8					
1990	01 29	07 41.56	+19 31.8	1.184	2.152	165.5	6.6	16.5
1990	02 08	07 32.94	+20 11.0					
1990	02 18	07 27.16	+20 43.2	1.261	2.128	141.8	16.7	16.9

1971 US1 a,e,i = 2.65, 0.26, 14 Elements MPC 13589

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	11 30	08 27.23	+01 42.2	2.424	3.005	117.1	17.0	18.6
1989	12 10	08 24.65	+00 50.3					
1989	12 20	08 19.77	+00 11.5	2.252	3.044	136.7	12.8	18.3
1989	12 30	08 12.85	-00 11.5					
1990	01 09	08 04.45	-00 16.7	2.163	3.081	154.7	7.8	18.1
1990	01 19	07 55.32	-00 04.1					
1990	01 29	07 46.34	+00 24.8	2.183	3.116	157.5	7.0	18.1
1990	02 08	07 38.36	+01 06.5					
1990	02 18	07 32.08	+01 56.5	2.315	3.148	141.4	11.3	18.4

1976 QL2 a,e,i = 3.17, 0.09, 10 Elements MPC 14185

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	12 20	08 25.79	+33 03.8	2.171	3.026	144.4	10.9	17.2
1989	12 30	08 19.27	+33 55.1					
1990	01 09	08 10.75	+34 40.2	2.089	3.043	163.0	5.4	16.9
1990	01 19	08 01.15	+35 13.5					
1990	01 29	07 51.56	+35 31.5	2.119	3.060	159.3	6.5	17.0
1990	02 08	07 43.13	+35 33.1					
1990	02 18	07 36.72	+35 19.9	2.257	3.077	139.6	12.0	17.3
1990	02 28	07 32.86	+34 54.7					
1990	03 10	07 31.76	+34 20.7	2.478	3.095	119.9	16.2	17.7