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Brian G. Marsden, Director Conrad M. Bardwell, Associate Director

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ERRATA.

MPC	Line	
14030	25	For (3870) Mayre read (3870) Mayre
14250	19	For I. Ivanova, S. Dicoва, V. Shkodrov read V. Umlenski, V. Ivanova, A. Stoev, V. Shkodrov, S. Dicoва
14594	19	For 1950-1964 read 1950-1984
14629	24	Add the line Id. S. Nakano, T. Kobayashi
14639	34	For 1973 QD2 read (4049) 1973 QD2
14662	1	For 1985 CL read (4031) 1985 CL

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CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Mag.	N Obs.
1987 MO	1987 08	23.25382	20 44 25.97	+20 02 03.8	MPC12285	16.0	675
1987 MO	1987 08	23.27882	20 44 24.00	+20 02 09.2	MPC12285		675
1987 MO	1987 09	19.16667	20 28 05.52	+18 47 20.4	MPC12410		675
1987 MO	1987 09	19.22986	20 28 05.31	+18 46 55.8	MPC12410		1 675
1988 RF7 *	1988 09	02.06493	22 25 42.02	-21 07 08.9	MPC14298	15.0	809
1988 RF7	1988 09	02.07118	22 25 41.79	-21 07 11.7	MPC14299		809
1988 RF7	1988 09	02.07743	22 25 41.56	-21 07 14.2	MPC14299		809
1989 FC *	1989 03	31.28021	12 13 06.41	+16 40 50.3	MPC14431	16.2	675
1989 FC	1989 04	03.28125	12 07 50.67	+16 09 25.8	MPC14431	16.7	675
1989 FC	1989 04	04.24306	12 06 46.54	+16 01 04.0	MPC14431	16.9	675
1989 JJ *	1989 05	05.57014	16 01 56.81	-07 57 43.7	MPC14541	16	400
1989 JJ	1989 05	05.59306	16 01 55.65	-07 57 41.4	MPC14541		2 400

Note 1: time originally given as 1987 09 19.22995. 2: as 1989 05 05.61597.

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IDENTIFICATION CHANGES.

Continuation to MPC 14519.

Object	Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
1932 FG *	1932 03	26.95284	12 39 32.16	+07 12 14.4	1932 EY		024
1932 FG	1932 03	31.92507	12 35 13.81	+07 49 46.0	1932 EY		024
1932 GC *	1932 04	10.95354	12 26 04.08	+09 04 37.0	1932 EY		024
1971 VE1 *	1971 11	11.87252	03 02 39.13	+26 30 50.2	1971 UY1	17.0	095
1977 TM8 *	1977 10	13.91386	01 34 23.50	+08 33 06.5	1977 SZ1	17.2	095

1977	TM8	1977	10	17.92712	01	30	45.75	+08	20	49.7	1977	SZ1	16.5	095
1988	BQ5	* 1988	01	22.24549	09	39	39.36	+11	26	21.3	1979	OK1		303
1988	BQ5	1988	01	22.25380	09	39	38.96	+11	26	24.0	1979	OK1		303
1988	BQ5	1988	01	22.27804	09	39	37.56	+11	26	33.1	1979	OK1		303
1988	BQ5	1988	01	23.26770	09	38	47.93	+11	32	14.1	1979	OK1		303
1988	BQ5	1988	01	23.33571	09	38	44.74	+11	32	29.3	1979	OK1		303
1988	BQ5	1988	01	23.34404	09	38	44.32	+11	32	32.4	1979	OK1		303
1988	BQ5	1988	02	11.55955	09	19	59.9	+13	39	48	1979	OK1	16.5	399
1988	BQ5	1988	02	11.57645	09	19	58.6	+13	39	55	1979	OK1		399
1988	BQ5	1988	02	11.59549	09	19	57.71	+13	40	01.4	1979	OK1		399
1989	GL6	* 1989	04	05.22917	13	41	45.02	-12	34	01.6	1989	GH2		809
1989	GL6	1989	04	05.23958	13	41	44.33	-12	33	58.8	1989	GH2		809
1989	GL6	1989	04	05.25000	13	41	43.76	-12	33	56.4	1989	GH2		809
1989	GM6	* 1989	04	05.22917	13	43	24.21	-16	14	06.2	1989	GL2		809
1989	GM6	1989	04	05.23958	13	43	23.63	-16	14	02.9	1989	GL2		809
1989	GM6	1989	04	05.25000	13	43	23.14	-16	14	00.0	1989	GL2		809

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DOUBLE DESIGNATIONS.

Continuation to MPC 12360.

	Note		Note		Note
1977 DB8 = 1977 DO8	1	1988 BM1 = 1988 BE3	2	1988 DG3 = 1988 DE4	3
1988 RF7 = 1988 RL7	4				

Note 1: by D. Kubacek. 2: by F. N. Bowman and A. Lowe. 3: by D. W. E. Green. 4: by H. Debehogne.

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OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

- 046 Klet. Observers A. Mrkos and Z. Vavrova.
- 095 Crimean Astrophysical Observatory. Observer L. V. Zhuravleva.
- 293 Burlington remote site. Observer T. Handley.
- 323 Perth. Observer P. Jekabsons. Measured by M. P. Candy and G. Lowe.
- 372 Geisei. Observer T. Seki.
- 376 Uenohara. Observer N. Kawasato.
- 392 JCPM Sapporo Station. Observer K. Watanabe.
- 399 Kushiro. Observer S. Ueda. Measured by H. Kaneda.
- 400 Kitami. Observer K. Endate. Measured by K. Watanabe.
- 403 Kani. Observer Y. Mizuno. Measured by T. Furuta.
- 413 Siding Spring. 1.2-m U.K. Schmidt and Uppsala Southern Schmidt. Observers S. M. Hughes, M. Hartley and R. H. McNaught. Measured by R. H. McNaught.
- 500 The geocentric code is given to observations from the SMM (Solar Maximum Mission) satellite. Observers D. L. Kobe, D. Pitone, A. Stanger, O. C. St. Cyr and B. Twambly.
- 657 University of Victoria. Observers D. D. Balam and J. B. Tatum.
- 675 Palomar. 1.5-m reflector and 0.46-m Schmidt. Observers J. Gibson, E. Helin, H. E. Holt, A. Mejia, C. Mikolajczak, B. Roman and K. Zeigler. Measured by J. Alu, J. Gibson and J. Mueller.
- 688 Lowell Observatory, Anderson Mesa Station. 0.33-m photographic telescope. Observer S. J. Bus.
- 801 Oak Ridge Observatory. Observers R. E. McCrosky and C.-Y. Shao.
- 807 Cerro Tololo. Observer K. J. Meech.

809 European Southern Observatory. Observers W. Landgraf, G. Pizarro and
O. Pizarro. Measured by W. Landgraf and R. M. West.
897 YGCO Chiyoda Station. Observer T. Kojima.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N Obs.
Periodic Comet Gunn						
/1982 X	1989 05	04.25215	15 02 10.08	-10 19 00.5		657
/1982 X	1989 05	04.32299	15 02 06.51	-10 19 03.6		657
/1982 X	1989 05	05.62986	15 01 02.70	-10 19 40.5	12.5T	399
/1982 X	1989 05	05.64583	15 01 01.89	-10 19 40.3		399
/1982 X	1989 05	05.66389	15 01 00.96	-10 19 41.4		399
/1982 X	1989 05	05.93676	15 00 47.82	-10 19 53.1		046
/1982 X	1989 05	05.95094	15 00 46.97	-10 19 51.7		046
/1982 X	1989 05	07.36667	14 59 37.28	-10 20 40.5		657
/1982 X	1989 05	07.96696	14 59 07.55	-10 21 05.8		046
/1982 X	1989 05	07.97975	14 59 06.90	-10 21 05.3		046
/1982 X	1989 05	09.00556	14 58 16.13	-10 21 48.3		046
/1982 X	1989 05	09.01840	14 58 15.48	-10 21 47.5		046
/1982 X	1989 05	09.95833	14 57 29.01	-10 22 29.9		046
/1982 X	1989 05	09.96319	14 57 28.74	-10 22 30.2		046
/1982 X	1989 05	22.88330	14 47 10.03	-10 38 57.2		046
/1982 X	1989 05	22.88706	14 47 09.89	-10 38 55.6		046
/1982 X	1989 05	23.90425	14 46 24.95	-10 40 50.2		046
/1982 X	1989 05	23.91073	14 46 24.62	-10 40 51.7		046
/1982 X	1989 05	24.89354	14 45 42.25	-10 42 45.1		046
/1982 X	1989 05	24.89939	14 45 41.82	-10 42 46.9		046
/1982 X	1989 05	25.52882	14 45 15.03	-10 44 00.0	13 T	400
/1982 X	1989 05	25.54479	14 45 14.30	-10 44 02.9		400
/1982 X	1989 05	25.88995	14 44 59.65	-10 44 47.0		046
/1982 X	1989 05	25.89435	14 44 59.44	-10 44 47.9		046
/1982 X	1989 05	26.56771	14 44 31.38	-10 46 12.3	13 T	400
/1982 X	1989 05	28.91189	14 42 56.74	-10 51 31.8		046
/1982 X	1989 05	28.91762	14 42 56.39	-10 51 33.6		046
/1982 X	1989 05	30.52060	14 41 55.25	-10 55 27.5		403
/1982 X	1989 05	30.54005	14 41 54.37	-10 55 29.7		403
/1982 X	1989 06	01.58021	14 40 40.33	-11 00 58.8		400
/1982 X	1989 06	01.59167	14 40 39.92	-11 01 00.0		400
/1982 X	1989 06	01.59757	14 40 39.77	-11 01 01.6		376
/1982 X	1989 06	01.60729	14 40 39.31	-11 01 04.4		376
/1982 X	1989 06	01.61701	14 40 38.91	-11 01 07.2		376
/1982 X	1989 06	02.52986	14 40 07.76	-11 03 33.6	13.5T	392
/1982 X	1989 06	02.53750	14 40 07.45	-11 03 35.0		392
/1982 X	1989 06	02.55000	14 40 07.03	-11 03 38.3		392
/1982 X	1989 06	23.50167	14 33 27.63	-12 26 19.0	14	400
/1982 X	1989 06	23.51278	14 33 27.50	-12 26 21.7		400
/1982 X	1989 06	26.45087	14 33 25.63	-12 41 10.3		1 413
Periodic Comet Machholz						
/1986 VIII	1988 05	15.39344	19 24 53.67	-33 26 15.1	22.1N	809
/1986 VIII	1988 05	15.40891	19 24 53.22	-33 26 18.4	22.2N	809
/1986 VIII	1988 05	15.42413	19 24 52.78	-33 26 21.6	22.2N	809
/1986 VIII	1988 05	16.32735	19 24 27.06	-33 29 34.9	21.5N	809
/1986 VIII	1988 05	16.34301	19 24 26.60	-33 29 38.3	22.0N	809
/1986 VIII	1988 05	16.36209	19 24 26.03	-33 29 42.5	22.3N	809
/1986 VIII	1988 05	17.38910	19 23 55.76	-33 33 23.1	21.1N	809
/1986 VIII	1988 05	17.40378	19 23 55.30	-33 33 26.2		2 809
/1986 VIII	1989 04	06.32506	19 46 42.85	-35 22 40.9		807
/1986 VIII	1989 04	06.33097	19 46 42.90	-35 22 41.7		807

/1986 VIII	1989	04	06.33688	19	46	42.93	-35	22	43.1	22.5N	807
/1986 VIII	1989	04	06.34457	19	46	43.07	-35	22	44.2		807
/1986 VIII	1989	04	06.34661	19	46	43.08	-35	22	44.6		807
/1986 VIII	1989	04	06.35248	19	46	43.12	-35	22	44.9		807

Periodic Comet Parker-Hartley

/1987 XXXVI	1986	10	10.83838	23	47	45.60	+05	26	33.9		095
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Comet Yanaka (1989a)

/1989a	1989	03	29.57569	15	19	27.36	+44	09	04.3	15	T	897
/1989a	1989	03	29.61389	15	19	27.00	+44	09	43.7			897
/1989a	1989	04	25.52083	15	04	31.57	+49	26	59.7	16	T	897
/1989a	1989	04	25.55903	15	04	30.49	+49	27	10.4			897
/1989a	1989	05	28.25208	14	42	49.05	+49	00	05.9			293
/1989a	1989	06	03.22822	14	40	36.70	+48	18	39.7			801

Periodic Comet Helin-Roman-Crockett

/1989b	1989	05	08.05575	08	25	30.59	+22	23	47.8	3		801
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Comet Shoemaker (1989e)

/1989e	1989	05	28.21458	08	00	09.06	+60	32	05.0			293
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Periodic Comet Shoemaker-Holt 2

/1989j	1989	03	29.48692	10	34	32.25	+32	21	01.4	14	T	897
/1989j	1989	03	29.52656	10	34	31.29	+32	20	59.3			897
/1989j	1989	04	23.84132	10	32	23.15	+30	50	37.2			046
/1989j	1989	04	23.85417	10	32	22.86	+30	50	39.7			046
/1989j	1989	04	24.86968	10	32	35.28	+30	44	54.0			046
/1989j	1989	04	24.88385	10	32	35.44	+30	44	48.5			046
/1989j	1989	05	02.86328	10	34	54.79	+29	55	46.1			046
/1989j	1989	05	02.87468	10	34	55.20	+29	55	39.6			046
/1989j	1989	05	04.12659	10	35	23.79	+29	47	21.1			801
/1989j	1989	05	05.86367	10	36	06.15	+29	35	29.0			046
/1989j	1989	05	05.87785	10	36	06.57	+29	35	22.7			046
/1989j	1989	05	07.86383	10	36	59.28	+29	21	30.5			046
/1989j	1989	05	07.87801	10	36	59.70	+29	21	26.2			046
/1989j	1989	05	29.11042	10	50	12.51	+26	35	11.1			293

Periodic Comet West-Hartley

/1989k	1989	03	14.32376	14	50	30.58	-07	34	55.9	17.5T	4	809
/1989k	1989	03	14.36542	14	50	30.06	-07	35	03.0			4 809
/1989k	1989	05	28.47164	13	56	18.16	-10	38	48.4	17.0T	5	413
/1989k	1989	05	28.51678	13	56	16.75	-10	38	58.6			5 413
/1989k	1989	05	30.61111	13	55	24.9	-10	47	03	18.5T		372
/1989k	1989	05	30.62188	13	55	24.6	-10	46	59			372
/1989k	1989	05	31.13056	13	55	12.82	-10	48	44.1	18	T	6 809
/1989k	1989	05	31.17222	13	55	11.79	-10	48	54.4			6 809
/1989k	1989	06	01.10486	13	54	51.37	-10	52	29.5			6 809
/1989k	1989	06	01.14653	13	54	50.28	-10	52	42.8			6 809
/1989k	1989	06	08.09514	13	52	59.08	-11	21	12.5	18	T	809
/1989k	1989	06	08.17361	13	52	58.08	-11	21	30.6	16.3T		809
/1989k	1989	06	08.18056	13	52	57.92	-11	21	33.9			809

Periodic Comet du Toit-Neujmin-Delporte

/1989l	1989	05	22.26339	15	20	16.69	-14	21	05.2	18.5T	7	675
/1989l	1989	05	22.26670	15	20	16.46	-14	21	04.1			7 675
/1989l	1989	05	22.26992	15	20	16.35	-14	21	03.6			7 675
/1989l	1989	05	23.29112	15	19	24.01	-14	16	14.0			7 675
/1989l	1989	05	23.29778	15	19	23.62	-14	16	11.8			7 675

/19891	1989 05 23.31285	15 19 22.84	-14 16 07.2						7 675
/19891	1989 05 26.58090	15 16 37.8	-14 01 02					19 T	7 372
Comet 1989m (SMM 8)									
/1989m	1989 06 02.40347	04 36 22	+21 22.2						500
/1989m	1989 06 02.41528	04 36 22	+21 24.6						500
/1989m	1989 06 02.42083	04 36 22	+21 25.8						500
/1989m	1989 06 02.46806	04 36 34	+21 39.0						500
/1989m	1989 06 02.47917	04 36 36	+21 42.0						500
/1989m	1989 06 02.48472	04 36 38	+21 44.4						500
Periodic Comet Gehrels 2									
/1989n	1989 06 14.46010	00 56 51.06	+10 18 51.8					19 T	8 675
/1989n	1989 06 14.46424	00 56 51.43	+10 18 54.0						8 675
/1989n	1989 06 14.46841	00 56 51.80	+10 18 56.2						8 675
/1989n	1989 06 15.45765	00 58 20.73	+10 27 35.5						9 675
/1989n	1989 06 15.46222	00 58 21.15	+10 27 38.1						9 675
/1989n	1989 06 15.46669	00 58 21.55	+10 27 40.3						9 675
Periodic Comet Brorsen-Metcalf									
/1989o	1989 07 03.76944	00 22 20.20	+10 48 32.1						A 323
/1989o	1989 07 03.79931	00 22 25.69	+10 49 36.4						A 323
/1989o	1989 07 04.38333	00 24 17.18	+11 11 21.2					15.0T	B 675
/1989o	1989 07 04.40677	00 24 21.79	+11 12 17.2						B 675
/1989o	1989 07 06.42153	00 31 03.2	+12 30 34					14.5T	C 675
/1989o	1989 07 07.31844	00 34 10.24	+13 06 59.5						D 801
/1989o	1989 07 07.40382	00 34 28.76	+13 10 29.5						E 688
/1989o	1989 07 07.42535	00 34 33.08	+13 11 21.3						E 688
/1989o	1989 07 07.79623	00 35 52.25	+13 26 54.9					11 T	F 413

Note 1: tail 2'.5 in p.a. 300 . 2: star trail overlap. 3: weak image. 4: tail 4' in p.a. 310 . 5: tail 4' in p.a. 305 . 6: weak tail 1' long to west. 7: stellar nucleus, perhaps hint of faint coma. 8: diffuse with eccentric condensation. 9: tail 40" long in p.a. 255 . A: very faint. B: symmetric coma, hint of tail to southwest, C: comet very obvious. D: vague image; partly cloudy; twilight. E: very diffuse, difficult to measure. F: 2' coma, difficult to measure.

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OBSERVATIONS OF MINOR PLANETS.

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

A earlier approximate position inferior
a sense of motion ambiguous
B black or dark plate
b bad seeing
C correction to earlier position
c crowded star field
D declination uncertain
d diffuse image
E at or near edge of plate
F faint image
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 outside reference star set
 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 SU3	1989 01	09.96493	07 11 21.96	+05 46 35.7			033
1982 SU3	1989 01	11.88889	07 09 43.59	+05 53 04.2	18.4		033
1982 SU3	1989 01	11.94167	07 09 40.85	+05 53 15.5			033
1982 SU3	1989 02	03.84444	06 52 37.51	+07 36 24.9	18.6		033
1982 SU3	1989 02	03.90347	06 52 35.34	+07 36 43.6			033
1982 SU3	1989 03	06.79340	06 44 38.63	+10 21 47.5	19.1		033
1982 SU3	1989 03	06.82049	06 44 38.74	+10 21 55.8			033
1986 QP1	1989 02	04.09236	12 40 30.28	-00 56 18.4			033
1986 QP1	1989 02	04.14653	12 40 30.03	-00 56 16.3	18.8		033
1986 QP1	1989 03	06.02153	12 29 25.87	+00 27 43.4	18.9		033
1986 QP1	1989 03	06.07153	12 29 23.81	+00 27 57.2			033
1989 AO3	1989 01	11.14583	08 55 31.34	+19 43 56.9	17.5		033
1989 AO3	1989 02	02.98194	08 35 22.79	+20 16 36.8	17.4		033
1989 AL5	1989 02	02.98194	08 37 14.23	+20 28 38.7	18.1		033
1989 AL5	1989 02	03.95694	08 36 27.52	+20 31 21.2			033
1989 AL5	1989 02	05.00972	08 35 37.43	+20 34 13.2			033
1989 AN5	1989 02	02.98194	08 38 12.03	+18 39 00.7	18.5		033
1989 AN5	1989 02	03.95694	08 37 24.28	+18 45 02.4			033
1989 AR5	1989 02	02.98194	08 36 55.41	+19 07 06.7	18.9		033
1989 AR5	1989 02	03.95694	08 36 01.77	+19 12 01.8			033
1989 AS5	1989 01	11.14583	08 57 03.04	+17 36 26.8	18.4		033
1989 AS5	1989 01	11.99167	08 56 18.25	+17 37 26.7			033
1989 AW5	1989 01	11.14583	08 59 54.82	+19 34 59.4	18.6		033
1989 AW5	1989 01	11.99167	08 59 16.15	+19 39 15.5			033
1989 AW5	1989 01	14.00278	08 57 39.67	+19 49 33.2			033
1989 AZ5	1989 01	11.14583	09 02 31.77	+18 47 38.2	19.0		033
1989 AZ5	1989 01	11.99167	09 01 57.29	+18 52 52.4			033
1989 AA6 *	1989 01	09.92153	07 04 57.58	+06 16 57.8			033
1989 AA6	1989 01	09.96493	07 04 54.74	+06 16 50.1			033
1989 AA6	1989 01	11.88889	07 02 59.95	+06 11 53.4	18.1		033
1989 AA6	1989 01	11.94167	07 02 56.70	+06 11 46.5			033

1989 AB6 *	1989 01 09.92153	07 09 13.81	+07 12 55.0		033
1989 AB6	1989 01 09.96493	07 09 11.53	+07 12 59.8		033
1989 AB6	1989 01 11.88889	07 07 34.30	+07 15 58.8	19.1	033
1989 AB6	1989 01 11.94167	07 07 31.54	+07 16 03.0		033
1989 AC6 *	1989 01 09.92153	07 13 32.17	+04 22 40.3		033
1989 AC6	1989 01 09.96493	07 13 29.56	+04 22 58.3		033
1989 AC6	1989 01 11.88889	07 11 41.58	+04 36 22.6	19.3	033
1989 AC6	1989 01 11.94167	07 11 38.54	+04 36 45.7		033
1989 AD6 *	1989 01 09.92153	07 14 00.43	+07 09 40.5		033
1989 AD6	1989 01 09.96493	07 13 58.09	+07 09 47.4		033
1989 AD6	1989 01 11.88889	07 12 19.77	+07 14 13.4	18.0	033
1989 AD6	1989 01 11.94167	07 12 16.99	+07 14 20.9		033
1989 AD6	1989 02 03.84444	06 55 42.79	+08 38 26.5	19.0	033
1989 AD6	1989 02 03.90347	06 55 40.84	+08 38 42.0		033
1989 AE6 *	1989 01 09.92153	07 16 18.73	+05 05 15.8		033
1989 AE6	1989 01 09.96493	07 16 16.09	+05 05 14.2		033
1989 AE6	1989 01 11.88889	07 14 23.85	+05 03 03.6	18.2	033
1989 AE6	1989 01 11.94167	07 14 20.66	+05 03 00.3		033
1989 AF6 *	1989 01 09.92153	07 16 50.53	+05 44 51.8		033
1989 AF6	1989 01 09.96493	07 16 47.97	+05 45 09.2		033
1989 AF6	1989 01 11.88889	07 15 02.17	+05 59 25.4	19.0	033
1989 AF6	1989 01 11.94167	07 14 59.13	+05 59 49.1		033
1989 AG6 *	1989 01 11.14583	08 57 18.13	+18 48 24.5	19.2	033
1989 AG6	1989 01 11.99167	08 56 44.16	+18 51 39.4		033
1989 AG6	1989 01 14.00278	08 55 20.23	+18 59 30.0		033
1989 AG6	1989 02 02.98194	08 39 17.45	+20 20 10.3	18.7	033
1989 AG6	1989 02 03.95694	08 38 28.91	+20 23 53.0		033
1989 AH6 *	1989 01 11.14583	08 57 56.98	+19 25 43.8	18.9	033
1989 AH6	1989 01 11.99167	08 57 16.42	+19 27 41.5		033
1989 AH6	1989 01 14.00278	08 55 36.75	+19 32 24.7		033
1989 AJ6 *	1989 01 11.14583	08 59 23.85	+19 25 02.0	18.7	033
1989 AJ6	1989 01 11.99167	08 58 38.50	+19 26 34.1		033
1989 AJ6	1989 01 14.00278	08 56 46.32	+19 30 17.5		033
1989 AJ6	1989 02 02.98194	08 35 18.66	+20 06 26.8	18.3	033
1989 AK6 *	1989 01 11.14583	09 00 58.38	+17 48 41.5	19.4	033
1989 AK6	1989 01 11.99167	09 00 25.36	+17 52 57.9		033
1989 AK6	1989 01 14.00278	08 59 04.08	+18 03 16.0		033
1989 AK6	1989 02 02.98194	08 43 38.84	+19 49 44.4	19.1	033
1989 AK6	1989 02 03.95694	08 42 52.02	+19 54 47.4		033
1989 AL6 *	1989 01 11.14583	09 01 21.58	+17 33 24.7	18.5	033
1989 AL6	1989 01 11.99167	09 00 36.35	+17 37 25.9		033
1989 AL6	1989 01 14.00278	08 58 44.49	+17 47 12.2		033
1989 AL6	1989 02 02.98194	08 37 25.34	+19 28 36.9	18.6	033
1989 AL6	1989 02 03.95694	08 36 21.81	+19 33 14.8		033
1989 AM6 *	1989 01 11.14583	09 01 23.57	+17 56 12.6	19.1	033
1989 AM6	1989 01 11.99167	09 00 54.37	+17 58 35.7		033
1989 AN6 *	1989 01 11.14583	09 01 37.91	+19 00 11.7	19.3	033
1989 AN6	1989 01 11.99167	09 01 03.33	+19 03 08.7		033
1989 AN6	1989 01 14.00278	08 59 38.76	+19 10 14.4		033
1989 AN6	1989 02 02.98194	08 44 03.49	+20 21 05.3	19.2	033
1989 AN6	1989 02 03.95694	08 43 16.78	+20 24 18.8		033
1989 AO6 *	1989 01 11.14583	09 02 41.79	+19 30 01.8	17.9	033
1989 AO6	1989 01 11.99167	09 02 02.19	+19 30 57.9		033
1989 AO6	1989 01 14.00278	09 00 24.83	+19 33 14.0		033
1989 AO6	1989 02 02.98194	08 42 21.76	+19 54 38.4	17.5	033
1989 AO6	1989 02 03.95694	08 41 28.05	+19 55 23.4		033
1989 AO6	1989 02 05.00972	08 40 30.34	+19 56 09.1		033
1989 AP6 *	1989 01 11.14583	09 03 28.97	+18 35 23.3	18.1	033
1989 AP6	1989 01 11.99167	09 02 54.52	+18 40 28.2		033

1989 AP6	1989 01	14.00278	09 01	29.70	+18 52	39.6		033
1989 AP6	1989 02	02.98194	08 45	28.05	+20 55	40.7	17.4	033
1989 AP6	1989 02	03.95694	08 44	39.53	+21 01	23.6		033
1989 AP6	1989 02	05.00972	08 43	47.30	+21 07	29.0		033
1989 AQ6 *	1989 01	11.14583	09 04	21.75	+17 54	51.4	18.2	033
1989 AQ6	1989 01	11.99167	09 03	46.41	+17 57	50.7		033
1989 AQ6	1989 01	14.00278	09 02	19.76	+18 05	03.3		033
1989 AQ6	1989 02	02.98194	08 46	17.77	+19 18	44.4	17.8	033
1989 AQ6	1989 02	03.95694	08 45	29.65	+19 22	09.8		033
1989 AQ6	1989 02	05.00972	08 44	37.94	+19 25	49.0		033
1989 AR6 *	1989 01	11.14583	09 04	26.24	+17 09	52.2	18.5	033
1989 AR6	1989 01	11.99167	09 03	35.80	+17 10	37.7		033
1989 AR6	1989 01	14.00278	09 01	32.08	+17 12	35.0		033
1989 AS6 *	1989 01	11.14583	09 05	03.20	+16 45	25.1	18.7	033
1989 AS6	1989 01	11.99167	09 04	30.15	+16 49	53.2		033
1989 AS6	1989 01	14.00278	09 03	06.09	+17 00	50.4		033
1989 AS6	1989 02	02.98194	08 45	20.54	+19 03	16.5	17.9	033
1989 AS6	1989 02	03.95694	08 44	25.02	+19 09	12.2		033
1989 AS6	1989 02	05.00972	08 43	25.30	+19 15	32.5		033
1989 AT6 *	1989 01	11.14583	09 06	10.06	+17 29	46.6	18.3	033
1989 AT6	1989 01	11.99167	09 05	30.13	+17 33	31.6		033
1989 AT6	1989 01	14.00278	09 03	50.82	+17 42	41.1		033
1989 AT6	1989 02	02.98194	08 44	07.24	+19 21	30.8	17.6	033
1989 AT6	1989 02	03.95694	08 43	05.74	+19 26	14.3		033
1989 AT6	1989 02	05.00972	08 41	59.44	+19 31	16.1		033
1989 AU6 *	1989 01	11.14583	09 06	52.56	+17 12	52.0	18.6	033
1989 AU6	1989 01	11.99167	09 06	13.34	+17 14	18.3		033
1989 AU6	1989 01	14.00278	09 04	36.22	+17 17	53.2		033
1989 AU6	1989 02	02.98194	08 45	57.25	+17 58	31.5	18.4	033
1989 AU6	1989 02	03.95694	08 45	00.67	+18 00	26.5		033
1989 AV6 *	1989 01	11.14583	09 07	10.60	+18 23	53.8	18.8	033
1989 AV6	1989 01	11.99167	09 06	28.29	+18 29	20.2		033
1989 AV6	1989 01	14.00278	09 04	43.36	+18 42	28.6		033
1989 AV6	1989 02	02.98194	08 44	09.67	+20 58	07.8	17.7	033
1989 AV6	1989 02	03.95694	08 43	06.04	+21 04	26.7		033
1989 AW6 *	1989 01	11.14583	09 07	39.19	+19 12	26.3	17.8	033
1989 AW6	1989 01	11.99167	09 07	03.19	+19 15	57.8		033
1989 AW6	1989 01	14.00278	09 05	32.09	+19 24	32.2		033
1989 AW6	1989 02	02.98194	08 46	42.02	+20 52	54.3	17.5	033
1989 AW6	1989 02	05.00972	08 44	41.01	+21 00	50.2		033
1989 AX6 *	1989 01	11.14583	09 08	25.29	+17 19	33.7	18.0	033
1989 AX6	1989 01	11.99167	09 07	52.66	+17 22	35.3		033
1989 AX6	1989 01	14.00278	09 06	31.89	+17 29	57.5		033
1989 BY	1989 01	11.14583	08 55	24.85	+19 11	12.6	15.9	033
1989 CD4	1989 01	11.14583	09 07	51.97	+19 06	26.5	17.0	033
1989 CD4	1989 01	11.99167	09 07	05.84	+19 07	58.7		033
1989 CD4	1989 01	14.00278	09 05	10.62	+19 11	46.4		033
1989 CD4	1989 02	02.98194	08 42	43.40	+19 49	32.0	16.9	033
1989 CD4	1989 02	03.95694	08 41	36.60	+19 50	54.8		033
1989 CD4	1989 02	05.00972	08 40	25.07	+19 52	18.1		033
1989 CQ4 *	1989 02	02.98194	08 37	50.81	+18 43	26.4	19.0	033
1989 CQ4	1989 02	03.95694	08 36	52.96	+18 49	00.1		033
1989 CS4 *	1989 02	02.98194	08 38	50.75	+18 15	25.1	17.3	033
1989 CS4	1989 02	03.95694	08 37	59.51	+18 24	13.3		033
1989 CS4	1989 02	05.00972	08 37	04.60	+18 33	37.9		033
1989 CT4 *	1989 02	02.98194	08 40	18.53	+18 25	42.7	19.6	033
1989 CT4	1989 02	03.95694	08 39	32.61	+18 29	00.2		033
1989 CU4 *	1989 02	02.98194	08 41	19.79	+19 22	04.8	18.8	033
1989 CU4	1989 02	03.95694	08 40	28.76	+19 26	12.8		033

1989	CV4	*	1989	02	02.98194	08	41	56.08	+18	24	48.7	18.6	033
1989	CV4		1989	02	03.95694	08	41	01.79	+18	32	10.2		033
1989	CX4	*	1989	02	02.98194	08	43	58.66	+20	13	48.1	19.3	033
1989	CX4		1989	02	03.95694	08	42	53.51	+20	15	32.7		033
1989	CY4	*	1989	02	02.98194	08	44	21.67	+20	18	25.4	19.4	033
1989	CY4		1989	02	03.95694	08	43	27.53	+20	19	21.0		033
1989	CZ4	*	1989	02	02.98194	08	45	01.93	+18	08	43.6	18.2	033
1989	CZ4		1989	02	03.95694	08	43	55.54	+18	10	09.9		033
1989	CA5	*	1989	02	02.98194	08	45	45.59	+18	44	53.9	18.3	033
1989	CA5		1989	02	03.95694	08	44	37.21	+18	47	09.5		033
1989	CB5	*	1989	02	02.98194	08	47	04.56	+18	04	43.6	18.7	033
1989	CB5		1989	02	03.95694	08	46	02.34	+18	11	11.1		033
1989	CC5	*	1989	02	02.98194	08	48	57.82	+19	24	04.3	17.6	033
1989	CC5		1989	02	03.95694	08	47	51.10	+19	24	43.2		033
1989	CD5	*	1989	02	03.95694	08	48	32.70	+18	59	36.6	17.7	033
1989	CD5		1989	02	05.00972	08	47	18.72	+19	00	58.8		033
1989	EL1		1989	03	06.02153	12	35	41.34	-00	43	07.3	17.0	033
1989	EL1		1989	03	06.07153	12	35	40.18	-00	42	31.4		033
1989	FG		1989	02	04.09236	12	47	12.34	+00	16	04.7		033
1989	FG		1989	02	04.14653	12	47	12.80	+00	16	05.7	18.3	033
1989	FG		1989	03	06.02153	12	38	54.82	+01	29	32.6	18.5	033
1989	FG		1989	03	06.07153	12	38	52.66	+01	29	45.3		033
25			1989	01	11.83403	04	44	40.64	-01	21	19.5	13.8	033
25			1989	01	11.86632	04	44	39.67	-01	21	15.9		033
62			1989	01	11.14583	09	04	51.30	+16	45	40.4	13.9	033
62			1989	01	11.99167	09	04	15.69	+16	48	49.9		033
62			1989	01	14.00278	09	02	47.96	+16	56	29.0		033
62			1989	02	02.98194	08	46	20.30	+18	17	21.1	13.5	033
62			1989	02	03.95694	08	45	30.98	+18	21	11.3		033
62			1989	02	05.00972	08	44	37.94	+18	25	17.3		033
306			1989	02	04.09236	12	49	38.68	+00	14	29.3		033
306			1989	02	04.14653	12	49	39.10	+00	14	40.1	14.5	033
341			1989	03	06.02153	12	35	13.14	+01	08	35.1	15.6	033
341			1989	03	06.07153	12	35	10.63	+01	08	48.1		033
530			1989	01	11.14583	09	00	12.64	+16	42	15.1	15.4	033
530			1989	01	11.99167	08	59	39.35	+16	45	48.8		033
530			1989	01	14.00278	08	58	17.97	+16	54	23.6		033
530			1989	02	02.98194	08	43	22.05	+18	23	37.0	15.3	033
530			1989	02	03.95694	08	42	37.30	+18	27	54.0		033
530			1989	02	05.00972	08	41	49.10	+18	32	28.9		033
643			1989	03	06.79340	06	45	28.65	+10	44	43.0	15.9	033
643			1989	03	06.82049	06	45	28.87	+10	44	45.5		033
1128			1989	01	11.14583	08	59	17.18	+18	31	27.7	15.6	033
1128			1989	01	11.99167	08	58	38.78	+18	34	26.4		033
1128			1989	01	14.00278	08	57	04.20	+18	41	37.6		033
1128			1989	02	02.98194	08	39	15.85	+19	55	02.2	15.6	033
1128			1989	02	03.95694	08	38	22.36	+19	58	22.3		033
1128			1989	02	05.00972	08	37	24.82	+20	01	55.2		033
1144			1989	02	04.09236	12	45	25.99	-00	12	16.6		033
1144			1989	02	04.14653	12	45	25.75	-00	12	06.6	17.4	033
1144			1989	03	06.02153	12	37	11.57	+01	52	31.6	16.8	033
1144			1989	03	06.07153	12	37	10.09	+01	52	47.5		033
1272			1989	01	11.14583	09	06	21.48	+19	48	43.4	18.4	033
1272			1989	01	11.99167	09	05	40.81	+19	50	18.9		033
1272			1989	01	14.00278	09	04	01.03	+19	54	09.8		033
1272			1989	02	02.98194	08	45	26.91	+20	30	41.6	18.0	033
1272			1989	02	03.95694	08	44	31.06	+20	32	08.1		033
1545			1989	02	04.09236	12	48	41.02	-01	00	11.1		033
1545			1989	02	04.14653	12	48	41.89	-01	00	14.3	16.2	033

2587	1989 01 11.14583	08 59 48.84	+19 23 25.3	17.2	033
2587	1989 01 11.99167	08 59 14.45	+19 26 25.1		033
2587	1989 01 14.00278	08 57 50.40	+19 33 36.1		033
2587	1989 02 02.98194	08 42 08.64	+20 45 38.5	17.1	033
2587	1989 02 03.95694	08 41 21.16	+20 48 55.6		033
2587	1989 02 05.00972	08 40 30.02	+20 52 24.9		033
2738	1989 01 11.14583	08 58 26.75	+16 43 30.8	17.0	033
2738	1989 01 11.99167	08 57 48.63	+16 45 44.0		033
2738	1989 01 14.00278	08 56 14.19	+16 51 13.1		033
2738	1989 02 02.98194	08 37 56.06	+17 53 29.5	16.7	033
2738	1989 02 03.95694	08 37 00.38	+17 56 32.1		033
2738	1989 02 05.00972	08 36 00.52	+17 59 47.4		033
3119	1989 01 11.14583	09 02 02.83	+18 45 47.8	17.1	033
3119	1989 01 11.99167	09 01 27.94	+18 50 12.5		033
3119	1989 01 14.00278	09 00 01.30	+19 00 50.0		033
3119	1989 02 02.98194	08 43 24.02	+20 47 33.3	16.5	033
3119	1989 02 03.95694	08 42 34.31	+20 52 21.5		033
3119	1989 02 05.00972	08 41 40.95	+20 57 26.9		033
3187	1989 01 14.00278	09 08 08.16	+17 03 04.2	17.0	033
3187	1989 02 02.98194	08 47 02.25	+17 59 36.0	16.6	033
3187	1989 02 03.95694	08 45 57.68	+18 02 16.5		033
3187	1989 02 05.00972	08 44 48.24	+18 05 06.3		033
3303	1989 02 04.09236	12 38 54.18	-00 55 46.6		033
3303	1989 02 04.14653	12 38 53.89	-00 55 43.5	18.5	033
4076	1989 01 11.14583	09 02 33.24	+18 17 00.0	17.1	033
4076	1989 01 11.99167	09 01 55.17	+18 19 35.2		033
4076	1989 01 14.00278	09 00 21.22	+18 25 52.2		033
4076	1989 02 02.98194	08 42 35.04	+19 30 34.0	17.0	033
4076	1989 02 03.95694	08 41 41.70	+19 33 29.3		033
4076	1989 02 05.00972	08 40 44.41	+19 36 35.0		033
4098	1989 02 04.09236	12 45 04.61	-00 53 22.6		M 033
4098	1989 02 04.14653	12 45 04.41	-00 53 17.3	19.1	033
4098	1989 03 06.02153	12 35 38.81	+00 40 51.3	18.7	033
4098	1989 03 06.07153	12 35 36.97	+00 41 05.3		033

046 Klet

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Observers A. Mrkos, Z. Vavrova

0.6-m Maksutov reflector

1978 TQ7	1989 05 05.90007	13 24 50.93	+10 12 04.5		046
1978 TQ7	1989 05 05.91419	13 24 50.42	+10 12 09.5		046
1978 TQ7	1989 05 07.90012	13 23 40.48	+10 20 16.3		046
1978 TQ7	1989 05 07.91435	13 23 39.96	+10 20 17.7		046
1978 TQ7	1989 05 08.93681	13 23 05.86	+10 24 01.6		046
1978 TQ7	1989 05 08.95104	13 23 05.47	+10 24 04.6		046
1978 TQ7	1989 05 09.92708	13 22 34.00	+10 27 19.7		046
1978 TQ7	1989 05 09.94306	13 22 33.45	+10 27 24.7		046
1978 TQ7	1989 05 09.98333	13 22 32.17	+10 27 31.9		046
1978 TQ7	1989 05 09.99792	13 22 31.64	+10 27 34.8		046
1982 FZ1	1989 05 24.91258	14 59 24.63	-10 55 30.8		046
1982 FZ1	1989 05 24.92398	14 59 24.19	-10 55 28.3		046
1982 FZ1	1989 05 25.90824	14 58 37.49	-10 51 20.5		046
1982 FZ1	1989 05 25.91953	14 58 36.97	-10 51 16.7		046
1985 RE4	1989 05 07.93380	14 46 40.84	+01 10 31.3		046
1985 RE4	1989 05 07.94803	14 46 40.29	+01 10 33.1		046
1985 RE4	1989 05 08.97431	14 45 53.19	+01 14 01.9		046
1985 RE4	1989 05 08.98715	14 45 52.62	+01 14 04.0		046
1989 CO4 *	1989 02 07.93507	10 08 31.11	+13 42 07.5	16.5	046

1989 CO4	1989 02 07.94792	10 08 30.40	+13 42 06.8	046
1989 JA	1989 05 22.86837	12 20 06.78	+12 09 13.4	046
1989 JA	1989 05 22.87288	12 20 04.30	+12 08 52.5	046
1989 JA	1989 05 23.86981	12 10 54.25	+10 52 29.7	046
1989 JA	1989 05 23.87572	12 10 50.79	+10 52 01.1	046
1989 JA	1989 05 23.88793	12 10 43.73	+10 51 03.4	046
1989 JA	1989 05 23.89238	12 10 41.14	+10 50 42.4	046
1989 JA	1989 05 24.86628	12 01 11.54	+09 28 38.6	046
1989 JA	1989 05 24.87074	12 01 08.88	+09 28 16.9	046
1989 JA	1989 05 24.87965	12 01 03.49	+09 27 31.2	046
1989 JA	1989 05 24.88266	12 01 01.57	+09 27 13.3	046
1989 JA	1989 05 25.87161	11 50 49.02	+07 56 09.8	046
1989 JA	1989 05 25.87745	11 50 44.85	+07 55 32.9	046
1989 JL *	1989 05 05.90007	13 20 54.76	+12 01 45.9	16.6 046
1989 JL	1989 05 05.91419	13 20 54.17	+12 01 48.1	046
1989 JL	1989 05 07.90012	13 19 22.59	+12 01 03.3	046
1989 JL	1989 05 07.91435	13 19 21.94	+12 01 03.2	046
1989 JL	1989 05 08.93681	13 18 36.79	+12 00 14.5	046
1989 JL	1989 05 08.95104	13 18 36.33	+12 00 11.2	046
1989 JL	1989 05 09.92708	13 17 54.73	+11 59 05.5	046
1989 JL	1989 05 09.94306	13 17 53.88	+11 59 05.5	046
1989 JL	1989 05 09.98333	13 17 52.15	+11 59 01.4	046
1989 JL	1989 05 09.99792	13 17 51.45	+11 59 00.7	046
1989 JM *	1989 05 05.90007	13 26 09.29	+11 25 59.4	16.4 046
1989 JM	1989 05 05.91419	13 26 08.70	+11 25 56.5	046
1989 JM	1989 05 07.90012	13 24 39.67	+11 17 53.4	046
1989 JM	1989 05 07.91435	13 24 39.06	+11 17 50.1	046
1989 JM	1989 05 08.93681	13 23 53.35	+11 13 38.7	046
1989 JM	1989 05 08.95104	13 23 53.07	+11 13 39.0	046
1989 JM	1989 05 09.92708	13 23 14.01	+11 08 38.7	046
1989 JM	1989 05 09.94306	13 23 13.30	+11 08 34.5	046
1989 JM	1989 05 09.98333	13 23 11.65	+11 08 22.1	046
1989 JM	1989 05 09.99792	13 23 11.07	+11 08 18.9	046
1989 JN *	1989 05 05.90007	13 28 49.34	+11 16 39.5	16.2 046
1989 JN	1989 05 05.91419	13 28 48.58	+11 16 35.0	046
1989 JN	1989 05 07.90012	13 27 11.57	+11 05 59.9	046
1989 JN	1989 05 07.91435	13 27 10.93	+11 05 55.6	046
1989 JN	1989 05 08.93681	13 26 23.13	+11 00 00.6	046
1989 JN	1989 05 08.95104	13 26 22.53	+10 59 54.6	046
1989 JN	1989 05 09.92708	13 25 38.74	+10 53 57.2	046
1989 JN	1989 05 09.94306	13 25 37.94	+10 53 50.6	046
1989 JN	1989 05 09.98333	13 25 36.06	+10 53 35.7	046
1989 JN	1989 05 09.99792	13 25 35.45	+10 53 29.5	046
163	1989 05 05.93676	14 59 58.83	-09 35 54.8	046
163	1989 05 05.95094	14 59 57.85	-09 35 49.8	046
163	1989 05 07.96696	14 57 59.84	-09 25 58.5	046
163	1989 05 07.97975	14 57 58.99	-09 25 54.8	046
163	1989 05 09.00556	14 56 59.31	-09 21 00.3	046
163	1989 05 09.01840	14 56 58.50	-09 20 57.3	046
163	1989 05 09.95833	14 56 04.10	-09 16 32.0	046
163	1989 05 09.96319	14 56 03.83	-09 16 30.6	046
166	1989 05 05.90007	13 21 29.41	+08 51 58.5	046
166	1989 05 05.91419	13 21 28.83	+08 51 58.9	046
166	1989 05 07.90012	13 20 12.25	+08 55 00.5	046
166	1989 05 07.91435	13 20 11.68	+08 55 00.4	046
166	1989 05 08.93681	13 19 34.16	+08 56 20.2	046
166	1989 05 08.95104	13 19 33.53	+08 56 19.8	046
166	1989 05 09.98333	13 18 56.46	+08 57 26.8	046
166	1989 05 09.99792	13 18 55.83	+08 57 28.2	046

244	1989 05	24.93909	15 25	06.08	-16 14	33.7	046
244	1989 05	24.94910	15 25	05.50	-16 14	32.2	046
536	1989 05	24.93909	15 23	28.77	-16 51	39.4	046
536	1989 05	24.94910	15 23	28.29	-16 51	39.4	046
1028	1989 05	09.00556	14 54	10.02	-12 20	15.9	046
1028	1989 05	09.01840	14 54	09.47	-12 20	13.3	046
1036	1989 05	26.91900	15 27	22.06	-00 40	55.8	046
1036	1989 05	26.93168	15 27	21.12	-00 40	42.4	046
1356	1989 05	24.93909	15 20	10.76	-15 25	07.7	046
1356	1989 05	24.94910	15 20	10.15	-15 25	08.0	046
1356	1989 05	25.93735	15 19	22.26	-15 24	20.5	046
1356	1989 05	25.94863	15 19	21.85	-15 24	19.5	046
1369	1989 05	26.91900	15 32	28.03	-00 06	37.4	046
1369	1989 05	26.93168	15 32	27.39	-00 06	33.3	046
2188	1989 05	24.91258	15 04	12.83	-13 10	35.9	046
2188	1989 05	24.92398	15 04	12.31	-13 10	36.8	046
2188	1989 05	25.90824	15 03	27.01	-13 07	52.8	046
2188	1989 05	25.91953	15 03	26.52	-13 07	51.9	046
2250	1989 05	25.93735	15 13	16.34	-15 42	30.1	046
2250	1989 05	25.94863	15 13	15.78	-15 42	26.8	046
2251	1989 05	07.96696	15 05	08.60	-10 52	33.0	046
2251	1989 05	07.97975	15 05	07.89	-10 52	28.1	046
2251	1989 05	09.00556	15 04	16.40	-10 46	57.4	046
2251	1989 05	09.01840	15 04	15.56	-10 46	52.3	046
2251	1989 05	09.95833	15 03	28.50	-10 41	53.0	046
2251	1989 05	09.96319	15 03	28.29	-10 41	50.7	046
2460	1989 05	07.96696	14 57	52.38	-11 33	38.9	046
2460	1989 05	07.97975	14 57	51.58	-11 33	36.0	046
2460	1989 05	09.00556	14 56	50.22	-11 27	59.8	046
2460	1989 05	09.01840	14 56	49.59	-11 27	54.5	046
3007	1989 05	24.93909	15 25	23.73	-15 46	27.4	046
3007	1989 05	24.94910	15 25	23.10	-15 46	27.7	046
3328	1989 05	25.93735	15 15	28.53	-16 30	00.9	046
3328	1989 05	25.94863	15 15	28.13	-16 29	59.3	046
3575	1989 05	24.91258	14 57	48.46	-12 39	44.9	046
3575	1989 05	24.92398	14 57	47.77	-12 39	46.4	046
4085	1989 04	24.91262	12 55	17.93	+13 51	53.6	046
4085	1989 04	24.92685	12 55	17.18	+13 51	50.3	046

054 Brorfelde

H. G. Fogh Olsen, Copenhagen University Observatory, Brorfelde,
DK-4340 Tollose, Denmark

Observers K. Augustesen, P. Jensen

Measurer P. Jensen

0.45-m Schmidt

Observations in part in association with INAS

1936 QV	1988 12	07.77787	03 07	02.58	+13 19	34.1	17.0	054
1936 QV	1988 12	07.79523	03 07	01.81	+13 19	30.5		054
1971 QR1	1988 12	07.77787	03 08	28.90	+15 10	23.1	17.5	054
1971 QR1	1988 12	07.79523	03 08	28.13	+15 10	17.6		054
1971 SS1	1988 12	12.95495	05 29	16.61	+23 54	22.2		054
1971 SS1	1988 12	13.94837	05 28	21.51	+23 54	24.2		054
1971 SS1	1989 01	10.83052	05 06	53.68	+23 48	32.9		054
1971 SS1	1989 01	10.84771	05 06	53.14	+23 48	32.0		054
1977 TS3	1988 12	07.77787	03 11	35.52	+12 09	24.0	16.0	054
1977 TS3	1988 12	07.79523	03 11	34.90	+12 09	23.0		054
1982 UR10	1988 12	01.98735	05 48	09.51	+25 49	19.1		054
1984 SM	1988 12	12.95495	05 29	04.49	+24 32	42.8		054
1984 SM	1988 12	13.94837	05 27	53.24	+24 29	19.2		054

1984 SM	1989 01	10.83052	05 00	28.79	+22 49	14.6		054
1984 SM	1989 01	10.84771	05 00	28.13	+22 49	10.5	17.5	054
1987 RT	1988 12	12.95495	05 40	19.75	+24 06	18.4		054
1987 RT	1988 12	13.94837	05 39	25.62	+24 05	56.5	17.5	054
1988 VB3	1988 12	07.77787	03 14	08.28	+12 12	12.5		054
1988 VB3	1988 12	07.79523	03 14	07.64	+12 12	06.4		054
1988 VB3	1988 12	12.88933	03 11	17.16	+11 53	40.8		054
1988 VB3	1988 12	12.90669	03 11	16.53	+11 53	36.0		054
1988 VK4	1988 12	07.81016	03 05	48.64	+26 03	10.9	18	V 054
1988 WC	1988 12	12.88933	03 14	00.61	+10 16	33.2		054
1988 WC	1988 12	12.90669	03 13	59.86	+10 16	00.6		054
1988 XU2 *	1988 12	01.98735	05 49	58.66	+25 15	58.3	16.5	054
1988 XU2	1988 12	12.95495	05 38	55.03	+26 07	52.9		054
1988 XU2	1988 12	13.94837	05 37	50.75	+26 12	17.5		054
1988 XV2 *	1988 12	01.98735	05 50	17.56	+27 00	37.8	16.8	054
1988 XV2	1988 12	12.95495	05 38	43.95	+26 23	51.7		054
1988 XV2	1988 12	13.94837	05 37	36.87	+26 19	58.3		054
1988 XW2 *	1988 12	07.77787	03 23	19.30	+11 50	52.0	17.5	054
1988 XW2	1988 12	07.79523	03 23	18.70	+11 50	45.0		054
1988 XW2	1988 12	12.88933	03 20	19.67	+11 28	28.1		054
1988 XW2	1988 12	12.90669	03 20	19.07	+11 28	23.4		054
1988 XX2 *	1988 12	12.95495	05 23	03.70	+23 48	33.0	17.5	054
1988 XX2	1988 12	13.94837	05 21	58.67	+23 49	33.2		054
1988 XY2 *	1988 12	12.95495	05 23	58.36	+25 16	32.0	17.0	054
1988 XY2	1988 12	13.94837	05 22	50.30	+25 17	44.0		054
1989 GK	1989 05	03.97675	14 08	42.12	+08 20	53.9		054
1989 HA	1989 05	03.99961	15 21	28.69	+09 02	00.4		054
518	1988 12	07.77787	03 22	54.88	+11 55	15.6		054
518	1988 12	07.79523	03 22	54.15	+11 55	09.7		054
518	1988 12	12.88933	03 19	33.66	+11 39	54.1		054
518	1988 12	12.90669	03 19	32.89	+11 39	49.9		054
1069	1989 05	03.97675	14 10	22.35	+07 29	58.6		054
1497	1988 12	12.95495	05 25	24.24	+24 11	47.9		054
1497	1988 12	13.94837	05 24	26.67	+24 10	45.9		054
1497	1989 01	10.83052	05 01	31.01	+23 35	08.0		054
1497	1989 01	10.84771	05 01	30.38	+23 35	05.9		054
1589	1988 12	07.77787	03 25	04.01	+14 20	51.3		054
1589	1988 12	07.79523	03 25	03.16	+14 20	50.3		054
1693	1988 12	01.98735	05 44	34.15	+26 52	08.2		054
2475	1988 12	12.88933	03 19	50.65	+11 08	15.4		054
2475	1988 12	12.90669	03 19	50.00	+11 08	10.4		054
2767	1988 12	01.98735	05 37	01.16	+27 18	00.1		054
3192	1988 12	12.95495	05 26	20.87	+25 28	40.3		054
3192	1988 12	13.94837	05 25	11.44	+25 29	27.9		054
3959	1988 12	07.77787	03 11	41.42	+14 07	40.1	16.5	054
3959	1988 12	07.79523	03 11	40.85	+14 07	35.0		054
3987	1988 12	13.92927	03 21	00.04	+20 29	16.5		054

071 Bulgarian National Observatory

V. G. Shkodrov, Dept. of Astronomy, Bulgarian Academy of Sciences,
72 Lenin Boulevard, BG-1784 Sofia, Bulgaria

Observers I. Ivanova, S. Dicova, V. Shkodrov

1988 TN2	1988 11	12.84714	00 49	30.80	-01 34	03.8		071
1988 TN2	1988 11	12.89482	00 49	30.49	-01 34	25.2		071
1988 TN2	1988 11	12.94186	00 49	30.14	-01 34	48.4		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, L. G. Karachkina,
 T. M. Smirnova, L. V. Zhuravleva, B. Burnasheva

1964 UP	1986 09 06.90472	23 02 58.94	-00 52 06.8		095
1965 UA	1986 09 06.98042	23 49 26.09	-03 40 53.8	E	095
1965 UA	1986 09 09.93366	23 46 56.64	-03 41 59.6		095
1965 UA	1986 09 15.02825	23 42 23.39	-03 44 28.0		095
1965 UA	1986 10 02.87262	23 27 02.98	-03 44 54.2		095
1965 UA	1986 10 08.84440	23 23 16.38	-03 37 59.9	E	095
1969 TR1	1986 09 14.03249	00 28 34.85	+03 31 16.8	E	095
1969 TR1	1986 10 10.83838	00 08 20.82	+02 28 00.6		095
1969 TR1	1986 10 11.92746	00 07 40.25	+02 25 49.1	E	095
1969 UR	1986 10 03.97910	02 03 39.69	+17 45 59.4	16.0V	095
1969 UR	1986 10 05.98977	02 02 29.07	+17 29 11.9	14.5V	095
1969 UR	1986 10 07.00164	02 01 51.77	+17 20 12.8	16.0V	E 095
1970 PS	1986 08 12.95570	23 11 21.25	-07 55 09.0	16.0V	095
1971 SX1	1986 10 06.92492	00 22 35.77	+01 21 53.6		E 095
1971 SX1	1986 10 10.83838	00 19 44.11	+01 00 47.3		N 095
1971 SX1	1986 10 10.90642	00 19 43.05	+01 00 39.6		E 095
1971 TF	1986 08 12.95570	22 45 34.01	-09 11 56.2	16.5V	E 095
1972 RF2	1986 10 05.98977	02 09 20.24	+10 45 58.4		095
1974 SD3	1986 09 08.94442	23 29 55.57	+11 50 2302		095
1974 SD3	1986 09 11.88540	23 27 56.66	+11 37 16.2		095
1975 UE	1986 08 09.85412	20 55 33.07	-13 45 43.1		095
1975 UF	1986 09 06.98042	00 07 44.90	-02 32 14.3		095
1975 UF	1986 10 02.87262	23 49 51.51	-04 43 01.2		095
1975 VN2	1986 04 04.97383	13 52 07.93	-07 24 16.0	16.0V	095
1976 GJ2	1986 09 09.01388	01 01 21.84	+12 02 08.3		095
1976 GL3	1986 04 04.97383	14 04 44.09	-08 31 57.2	16.5V	095
1976 SG2	1986 10 04.05028	02 39 44.46	+11 37 48.5		095
1976 VA	1986 08 11.90954	21 44 59.37	-16 47 22.7	15.5V	095
1976 VA	1986 08 13.88890	21 43 31.28	-17 01 12.7	15.0V	E 095
1976 VA	1986 09 01.86168	21 29 53.26	-19 02 10.3	15.5V	E 095
1976 VA	1986 09 09.78124	21 25 21.21	-19 40 38.9	15.0V	E 095
1976 YP1	1986 09 08.87521	22 15 07.46	-12 25 06.6		095
1977 CD	1986 09 08.80588	21 32 25.79	+05 18 45.5		095
1977 RB7	1986 10 12.06773	02 34 19.39	+17 30 33.7		095
1978 RY5	1986 09 07.87911	23 14 00.04	-12 28 57.2		095
1978 RY5	1986 09 12.89567	23 08 55.04	-12 38 30.4		E 095
1979 MA4	1986 09 07.95147	00 51 06.67	+05 58 01.2		095
1979 OK15	1986 11 04.83282	01 45 21.52	+03 25 53.0		095
1979 SX2	1986 08 09.85412	20 39 08.04	-09 36 50.1	16.5V	095
1979 SV9	1986 10 03.00940	01 43 37.56	+09 46 50.9		095
1979 SV9	1986 10 08.99090	01 38 40.91	+08 55 51.1		M 095
1979 SV9	1986 11 04.83282	01 16 18.10	+05 15 32.6		095
1979 TY1	1986 10 12.06773	02 43 42.35	+15 19 04.4		095
1979 TY1	1986 11 27.74559	01 57 04.80	+16 34 54.2		095
1979 VG	1986 10 03.00940	01 22 32.74	+06 55 56.0		E 095
1980 RO2	1986 05 29.88462	16 22 45.71	-21 50 14.7	16.5V	095
1981 DF2	1986 10 03.97910	01 52 10.98	+24 32 54.5	16.0V	E 095
1981 DF2	1986 10 07.00164	01 50 20.13	+24 19 25.8	15.5V	095
1981 DF2	1986 10 11.99273	01 46 51.64	+23 50 10.7	16.0V	095
1981 ER22	1986 09 07.87911	22 52 21.99	-07 59 23.9		E 095
1981 ER22	1986 09 12.89567	22 48 24.81	-08 24 42.9		095
1981 EX30	1986 09 12.89567	22 49 24.71	-09 15 22.6	16.3V	095
1981 EX43	1986 09 11.95554	00 43 22.16	+09 10 04.6		095
1981 QP3	1986 09 29.92844	23 36 40.43	-07 40 30.5	15.5V	095

1981 RM3	1986 08	29.92286	22 44	06.78	-04 41	07.7	16.0V	E	095
1981 RM3	1986 09	06.90472	22 38	05.35	-05 26	05.1	16.0V	E	095
1981 SN1	1986 08	08.81666	21 13	36.69	-15 21	35.0			095
1981 SW6	1986 08	12.88139	21 55	10.12	-06 13	03.6			095
1981 SW6	1986 08	29.85203	21 43	26.48	-07 58	35.7			095
1981 SW7	1986 08	29.92286	22 57	30.15	-00 08	42.0			095
1981 SW7	1986 09	06.90472	22 51	18.00	-00 30	05.8			095
1981 SW7	1986 10	02.79977	22 34	18.09	-01 52	51.3			095
1981 UB1	1986 09	07.87911	23 13	44.18	-05 37	06.0			095
1981 UB1	1986 09	12.89567	23 09	57.28	-06 02	49.0			095
1981 XH2	1986 11	04.75992	00 30	26.79	+12 51	09.0			095
1982 SO1	1986 08	29.92286	22 29	47.62	+01 35	03.7	16.0V	E	095
1982 SX5	1986 08	08.84513	20 05	37.46	-21 03	13.0	15.0V		095
1982 TG1	1986 09	09.85693	22 16	54.08	+08 01	04.4			095
1982 TG1	1986 09	29.85135	22 05	37.46	+04 41	56.2			095
1982 TG1	1986 10	03.82287	22 04	27.42	+04 02	55.0			095
1982 UM2	1986 10	12.06773	02 49	15.69	+12 54	01.2		E	095
1982 US6	1986 10	12.06773	02 59	45.96	+13 49	58.6			095
1982 UY6	1986 09	10.01109	00 39	34.59	-03 59	20.8			095
1982 UY6	1986 09	14.03249	00 36	32.71	-04 05	11.4			095
1982 UY6	1986 10	06.92492	00 16	01.15	-04 24	55.2			095
1982 UY6	1986 10	10.90642	00 12	41.90	-04 22	34.0			095
1982 UY6	1986 10	11.92746	00 11	53.18	-04 21	30.0			095
1982 UD7	1986 10	04.05028	02 54	38.21	+15 18	18.8			095
1982 UD7	1986 10	07.07490	02 53	20.02	+14 58	17.9			095
1982 UD7	1986 10	12.06773	02 50	36.88	+14 22	17.8			095
1983 PW	1986 05	29.88462	16 10	13.57	-17 47	47.0	15.5V		095
1983 WH	1986 09	11.88540	23 32	27.40	+05 56	18.8	16.0V		095
1984 DE	1986 08	31.89587	22 24	31.07	-06 02	52.4		N	095
1984 HE1	1986 09	09.01388	01 26	36.12	+17 04	35.0			095
1984 HE1	1986 09	12.96859	01 25	04.09	+16 51	34.2			095
1985 JJ	1986 09	06.82972	21 50	20.10	-02 54	09.5	16.0V		095
1985 JG1	1986 09	11.95554	00 41	52.92	+08 45	43.8			095
1985 JG1	1986 10	05.91052	00 20	44.40	+06 04	32.2			095
1985 JG1	1986 10	10.83838	00 16	18.64	+05 27	04.2		E	095
1986 GK2 *	1986 04	04.88146	11 11	16.46	-07 42	29.8	16.5V	E	095
1986 GL2 *	1986 04	04.88146	11 19	27.14	-04 44	45.6	16.0V	E	095
1986 GM2 *	1986 04	04.88146	11 19	54.98	-08 01	51.8	16.3V		095
1986 GN2 *	1986 04	04.88146	11 20	07.49	-07 21	04.0	16.3V		095
1986 GO2 *	1986 04	04.88146	11 24	23.57	-11 15	09.6	16.5V		095
1986 GP2 *	1986 04	04.88146	11 25	10.16	-08 11	34.6	16.2V		095
1986 GQ2 *	1986 04	04.88146	11 32	09.83	-06 14	47.7	16.5V		095
1986 GR2 *	1986 04	04.88146	11 34	06.15	-08 44	59.9	16.5V		095
1986 GS2 *	1986 04	04.88146	11 35	58.16	-07 34	31.8	16.0V		095
1986 GT2 *	1986 04	04.88146	11 36	26.13	-08 20	23.7	16.0V		095
1986 GU2 *	1986 04	04.88146	11 42	53.34	-09 46	13.6	16.5V		095
1986 GV2 *	1986 04	04.97383	13 47	00.13	-10 08	10.8	16.0V	E	095
1986 GW2 *	1986 04	04.97383	13 49	12.20	-07 17	16.2	16.0V		095
1986 GX2 *	1986 04	04.97383	13 52	59.20	-06 28	54.7	16.0V		095
1986 GY2 *	1986 04	04.97383	13 54	01.97	-11 46	15.2	16.5V	E	095
1986 GZ2 *	1986 04	04.97383	13 58	35.32	-08 03	57.9	16.5V		095
1986 GA3 *	1986 04	04.97383	14 03	29.06	-10 10	36.1	16.5V		095
1986 GB3 *	1986 04	04.97383	14 03	59.95	-10 06	41.2	16.5V		095
1986 GC3 *	1986 04	04.97383	14 09	38.89	-06 34	52.0	16.5V		095
1986 KC *	1986 05	29.88462	15 50	32.08	-16 08	00.6	16.5V	E	095
1986 KD *	1986 05	29.88462	15 52	12.57	-16 00	36.8	16.5V	E	095
1986 KE *	1986 05	29.88462	15 54	09.43	-21 16	14.2	16.5V	E	095
1986 KF *	1986 05	29.88462	15 57	28.72	-14 32	11.5	16.5V		095
1986 KG *	1986 05	29.88462	16 04	06.53	-16 15	44.0	16.5V		095

1986 KH	*	1986 05 29.88462	16 05 06.36	-17 36 53.0	15.5V	095
1986 KJ	*	1986 05 29.88462	16 05 15.56	-22 43 08.6	16.5V	095
1986 KK	*	1986 05 29.88462	16 08 02.37	-15 31 08.6	16.0V	095
1986 KL	*	1986 05 29.88462	16 10 10.06	-19 21 26.8	16.5V	095
1986 KM	*	1986 05 29.88462	16 14 29.41	-17 45 15.4	16.5V	095
1986 KN	*	1986 05 29.88462	16 14 58.24	-18 58 08.7	16.5V	095
1986 KO	*	1986 05 29.88462	16 17 41.49	-22 04 45.5	16.0V	P 095
1986 KP	*	1986 05 29.88462	16 19 02.49	-18 00 53.6	16.5V	095
1986 KQ	*	1986 05 29.88462	16 24 51.14	-21 47 56.1	16.5V	095
1986 KR	*	1986 05 29.88462	16 30 08.81	-18 18 26.4	16.5V	095
1986 PE		1986 08 14.90626	21 41 56.40	+02 44 42.4		095
1986 PE		1986 09 08.80588	21 20 49.36	+00 56 41.2		095
1986 PF		1986 08 12.88139	22 05 20.98	-02 03 56.8	16.0V	095
1986 PF		1986 08 29.85203	21 51 12.10	-03 15 06.7	15.8V	095
1986 PF		1986 09 06.82972	21 45 04.80	-03 55 38.9	16.0V	095
1986 PM		1986 08 08.91666	21 14 55.62	-12 09 46.8		095
1986 PN1		1986 08 12.88139	21 50 09.70	-10 19 45.3	15.5V	E 095
1986 PN1		1986 08 29.85203	21 36 03.50	-09 44 26.2	16.0V	N 095
1986 PD3		1986 08 08.91666	21 39 14.39	-13 39 02.3	16.0V	095
1986 PN4		1986 08 12.88139	22 09 00.84	-03 02 46.4	15.2V	095
1986 PN4		1986 08 29.85203	21 52 59.42	-02 22 49.3	15.2V	095
1986 PN4		1986 09 06.82972	21 46 00.54	-02 12 43.1	15.0V	095
1986 PT4		1986 08 12.88139	21 52 31.07	-10 16 16.4	16.0V	E 095
1986 PB5		1986 08 12.95570	23 18 45.89	-06 30 35.9	16.0V	095
1986 PD5	*	1986 08 07.93639	21 24 47.89	+06 22 41.8	15.2V	E 095
1986 PE5	*	1986 08 07.93639	21 26 15.70	+09 03 15.3	16.3V	095
1986 PF5	*	1986 08 07.93639	21 50 11.78	+08 10 15.2	16.3V	095
1986 PG5	*	1986 08 08.84513	19 44 46.76	-13 50 18.1	15.5V	E 095
1986 PH5	*	1986 08 08.84513	19 58 37.14	-18 31 19.0	15.2V	095
1986 PJ5	*	1986 08 08.84513	20 05 24.41	-14 15 56.2	15.0V	095
1986 PK5	*	1986 08 08.84513	20 06 49.11	-14 17 33.7	15.2V	095
1986 PL5	*	1986 08 08.91666	21 03 11.94	-18 51 53.2	15.5V	E 095
1986 PM5	*	1986 08 08.91666	21 20 53.17	-17 51 30.2	15.6V	095
1986 PN5	*	1986 08 08.91666	21 35 35.43	-20 19 52.5	16.0V	E 095
1986 PO5	*	1986 08 08.91666	21 36 30.95	-13 42 08.7	16.0V	095
1986 PP5	*	1986 08 09.85412	20 45 36.49	-09 51 28.8	16.8V	095
1986 PQ5	*	1986 08 09.85412	20 58 28.35	-12 18 15.6	16.5V	095
1986 PR5	*	1986 08 09.94784	23 06 24.69	-08 26 33.3	15.5V	095
1986 PS5	*	1986 08 11.99982	23 43 42.55	-11 33 09.3	16.0V	E 095
1986 PT5	*	1986 08 11.99982	23 46 02.66	-12 57 21.6	16.0V	095
1986 PU5	*	1986 08 11.99982	23 48 27.79	-12 48 02.9	16.0V	095
1986 PV5	*	1986 08 11.99982	23 50 07.70	-04 31 38.6	16.5V	E 095
1986 PW5	*	1986 08 11.99982	23 52 58.54	-07 49 33.2	16.0V	095
1986 PW5		1986 08 18.02764	23 50 33.55	-07 55 02.2	16.0V	095
1986 PX5	*	1986 08 11.99982	23 53 18.22	-07 49 20.3	16.0V	095
1986 PX5		1986 09 09.93366	23 41 23.62	-11 15 14.6	15.0V	E 095
1986 PX5		1986 09 29.92844	23 26 37.52	-13 23 13.8	15.0V	E 095
1986 PX5		1986 10 06.84611	23 22 29.43	-13 47 10.7	15.5V	E 095
1986 PY5	*	1986 08 11.99982	23 54 02.18	-04 30 34.7	16.5V	E 095
1986 PZ5	*	1986 08 11.99982	23 58 23.90	-07 45 08.9	16.5V	095
1986 PA6	*	1986 08 11.99982	00 04 53.81	-04 46 53.7	16.5V	E 095
1986 PB6	*	1986 08 11.99982	00 09 50.72	-04 26 54.6	15.5V	E 095
1986 PB6		1986 09 09.93366	23 49 38.31	-07 27 35.3	15.5V	095
1986 PC6	*	1986 08 11.99982	00 11 13.57	-06 45 39.7	16.0V	095
1986 PD6	*	1986 08 11.99982	00 13 44.75	-06 33 32.5	16.0V	E 095
1986 PE6	*	1986 08 11.99982	00 16 47.83	-12 09 25.0	16.0V	N 095
1986 PF6	*	1986 08 11.99982	00 17 15.32	-09 07 46.0	16.0V	E 095
1986 PG6	*	1986 08 11.99982	00 18 22.22	-06 42 58.4	16.0V	E 095

1986	PH6	*	1986	08	12.88139	21	52	52.88	-05	40	08.2	16.2V	095
1986	PH6		1986	08	29.85203	21	40	34.18	-06	58	04.8	16.5V	095
1986	PJ6	*	1986	08	12.88139	21	57	19.71	-08	47	41.4	16.2V	095
1986	PK6	*	1986	08	12.88139	22	01	17.32	-04	16	08.4	16.0V	095
1986	PK6		1986	08	29.85203	21	44	42.96	-05	36	12.5	16.0V	095
1986	PK6		1986	09	06.82972	21	38	03.15	-06	17	30.2	15.5V	095
1986	PL6	*	1986	08	12.88139	22	05	45.00	-04	29	08.6	16.2V	095
1986	PM6	*	1986	08	12.88139	22	17	42.84	-04	11	37.0	16.0V	E 095
1986	PN6	*	1986	08	12.95570	22	46	15.11	-06	11	49.5	16.2V	E 095
1986	PO6	*	1986	08	12.95570	22	48	56.76	-02	54	36.0	16.5V	E 095
1986	PO6		1986	08	29.92286	22	35	27.82	-04	24	03.1	15.8V	095
1986	PP6	*	1986	08	12.95570	22	55	47.42	-06	17	20.2	16.5V	095
1986	PQ6	*	1986	08	12.95570	22	56	57.00	-03	50	35.2	16.0V	095
1986	PR6	*	1986	08	12.95570	23	04	12.38	-08	18	36.6	16.0V	095
1986	PS6	*	1986	08	12.95570	23	07	58.83	-07	59	01.9	16.5V	095
1986	PT6	*	1986	08	12.95570	23	09	10.00	-01	11	08.3	16.5V	N 095
1986	PU6	*	1986	08	12.95570	23	09	46.14	-04	06	58.0	16.5V	095
1986	PV6	*	1986	08	12.95570	23	10	02.70	-02	06	21.2	16.2V	E 095
1986	PV6		1986	08	29.92286	22	57	12.41	-02	00	07.8	16.2V	095
1986	PV6		1986	09	06.90472	22	49	34.92	-02	11	18.0	16.0V	095
1986	PV6		1986	10	02.79977	22	30	06.94	-02	58	31.3	16.0V	095
1986	PW6	*	1986	08	12.95570	23	24	21.44	-05	21	52.8	14.2V	E 095
1986	PX6	*	1986	08	13.88890	21	25	20.08	-13	16	34.0	16.0V	095
1986	PY6	*	1986	08	13.88890	21	29	40.27	-19	23	31.3	15.5V	095
1986	QL		1986	08	30.83331	21	06	02.32	-14	52	42.6		095
1986	QN		1986	08	08.91666	21	26	57.00	-12	25	46.2		095
1986	QN		1986	09	07.80617	21	03	13.71	-15	40	55.4		095
1986	QO		1986	08	08.91666	21	28	21.56	-11	52	58.3		095
1986	QO		1986	08	13.88890	21	24	02.65	-12	09	35.8		095
1986	QO		1986	08	30.83331	21	10	51.62	-13	05	50.5		095
1986	QO		1986	09	07.80617	21	06	44.72	-13	26	28.9		095
1986	QS		1986	09	08.87521	22	15	22.82	-13	59	00.4		095
1986	QT		1986	09	08.87521	22	17	42.37	-14	13	37.0		095
1986	QZ		1986	08	08.98957	22	54	45.08	-11	22	12.2		095
1986	QB1		1986	09	08.87521	22	34	17.94	-14	20	46.7		E 095
1986	QP1		1986	09	08.87521	22	30	41.76	-13	51	02.9		095
1986	QR2		1986	08	06.96875	22	23	25.16	-09	15	16.7		095
1986	QT2		1986	08	08.98957	22	31	40.50	-11	49	27.8		095
1986	QA3		1986	09	08.87521	22	20	17.17	-13	15	37.4		095
1986	QP3		1986	09	07.87911	23	02	10.38	-12	40	26.0		095
1986	QV3		1986	08	11.99982	23	49	08.49	-07	30	50.2	15.5V	095
1986	QV3		1986	08	17.00339	23	49	19.10	-08	05	09.8	15.0V	M 095
1986	QV3		1986	08	18.02764	23	49	15.71	-08	12	43.8	15.5V	095
1986	QV3		1986	09	09.93366	23	39	46.37	-11	37	47.3	14.5V	E 095
1986	QV3		1986	09	29.92844	23	26	31.46	-14	00	56.0	15.0V	E 095
1986	QV3		1986	10	06.84611	23	23	15.91	-14	23	40.8	15.0V	095
1986	QX3		1986	08	12.95570	23	00	41.85	-10	27	51.0		E 095
1986	QC4	*	1986	08	17.00339	23	35	52.32	-12	30	10.6	16.0V	E 095
1986	QD4	*	1986	08	17.00339	23	35	59.98	-08	05	17.6	16.0V	E 095
1986	QE4	*	1986	08	17.00339	23	36	39.07	-09	52	53.0	16.0V	E 095
1986	QF4	*	1986	08	17.00339	23	45	09.58	-06	29	15.0	16.0V	095
1986	QG4	*	1986	08	17.00339	23	45	28.14	-06	12	18.8	16.0V	095
1986	QH4	*	1986	08	17.00339	23	48	45.93	-12	14	28.1	16.0V	095
1986	QJ4	*	1986	08	17.00339	23	51	44.50	-13	20	10.5	16.0V	095
1986	QK4	*	1986	08	17.00339	23	53	44.78	-05	10	36.9	16.0V	E 095
1986	QL4	*	1986	08	17.00339	23	54	38.51	-05	54	20.6	16.0V	E 095
1986	QM4	*	1986	08	17.00339	00	00	25.74	-08	11	56.4	16.5V	095
1986	QN4	*	1986	08	17.00339	00	01	17.51	-08	27	00.7	16.5V	095
1986	QO4	*	1986	08	17.00339	00	03	39.91	-04	58	25.2	16.0V	E 095

1986	QO4	1986	09	06.98042	23	50	27.97	-04	39	20.4	15.8V	E	095
1986	QO4	1986	09	09.93366	23	47	40.18	-04	38	42.6	15.0V		095
1986	QO4	1986	09	29.92844	23	27	44.10	-04	28	04.4	15.5V	E	095
1986	QO4	1986	10	02.87262	23	25	10.00	-04	23	44.8	15.8V	E	095
1986	QP4	* 1986	08	17.00339	00	04	12.87	-06	31	47.7	15.5V		095
1986	QQ4	* 1986	08	17.00339	00	04	54.36	-08	06	32.7	16.0V		095
1986	QR4	* 1986	08	17.00339	00	06	26.67	-05	53	27.0	16.0V	E	095
1986	QS4	* 1986	08	17.00339	00	07	27.82	-10	49	28.7	16.5V		095
1986	QT4	* 1986	08	17.00339	00	08	19.96	-07	07	12.7	16.0V		095
1986	QU4	* 1986	08	17.00339	00	15	00.92	-11	45	15.8	15.5V	E	095
1986	QV4	* 1986	08	18.02764	23	22	39.40	-05	37	53.9	14.0V	E	095
1986	QW4	* 1986	08	18.02764	23	24	12.13	-04	30	04.4	15.0V		095
1986	QX4	* 1986	08	18.02764	23	40	05.56	-06	10	36.0	16.0V		095
1986	QX4	1986	09	07.87911	23	26	26.42	-08	49	02.0	16.0V	U	095
1986	QX4	1986	09	12.89567	23	22	22.70	-09	29	22.2	16.0V	E	095
1986	QY4	* 1986	08	18.02764	23	41	10.02	-04	43	35.8	15.5V		095
1986	QY4	1986	08	30.89424	23	34	22.64	-05	42	55.2	15.0V	E	095
1986	QY4	1986	09	07.87911	23	28	57.03	-06	25	29.4	15.0V	E	095
1986	QY4	1986	09	09.93366	23	27	27.70	-06	36	36.7	15.0V	E	095
1986	QY4	1986	09	29.92844	23	13	18.51	-08	15	12.7	15.5V	E	095
1986	QY4	1986	10	06.84611	23	09	21.32	-08	39	51.3	15.5V		095
1986	QZ4	* 1986	08	18.02764	23	42	33.39	-03	02	21.4	16.0V		095
1986	QA5	* 1986	08	18.02764	23	46	30.62	-00	57	12.6	15.5V	E	095
1986	QB5	* 1986	08	18.02764	23	51	17.70	-06	32	19.7	15.5V		095
1986	QC5	* 1986	08	18.02764	23	53	53.99	-07	49	04.2	16.0V		095
1986	QD5	* 1986	08	18.02764	23	58	05.34	-04	18	59.8	15.5V	E	095
1986	QE5	* 1986	08	29.85203	21	23	19.45	-08	46	16.1	16.5V	N	095
1986	QF5	* 1986	08	29.85203	21	33	09.06	-01	42	29.6	15.8V		095
1986	QF5	1986	09	06.82972	21	26	45.94	-02	05	24.5	15.5V		095
1986	QF5	1986	09	08.80588	21	25	24.65	-02	11	28.8	16.5V		095
1986	QG5	* 1986	08	29.85203	21	33	33.49	-02	36	31.3	16.5V	M	095
1986	QH5	* 1986	08	29.85203	21	36	00.92	-08	07	00.9	16.5V	M	095
1986	QJ5	* 1986	08	29.85203	21	36	37.35	-06	11	32.5	16.2V		095
1986	QK5	* 1986	08	29.85203	21	38	10.01	-00	42	29.4	16.2V	E	095
1986	QK5	1986	09	06.82972	21	32	19.94	-00	40	32.7	16.2V	E	095
1986	QK5	1986	09	08.80588	21	31	09.14	-00	41	15.8	15.5V		095
1986	QL5	* 1986	08	29.85203	21	54	58.20	-02	07	09.1	16.5V	E	095
1986	QM5	* 1986	08	29.92286	22	42	16.06	+02	18	23.4	16.2V		095
1986	QM5	1986	09	29.85135	22	13	13.40	+02	07	35.6	16.0V		095
1986	QM5	1986	10	03.82287	22	11	29.57	+02	03	23.1	16.0V	N	095
1986	QN5	* 1986	08	29.92286	22	50	06.48	+01	18	10.0	16.2V		095
1986	QN5	1986	09	06.90472	22	41	26.77	+01	08	42.2	16.0V		095
1986	QO5	* 1986	08	29.92286	23	00	14.81	+01	07	15.7	16.0V		095
1986	QO5	1986	09	06.90472	22	52	52.29	+00	38	23.0	16.0V		095
1986	QP5	* 1986	08	29.92286	23	01	15.04	+00	38	33.8	16.5V		095
1986	QP5	1986	09	06.90472	22	53	05.88	+00	16	40.2	16.0V		095
1986	QQ5	* 1986	08	29.92286	23	01	30.00	-02	29	28.8	16.5V		095
1986	QR5	* 1986	08	29.92286	23	03	57.20	+00	40	27.4	16.5V	E	095
1986	QR5	1986	09	06.90472	22	57	13.16	+00	31	49.5	15.8V		095
1986	QR5	1986	10	02.79977	22	37	09.66	-00	11	42.8	16.0V		095
1986	QS5	* 1986	08	30.83331	21	00	39.82	-10	50	02.2	15.0V	N	095
1986	QT5	* 1986	08	31.89587	22	14	38.74	-12	43	22.6	16.0V		095
1986	QT5	1986	09	08.87521	22	07	55.83	-12	57	55.9	16.0V		095
1986	QU5	* 1986	08	31.89587	22	16	10.68	-07	36	33.7	16.0V		095
1986	QU5	1986	09	08.87521	22	09	45.80	-07	49	07.3	16.2V		095
1986	QV5	* 1986	08	31.89587	22	23	54.80	-10	59	34.4	16.0V		095
1986	QV5	1986	09	08.87521	22	18	04.36	-11	30	17.8	15.5V		095
1986	QW5	* 1986	08	31.89587	22	31	16.58	-09	19	49.0	15.5V		095
1986	QW5	1986	09	08.87521	22	24	24.38	-09	45	27.1	16.2V		095

1986 QX5 *	1986 08	29.92286	22 46	46.38	-04 55	20.4	16.0V	E	095
1986 QX5	1986 09	06.90472	22 39	36.21	-05 41	01.6	16.0V	E	095
1986 RB	1986 08	09.94784	23 16	22.88	-08 15	01.2		S	095
1986 RK	1986 09	08.94442	23 21	58.48	+11 57	46.0		E	095
1986 RK	1986 09	11.88540	23 19	44.33	+11 35	19.2		E	095
1986 RO	1986 09	08.94442	23 35	49.73	+10 44	23.0	16.0V		095
1986 RO	1986 09	11.88540	23 33	20.38	+10 51	58.2	15.5V		095
1986 RQ	1986 10	05.91052	23 56	13.94	+07 44	18.2		E	095
1986 RR	1986 08	12.88139	21 45	25.14	-03 59	10.2	15.0V	E	095
1986 RR	1986 09	06.82972	21 35	29.65	-06 45	44.7	15.8V		095
1986 RW	1986 08	29.92286	22 43	33.94	+01 29	32.0			095
1986 RW	1986 09	06.90472	22 35	35.21	+01 25	38.3			095
1986 RW	1986 09	29.85135	22 16	27.72	+00 43	20.6		E	095
1986 RW	1986 10	02.79977	22 14	59.36	+00 37	31.6		E	095
1986 RD1	1986 08	06.96875	22 49	39.80	-04 12	30.9		E	095
1986 RD1	1986 08	08.98957	22 48	26.80	-04 09	10.1		E	095
1986 RD1	1986 08	12.95570	22 45	47.12	-04 04	08.0		E	095
1986 RD1	1986 08	29.92286	22 31	34.39	-04 01	40.2		E	095
1986 RE1	1986 08	29.92286	22 34	16.06	-03 16	16.9		E	095
1986 RE1	1986 09	06.90472	22 29	05.21	-04 14	52.6		E	095
1986 RJ1	1986 08	12.95570	23 11	27.88	-07 34	56.4			095
1986 RJ1	1986 09	07.87911	22 51	34.89	-07 09	03.0		E	095
1986 RJ1	1986 09	12.89567	22 47	13.38	-07 05	27.6			095
1986 RK1	1986 08	12.95570	23 12	12.40	-04 00	31.2			095
1986 RK1	1986 09	07.87911	22 54	51.20	-06 42	49.2			095
1986 RK1	1986 09	12.89567	22 51	01.83	-07 17	32.2			095
1986 RM1	1986 08	29.92286	22 58	58.22	-05 11	29.6	16.5V		095
1986 RO1	1986 08	12.95570	22 55	38.22	-04 11	49.6	16.2V		095
1986 RP1	1986 08	29.92286	22 42	05.58	-04 26	11.3	16.5V		095
1986 RS1	1986 08	30.89424	23 02	55.49	-05 24	58.4			095
1986 RS1	1986 09	07.87911	22 57	35.00	-06 51	13.2	15.5V		095
1986 RS1	1986 09	12.89567	22 54	15.26	-07 44	41.9	15.8V		095
1986 RU1	1986 09	07.87911	23 15	41.33	-04 46	07.5	15.0V		095
1986 RU1	1986 09	12.89567	23 12	24.00	-05 56	13.4	14.8V		095
1986 RV1	1986 09	07.87911	23 19	47.32	-04 35	29.6	16.0V		095
1986 RV1	1986 09	12.89567	23 15	59.55	-05 27	40.2	15.0V		095
1986 RX1	1986 08	29.92286	22 44	20.45	+01 09	23.4			095
1986 RX1	1986 09	06.90472	22 38	03.71	+01 34	28.5			095
1986 RB2	1986 09	06.90472	22 45	12.05	+02 09	06.6	16.2V		095
1986 RO2	1986 09	09.85693	22 27	20.32	+04 22	37.7		E	095
1986 RQ2	1986 08	18.02764	23 36	30.25	-09 29	17.3		E	095
1986 RQ2	1986 09	07.87911	23 25	13.22	-12 51	55.7		E	095
1986 RR2	1986 09	06.98042	00 02	45.00	-01 38	13.4			095
1986 RR2	1986 09	15.02825	23 58	53.62	-03 04	18.0			095
1986 RR2	1986 09	29.92844	23 50	30.20	-05 42	22.2		E	095
1986 RR2	1986 10	02.87262	23 49	00.76	-06 09	43.0			095
1986 RR2	1986 10	08.84440	23 46	28.96	-06 57	57.0			095
1986 RS2	1986 09	06.98042	00 03	17.74	+01 31	52.6			095
1986 RS2	1986 09	15.02825	23 58	23.51	+00 28	44.8			095
1986 RS2	1986 10	02.87262	23 46	13.84	-02 03	25.4			095
1986 RU2	1986 09	06.98042	00 16	44.65	+03 01	24.9	15.5V	E	095
1986 RU2	1986 10	02.87262	23 53	20.47	+01 26	19.2	15.8V	E	095
1986 RU2	1986 10	08.84440	23 48	04.40	+01 02	27.4	16.0V	E	095
1986 RU2	1986 10	10.83838	23 46	28.00	+00 55	07.8	15.5V		095
1986 RW2	1986 09	15.02825	00 14	31.15	-00 57	51.4		E	095
1986 RW2	1986 10	02.87262	23 59	06.21	-02 16	28.8		E	095
1986 RW2	1986 10	08.84440	23 54	24.76	-02 37	23.6		E	095
1986 RW2	1986 10	10.90642	23 52	57.16	-02 43	26.2		E	095
1986 RW2	1986 10	11.92746	23 52	15.87	-02 46	07.5		M	095

1986 RX2	1986 10 06.92492	00 02 12.74	+01 20 00.1		E 095
1986 RX2	1986 10 10.83838	23 59 34.94	+01 05 20.3		095
1986 RA3	1986 09 08.94442	23 30 15.80	+14 46 31.6		E 095
1986 RA3	1986 09 11.88540	23 27 57.94	+14 38 55.5		E 095
1986 RB3	1986 09 08.94442	23 32 43.68	+13 29 41.8	16.0V	095
1986 RB3	1986 09 11.88540	23 31 05.10	+12 26 14.5	15.5V	s 095
1986 RF3	1986 09 06.98042	00 11 39.60	+02 02 23.1		095
1986 RF3	1986 10 02.87262	23 52 00.52	-00 59 46.4		095
1986 RG3	1986 09 07.87911	23 11 59.95	-05 56 53.4	15.0V	095
1986 RG3	1986 09 12.89567	23 09 08.90	-07 04 32.0	15.5V	095
1986 RJ3	1986 09 07.87911	23 15 45.96	-07 05 34.9	16.0V	095
1986 RJ3	1986 09 12.89567	23 11 59.28	-07 28 35.0	15.0V	095
1986 RK3	1986 08 12.88139	22 14 01.34	-01 27 23.4	16.0V	E 095
1986 RO4	1986 09 06.82972	21 38 25.12	-02 35 39.2	16.0V	M 095
1986 RT4	1986 09 08.87521	22 03 09.16	-07 11 10.7	16.3V	E 095
1986 RU4	1986 10 02.94135	01 21 23.02	+26 47 50.8	15.0V	E 095
1986 RU4	1986 10 08.91869	01 16 09.52	+26 24 28.6	15.0V	E 095
1986 RB5	1986 08 11.90954	22 11 40.32	-15 58 22.3		095
1986 RB5	1986 09 09.78124	21 51 22.74	-20 00 08.6	16.0V	E 095
1986 RD5	1986 09 08.87521	22 10 30.89	-12 37 23.0		095
1986 RK5	1986 09 08.87521	22 11 16.47	-12 14 29.2	15.5V	095
1986 RS5	1986 08 29.92286	23 01 43.96	+01 24 00.2	16.2V	095
1986 RS5	1986 09 06.90472	22 56 06.47	+00 46 14.4	15.8V	095
1986 RZ5 *	1986 09 01.86168	21 36 30.72	-15 12 25.4	15.5V	095
1986 RZ5	1986 09 09.78124	21 30 27.76	-15 40 47.7	15.5V	095
1986 RA6 *	1986 09 01.86168	21 43 55.43	-11 09 34.7	15.5V	E 095
1986 RA6	1986 09 09.78124	21 39 46.00	-12 20 04.4	15.5V	095
1986 RB6 *	1986 09 06.82972	21 19 05.97	-03 38 16.9	15.8V	E 095
1986 RC6 *	1986 09 06.82972	21 21 16.22	-00 52 08.1	16.0V	E 095
1986 RD6 *	1986 09 06.82972	21 25 58.00	-03 34 05.6	16.2V	M 095
1986 RE6 *	1986 09 06.82972	21 26 04.66	+00 03 41.4	16.0V	E 095
1986 RF6 *	1986 09 06.82972	21 47 57.20	-07 42 45.2	16.2V	M 095
1986 RG6 *	1986 09 06.82972	21 53 42.10	-08 38 47.5	16.2V	N 095
1986 RH6 *	1986 09 06.90472	22 31 14.64	+03 05 42.8	16.0V	E 095
1986 RJ6 *	1986 09 06.90472	22 32 20.17	-01 25 55.9	16.2V	E 095
1986 RK6 *	1986 09 06.90472	22 35 42.92	+01 41 37.4	16.0V	095
1986 RL6 *	1986 09 06.90472	22 38 28.03	-04 16 49.4	16.0V	095
1986 RM6 *	1986 09 06.90472	22 39 13.68	-04 41 23.6	16.2V	095
1986 RN6 *	1986 09 06.90472	22 45 14.93	-04 06 52.3	16.0V	095
1986 RO6 *	1986 09 06.90472	22 46 51.06	-05 03 15.8	16.0V	E 095
1986 RP6 *	1986 09 06.90472	22 49 57.32	+01 20 24.8	16.0V	M 095
1986 RP6	1986 10 02.79977	22 31 47.02	+00 09 32.9	16.0V	095
1986 RQ6 *	1986 09 06.90472	22 52 02.42	-02 16 59.4	16.2V	095
1986 RR6 *	1986 09 06.90472	22 57 08.46	-00 29 36.0	15.8V	095
1986 RS6 *	1986 09 06.90472	22 57 33.28	-03 00 47.2	16.0V	095
1986 RT6 *	1986 09 06.90472	23 00 45.76	+03 08 35.6	16.2V	N 095
1986 RU6 *	1986 09 06.90472	23 03 46.64	+01 48 47.9	16.2V	E 095
1986 RV6 *	1986 09 06.90472	23 05 46.03	+01 59 55.9	16.2V	E 095
1986 RW6 *	1986 09 06.90472	23 07 14.80	-03 35 06.2	16.2V	E 095
1986 RX6 *	1986 09 06.98042	23 39 57.07	-02 18 12.8	16.0V	E 095
1986 RX6	1986 09 09.93366	23 36 57.46	-02 19 22.2	15.5V	095
1986 RY6 *	1986 09 06.98042	23 41 14.10	-02 25 41.1	15.8V	E 095
1986 RY6	1986 09 09.93366	23 38 59.50	-02 52 32.6	15.5V	E 095
1986 RY6	1986 09 29.92844	23 23 24.27	-05 53 05.5	15.5V	095
1986 RY6	1986 10 02.87262	23 21 27.89	-06 15 59.0	15.8V	E 095
1986 RY6	1986 10 06.84611	23 19 09.70	-06 44 02.0	15.5V	095
1986 RZ6 *	1986 09 06.98042	23 41 21.82	-02 12 21.4	16.2V	E 095
1986 RA7 *	1986 09 06.98042	23 52 33.69	-03 46 19.2	16.2V	E 095
1986 RA7	1986 09 09.93366	23 49 58.69	-04 09 04.6	16.5V	P 095

1986 RA7		1986 10 02.87262	23 30 31.50	-06 48 09.2	16.2V	E	095
1986 RB7	*	1986 09 06.98042	23 52 50.60	+00 03 38.2	15.5V	M	095
1986 RB7		1986 09 15.02825	23 44 15.68	+00 19 00.8	15.5V		095
1986 RB7		1986 10 02.87262	23 25 45.80	+00 44 41.8	15.8V	E	095
1986 RC7	*	1986 09 06.98042	23 52 51.44	-00 27 18.4	15.5V		095
1986 RC7		1986 09 15.02825	23 45 03.96	-00 43 39.6	15.8V		095
1986 RC7		1986 10 02.87262	23 27 43.12	-01 24 04.1	15.8V		095
1986 RC7		1986 10 08.84440	23 23 03.04	-01 33 27.2	15.5V	E	095
1986 RD7	*	1986 09 06.98042	23 53 15.64	-02 38 33.6	16.2V		095
1986 RD7		1986 09 29.92844	23 36 03.11	-05 02 11.9	16.0V	E	095
1986 RD7		1986 10 02.87262	23 33 55.84	-05 19 17.7	16.0V		095
1986 RE7	*	1986 09 06.98042	23 53 15.78	-03 13 06.6	16.2V		095
1986 RE7		1986 09 29.92844	23 36 11.23	-06 05 46.3	15.5V		095
1986 RE7		1986 10 02.87262	23 34 11.88	-06 24 24.4	16.2V	M	095
1986 RF7	*	1986 09 06.98042	23 55 02.84	-02 18 37.7	16.0V		095
1986 RF7		1986 09 09.93366	23 52 42.55	-02 40 15.5	16.0V	E	095
1986 RG7	*	1986 09 06.98042	23 59 19.40	-00 28 11.8	16.5V		095
1986 RG7		1986 10 02.87262	23 40 02.98	-01 27 35.2	16.5V		095
1986 RH7	*	1986 09 06.98042	23 59 46.14	+01 46 11.4	16.2V		095
1986 RJ7	*	1986 09 06.98042	00 01 24.43	+00 32 32.3	16.0V		095
1986 RJ7		1986 10 02.87262	23 39 56.34	-00 57 26.9	15.8V		095
1986 RK7	*	1986 09 06.98042	00 03 53.74	+00 19 16.2	16.2V		095
1986 RK7		1986 10 02.87262	23 44 23.03	-00 32 30.4	16.0V		095
1986 RL7	*	1986 09 06.98042	00 04 43.78	-03 54 55.7	16.2V	E	095
1986 RM7	*	1986 09 06.98042	00 07 36.99	-01 20 05.2	16.0V		095
1986 RM7		1986 10 02.87262	23 49 54.34	-02 14 09.2	16.2V		095
1986 RN7	*	1986 09 06.98042	00 07 42.44	-00 57 33.0	16.2V		095
1986 RN7		1986 09 15.02825	00 00 54.49	-00 59 29.1	16.2V		095
1986 RO7	*	1986 09 06.98042	00 12 01.06	+02 59 39.7	16.2V	M	095
1986 RP7	*	1986 09 07.87911	22 52 46.76	-09 16 55.4	16.5V		095
1986 RQ7	*	1986 09 07.87911	22 54 11.66	-07 31 06.3	16.5V		095
1986 RQ7		1986 09 12.89567	22 48 51.68	-07 52 25.6	16.2V		095
1986 RR7	*	1986 09 07.87911	23 02 14.67	-06 57 42.0	15.0V		095
1986 RR7		1986 09 12.89567	22 57 21.04	-07 12 59.0	16.0V		095
1986 RS7	*	1986 09 07.87911	23 03 17.43	-09 37 58.2	16.5V		095
1986 RT7	*	1986 09 07.87911	23 08 37.73	-07 15 42.2	16.5V		095
1986 RU7	*	1986 09 07.87911	23 11 54.45	-04 35 44.9	16.5V		095
1986 RV7	*	1986 09 07.87911	23 12 33.14	-10 46 15.8	16.5V		095
1986 RV7		1986 09 12.89567	23 08 22.73	-11 09 38.8	16.0V		095
1986 RW7	*	1986 09 07.87911	23 13 56.10	-05 33 20.5	16.5V	P	095
1986 RX7	*	1986 09 07.87911	23 20 41.12	-09 59 05.7	16.5V		095
1986 RX7		1986 09 12.89567	23 17 14.37	-10 31 19.7	16.2V		095
1986 RY7	*	1986 09 07.87911	23 22 34.88	-06 37 16.8	15.5V		095
1986 RZ7	*	1986 09 07.87911	23 28 21.50	-05 03 37.3	16.0V		095
1986 RA8	*	1986 09 07.95147	00 28 31.32	+09 03 35.8	16.2V		095
1986 RB8	*	1986 09 07.95147	00 31 03.44	+10 11 25.6	16.5V		095
1986 RB8		1986 09 11.95554	00 27 29.78	+09 37 57.3	16.5V		095
1986 RC8	*	1986 09 07.95147	00 42 01.84	+05 26 02.7	16.2V		095
1986 RC8		1986 10 05.91052	00 21 03.74	+03 29 32.6	16.2V	E	095
1986 RC8		1986 10 10.83838	00 17 12.69	+03 06 51.7	15.5V	E	095
1986 RD8	*	1986 09 07.95147	00 43 28.39	+05 54 56.1	16.0V		095
1986 RD8		1986 09 11.95554	00 39 38.47	+06 13 09.9	16.0V	E	095
1986 RE8	*	1986 09 07.95147	00 47 04.42	+12 05 53.9	16.5V	P	095
1986 RE8		1986 09 11.95554	00 44 22.44	+12 06 25.6	16.3V		095
1986 RF8	*	1986 09 07.95147	00 49 24.43	+09 24 53.2	16.5V		095
1986 RG8	*	1986 09 08.80588	21 13 01.29	+06 38 34.7	14.5V	E	095
1986 RH8	*	1986 09 08.80588	21 15 04.42	+02 00 16.2	15.5V		095
1986 RJ8	*	1986 09 08.80588	21 18 39.32	+02 58 31.7	15.5V		095
1986 RK8	*	1986 09 08.80588	21 20 17.01	+01 33 07.4	16.5V		095

1986	RL8	*	1986	09	08.80588	21	31	18.06	+02	53	41.4	15.3V	095
1986	RM8	*	1986	09	08.80588	21	32	31.30	+04	48	56.2	16.5V	095
1986	RN8	*	1986	09	08.80588	21	33	24.03	+01	35	27.0	16.5V	095
1986	RO8	*	1986	09	08.80588	21	34	48.87	+00	51	33.9	16.0V	095
1986	RP8	*	1986	09	08.87521	22	00	31.41	-10	06	40.0	16.3V	E 095
1986	RQ8	*	1986	09	08.87521	22	03	41.10	-11	48	31.6	16.0V	095
1986	RR8	*	1986	09	08.87521	22	05	25.19	-12	03	57.6	16.0V	095
1986	RS8	*	1986	09	08.87521	22	05	28.65	-13	11	15.8	16.0V	095
1986	RT8	*	1986	09	08.87521	22	05	37.84	-09	37	33.6	16.5V	095
1986	RU8	*	1986	09	08.87521	22	06	22.80	-08	47	52.2	16.2V	095
1986	RV8	*	1986	09	08.87521	22	09	45.62	-09	08	50.1	16.2V	095
1986	RW8	*	1986	09	08.87521	22	10	26.15	-13	00	25.1	15.8V	095
1986	RX8	*	1986	09	08.87521	22	11	16.27	-10	46	25.9	16.5V	095
1986	RY8	*	1986	09	08.87521	22	12	30.32	-10	16	41.6	16.3V	095
1986	RZ8	*	1986	09	08.87521	22	14	57.28	-08	16	51.6	16.0V	095
1986	RA9	*	1986	09	08.87521	22	15	16.22	-10	55	48.7	16.5V	095
1986	RB9	*	1986	09	08.87521	22	20	15.32	-09	23	48.2	16.5V	095
1986	RC9	*	1986	09	08.87521	22	20	42.74	-11	43	33.6	16.5V	095
1986	RD9	*	1986	09	08.87521	22	23	03.18	-09	23	37.2	16.2V	095
1986	RE9	*	1986	09	08.87521	22	24	24.98	-12	08	26.6	16.0V	095
1986	RF9	*	1986	09	08.87521	22	27	05.11	-11	10	47.6	16.5V	095
1986	RG9	*	1986	09	08.87521	22	28	14.87	-10	11	06.3	16.5V	P 095
1986	RH9	*	1986	09	08.87521	22	29	35.23	-07	36	04.6	16.0V	095
1986	RJ9	*	1986	09	08.87521	22	34	03.21	-09	42	29.6	16.0V	095
1986	RK9	*	1986	09	08.87521	22	34	40.56	-09	12	16.0	16.0V	E 095
1986	RL9	*	1986	09	08.87521	22	36	12.94	-09	09	36.9	16.0V	E 095
1986	RM9	*	1986	09	08.94442	23	24	30.05	+12	30	30.1	16.0V	E 095
1986	RN9	*	1986	09	08.94442	23	26	24.24	+12	49	50.2	15.5V	095
1986	RO9	*	1986	09	08.94442	23	29	16.16	+07	44	54.0	16.3V	095
1986	RO9		1986	09	11.88540	23	27	00.73	+07	37	09.8	16.3V	095
1986	RP9	*	1986	09	08.94442	23	32	51.34	+07	49	10.5	15.5V	095
1986	RP9		1986	09	11.88540	23	31	35.91	+07	19	04.5	15.3V	095
1986	RQ9	*	1986	09	08.94442	23	34	58.60	+08	44	22.6	16.5V	095
1986	RR9	*	1986	09	08.94442	23	35	06.10	+11	51	34.8	16.3V	095
1986	RR9		1986	09	11.88540	23	33	01.39	+11	35	53.8	16.2V	095
1986	RS9	*	1986	09	08.94442	23	35	37.80	+09	17	14.0	16.5V	095
1986	RS9		1986	09	11.88540	23	33	16.04	+09	01	24.2	16.2V	095
1986	RT9	*	1986	09	08.94442	23	36	23.32	+06	25	29.2	16.2V	095
1986	RT9		1986	09	11.88540	23	33	42.46	+06	05	40.6	16.0V	095
1986	RU9	*	1986	09	08.94442	23	37	56.78	+06	18	35.0	15.0V	095
1986	RU9		1986	09	11.88540	23	35	55.46	+06	00	07.8	15.5V	095
1986	RV9	*	1986	09	08.94442	23	39	20.49	+07	23	25.0	16.0V	095
1986	RV9		1986	09	11.88540	23	37	21.88	+07	04	08.0	16.0V	095
1986	RW9	*	1986	09	08.94442	23	40	28.80	+09	25	18.2	16.5V	095
1986	RX9	*	1986	09	08.94442	23	40	34.00	+09	39	48.4	16.0V	095
1986	RX9		1986	09	11.88540	23	38	03.38	+09	31	23.7	16.2V	095
1986	RY9	*	1986	09	08.94442	23	42	13.49	+14	46	53.8	16.3V	N 095
1986	RY9		1986	09	11.88540	23	39	40.83	+14	42	52.6	16.0V	E 095
1986	RZ9	*	1986	09	08.94442	23	43	19.94	+14	30	54.0	16.5V	E 095
1986	RA10*		1986	09	08.94442	23	43	41.39	+09	13	14.6	16.3V	095
1986	RB10*		1986	09	08.94442	23	47	46.96	+14	27	27.9	16.3V	E 095
1986	RC10*		1986	09	08.94442	23	48	43.80	+06	33	34.8	15.7V	095
1986	RC10		1986	09	11.88540	23	46	02.58	+06	15	11.4	16.0V	095
1986	RD10*		1986	09	08.94442	23	49	11.82	+12	30	36.3	15.5V	095
1986	RD10		1986	09	11.88540	23	46	08.48	+12	31	57.8	15.5V	095
1986	RE10*		1986	09	08.94442	23	49	21.86	+09	19	10.6	16.0V	095
1986	RE10		1986	09	11.88540	23	46	50.62	+09	04	11.6	16.0V	095
1986	RF10*		1986	09	08.94442	23	49	23.86	+09	56	19.4	16.5V	095
1986	RF10		1986	09	11.88540	23	46	44.98	+09	43	26.5	16.3V	095

1986	RG10*	1986	09	08.94442	23	49	58.07	+07	35	11.6	15.3V	095
1986	RH10*	1986	09	08.94442	23	50	00.98	+10	13	53.0	15.5V	095
1986	RH10	1986	09	11.88540	23	47	44.66	+09	55	30.4	15.0V	095
1986	RJ10*	1986	09	08.94442	23	50	03.93	+13	26	11.6	15.5V	095
1986	RJ10	1986	09	11.88540	23	47	55.58	+13	15	37.1	15.0V	095
1986	RK10*	1986	09	08.94442	23	53	30.03	+06	10	17.6	15.3V	095
1986	RK10	1986	09	11.88540	23	51	46.18	+06	06	20.2	16.0V	095
1986	RL10*	1986	09	08.94442	23	54	14.86	+07	11	13.2	16.3V	095
1986	RL10	1986	09	11.88540	23	52	07.82	+07	03	06.8	16.3V	095
1986	RM10*	1986	09	08.94442	23	56	22.68	+07	20	05.2	16.3V	095
1986	RN10*	1986	09	08.94442	23	57	20.10	+09	37	07.3	16.5V	095
1986	RO10*	1986	09	08.94442	00	01	46.05	+07	53	33.6	16.0V	095
1986	RP10*	1986	09	09.01388	00	56	58.40	+13	09	42.2	16.0V	E 095
1986	RP10	1986	09	11.95554	00	55	10.53	+13	02	42.0	16.0V	E 095
1986	RQ10*	1986	09	09.01388	00	59	54.58	+13	27	35.0	16.5V	095
1986	RR10*	1986	09	09.01388	01	00	27.88	+10	39	22.7	16.0V	095
1986	RS10*	1986	09	09.01388	01	04	02.33	+13	45	12.2	16.0V	095
1986	RS10	1986	09	12.96859	01	01	54.67	+13	45	39.1	15.0V	095
1986	RT10*	1986	09	09.01388	01	05	04.57	+16	51	49.8	16.5V	095
1986	RT10	1986	09	12.96859	01	04	09.94	+16	31	23.4	16.5V	095
1986	RU10*	1986	09	09.01388	01	08	29.10	+14	10	07.8	16.5V	095
1986	RU10	1986	09	12.96859	01	06	06.98	+14	05	37.2	15.5V	095
1986	RV10*	1986	09	09.01388	01	08	56.10	+16	56	22.1	16.0V	095
1986	RW10*	1986	09	09.01388	01	11	38.10	+14	01	31.2	16.0V	095
1986	RX10*	1986	09	09.01388	01	13	28.39	+12	00	40.7	15.5V	095
1986	RX10	1986	09	12.96859	01	11	51.49	+11	40	38.9	16.5V	095
1986	RY10*	1986	09	09.01388	01	14	12.05	+11	37	27.5	16.0V	095
1986	RY10	1986	09	12.96859	01	13	35.73	+11	19	42.2	16.5V	095
1986	RZ10*	1986	09	09.01388	01	14	26.64	+13	31	16.6	16.2V	095
1986	RA11*	1986	09	09.01388	01	18	11.81	+15	22	09.5	16.0V	095
1986	RA11	1986	09	12.96859	01	16	38.36	+15	30	52.8	16.0V	095
1986	RB11*	1986	09	09.01388	01	18	41.07	+15	10	48.9	16.3V	095
1986	RB11	1986	09	12.96859	01	16	35.97	+15	16	15.0	16.3V	095
1986	RC11*	1986	09	09.01388	01	18	55.29	+09	33	40.7	16.0V	095
1986	RD11*	1986	09	09.01388	01	19	24.15	+12	56	58.1	16.5V	095
1986	RE11*	1986	09	09.01388	01	22	20.40	+15	22	13.4	15.5V	095
1986	RE11	1986	09	12.96859	01	21	22.82	+14	52	39.6	15.0V	095
1986	RF11*	1986	09	09.01388	01	23	02.52	+09	04	51.4	16.0V	E 095
1986	RG11*	1986	09	09.01388	01	30	43.75	+17	15	45.8	16.5V	095
1986	RH11*	1986	09	09.01388	01	32	18.90	+15	30	59.6	16.5V	E 095
1986	RJ11*	1986	09	09.78124	21	26	03.21	-18	47	58.3	15.5V	095
1986	RK11*	1986	09	09.78124	21	26	22.95	-13	55	32.0	16.0V	M 095
1986	RL11*	1986	09	09.78124	21	28	05.01	-15	09	44.0	16.0V	095
1986	RM11*	1986	09	09.78124	21	32	59.50	-12	45	38.5	16.0V	095
1986	RN11*	1986	09	09.78124	21	38	44.04	-20	30	27.5	16.0V	E 095
1986	RO11*	1986	09	09.78124	21	39	21.03	-11	24	17.7	16.0V	E 095
1986	RP11*	1986	09	09.78124	21	40	00.56	-11	57	30.8	15.5V	E 095
1986	RQ11*	1986	09	09.78124	21	42	34.76	-14	39	39.6	16.0V	095
1986	RR11*	1986	09	09.78124	21	47	47.03	-16	19	33.6	16.0V	095
1986	RS11*	1986	09	09.85693	22	01	29.04	+05	15	24.3	16.5V	E 095
1986	RT11*	1986	09	09.85693	22	02	00.38	+08	49	25.0	16.5V	E 095
1986	RU11*	1986	09	09.85693	22	05	42.23	+09	02	30.0	16.5V	E 095
1986	RV11*	1986	09	09.85693	22	09	14.85	+12	24	32.3	16.0V	E 095
1986	RW11*	1986	09	09.85693	22	11	17.66	+09	58	36.7	16.5V	095
1986	RX11*	1986	09	09.85693	22	11	28.46	+05	46	00.6	16.0V	095
1986	RX11	1986	09	29.85135	21	56	50.62	+04	57	06.3	16.0V	095
1986	RX11	1986	10	03.82287	21	55	10.59	+04	45	37.9	16.0V	095
1986	RY11*	1986	09	09.85693	22	11	40.69	+07	17	32.3	16.5V	095
1986	RZ11*	1986	09	09.85693	22	11	44.95	+04	22	13.3	16.5V	E 095

1986 RA12*	1986 09 09.85693	22 15 29.32	+07 14 19.1	16.5V	095
1986 RB12*	1986 09 09.85693	22 16 01.60	+12 59 31.0	15.0V	E 095
1986 RB12	1986 09 13.95749	22 13 09.60	+12 40 24.7	15.5V	095
1986 RB12	1986 10 06.76521	22 02 20.09	+10 25 58.3	15.5V	095
1986 RC12*	1986 09 09.85693	22 18 37.27	+09 29 11.6	16.5V	095
1986 RD12*	1986 09 09.85693	22 18 55.37	+04 40 26.3	16.0V	E 095
1986 RE12*	1986 09 09.85693	22 21 08.77	+03 44 34.4	16.0V	E 095
1986 RF12*	1986 09 09.85693	22 22 57.65	+07 51 32.8	16.0V	095
1986 RG12*	1986 09 09.85693	22 25 08.52	+04 04 26.0	16.5V	E 095
1986 RH12*	1986 09 09.85693	22 25 38.68	+10 08 05.7	15.0V	095
1986 RH12	1986 09 13.95749	22 23 09.80	+09 14 13.2	15.5V	E 095
1986 RH12	1986 10 03.82287	22 16 17.69	+04 35 49.3	14.5V	095
1986 RH12	1986 10 06.76521	22 16 12.70	+03 56 31.6	15.0V	E 095
1986 RJ12*	1986 09 09.85693	22 28 27.85	+09 34 36.9	16.5V	095
1986 RK12*	1986 09 09.85693	22 28 45.30	+11 04 07.1	16.5V	095
1986 RL12*	1986 09 09.85693	22 30 38.11	+04 52 30.7	16.5V	F 095
1986 RM12*	1986 09 09.85693	22 33 39.01	+10 34 25.5	16.5V	F 095
1986 RN12*	1986 09 09.85693	22 34 49.33	+06 14 58.9	16.5V	E 095
1986 RO12*	1986 09 09.85693	22 36 09.31	+12 31 23.7	15.5V	E 095
1986 RP12*	1986 09 09.93366	23 31 19.94	-04 22 37.9	16.5V	095
1986 RQ12*	1986 09 09.93366	23 31 29.98	-03 39 07.6	16.5V	E 095
1986 RR12*	1986 09 09.93366	23 31 35.57	-07 52 47.2	15.5V	E 095
1986 RS12*	1986 09 09.93366	23 32 05.20	-08 45 00.7	16.5V	E 095
1986 RT12*	1986 09 09.93366	23 36 21.49	-08 07 02.0	16.0V	095
1986 RU12*	1986 09 09.93366	23 37 01.87	-05 24 41.6	15.5V	095
1986 RV12*	1986 09 09.93366	23 37 03.13	-04 51 57.9	15.5V	095
1986 RW12*	1986 09 09.93366	23 37 50.85	-07 42 02.0	16.5V	095
1986 RX12*	1986 09 09.93366	23 37 56.80	-03 47 35.3	15.0V	095
1986 RY12*	1986 09 09.93366	23 39 57.26	-07 55 09.1	16.0V	095
1986 RZ12*	1986 09 09.93366	23 43 24.11	-09 23 32.4	16.0V	095
1986 RA13*	1986 09 09.93366	23 43 38.85	-05 42 30.4	16.5V	095
1986 RB13*	1986 09 09.93366	23 44 39.16	-08 40 20.2	15.5V	095
1986 RC13*	1986 09 09.93366	23 45 14.64	-06 48 46.4	16.0V	095
1986 RD13*	1986 09 09.93366	23 46 40.46	-07 31 53.6	15.5V	095
1986 RE13*	1986 09 09.93366	23 46 52.30	-11 34 09.4	15.5V	E 095
1986 RF13*	1986 09 09.93366	23 46 56.65	-05 26 32.3	15.5V	095
1986 RF13	1986 09 29.92844	23 32 01.68	-07 15 17.6	15.5V	095
1986 RF13	1986 10 02.87262	23 30 01.50	-07 28 27.2	16.2V	E 095
1986 RF13	1986 10 06.84611	23 27 31.10	-07 44 32.1	15.5V	095
1986 RG13*	1986 09 09.93366	23 48 47.91	-05 20 43.0	16.0V	095
1986 RH13*	1986 09 09.93366	23 48 52.24	-02 46 27.7	16.0V	095
1986 RJ13*	1986 09 09.93366	00 01 10.98	-08 47 17.4	16.0V	E 095
1986 RK13*	1986 09 09.93366	00 01 23.05	-04 19 41.6	16.0V	E 095
1986 RK13	1986 09 29.92844	23 43 06.44	-05 45 59.0	16.0V	095
1986 RK13	1986 10 02.87262	23 40 30.86	-05 56 42.4	16.2V	095
1986 RL13*	1986 09 10.01109	00 58 12.45	-01 49 50.3	16.0V	E 095
1986 RL13	1986 09 14.03249	00 55 18.56	-01 49 49.9	16.0V	E 095
1986 RM13*	1986 09 11.88540	23 19 57.09	+05 21 52.0	16.0V	E 095
1986 RN13*	1986 09 11.88540	23 29 49.70	+07 13 59.6	16.3V	095
1986 RO13*	1986 09 11.88540	23 35 06.61	+14 36 45.3	16.5V	095
1986 RP13*	1986 09 11.88540	23 35 49.58	+07 32 26.0	16.5V	095
1986 RQ13*	1986 09 11.88540	23 36 57.20	+05 48 10.7	16.0V	E 095
1986 RR13*	1986 09 11.88540	23 38 39.99	+07 09 53.9	16.5V	095
1986 RS13*	1986 09 11.88540	23 40 31.64	+13 37 58.6	16.2V	095
1986 RT13*	1986 09 11.88540	23 42 25.04	+11 00 16.7	16.5V	095
1986 RU13*	1986 09 11.88540	23 47 21.20	+09 20 20.8	15.5V	095
1986 RV13*	1986 09 11.88540	23 56 05.72	+11 33 05.6	16.3V	E 095
1986 RW13*	1986 09 11.95554	00 16 09.05	+11 10 05.9	16.0V	E 095
1986 RX13*	1986 09 11.95554	00 16 18.50	+11 23 04.6	15.8V	E 095

1986 RY13*	1986 09 11.95554	00 18 15.47	+14 15 59.8	16.0V	095
1986 RZ13*	1986 09 11.95554	00 19 31.88	+13 07 51.4	16.0V	095
1986 RA14*	1986 09 11.95554	00 25 00.36	+10 14 03.6	16.2V	095
1986 RA14	1986 10 05.91052	00 07 18.72	+07 41 07.8	16.2V	095
1986 RB14*	1986 09 11.95554	00 29 36.07	+14 56 02.3	16.3V	095
1986 RC14*	1986 09 11.95554	00 32 17.60	+13 22 21.2	16.2V	095
1986 RD14*	1986 09 11.95554	00 35 14.58	+10 22 40.4	16.5V	095
1986 RD14	1986 10 05.91052	00 13 27.96	+08 45 18.0	16.2V	095
1986 RE14*	1986 09 11.95554	00 35 57.89	+11 34 17.5	16.5V	S 095
1986 RF14*	1986 09 11.95554	00 36 13.07	+11 01 15.4	16.5V	095
1986 RG14*	1986 09 11.95554	00 37 35.53	+13 14 04.6	16.5V	095
1986 RH14*	1986 09 11.95554	00 43 21.02	+10 39 32.8	16.2V	095
1986 RJ14*	1986 09 11.95554	00 44 43.09	+14 59 55.6	16.0V	095
1986 RK14*	1986 09 11.95554	00 45 49.49	+14 23 47.4	16.3V	S 095
1986 RL14*	1986 09 11.95554	00 46 12.12	+07 03 40.2	16.2V	095
1986 RM14*	1986 09 11.95554	00 49 33.90	+13 54 09.4	16.3V	095
1986 RN14*	1986 09 11.95554	00 50 09.94	+07 20 38.7	16.0V	095
1986 RO14*	1986 09 11.95554	00 51 35.40	+13 59 29.4	16.0V	095
1986 RO14	1986 09 12.96859	00 51 13.04	+13 53 24.4	16.0V	E 095
1986 RP14*	1986 09 11.95554	00 51 36.82	+11 55 32.1	16.2V	095
1986 RQ14*	1986 09 11.95554	00 55 03.57	+12 12 38.8	16.2V	E 095
1986 RR14*	1986 09 12.89567	22 43 47.46	-09 36 04.0	16.0V	N 095
1986 RS14*	1986 09 12.89567	22 44 07.96	-08 53 37.2	16.0V	N 095
1986 RT14*	1986 09 12.89567	22 48 54.59	-09 11 53.3	16.5V	095
1986 RU14*	1986 09 12.89567	22 49 22.46	-11 11 27.9	16.0V	095
1986 RV14*	1986 09 12.89567	22 49 37.52	-11 14 34.0	16.3V	095
1986 RW14*	1986 09 12.89567	22 50 52.72	-06 59 17.6	16.2V	095
1986 RX14*	1986 09 12.89567	22 52 01.10	-03 18 14.4	16.0V	E 095
1986 RY14*	1986 09 12.89567	22 52 56.74	-08 48 52.2	16.0V	095
1986 RZ14*	1986 09 12.89567	22 59 04.31	-13 00 22.3	16.0V	E 095
1986 RA15*	1986 09 12.89567	22 59 23.17	-05 30 25.8	15.8V	095
1986 RB15*	1986 09 12.89567	23 01 54.47	-08 51 24.2	16.5V	095
1986 RC15*	1986 09 12.89567	23 05 03.05	-09 54 22.1	16.2V	095
1986 RD15*	1986 09 12.89567	23 06 24.92	-03 34 29.2	16.0V	E 095
1986 RE15*	1986 09 12.89567	23 08 23.34	-05 21 41.8	16.0V	095
1986 RF15*	1986 09 12.89567	23 08 31.07	-03 49 44.3	16.0V	N 095
1986 RG15*	1986 09 12.89567	23 09 07.52	-08 09 11.2	16.0V	095
1986 RH15*	1986 09 12.89567	23 11 53.14	-06 25 27.3	16.5V	095
1986 RJ15*	1986 09 12.89567	23 12 43.48	-06 32 15.8	16.2V	095
1986 RK15*	1986 09 12.89567	23 15 00.45	-03 20 39.4	16.0V	N 095
1986 RL15*	1986 09 12.89567	23 16 14.95	-04 29 15.8	16.0V	095
1986 RM15*	1986 09 12.89567	23 19 51.85	-04 50 46.3	15.8V	E 095
1986 RN15*	1986 09 12.96859	00 50 58.50	+12 12 57.1	16.5V	E 095
1986 RO15*	1986 09 12.96859	00 55 54.50	+17 11 44.1	16.0V	095
1986 RP15*	1986 09 12.96859	00 56 14.99	+14 14 12.3	16.0V	095
1986 RQ15*	1986 09 12.96859	01 00 32.56	+09 16 48.0	16.0V	E 095
1986 RR15*	1986 09 12.96859	01 01 44.53	+10 52 39.2	16.0V	095
1986 RS15*	1986 09 12.96859	01 06 14.82	+15 32 19.7	16.3V	095
1986 RT15*	1986 09 12.96859	01 06 19.69	+12 21 47.6	16.2V	095
1986 RU15*	1986 09 12.96859	01 06 59.12	+12 07 24.0	16.0V	095
1986 RV15*	1986 09 12.96859	01 08 59.82	+11 45 49.0	16.5V	095
1986 RW15*	1986 09 12.96859	01 13 25.46	+17 56 36.2	16.5V	E 095
1986 RX15*	1986 09 12.96859	01 14 27.88	+17 39 17.6	16.2V	E 095
1986 RY15*	1986 09 12.96859	01 16 48.71	+10 35 28.0	16.5V	095
1986 RZ15*	1986 09 12.96859	01 17 46.07	+14 11 20.5	16.5V	095
1986 RA16*	1986 09 12.96859	01 19 10.59	+11 02 21.2	16.3V	095
1986 RB16*	1986 09 12.96859	01 22 48.58	+17 57 07.0	16.5V	E 095
1986 RC16*	1986 09 12.96859	01 27 11.58	+16 31 42.2	16.2V	095
1986 RD16*	1986 09 12.96859	01 30 41.40	+16 47 25.2	16.5V	E 095

1986	RE16*	1986	09	13.95749	22	03	35.90	+15	50	48.4	16.5V	095
1986	RF16*	1986	09	13.95749	22	07	15.24	+13	59	09.3	16.0V	095
1986	RG16*	1986	09	13.95749	22	15	37.56	+15	05	32.2	15.5V	095
1986	RH16*	1986	09	13.95749	22	19	51.08	+16	17	24.3	16.0V	095
1986	RJ16*	1986	09	14.03249	00	25	05.72	+00	24	43.3	16.0V	E 095
1986	RK16*	1986	09	14.03249	00	27	01.25	-04	34	04.1	16.0V	095
1986	RK16	1986	10	06.92492	00	07	00.71	-04	09	07.7	16.0V	d 095
1986	RK16	1986	10	10.90642	00	03	45.93	-03	58	52.6	16.0V	095
1986	RK16	1986	10	11.92746	00	02	58.83	-03	55	49.2	16.0V	095
1986	RL16*	1986	09	14.03249	00	27	05.44	+01	55	57.5	16.5V	095
1986	RM16*	1986	09	14.03249	00	33	25.14	-00	49	40.5	16.5V	095
1986	RN16*	1986	09	14.03249	00	35	06.50	-04	03	31.1	16.5V	095
1986	RO16*	1986	09	14.03249	00	40	16.23	-00	28	47.5	16.5V	M 095
1986	RP16*	1986	09	14.03249	00	41	42.21	-01	30	14.8	16.5V	095
1986	RQ16*	1986	09	14.03249	00	45	41.98	-04	54	24.1	16.5V	095
1986	RR16*	1986	09	14.03249	00	46	35.94	+00	18	39.4	16.5V	095
1986	RS16*	1986	09	14.03249	00	49	03.94	+02	00	53.3	16.5V	095
1986	RT16*	1986	09	14.03249	00	51	40.33	-02	50	48.2	16.5V	095
1986	RU16*	1986	09	14.03249	00	54	45.54	+02	41	34.1	16.0V	095
1986	RV16*	1986	09	14.03249	00	55	01.21	-03	04	12.1	16.5V	095
1986	RW16*	1986	09	15.02825	23	48	01.58	-03	29	45.8	16.0V	095
1986	RX16*	1986	09	15.02825	23	53	44.00	+00	52	18.8	16.2V	095
1986	RY16*	1986	09	15.02825	23	54	56.10	-01	59	49.1	16.0V	095
1986	RZ16*	1986	09	15.02825	00	06	18.40	-02	36	54.7	16.0V	095
1986	RZ16	1986	10	02.87262	23	50	06.42	-03	36	33.2	16.2V	095
1986	RA17*	1986	09	15.02825	00	08	30.82	+02	11	52.2	16.0V	095
1986	RA17	1986	10	02.87262	23	55	30.48	+00	57	42.0	16.5V	095
1986	RB17*	1986	09	07.95147	00	35	08.25	+11	03	20.5		095
1986	RB17	1986	09	11.95554	00	32	48.22	+10	46	04.4		095
1986	RB17	1986	10	05.91052	00	15	04.71	+08	11	35.0		095
1986	RC17*	1986	09	14.03249	00	32	33.09	+01	03	05.0	16.0V	095
1986	RC17	1986	10	06.92492	00	13	28.63	-00	48	52.4	16.0V	095
1986	RC17	1986	10	10.83838	00	10	10.54	-01	06	37.6		E 095
1986	RC17	1986	10	10.90642	00	10	07.05	-01	06	56.0	16.5V	095
1986	SC	1986	10	10.83838	23	56	45.81	+03	14	22.5		M 095
1986	SD	1986	10	10.83838	23	55	01.10	+02	06	50.2		095
1986	SE	1986	09	07.95147	00	21	29.12	+05	09	23.4		E 095
1986	SE	1986	10	10.83838	23	55	18.69	+02	59	06.6		095
1986	SF	1986	10	10.83838	23	53	46.03	+01	49	51.1	15.5V	095
1986	SY1 *	1986	09	29.85135	21	57	00.29	+08	39	57.4	16.0V	095
1986	SZ1 *	1986	09	29.85135	22	02	57.36	+08	26	53.0	16.0V	095
1986	SZ1	1986	10	03.82287	22	01	10.05	+07	57	53.9	16.0V	d 095
1986	SZ1	1986	10	06.76521	22	00	05.99	+07	36	37.8	16.0V	095
1986	SA2 *	1986	09	29.85135	22	05	59.78	+05	11	15.2	15.5V	095
1986	SB2 *	1986	09	29.85135	22	09	00.26	+05	45	12.7	16.5V	095
1986	SC2 *	1986	09	29.85135	22	19	09.97	+07	42	09.9	16.0V	095
1986	SC2	1986	10	03.82287	22	18	07.05	+07	00	40.2	16.0V	095
1986	SD2 *	1986	09	29.85135	22	26	44.22	+04	48	46.3	15.5V	E 095
1986	SD2	1986	10	03.82287	22	24	32.40	+04	36	03.1	16.0V	M 095
1986	SE2 *	1986	09	29.92844	23	16	23.48	-08	43	40.5	16.5V	E 095
1986	SF2 *	1986	09	29.92844	23	19	28.96	-11	56	47.8	15.5V	095
1986	SF2	1986	10	06.84611	23	12	51.49	-12	05	45.2	16.0V	095
1986	SG2 *	1986	09	29.92844	23	19	53.26	-12	30	35.0	16.0V	095
1986	SH2 *	1986	09	29.92844	23	20	03.18	-10	15	05.8	16.0V	095
1986	SJ2 *	1986	09	29.92844	23	20	09.41	-06	14	37.4	16.0V	095
1986	SK2 *	1986	09	29.92844	23	21	10.75	-04	29	15.2	15.5V	095
1986	SL2 *	1986	09	29.92844	23	22	19.77	-08	59	40.8	16.0V	095
1986	SL2	1986	10	06.84611	23	18	35.18	-09	22	01.2	16.0V	M 095
1986	SM2 *	1986	09	29.92844	23	22	58.19	-07	53	49.4	16.5V	095

1986	SN2	*	1986	09	29.92844	23	24	11.86	-08	33	32.1	16.0V	095
1986	SN2		1986	10	06.84611	23	21	27.03	-09	00	58.1	16.0V	095
1986	SO2	*	1986	09	29.92844	23	27	37.57	-09	19	03.4	15.5V	095
1986	SP2	*	1986	09	29.92844	23	29	18.54	-08	00	55.2	15.5V	095
1986	SP2		1986	10	06.84611	23	20	50.99	-08	18	06.4	16.0V	095
1986	SQ2	*	1986	09	29.92844	23	29	36.09	-08	43	40.0	15.5V	095
1986	SQ2		1986	10	06.84611	23	25	34.29	-08	52	52.8	16.0V	095
1986	SR2	*	1986	09	29.92844	23	31	20.32	-06	58	40.6	16.5V	095
1986	SS2	*	1986	09	29.92844	23	34	35.84	-09	15	30.5	16.0V	095
1986	SS2		1986	10	06.84611	23	29	55.48	-10	01	20.2	16.0V	095
1986	ST2	*	1986	09	29.92844	23	37	18.47	-04	56	46.0	16.0V	E 095
1986	ST2		1986	10	02.87262	23	35	25.00	-05	11	08.4	16.0V	095
1986	SU2	*	1986	09	29.92844	23	37	43.46	-09	38	59.3	16.5V	095
1986	SU2		1986	10	06.84611	23	33	21.06	-10	03	54.0	16.0V	095
1986	SV2	*	1986	09	29.92844	23	37	55.73	-10	45	49.5	16.0V	095
1986	SW2	*	1986	09	29.92844	23	38	17.66	-05	15	34.2	16.0V	095
1986	SW2		1986	10	02.87262	23	36	40.77	-05	37	39.2	16.5V	095
1986	SX2	*	1986	09	29.92844	23	43	52.30	-11	30	37.6	16.0V	095
1986	SY2	*	1986	09	29.92844	23	44	15.27	-04	33	48.3	16.0V	E 095
1986	SZ2	*	1986	09	29.92844	23	45	43.19	-07	52	18.1	16.5V	095
1986	SA3	*	1986	09	29.92844	23	47	11.51	-06	09	41.1	16.0V	095
1986	SB3	*	1986	09	29.92844	23	47	35.45	-10	22	28.8	16.0V	E 095
1986	SC3	*	1986	09	29.92844	23	48	54.02	-10	32	51.3	16.0V	E 095
1986	SD3	*	1986	09	29.92844	23	49	00.33	-06	27	31.3	15.5V	E 095
1986	SD3		1986	10	02.87262	23	46	19.94	-06	24	58.6	15.0V	095
1986	SE3	*	1986	09	29.92844	23	51	12.55	-11	00	52.2	16.0V	E 095
1986	SF3	*	1986	09	29.85135	22	12	08.12	+05	26	14.3		095
1986	SF3		1986	10	03.82287	22	09	53.73	+05	09	41.6		095
1986	TB		1986	09	10.01109	00	30	59.25	+00	30	15.7		095
1986	TB		1986	09	14.03249	00	26	33.77	+01	03	27.4		095
1986	TB		1986	10	05.91052	23	59	03.31	+03	51	24.9		E 095
1986	TB		1986	10	10.83838	23	53	25.69	+04	26	43.6		095
1986	TC		1986	10	05.91052	00	06	39.66	+04	37	42.5		E 095
1986	TH		1986	09	07.95147	00	24	10.36	+10	24	10.9		095
1986	TH		1986	09	11.95554	00	21	09.52	+10	24	10.3		095
1986	TH		1986	10	05.91052	23	58	53.19	+09	18	10.3		E 095
1986	TJ		1986	09	11.95554	00	16	19.55	+11	39	41.4	16.0V	E 095
1986	TQ		1986	10	02.94135	01	10	13.58	+21	05	51.0		095
1986	TR		1986	10	02.94135	01	00	11.88	+24	07	15.1		095
1986	TR		1986	10	08.91869	00	55	59.80	+23	14	00.9		095
1986	TS		1986	10	02.94135	01	08	39.99	+24	53	47.1		095
1986	TS		1986	10	08.91869	01	02	46.50	+25	12	02.2		095
1986	TX		1986	10	03.00940	01	53	10.71	+07	14	11.3		095
1986	TX		1986	10	08.99090	01	47	53.50	+06	47	22.0		095
1986	TX		1986	11	04.83282	01	22	36.52	+04	57	00.2		095
1986	TE1		1986	10	03.00940	01	36	52.52	+05	23	46.6	15.8V	E 095
1986	TE1		1986	10	08.99090	01	32	16.48	+04	53	39.0	15.8V	E 095
1986	TG1		1986	10	03.97910	01	47	58.05	+22	49	28.2	16.5V	095
1986	TG1		1986	10	07.00164	01	44	47.66	+23	02	07.4	16.5V	095
1986	TG1		1986	10	11.99273	01	39	11.86	+23	18	41.4	16.0V	095
1986	TK1		1986	10	03.97910	01	50	43.16	+21	20	18.0	16.0V	095
1986	TK1		1986	10	07.00164	01	48	05.51	+21	07	57.8	16.0V	095
1986	TK1		1986	10	11.99273	01	43	25.00	+20	42	17.9	15.5V	095
1986	TL1		1986	10	03.97910	02	00	39.41	+20	50	07.4		095
1986	TL1		1986	10	07.00164	01	58	27.54	+20	41	47.6		095
1986	TL1		1986	10	11.99273	01	54	22.25	+20	22	53.3		095
1986	TM1		1986	10	03.97910	02	03	05.65	+20	33	26.1		095
1986	TM1		1986	10	07.00164	02	01	20.50	+20	10	08.4		095
1986	TM1		1986	10	11.99273	01	58	03.93	+19	26	44.0		095

1986 TP1	1986 10 06.92492	00 08 02.91	-05 33 54.6	16.0V	095
1986 TP1	1986 10 10.90642	00 05 49.30	-05 48 11.0	16.0V	095
1986 TR1	1986 09 14.03249	00 34 51.78	-04 41 34.2	16.0V	095
1986 TH2	1986 10 03.00940	01 32 29.80	+14 28 09.2	16.0V	E 095
1986 TR2	1986 11 04.83282	01 39 54.22	-00 36 56.6		095
1986 TH3	1986 09 09.01388	01 18 00.82	+12 10 53.2		095
1986 TH3	1986 09 12.96859	01 18 07.59	+11 30 04.5		095
1986 TO3	1986 11 04.75992	00 51 32.68	+07 26 37.7		095
1986 TR3	1986 10 03.00940	01 22 44.50	+08 53 40.7		E 095
1986 TG4	1986 08 29.92286	22 59 39.98	+01 57 52.6	14.5V	095
1986 TG4	1986 09 06.90472	22 51 47.56	+02 12 03.2	14.5V	095
1986 TG4	1986 10 02.79977	22 29 10.19	+02 31 29.8	15.0V	095
1986 TL4	1986 11 04.83282	01 42 31.54	+07 20 51.5		E 095
1986 TS4	1986 10 02.94135	01 19 29.67	+20 49 32.1	15.5V	095
1986 TS4	1986 10 08.91869	01 13 13.65	+21 41 56.6	15.5V	095
1986 TO5	1986 11 04.83282	01 22 47.67	+05 55 07.2	16.0V	095
1986 TQ5	1986 10 03.00940	01 50 59.92	+08 40 02.2	16.5V	095
1986 TX5	1986 09 09.01388	01 25 56.76	+10 58 30.6	16.5V	095
1986 TD6	1986 10 03.00940	01 37 26.63	+10 15 44.1	16.0V	095
1986 TE6	1986 10 03.00940	01 47 10.16	+11 12 07.4	16.5V	095
1986 TF6	1986 10 03.00940	01 52 11.44	+11 03 48.2	15.8V	095
1986 TF6	1986 10 08.99090	01 47 44.40	+10 54 57.2	16.2V	095
1986 TD7	1986 10 05.98977	02 32 02.66	+13 41 36.6		095
1986 TE7	1986 10 12.06773	02 37 16.70	+16 09 21.3	16.0V	095
1986 TM8 *	1986 10 02.79977	22 20 41.08	+03 27 21.3	16.0V	E 095
1986 TN8 *	1986 10 02.79977	22 20 50.36	-00 16 55.6	16.2V	095
1986 TO8 *	1986 10 02.79977	22 27 40.76	+00 11 16.9	15.5V	095
1986 TP8 *	1986 10 02.79977	22 29 05.58	-01 39 32.4	16.2V	095
1986 TQ8 *	1986 10 02.79977	22 29 10.38	+03 49 15.4	16.0V	E 095
1986 TR8 *	1986 10 02.79977	22 37 01.76	-00 15 33.7	16.2V	095
1986 TS8 *	1986 10 02.79977	22 41 07.60	+03 19 30.0	15.8V	E 095
1986 TT8 *	1986 10 02.79977	22 43 44.88	-03 47 21.6	16.0V	095
1986 TU8 *	1986 10 02.87262	23 24 36.75	-00 35 54.2	16.0V	E 095
1986 TV8 *	1986 10 02.87262	23 28 43.33	-02 18 29.5	16.5V	M 095
1986 TW8 *	1986 10 02.87262	23 30 59.13	-02 20 03.2	16.2V	095
1986 TX8 *	1986 10 02.87262	23 32 43.71	-03 41 13.1	16.5V	095
1986 TY8 *	1986 10 02.87262	23 34 05.60	-02 21 29.6	16.0V	095
1986 TZ8 *	1986 10 02.87262	23 35 21.93	-00 20 59.0	16.5V	095
1986 TA9 *	1986 10 02.87262	23 36 32.16	-06 37 25.0	16.5V	N 095
1986 TB9 *	1986 10 02.87262	23 40 45.34	-00 51 05.6	16.5V	095
1986 TC9 *	1986 10 02.87262	23 40 46.59	+01 40 19.8	16.0V	E 095
1986 TD9 *	1986 10 02.87262	23 43 50.18	-02 29 53.2	16.2V	095
1986 TD9	1986 10 08.84440	23 40 22.62	-02 43 46.9	16.0V	095
1986 TE9 *	1986 10 02.87262	23 46 43.94	-04 44 05.2	16.5V	M 095
1986 TF9 *	1986 10 02.87262	23 46 53.74	-01 08 33.6	16.2V	095
1986 TG9 *	1986 10 02.87262	23 52 58.90	-07 12 55.4	15.0V	E 095
1986 TH9 *	1986 10 02.87262	23 53 58.98	+00 03 24.4	16.0V	095
1986 TJ9 *	1986 10 02.94135	00 50 50.11	+22 22 11.0	16.2V	095
1986 TK9 *	1986 10 02.94135	00 54 21.30	+20 31 13.2	16.0V	095
1986 TK9	1986 10 08.91869	00 49 21.85	+20 06 37.4	16.2V	095
1986 TL9 *	1986 10 02.94135	00 55 47.58	+22 56 44.5	16.5V	095
1986 TM9 *	1986 10 02.94135	00 57 49.57	+22 23 16.6	16.2V	095
1986 TM9	1986 10 08.91869	00 53 01.40	+21 55 04.3	16.2V	095
1986 TN9 *	1986 10 02.94135	01 00 15.12	+23 02 53.2	16.0V	095
1986 TN9	1986 10 08.91869	00 54 47.41	+22 42 08.9	16.0V	095
1986 TO9 *	1986 10 02.94135	01 01 22.64	+20 23 47.2	16.2V	095
1986 TO9	1986 10 08.91869	00 56 25.98	+20 04 54.9	16.0V	095
1986 TP9 *	1986 10 02.94135	01 03 08.18	+27 54 09.2	16.5V	E 095
1986 TQ9 *	1986 10 02.94135	01 06 19.30	+20 25 14.3	16.2V	095

1986 TQ9	1986 10 08.91869	01 01 12.32	+19 54 59.6	16.5V	095
1986 TR9 *	1986 10 02.94135	01 06 54.00	+18 37 39.2	16.5V	E 095
1986 TS9 *	1986 10 02.94135	01 07 28.26	+24 04 49.4	16.2V	095
1986 TS9	1986 10 08.91869	01 02 50.30	+23 48 41.1	16.5V	095
1986 TT9 *	1986 10 02.94135	01 07 31.26	+22 35 10.4	16.5V	095
1986 TU9 *	1986 10 02.94135	01 10 39.08	+25 08 18.2	16.5V	M 095
1986 TV9 *	1986 10 02.94135	01 16 50.24	+23 05 25.1	16.5V	095
1986 TW9 *	1986 10 02.94135	01 22 30.38	+20 43 59.4	15.5V	E 095
1986 TW9	1986 10 08.91869	01 17 38.12	+20 30 35.8	16.0V	E 095
1986 TX9 *	1986 10 03.00940	01 21 08.28	+11 10 00.0	16.0V	E 095
1986 TX9	1986 10 08.99090	01 16 01.82	+10 50 08.4	15.8V	E 095
1986 TY9 *	1986 10 03.00940	01 24 40.05	+08 25 24.5	16.5V	E 095
1986 TZ9 *	1986 10 03.00940	01 26 09.72	+07 42 28.4	16.5V	095
1986 TZ9	1986 10 08.99090	01 21 45.36	+07 05 32.1	16.2V	095
1986 TA10*	1986 10 03.00940	01 26 56.76	+07 12 42.1	16.2V	095
1986 TA10	1986 10 08.99090	01 21 40.61	+06 48 07.5	16.2V	095
1986 TB10*	1986 10 03.00940	01 27 41.74	+10 31 04.4	16.5V	M 095
1986 TC10*	1986 10 03.00940	01 28 02.62	+09 05 05.3	16.0V	095
1986 TC10	1986 10 08.99090	01 23 25.84	+08 34 01.2	16.0V	095
1986 TD10*	1986 10 03.00940	01 29 32.10	+06 47 46.1	16.2V	095
1986 TE10*	1986 10 03.00940	01 31 17.12	+12 46 02.6	16.2V	095
1986 TE10	1986 10 08.99090	01 27 10.45	+12 14 52.4	16.2V	M 095
1986 TF10*	1986 10 03.00940	01 31 19.40	+06 07 55.2	16.2V	E 095
1986 TF10	1986 10 08.99090	01 27 03.82	+05 54 46.8	16.2V	095
1986 TG10*	1986 10 03.00940	01 33 17.52	+08 12 42.0	16.2V	095
1986 TH10*	1986 10 03.00940	01 35 07.56	+11 58 37.5	16.5V	095
1986 TJ10*	1986 10 03.00940	01 35 14.58	+06 58 29.1	16.5V	095
1986 TK10*	1986 10 03.00940	01 36 55.52	+07 37 23.1	15.5V	095
1986 TK10	1986 10 08.99090	01 31 46.52	+07 30 57.2	15.5V	095
1986 TL10*	1986 10 03.00940	01 38 07.65	+07 02 13.2	16.8V	095
1986 TM10*	1986 10 03.00940	01 38 33.61	+10 46 17.8	15.8V	095
1986 TM10	1986 10 08.99090	01 34 19.73	+10 14 17.4	15.8V	095
1986 TN10*	1986 10 03.00940	01 38 43.61	+07 38 09.8	16.2V	095
1986 TO10*	1986 10 03.00940	01 39 08.64	+11 47 10.5	16.5V	M 095
1986 TP10*	1986 10 03.00940	01 39 19.37	+09 23 52.8	16.2V	095
1986 TP10	1986 10 08.99090	01 34 51.90	+09 00 42.4	16.5V	095
1986 TQ10*	1986 10 03.00940	01 39 22.36	+10 00 12.8	16.5V	095
1986 TR10*	1986 10 03.00940	01 39 30.00	+06 21 38.6	16.5V	095
1986 TS10*	1986 10 03.00940	01 41 17.29	+12 38 04.8	16.2V	095
1986 TT10*	1986 10 03.00940	01 42 29.35	+12 53 46.2	16.0V	095
1986 TU10*	1986 10 03.00940	01 43 12.78	+12 38 37.4	16.5V	095
1986 TV10*	1986 10 03.00940	01 45 29.62	+12 33 35.0	16.0V	095
1986 TV10	1986 10 08.99090	01 40 58.78	+12 10 58.8	16.2V	095
1986 TW10*	1986 10 03.00940	01 45 43.89	+08 55 40.2	16.2V	095
1986 TX10*	1986 10 03.00940	01 46 29.84	+05 40 54.4	16.2V	E 095
1986 TY10*	1986 10 03.00940	01 48 40.21	+11 00 19.7	16.2V	095
1986 TZ10*	1986 10 03.00940	01 58 37.06	+10 59 25.5	16.5V	N 095
1986 TA11*	1986 10 03.07884	02 16 47.85	+30 14 27.4	15.8V	E 095
1986 TB11*	1986 10 03.07884	02 22 58.74	+31 45 41.6	16.0V	095
1986 TC11*	1986 10 03.07884	02 26 23.69	+27 59 51.8	16.0V	095
1986 TD11*	1986 10 03.07884	02 28 13.72	+29 23 07.0	16.0V	095
1986 TE11*	1986 10 03.07884	02 32 35.67	+28 01 32.6	16.5V	095
1986 TF11*	1986 10 03.07884	02 38 03.14	+33 48 37.2	16.5V	095
1986 TG11*	1986 10 03.07884	02 38 16.48	+30 28 30.0	16.2V	095
1986 TH11*	1986 10 03.07884	02 38 18.90	+29 12 33.2	15.5V	095
1986 TJ11*	1986 10 03.07884	02 39 36.78	+34 58 47.8	16.5V	E 095
1986 TK11*	1986 10 03.07884	02 42 34.93	+34 21 02.0	16.5V	E 095
1986 TL11*	1986 10 03.07884	02 47 05.48	+28 10 59.4	15.5V	095
1986 TM11*	1986 10 03.07884	02 54 08.72	+30 01 32.0	16.2V	095

1986	TN11*	1986	10	03.82287	22	07	05.66	+02	08	32.5	16.0V	E	095
1986	TO11*	1986	10	03.82287	22	09	15.48	+03	59	30.2	16.5V		095
1986	TP11*	1986	10	03.82287	22	09	32.84	+03	07	25.6	16.5V		095
1986	TQ11*	1986	10	03.82287	22	15	34.83	+08	40	43.6	16.0V		095
1986	TR11*	1986	10	03.97910	01	42	54.98	+21	44	02.5	16.0V		095
1986	TR11	1986	10	07.00164	01	40	18.46	+21	17	03.9	16.0V	E	095
1986	TR11	1986	10	11.99273	01	35	46.42	+20	27	34.0	15.5V		095
1986	TS11*	1986	10	03.97910	01	43	47.23	+23	11	56.8	16.5V		095
1986	TT11*	1986	10	03.97910	01	44	55.38	+18	55	57.4	16.5V		095
1986	TT11	1986	10	07.00164	01	41	38.16	+19	06	49.7	16.0V	E	095
1986	TT11	1986	10	11.99273	01	35	55.38	+19	20	56.5	16.5V		095
1986	TU11*	1986	10	03.97910	01	47	09.90	+19	20	45.8	16.5V		095
1986	TU11	1986	10	07.00164	01	45	30.18	+18	50	39.8	16.5V		095
1986	TU11	1986	10	11.99273	01	42	26.26	+17	55	46.8	16.0V		095
1986	TV11*	1986	10	03.97910	01	48	06.34	+23	38	22.8	17.0V		095
1986	TW11*	1986	10	03.97910	01	51	02.11	+21	04	32.4	16.5V		095
1986	TX11*	1986	10	03.97910	01	55	13.51	+20	02	09.6	17.0V		095
1986	TY11*	1986	10	03.97910	01	55	52.22	+24	40	25.3	16.5V	E	095
1986	TZ11*	1986	10	03.97910	01	57	50.58	+20	12	32.8	16.0V		095
1986	TZ11	1986	10	07.00164	01	55	48.41	+20	04	49.9	16.5V		095
1986	TZ11	1986	10	11.99273	01	52	09.96	+19	48	50.8	16.5V	I	095
1986	TA12*	1986	10	03.97910	02	07	06.30	+16	41	25.9	16.5V	E	095
1986	TB12*	1986	10	03.97910	02	11	44.98	+19	26	50.1	16.5V	E	095
1986	TB12	1986	10	07.00164	02	09	45.09	+19	24	37.2	16.0V		095
1986	TB12	1986	10	11.99273	02	06	02.06	+19	17	39.3	16.0V	E	095
1986	TC12*	1986	10	03.97910	02	11	59.06	+19	14	23.6	16.5V	E	095
1986	TC12	1986	10	07.00164	02	09	59.13	+18	59	50.3	16.5V		095
1986	TC12	1986	10	11.99273	02	06	14.53	+18	31	32.8	16.5V	E	095
1986	TD12*	1986	10	03.97910	02	12	31.83	+19	30	02.1	16.0V	E	095
1986	TD12	1986	10	07.00164	02	10	41.09	+19	08	15.6	16.0V		095
1986	TE12*	1986	10	04.05028	02	24	45.94	+19	05	24.6	16.0V	E	095
1986	TE12	1986	10	05.98977	02	23	43.36	+18	55	00.5	15.5V	E	095
1986	TE12	1986	10	07.07490	02	23	05.20	+18	48	42.3	16.0V	E	095
1986	TF12*	1986	10	04.05028	02	31	13.68	+16	13	03.1	16.5V		095
1986	TG12*	1986	10	04.05028	02	32	44.53	+12	23	23.5	16.5V		095
1986	TH12*	1986	10	04.05028	02	44	30.54	+16	56	25.7	16.5V		095
1986	TJ12*	1986	10	05.91052	00	14	23.32	+10	58	53.2	16.0V		095
1986	TK12*	1986	10	05.91052	00	19	57.86	+11	26	53.8	14.5V		095
1986	TL12*	1986	10	05.91052	00	21	29.56	+06	35	56.0	16.5V		095
1986	TM12*	1986	10	05.91052	00	21	48.60	+05	41	17.8	16.5V		095
1986	TN12*	1986	10	05.91052	00	23	30.42	+09	32	38.2	16.2V		095
1986	TO12*	1986	10	05.91052	00	23	32.94	+04	14	09.4	16.0V	E	095
1986	TP12*	1986	10	05.91052	00	24	10.73	+10	09	07.1	16.2V		095
1986	TQ12*	1986	10	05.91052	00	32	07.24	+07	44	14.7	16.3V	E	095
1986	TR12*	1986	10	05.91052	00	32	19.32	+06	47	15.6	16.3V	E	095
1986	TS12*	1986	10	05.98977	01	58	45.76	+14	10	16.2	16.0V	E	095
1986	TT12*	1986	10	05.98977	02	01	01.62	+12	04	14.7	16.2V	E	095
1986	TU12*	1986	10	05.98977	02	02	20.02	+16	58	46.7	16.0V		095
1986	TV12*	1986	10	05.98977	02	02	51.56	+12	35	01.2	16.0V		095
1986	TW12*	1986	10	05.98977	02	08	46.03	+16	31	11.8	16.0V		095
1986	TX12*	1986	10	05.98977	02	09	02.54	+09	44	16.0	16.2V	E	095
1986	TY12*	1986	10	05.98977	02	11	53.05	+17	06	08.6	16.5V		095
1986	TY12	1986	10	11.99273	02	06	38.31	+16	51	30.2	16.5V	E	095
1986	TZ12*	1986	10	05.98977	02	13	16.82	+13	02	37.0	16.5V		095
1986	TA13*	1986	10	05.98977	02	14	34.70	+09	14	26.2	16.0V	E	095
1986	TB13*	1986	10	05.98977	02	15	30.82	+09	56	33.0	16.0V	E	095
1986	TC13*	1986	10	05.98977	02	17	15.01	+12	40	25.3	16.0V		095
1986	TD13*	1986	10	05.98977	02	19	26.72	+18	43	04.0	16.0V	E	095
1986	TE13*	1986	10	05.98977	02	20	04.78	+13	06	53.9	16.0V		095

1986	TF13*	1986	10	05.98977	02	20	32.92	+11	59	29.0	16.5V	095
1986	TG13*	1986	10	05.98977	02	24	37.62	+15	48	30.7	16.5V	095
1986	TH13*	1986	10	05.98977	02	25	18.26	+11	37	52.4	16.0V	095
1986	TJ13*	1986	10	05.98977	02	27	32.93	+12	02	10.5	16.2V	095
1986	TK13*	1986	10	05.98977	02	29	22.10	+10	12	03.2	16.2V	095
1986	TL13*	1986	10	05.98977	02	30	06.58	+10	34	49.0	16.0V	095
1986	TM13*	1986	10	05.98977	02	30	18.87	+11	08	43.7	16.5V	s 095
1986	TN13*	1986	10	05.98977	02	31	18.17	+11	48	48.3	16.5V	095
1986	TO13*	1986	10	05.98977	02	31	27.75	+09	59	13.3	16.5V	E 095
1986	TP13*	1986	10	05.98977	02	32	56.40	+11	25	38.2	16.5V	095
1986	TQ13*	1986	10	06.76521	21	52	30.79	+11	30	09.6	16.5V	095
1986	TR13*	1986	10	06.76521	21	52	58.56	+08	33	18.5	16.0V	095
1986	TS13*	1986	10	06.76521	21	53	08.27	+12	23	55.7	15.0V	E 095
1986	TT13*	1986	10	06.76521	21	55	38.08	+10	34	24.0	16.0V	095
1986	TU13*	1986	10	06.76521	22	00	28.73	+05	07	52.2	15.5V	095
1986	TV13*	1986	10	06.76521	22	00	42.39	+07	17	35.8	16.0V	095
1986	TW13*	1986	10	06.76521	22	11	06.20	+11	54	17.6	16.0V	E 095
1986	TX13*	1986	10	06.76521	22	11	11.67	+06	07	02.7	16.0V	095
1986	TY13*	1986	10	06.76521	22	12	43.20	+03	18	52.3	16.5V	095
1986	TZ13*	1986	10	06.84611	23	05	04.42	-07	55	45.6	15.5V	E 095
1986	TA14*	1986	10	06.84611	23	05	45.12	-07	15	22.9	16.0V	E 095
1986	TB14*	1986	10	06.84611	23	07	45.50	-07	28	47.4	16.0V	E 095
1986	TC14*	1986	10	06.84611	23	09	22.51	-13	03	58.3	16.0V	095
1986	TD14*	1986	10	06.84611	23	10	53.54	-06	53	41.1	16.0V	095
1986	TE14*	1986	10	06.84611	23	15	18.94	-13	44	11.8	16.0V	E 095
1986	TF14*	1986	10	06.84611	23	17	45.51	-05	50	26.5	15.5V	E 095
1986	TG14*	1986	10	06.84611	23	18	16.78	-09	33	55.4	16.0V	095
1986	TH14*	1986	10	06.84611	23	19	17.65	-10	09	26.9	16.0V	095
1986	TJ14*	1986	10	06.84611	23	22	13.48	-06	14	57.3	16.0V	095
1986	TK14*	1986	10	06.84611	23	24	48.30	-10	54	18.6	16.5V	095
1986	TL14*	1986	10	06.84611	23	25	37.76	-05	51	35.7	16.0V	E 095
1986	TM14*	1986	10	06.84611	23	27	35.30	-05	13	28.5	15.5V	E 095
1986	TN14*	1986	10	06.84611	23	28	42.28	-11	45	23.9	15.5V	095
1986	TO14*	1986	10	06.84611	23	29	17.17	-05	03	59.8	16.0V	E 095
1986	TP14*	1986	10	06.84611	23	31	24.56	-12	03	51.6	15.5V	095
1986	TQ14*	1986	10	06.84611	23	32	29.55	-07	26	55.4	15.5V	095
1986	TR14*	1986	10	06.84611	23	34	01.42	-06	01	21.1	16.0V	095
1986	TS14*	1986	10	06.84611	23	35	06.78	-06	48	59.2	15.5V	095
1986	TT14*	1986	10	06.92492	00	05	29.16	+00	04	04.2	17.0V	E 095
1986	TU14*	1986	10	06.92492	00	06	03.21	-01	55	16.8	16.0V	095
1986	TV14*	1986	10	06.92492	00	07	33.71	-06	32	22.5	17.0V	095
1986	TW14*	1986	10	06.92492	00	07	54.94	-02	13	59.9	16.5V	095
1986	TX14*	1986	10	06.92492	00	08	57.78	-04	22	56.0	17.0V	095
1986	TY14*	1986	10	06.92492	00	09	26.39	+01	23	46.6	16.5V	E 095
1986	TZ14*	1986	10	06.92492	00	13	17.30	-00	45	30.5	16.5V	M 095
1986	TA15*	1986	10	06.92492	00	13	38.85	+00	47	32.6	15.5V	095
1986	TA15	1986	10	10.90642	00	11	08.56	+00	27	46.1	16.0V	E 095
1986	TB15*	1986	10	06.92492	00	14	41.32	-01	40	13.8	16.5V	095
1986	TB15	1986	10	10.90642	00	11	05.91	-01	50	26.9	16.5V	095
1986	TC15*	1986	10	06.92492	00	16	17.36	-05	44	33.2	16.5V	095
1986	TD15*	1986	10	06.92492	00	23	03.12	-00	53	19.8	16.5V	095
1986	TE15*	1986	10	06.92492	00	25	02.18	-06	38	05.3	17.0V	E 095
1986	TF15*	1986	10	06.92492	00	25	22.26	+01	13	06.5	15.5V	E 095
1986	TF15	1986	10	10.90642	00	21	13.34	+01	14	56.4	16.0V	E 095
1986	TF15	1986	10	11.92746	00	20	11.45	+01	15	31.3		095
1986	TG15*	1986	10	06.92492	00	26	35.70	-00	09	09.7	16.5V	M 095
1986	TH15*	1986	10	06.92492	00	26	51.75	-03	37	44.4	16.0V	095
1986	TH15	1986	10	10.90642	00	23	31.86	-04	00	34.2	16.0V	095
1986	TJ15*	1986	10	06.92492	00	29	43.92	-03	10	19.8	17.0V	095

1986	TK15*	1986	10	06.92492	00	33	55.87	-00	04	29.0	17.0V	E	095
1986	TL15*	1986	10	06.92492	00	34	52.30	-01	47	23.9	16.0V	E	095
1986	TM15*	1986	10	06.92492	00	35	42.65	-03	45	54.3	16.5V	E	095
1986	TN15*	1986	10	07.00164	01	41	55.47	+18	42	10.3	16.0V	E	095
1986	TO15*	1986	10	07.00164	01	42	43.78	+25	30	49.3	16.5V	E	095
1986	TP15*	1986	10	07.00164	01	42	50.03	+17	15	15.6	16.0V	E	095
1986	TQ15*	1986	10	07.00164	01	44	28.17	+22	45	45.1	16.0V		095
1986	TR15*	1986	10	07.00164	01	46	45.14	+20	57	52.3	16.5V		095
1986	TS15*	1986	10	07.00164	01	49	17.22	+20	40	48.8	16.5V		095
1986	TT15*	1986	10	07.00164	01	57	16.64	+22	23	52.6	16.5V		095
1986	TU15*	1986	10	07.00164	02	13	09.18	+21	13	10.0	16.0V	E	095
1986	TV15*	1986	10	07.00164	02	13	23.45	+20	29	18.6	16.0V	E	095
1986	TW15*	1986	10	07.00164	02	14	40.58	+18	41	12.1	16.0V	E	095
1986	TX15*	1986	10	07.00164	02	15	12.08	+19	31	48.0	15.0V	E	095
1986	TY15*	1986	10	07.07490	02	20	58.82	+18	11	53.2	16.5V	E	095
1986	TZ15*	1986	10	07.07490	02	26	17.53	+21	59	55.9	16.5V	E	095
1986	TA16*	1986	10	07.07490	02	35	53.96	+19	19	00.4	16.5V		095
1986	TB16*	1986	10	07.07490	02	47	14.44	+22	03	23.1	16.0V	E	095
1986	TC16*	1986	10	07.07490	02	59	56.40	+17	11	01.7		E	095
1986	TD16*	1986	10	08.84440	23	25	06.46	-04	36	50.9	16.0V	M	095
1986	TE16*	1986	10	08.84440	23	39	24.61	-08	02	10.2	16.0V	N	095
1986	TE16	1986	10	10.90642	23	53	56.92	-03	36	19.5	16.5V	E	095
1986	TF16*	1986	10	08.84440	23	40	28.94	-06	21	41.0	15.5V		095
1986	TG16*	1986	10	08.91869	00	56	44.51	+24	37	16.6	16.5V		095
1986	TH16*	1986	10	08.91869	00	58	44.43	+24	23	28.1	16.5V		095
1986	TJ16*	1986	10	08.91869	01	07	11.32	+20	36	25.4	16.2V		095
1986	TK16*	1986	10	08.91869	01	10	26.99	+20	36	01.6	16.2V		095
1986	TL16*	1986	10	08.91869	01	12	01.77	+18	10	02.0	16.2V	E	095
1986	TM16*	1986	10	08.91869	01	15	26.46	+21	31	59.9	16.5V		095
1986	TN16*	1986	10	08.99090	01	25	59.17	+04	40	44.3	16.2V	E	095
1986	TO16*	1986	10	08.99090	01	26	42.47	+06	14	25.6	16.2V	M	095
1986	TP16*	1986	10	08.99090	01	28	07.48	+04	34	39.9	16.2V	E	095
1986	TQ16*	1986	10	08.99090	01	28	12.77	+11	42	29.6	16.2V		095
1986	TR16*	1986	10	08.99090	01	30	34.46	+09	16	40.7	16.5V		095
1986	TS16*	1986	10	08.99090	01	31	15.76	+10	18	55.5	16.5V		095
1986	TT16*	1986	10	08.99090	01	33	52.09	+10	23	20.6	16.2V	M	095
1986	TU16*	1986	10	08.99090	01	36	04.98	+07	21	24.9	16.5V		095
1986	TV16*	1986	10	08.99090	01	39	12.86	+06	06	58.7			095
1986	TW16*	1986	10	08.99090	01	48	49.90	+13	05	20.0	16.2V	N	095
1986	TX16*	1986	10	10.83838	23	44	21.50	+00	32	52.3	16.0V	E	095
1986	TY16*	1986	10	10.83838	23	44	46.75	+01	56	40.7	16.2V	E	095
1986	TZ16*	1986	10	10.83838	23	47	26.13	+02	04	08.6	16.0V	M	095
1986	TA17*	1986	10	10.83838	23	48	30.78	-01	09	49.2	16.0V	E	095
1986	TB17*	1986	10	10.83838	23	51	02.84	+04	27	33.5	16.2V		095
1986	TC17*	1986	10	10.83838	23	52	56.72	+04	07	30.7	16.5V		095
1986	TD17*	1986	10	10.83838	00	03	26.17	+01	59	09.3	16.2V	M	095
1986	TE17*	1986	10	10.83838	00	06	08.22	+00	50	34.6	15.5V		095
1986	TE17	1986	10	10.90642	00	06	05.17	+00	50	22.2	16.5V	E	095
1986	TF17*	1986	10	10.90642	23	57	34.00	-02	22	02.9	16.0V		095
1986	TF17	1986	10	11.92746	23	56	56.74	-02	26	12.6	16.0V		095
1986	TG17*	1986	10	10.90642	00	11	31.91	-00	31	54.4	16.5V		095
1986	TH17*	1986	10	10.97100	02	59	23.24	+36	40	15.7	14.5V		095
1986	TH17	1986	10	11.86359	02	58	55.72	+36	38	52.7	14.5V		095
1986	TJ17*	1986	10	11.99273	01	25	54.34	+20	42	42.2	16.5V	E	095
1986	TK17*	1986	10	11.99273	01	28	17.10	+21	34	49.1	16.5V	E	095
1986	TL17*	1986	10	11.99273	01	31	21.15	+17	26	27.3	16.5V	E	095
1986	TM17*	1986	10	11.99273	01	35	21.48	+21	50	37.2	16.0V		095
1986	TN17*	1986	10	11.99273	01	38	39.03	+19	00	47.0	16.0V		095
1986	TO17*	1986	10	11.99273	01	44	50.32	+17	29	27.3	16.5V		095

1986 TP17*	1986	10	11.99273	01	49	04.97	+20	05	33.9	16.5V	095
1986 TQ17*	1986	10	11.99273	01	50	15.45	+22	59	16.6	17.0V	095
1986 TR17*	1986	10	11.99273	01	52	32.29	+21	51	03.4	17.0V	095
1986 TS17*	1986	10	11.99273	01	55	10.27	+17	21	19.4	16.5V	095
1986 TT17*	1986	10	11.99273	01	59	46.61	+21	48	09.2	16.0V	095
1986 TU17*	1986	10	11.99273	02	07	17.70	+21	25	19.0	17.0V	E 095
1986 TV17*	1986	10	12.06773	02	36	36.51	+16	02	24.7	16.5V	095
1986 TW17*	1986	10	12.06773	02	38	35.41	+14	02	36.1	16.5V	095
1986 TX17*	1986	10	12.06773	02	49	00.44	+14	56	20.9	16.5V	095
1986 TY17*	1986	10	12.06773	03	06	11.38	+15	51	41.0	16.5V	E 095
1986 UA	1986	10	04.05028	02	45	50.40	+13	02	48.1		095
1986 UA	1986	10	07.07490	02	44	30.86	+12	54	15.7		E 095
1986 UA	1986	10	12.06773	02	41	52.70	+12	38	25.7		E 095
1986 UO	1986	10	07.07490	02	31	05.26	+16	01	22.9		095
1986 UQ	1986	10	05.98977	02	37	11.95	+17	25	00.8		E 095
1986 UQ	1986	10	12.06773	02	32	36.42	+16	56	53.7		095
1986 UU	1986	10	07.07490	02	34	43.15	+22	00	59.5		E 095
1986 UU	1986	10	12.06773	02	31	42.78	+21	24	13.4		095
1986 UU	1986	11	27.74559	01	59	40.34	+13	43	07.7		095
1986 UM1	1986	09	10.01109	00	47	57.10	+00	45	50.5	15.5V	095
1986 UM1	1986	09	14.03249	00	45	12.52	+00	32	47.7	15.5V	095
1986 UM1	1986	10	06.92492	00	26	13.55	-00	49	24.8	16.0V	095
1986 UM1	1986	10	10.90642	00	22	50.13	-01	02	14.3	16.0V	095
1986 UN2	1986	10	03.00940	01	57	11.94	+08	36	26.0	16.5V	E 095
1986 UN2	1986	11	04.83282	01	31	28.44	+04	34	39.6	16.0V	095
1986 UU2	1986	11	04.83282	01	36	05.04	+05	26	08.8	16.0V	095
1986 UD3	1986	10	03.82287	22	21	08.96	+09	36	57.6	15.5V	E 095
1986 UD3	1986	10	06.76521	22	20	13.96	+09	08	06.0	15.5V	E 095
1986 UH3	1986	10	12.06773	02	27	03.36	+15	58	05.8	16.5V	E 095
1986 VG	1986	10	07.00164	02	16	56.06	+23	23	59.6		E 095
1986 VD1	1986	10	02.94135	01	16	01.28	+25	42	35.2	14.5V	095
1986 VD1	1986	10	08.91869	01	10	37.13	+25	37	03.8	14.8V	095
1986 VQ2	1986	10	03.97910	01	59	33.81	+23	31	57.9	16.5V	095
1986 VQ2	1986	10	07.00164	01	57	21.72	+23	23	57.3	16.5V	095
1986 VQ2	1986	10	11.99273	01	53	16.43	+23	04	27.7	16.0V	095
1986 VG3	1986	10	07.00164	02	04	52.30	+23	12	47.9	15.5V	095
1986 VG3	1986	10	11.99273	02	00	58.22	+22	33	25.5	16.5V	095
1986 VF5	1986	10	03.97910	02	01	10.91	+18	53	08.9	16.0V	095
1986 VF5	1986	10	07.00164	01	58	50.58	+18	55	08.3	15.5V	095
1986 VF5	1986	10	11.99273	01	54	40.14	+18	55	55.0	15.5V	095
1986 VK6	1986	10	04.05028	02	47	55.29	+16	11	01.1		095
1986 VK6	1986	10	07.07490	02	46	29.94	+16	20	22.1	16.5V	095
1986 VK6	1986	10	12.06773	02	43	22.39	+16	33	22.1		095
1986 VM6	1986	10	04.05028	02	50	56.21	+14	03	30.7	16.5V	095
1986 VM6	1986	10	07.07490	02	49	34.31	+14	06	39.3	16.0V	095
1986 VM6	1986	10	12.06773	02	46	35.84	+14	09	31.4	16.0V	095
1986 VV8 *	1986	11	04.75992	00	20	43.87	+10	07	10.6	15.5V	E 095
1986 VW8 *	1986	11	04.75992	00	22	18.88	+06	29	34.0	16.0V	095
1986 VX8 *	1986	11	04.75992	00	32	21.42	+08	06	25.5	15.5V	095
1986 VY8 *	1986	11	04.75992	00	35	41.37	+06	08	12.4	15.5V	095
1986 VZ8 *	1986	11	04.75992	00	54	25.74	+13	49	28.8	15.0V	E 095
1986 VA9 *	1986	11	04.83282	01	15	59.74	+00	08	12.6	16.0V	095
1986 VB9 *	1986	11	04.83282	01	32	51.25	+02	59	30.4	15.5V	095
1986 VC9 *	1986	11	04.83282	01	34	13.38	+02	29	46.0	16.0V	095
1986 VD9 *	1986	11	04.83282	01	34	45.03	+03	18	47.6	15.5V	095
1986 VE9 *	1986	11	04.83282	01	38	10.86	+01	45	04.4	15.5V	095
1986 VF9 *	1986	11	04.83282	01	38	29.18	+03	05	28.5	15.0V	095
1986 VG9 *	1986	11	04.83282	01	48	54.68	+02	56	04.4	15.0V	E 095
1986 VH9 *	1986	11	04.83282	01	49	23.18	+05	40	10.7	15.0V	S 095

1986 VJ9 *	1986 11 04.83282	01 49 25.65	+05 07 34.4	16.5V	E	095
1986 WM3	1986 10 02.94135	01 23 50.26	+22 55 33.2	15.5V	E	095
1986 WM3	1986 10 08.91869	01 17 40.26	+22 46 31.4	15.5V	E	095
1986 WF5	1986 09 09.85693	22 15 39.91	+10 09 28.0	15.5V		095
1986 WF5	1986 09 13.95749	22 12 39.07	+09 48 39.0	16.0V	E	095
1986 WM5	1986 09 09.85693	22 35 14.73	+07 15 18.3	15.5V	E	095
1986 WM5	1986 09 29.85135	22 21 44.52	+06 05 53.7	15.5V		095
1986 WM5	1986 10 03.82287	22 19 57.87	+05 50 37.5	16.0V		095
1988 AC	1986 09 07.95147	00 27 32.97	+09 49 11.8			095
1988 AC	1986 09 11.95554	00 24 58.07	+09 31 01.0			095
1988 AC	1986 10 05.91052	00 06 59.34	+07 05 05.5			095
1988 BA	1986 09 29.92844	23 33 08.10	-06 41 24.8			095
1988 BB	1986 10 02.79977	22 44 50.56	+00 32 46.6			095
1988 CK	1986 09 08.87521	22 19 54.72	-07 28 50.6			095
1988 CL	1986 08 12.95570	23 06 59.00	-04 52 28.7			095
1988 CL	1986 08 13.96193	23 06 16.52	-04 52 30.2	16.0V		095
1988 CL	1986 09 06.90472	22 44 38.67	-05 15 23.4	16.2V	E	095
1988 CM2	1986 10 03.00940	01 46 05.09	+06 49 02.1			095
1988 CN2	1986 10 03.00940	01 31 12.97	+08 58 49.0			095
1988 CN2	1986 10 08.99090	01 26 57.24	+08 32 07.5			095
1989 BE	1986 09 06.98042	00 06 04.56	-00 48 07.8	16.0V		095
1989 BE	1986 09 15.02825	00 00 36.10	-01 12 37.6	16.0V		095
1989 BE	1986 10 02.87262	23 47 52.82	-02 07 48.1	16.0V		095
1989 CQ1	1986 10 03.07884	02 49 35.76	+34 29 46.8	16.2V	E	095
1989 EF	1986 08 29.92286	22 57 54.14	-03 23 08.0	16.2V		095
1989 EF	1986 09 06.90472	22 51 49.88	-04 36 29.3	16.0V	E	095
4116 P-L	1986 08 12.95570	23 00 46.88	-03 19 57.4			095
4116 P-L	1986 08 29.92286	22 51 55.75	-04 14 08.3			095
4116 P-L	1986 09 06.90472	22 46 25.20	-04 53 45.0		E	095
1017 T-3	1986 09 06.90472	22 33 36.93	+02 58 56.6		E	095
1017 T-3	1986 09 29.85135	22 18 12.11	+01 26 15.5			095
3019 T-3	1986 08 29.85203	21 54 08.68	-02 44 24.6		E	095
3019 T-3	1986 09 06.82972	21 49 00.47	-03 51 27.8			095
20	1986 08 08.84513	19 53 16.56	-19 47 16.8			095
27	1986 10 07.07490	02 59 30.64	+14 24 58.6		E	095
27	1986 10 12.06773	02 57 08.79	+14 13 02.5			095
27	1986 11 27.74559	02 17 06.46	+11 32 55.7			095
29	1986 08 09.94784	22 55 52.04	-11 15 58.4		E	095
29	1986 08 14.97569	22 52 08.06	-11 30 07.4			095
29	1986 08 31.89587	22 36 55.11	-12 21 59.0			095
35	1986 08 06.96875	22 47 12.76	-12 31 10.4			095
35	1986 08 08.98957	22 45 48.67	-12 37 08.2			095
35	1986 08 14.97569	22 41 22.30	-12 55 29.9			095
35	1986 08 31.89587	22 27 30.12	-13 46 37.2			095
35	1986 09 08.87521	22 21 01.78	-14 06 29.3			095
52	1986 08 09.94784	23 35 13.87	-08 36 32.5		E	095
52	1986 08 13.96193	23 33 36.78	-08 58 04.1		E	095
52	1986 08 18.02764	23 31 41.85	-09 21 13.2		E	095
52	1986 08 30.89424	23 24 07.76	-10 40 19.4			095
52	1986 09 07.87911	23 18 37.87	-11 30 27.8			095
52	1986 09 12.89567	23 15 03.00	-12 00 43.1			095
58	1986 09 10.01109	00 49 07.96	+02 07 13.7			095
58	1986 09 14.03249	00 46 39.04	+01 42 46.3			095
58	1986 10 06.92492	00 29 22.92	-00 48 50.8			095
58	1986 10 10.90642	00 26 18.11	-01 13 48.8		E	095
58	1986 10 11.92746	00 25 31.78	-01 19 59.4		E	095
60	1986 09 07.95147	00 22 29.67	+03 58 58.2		E	095
60	1986 10 02.87262	00 01 36.88	+01 01 41.0		E	095
60	1986 10 08.84440	23 56 28.33	+00 16 35.0		E	095

60	1986	10	10.83838	23	54	50.84	+00	02	04.6	095
60	1986	10	10.90642	23	54	47.84	+00	01	36.2	095
60	1986	10	11.92746	23	53	59.24	-00	05	39.5	095
64	1986	09	07.95147	00	24	43.53	+04	18	55.3	E 095
64	1986	10	10.83838	23	58	26.06	+01	38	46.8	095
64	1986	10	10.90642	23	58	23.16	+01	38	31.0	E 095
64	1986	10	11.92746	23	57	36.64	+01	33	29.6	095
67	1986	09	09.01388	01	24	53.58	+11	52	35.2	095
67	1986	09	12.96859	01	23	19.04	+11	31	43.1	095
76	1986	08	08.84513	20	11	32.62	-17	09	49.5	095
85	1986	09	11.95554	00	35	52.59	+12	06	47.8	095
85	1986	10	05.91052	00	20	08.55	+07	40	13.0	095
85	1986	10	10.83838	00	16	57.88	+06	40	09.7	E 095
93	1986	09	07.95147	00	45	36.55	+04	25	22.6	E 095
93	1986	10	10.83838	00	16	49.30	+03	13	08.6	E 095
108	1986	08	08.91666	21	17	52.16	-19	25	59.2	095
108	1986	08	13.88890	21	13	58.94	-19	38	45.4	E 095
108	1986	08	30.83331	21	01	46.34	-20	11	17.2	E 095
108	1986	09	07.80617	20	57	12.28	-20	19	06.1	095
116	1986	08	11.99982	23	41	58.60	-07	17	40.1	E 095
116	1986	08	17.00339	23	39	24.63	-07	38	41.8	E 095
116	1986	08	18.02764	23	38	51.02	-07	43	06.0	095
116	1986	08	30.89424	23	30	16.53	-08	45	05.2	095
116	1986	09	07.87911	23	24	03.02	-09	25	25.4	095
116	1986	09	12.89567	23	19	59.28	-09	49	57.9	E 095
125	1986	10	04.05028	02	45	50.25	+11	09	34.0	095
126	1986	08	11.99982	23	47	49.32	-05	04	21.1	E 095
126	1986	08	17.00339	23	45	51.43	-05	15	53.3	E 095
126	1986	08	18.02764	23	45	23.02	-05	18	34.2	095
126	1986	09	07.87911	23	30	13.67	-06	37	17.7	E 095
126	1986	09	09.93366	23	28	22.03	-06	46	03.8	E 095
126	1986	10	06.84611	23	06	26.01	-08	09	22.4	E 095
127	1986	10	02.87262	23	54	43.61	-07	35	54.6	E 095
127	1986	10	08.84440	23	49	49.02	-07	47	42.5	E 095
130	1986	08	09.94784	23	17	15.77	-11	15	28.6	095
130	1986	08	13.96193	23	16	06.37	-12	10	15.0	095
133	1986	09	09.01388	00	56	00.55	+14	17	34.4	E 095
133	1986	09	11.95554	00	54	13.21	+14	14	25.6	E 095
133	1986	09	12.96859	00	53	33.76	+14	13	02.0	E 095
141	1986	08	29.92286	23	03	23.68	+03	51	48.4	E 095
141	1986	09	06.90472	22	55	26.21	+04	11	07.2	E 095
141	1986	10	02.79977	22	32	41.48	+04	22	32.8	E 095
142	1986	10	04.05028	02	39	24.63	+18	57	03.4	095
142	1986	10	07.07490	02	37	19.93	+18	49	27.6	095
142	1986	10	12.06773	02	33	28.80	+18	34	08.9	095
142	1986	11	27.74559	01	52	42.54	+14	49	52.6	095
154	1986	04	04.97383	14	12	15.00	-07	18	08.6	095
156	1986	05	29.88462	16	22	03.64	-19	44	24.4	095
156	1986	05	31.89289	16	20	24.06	-19	27	29.8	095
158	1986	10	03.00940	01	46	52.18	+12	37	48.2	095
158	1986	10	08.99090	01	42	26.37	+12	13	37.4	095
160	1986	08	11.90954	22	01	14.07	-16	41	33.4	095
160	1986	09	01.86168	21	42	56.65	-17	50	14.1	095
160	1986	09	09.78124	21	36	54.26	-18	06	00.4	095
166	1986	08	08.91666	21	02	29.01	-18	45	32.5	E 095
171	1986	10	03.00940	01	51	56.95	+07	48	15.2	095
171	1986	10	08.99090	01	47	54.11	+07	24	06.2	095
171	1986	11	04.83282	01	28	13.50	+05	36	40.6	095
173	1986	09	01.86168	21	34	35.96	-14	44	23.2	095

173	1986	09	09.78124	21	30	04.66	-16	10	13.4	095
181	1986	08	06.96875	22	39	24.86	-11	49	06.6	095
181	1986	08	08.98957	22	38	19.34	-12	05	01.4	095
181	1986	08	14.97569	22	34	47.74	-12	53	42.0	095
191	1986	08	09.85412	20	45	32.26	-09	43	52.0	095
200	1986	04	04.88146	11	32	41.03	-03	49	27.7	E 095
202	1986	08	09.85412	20	28	10.67	-17	10	52.5	E 095
207	1986	10	04.05028	02	27	35.87	+14	24	42.7	095
207	1986	10	05.98977	02	26	08.40	+14	21	08.2	095
207	1986	10	07.07490	02	25	16.75	+14	18	55.6	095
207	1986	11	27.74559	01	38	40.71	+11	43	33.3	E 095
220	1986	10	03.97910	01	49	24.66	+25	08	53.8	E 095
220	1986	10	07.00164	01	47	07.02	+24	51	04.7	E 095
220	1986	10	11.99273	01	42	59.50	+24	14	55.0	E 095
232	1986	08	09.85412	20	28	53.36	-15	09	26.4	E 095
248	1986	05	29.88462	15	57	17.26	-20	46	11.2	095
248	1986	05	31.89289	15	55	24.87	-20	36	17.1	E 095
250	1986	10	05.98977	01	59	45.08	+12	46	40.7	E 095
252	1986	09	09.01388	01	30	04.84	+11	58	52.2	095
252	1986	09	12.96859	01	28	47.82	+11	40	37.8	E 095
252	1986	10	08.99090	01	14	08.48	+08	49	58.6	E 095
252	1986	11	04.75992	00	57	18.81	+05	32	22.4	E 095
268	1986	08	11.90954	22	03	26.14	-13	26	45.1	095
268	1986	09	01.86168	21	48	04.40	-14	57	41.3	095
268	1986	09	09.78124	21	42	52.85	-15	26	19.8	095
271	1986	09	09.01388	01	22	22.94	+11	52	19.6	095
271	1986	09	12.96859	01	20	40.25	+11	49	46.2	095
271	1986	11	04.75992	00	43	23.66	+08	59	30.2	095
274	1986	10	04.05028	02	44	55.28	+11	28	38.4	095
275	1986	08	09.85412	20	45	36.55	-17	41	13.0	E 095
277	1986	04	04.97383	13	49	49.02	-12	06	23.2	E 095
286	1986	08	13.88890	21	19	32.72	-10	51	14.8	E 095
286	1986	08	30.83331	21	08	27.18	-13	12	02.2	095
286	1986	09	07.80617	21	04	17.76	-14	13	21.2	095
291	1986	04	04.97383	13	52	50.74	-09	10	05.9	095
296	1986	05	29.88462	16	15	56.84	-18	47	27.6	095
297	1986	08	13.88890	21	43	45.18	-15	50	54.2	E 095
297	1986	09	01.86168	21	28	20.09	-16	05	49.8	095
297	1986	09	09.78124	21	23	08.99	-16	04	54.6	095
307	1986	04	04.97383	14	11	28.99	-04	18	26.6	095
313	1986	08	12.88139	21	44	54.97	-03	17	12.0	E 095
313	1986	08	29.85203	21	30	18.04	-05	32	06.5	095
313	1986	09	06.82972	21	24	13.54	-06	38	38.2	095
314	1986	08	29.92286	23	01	16.90	-02	56	00.2	095
314	1986	08	30.89424	23	00	41.62	-03	05	06.2	E 095
314	1986	09	06.90472	22	56	19.18	-04	13	25.8	095
314	1986	09	07.87911	22	55	42.20	-04	23	02.6	095
314	1986	09	12.89567	22	52	34.20	-05	12	53.7	095
325	1986	09	07.80617	21	07	14.34	-21	19	07.9	095
327	1986	09	06.98042	23	51	30.36	-01	25	57.8	095
327	1986	09	15.02825	23	44	32.09	-01	47	04.2	095
327	1986	10	02.87262	23	29	10.40	-02	33	28.2	095
327	1986	10	08.84440	23	24	47.96	-02	45	10.6	095
332	1986	08	18.02764	23	34	51.80	-06	31	56.8	095
332	1986	08	30.89424	23	26	14.12	-07	23	15.2	095
332	1986	09	07.87911	23	19	47.25	-07	58	16.2	095
332	1986	09	12.89567	23	15	35.42	-08	19	37.7	095
333	1986	09	06.98042	23	58	08.22	-00	15	07.8	095
333	1986	09	15.02825	23	52	12.18	-00	39	12.4	095

333	1986	10	02.87262	23	38	30.41	-01	36	12.0	095
333	1986	10	08.84440	23	34	29.74	-01	52	15.6	095
338	1986	08	12.88139	22	07	36.61	-05	11	47.7	095
338	1986	08	29.85203	21	53	49.83	-05	59	58.6	E 095
338	1986	09	06.82972	21	47	43.70	-06	25	57.2	095
339	1986	09	06.98042	00	01	31.93	-00	04	07.6	095
339	1986	09	15.02825	23	56	25.05	-01	10	38.8	095
339	1986	10	02.87262	23	44	31.38	-03	39	19.9	095
339	1986	10	08.84440	23	41	01.60	-04	23	43.8	095
362	1986	10	05.98977	02	02	50.26	+11	54	21.4	095
363	1986	08	11.99982	00	04	17.76	-09	15	37.1	095
363	1986	08	17.00339	00	02	40.74	-09	36	53.4	095
363	1986	09	09.93366	23	47	33.10	-11	38	02.4	095
363	1986	09	29.92844	23	30	59.46	-12	55	25.5	095
363	1986	10	06.84611	23	26	00.75	-13	07	48.9	095
374	1986	10	05.98977	02	13	55.74	+15	57	59.2	095
374	1986	10	07.00164	02	13	15.44	+15	52	06.7	E 095
379	1986	08	08.91666	21	24	47.42	-13	35	58.0	095
379	1986	08	13.88890	21	20	59.81	-13	56	54.9	095
379	1986	08	30.83331	21	08	57.68	-15	04	56.7	095
379	1986	09	07.80617	21	04	41.44	-15	30	53.0	095
383	1986	08	09.94784	23	01	04.24	-10	01	19.6	095
383	1986	08	12.95570	22	59	28.22	-10	14	34.0	E 095
383	1986	08	13.96193	22	58	54.08	-10	19	06.4	095
395	1986	08	06.96875	22	30	40.06	-04	04	36.2	E 095
395	1986	08	08.98957	22	29	17.82	-04	09	57.2	E 095
395	1986	08	31.89587	22	11	13.46	-05	39	00.0	E 095
395	1986	09	08.87521	22	05	04.42	-06	15	13.0	E 095
397	1986	04	04.88146	11	31	04.22	-11	01	01.2	095
403	1986	09	08.94442	23	59	55.59	+13	22	22.6	E 095
403	1986	09	11.88540	23	57	47.86	+13	10	00.2	E 095
417	1986	08	29.85203	21	25	45.80	-06	55	38.1	095
417	1986	09	06.82972	21	20	30.46	-07	39	10.6	E 095
433	1986	08	09.85412	20	55	11.12	-12	16	21.2	095
435	1986	08	08.91666	21	31	03.16	-18	01	21.0	095
435	1986	08	13.88890	21	26	27.22	-18	20	46.9	095
435	1986	08	30.83331	21	11	49.62	-19	10	37.6	095
435	1986	09	07.80617	21	06	49.83	-19	21	03.4	095
439	1986	08	07.93639	21	39	10.75	+10	20	50.4	095
439	1986	08	14.90626	21	34	24.77	+09	47	43.6	095
439	1986	08	31.82298	21	23	06.28	+07	51	28.8	E 095
439	1986	09	08.80588	21	18	36.55	+06	44	04.2	E 095
443	1986	09	09.93366	23	32	41.74	-02	14	39.6	E 095
443	1986	09	29.92844	23	15	00.32	-04	54	43.1	E 095
443	1986	10	06.84611	23	10	04.66	-05	41	14.0	E 095
446	1986	04	04.97383	14	06	57.80	-08	15	55.6	095
479	1986	08	11.99982	00	10	29.92	-05	46	03.6	095
479	1986	08	17.00339	00	10	15.34	-06	19	24.4	E 095
479	1986	09	09.93366	00	00	40.55	-09	49	21.1	E 095
479	1986	09	29.92844	23	46	22.64	-12	45	52.2	E 095
485	1986	09	07.95147	00	38	48.39	+08	31	07.6	095
485	1986	09	11.95554	00	36	37.32	+08	01	02.0	095
485	1986	10	05.91052	00	19	47.99	+04	15	32.4	095
485	1986	10	10.83838	00	16	11.70	+03	25	07.4	E 095
489	1986	08	09.94784	23	00	02.66	-02	50	19.2	E 095
489	1986	08	12.95570	22	58	33.08	-03	07	57.1	095
489	1986	08	13.96193	22	58	01.40	-03	14	02.0	E 095
489	1986	08	29.92286	22	48	19.88	-05	03	28.8	E 095
500	1986	10	03.07884	02	51	43.84	+32	19	50.0	095

515	1986	10	03.00940	01	29	20.91	+05	59	52.4	E	095
515	1986	10	08.99090	01	25	04.74	+05	31	34.8	E	095
516	1986	10	02.79977	22	46	00.56	+00	05	35.0	E	095
517	1986	08	08.84513	19	59	00.63	-18	21	17.8		095
520	1986	09	10.01109	00	40	00.60	-06	07	51.6	E	095
520	1986	10	06.92492	00	17	40.52	-07	05	36.6	E	095
520	1986	10	10.90642	00	14	19.10	-07	08	45.0		095
520	1986	10	11.92746	00	13	28.81	-07	09	12.2	E	095
530	1986	08	08.91666	21	11	42.18	-17	55	17.6		095
530	1986	08	13.88890	21	08	11.28	-18	31	39.6		095
530	1986	08	30.83331	20	57	44.12	-20	20	09.6	E	095
530	1986	09	07.80617	20	54	30.80	-20	58	30.4		095
539	1986	10	03.97910	02	09	37.11	+24	50	19.2	E	095
539	1986	10	07.00164	02	07	46.11	+24	44	00.3		095
539	1986	10	11.99273	02	04	17.13	+24	28	26.6	E	095
561	1986	08	06.96875	22	16	05.86	-10	14	50.2	E	095
561	1986	08	11.90954	22	12	51.21	-10	34	34.0		095
561	1986	09	09.78124	21	52	29.19	-12	35	14.1	E	095
565	1986	09	08.80588	21	38	22.22	+02	50	54.0		095
566	1986	05	29.88462	16	11	57.10	-19	21	19.9		095
566	1986	05	31.89289	16	10	23.99	-19	19	19.0		095
574	1986	08	06.96875	22	18	50.05	-13	07	24.4	E	095
574	1986	09	09.78124	21	43	06.05	-14	06	24.1		095
576	1986	04	04.88146	11	31	12.24	-10	43	14.5		095
587	1986	09	29.85135	22	17	26.14	+07	20	58.6		095
587	1986	10	03.82287	22	14	06.36	+07	14	48.8		095
587	1986	10	06.76521	22	11	54.98	+07	10	07.8		095
588	1986	10	10.97100	03	02	14.34	+30	25	41.1	E	095
591	1986	09	07.80617	20	59	44.77	-21	05	49.2		095
607	1986	04	04.88146	11	12	45.40	-11	34	17.6	E	095
611	1986	04	04.97383	14	11	34.61	-06	52	19.4		095
625	1986	08	08.84513	20	15	09.06	-20	14	21.8		095
632	1986	08	18.02764	23	35	21.00	-03	37	25.1		095
632	1986	09	07.87911	23	18	41.64	-05	07	02.0		095
635	1986	09	06.90472	23	06	55.70	-00	20	41.4	E	095
635	1986	10	02.79977	22	51	09.91	-03	40	51.2	E	095
639	1986	09	08.94442	23	23	29.27	+10	07	42.6	E	095
639	1986	09	11.88540	23	21	10.50	+09	58	17.4	E	095
640	1986	09	11.88540	23	24	25.70	+14	43	01.0	E	095
642	1986	08	08.98957	22	55	50.06	-13	34	07.5	E	095
642	1986	08	14.97569	22	52	01.70	-13	53	03.2	E	095
642	1986	08	31.89587	22	39	28.54	-14	46	30.6	E	095
642	1986	09	08.87521	22	33	16.88	-15	07	49.9	E	095
643	1986	08	07.93639	21	45	56.92	+05	34	24.0		095
643	1986	08	14.90626	21	41	07.82	+05	22	09.8		095
643	1986	08	31.82298	21	29	31.66	+04	27	53.2		095
643	1986	09	08.80588	21	24	42.97	+03	53	35.4		095
644	1986	08	08.84513	19	53	55.00	-21	19	32.7		095
648	1986	10	02.79977	22	39	09.58	+04	09	57.3	E	095
657	1986	09	11.88540	23	53	33.68	+14	01	26.4		095
672	1986	10	10.97100	03	11	32.04	+32	21	44.5		095
672	1986	10	11.86359	03	10	52.50	+32	24	30.4	E	095
676	1986	08	11.90954	22	00	03.43	-10	07	07.0	E	095
676	1986	08	12.88139	21	59	25.40	-10	15	46.8	E	095
676	1986	09	01.86168	21	45	59.93	-13	16	46.9		095
676	1986	09	09.78124	21	41	27.13	-14	22	33.3		095
678	1986	10	03.07884	03	00	06.74	+27	25	19.0	E	095
697	1986	10	03.97910	02	08	24.75	+17	48	53.0	E	095
697	1986	10	05.98977	02	06	38.04	+17	55	29.6		095

697	1986	10	07.00164	02	05	42.50	+17	58	31.7	095
697	1986	10	11.99273	02	00	52.72	+18	11	58.4	E 095
713	1986	04	04.88146	11	11	38.66	-04	36	59.4	E 095
731	1986	08	11.99982	00	16	07.13	-13	55	12.1	E 095
731	1986	08	17.00339	00	14	38.54	-14	13	43.1	E 095
732	1986	08	29.85203	21	23	46.02	-06	47	59.9	095
732	1986	09	06.82972	21	18	34.23	-08	01	51.7	E 095
745	1986	08	11.99982	00	11	28.00	-11	40	10.5	095
745	1986	08	17.00339	00	10	07.00	-12	14	06.9	E 095
761	1986	10	05.98977	02	14	38.78	+13	45	31.0	095
765	1986	09	01.86168	21	33	04.08	-13	59	57.0	095
765	1986	09	09.78124	21	26	16.82	-14	03	17.6	095
776	1986	05	29.88462	16	22	12.84	-15	24	35.7	095
776	1986	05	31.89289	16	20	20.80	-15	28	30.5	095
777	1986	09	09.85693	22	05	14.82	+03	48	01.6	E 095
777	1986	10	03.82287	21	52	32.83	+02	19	24.4	E 095
797	1986	08	09.85412	21	05	07.44	-09	02	34.7	E 095
798	1986	08	29.85203	21	32	20.10	-01	17	31.3	E 095
798	1986	08	31.82298	21	31	01.32	-01	29	13.0	E 095
798	1986	09	06.82972	21	27	18.07	-02	05	26.9	095
798	1986	09	08.80588	21	26	11.68	-02	17	34.5	095
805	1986	09	10.01109	00	41	40.82	-02	20	16.8	095
805	1986	09	14.03249	00	39	32.43	-02	59	57.5	095
805	1986	10	06.92492	00	25	01.78	-06	39	04.5	E 095
805	1986	10	10.90642	00	22	32.67	-07	11	45.0	095
808	1986	05	29.88462	16	16	36.14	-14	49	05.6	095
808	1986	05	31.89289	16	14	51.31	-14	43	47.7	E 095
825	1986	05	29.88462	15	55	58.15	-16	19	24.0	095
825	1986	05	31.89289	15	53	55.94	-16	17	46.9	E 095
840	1986	04	04.88146	11	23	09.59	-11	39	54.4	095
848	1986	08	08.91666	21	25	28.64	-13	27	19.8	095
848	1986	08	13.88890	21	21	39.23	-13	46	14.6	095
848	1986	08	30.83331	21	09	36.85	-14	47	10.2	095
848	1986	09	07.80617	21	05	22.97	-15	09	56.6	095
855	1986	10	03.00940	01	39	57.36	+11	31	38.4	095
855	1986	10	08.99090	01	33	38.61	+11	22	10.2	095
866	1986	08	11.99982	23	55	47.14	-13	16	05.4	E 095
866	1986	08	17.00339	23	54	01.44	-13	45	36.6	E 095
872	1986	09	07.95147	00	30	39.94	+06	04	57.8	095
872	1986	10	10.83838	00	06	44.72	+02	15	09.6	095
872	1986	10	11.92746	00	05	59.56	+02	07	31.3	E 095
873	1986	09	06.98042	00	01	39.94	-03	27	04.2	095
873	1986	09	09.93366	23	59	25.06	-03	48	39.3	095
873	1986	09	15.02825	23	55	22.18	-04	26	11.6	E 095
873	1986	09	29.92844	23	43	23.21	-06	09	33.2	095
873	1986	10	02.87262	23	41	11.29	-06	27	29.6	095
873	1986	10	06.84611	23	38	24.57	-06	49	38.0	E 095
873	1986	10	08.84440	23	37	05.85	-06	59	54.5	E 095
879	1986	10	10.97100	03	12	55.58	+36	17	15.6	095
879	1986	10	11.86359	03	12	29.44	+36	16	07.8	095
898	1986	10	03.97910	01	51	00.10	+22	23	12.1	095
898	1986	10	07.00164	01	48	19.42	+22	01	15.2	095
898	1986	10	11.99273	01	43	42.41	+21	21	03.2	095
910	1986	08	17.00339	00	04	50.48	-12	52	01.6	095
935	1986	08	11.90954	21	58	37.71	-15	37	22.6	095
935	1986	09	09.78124	21	29	32.44	-16	43	35.2	095
949	1986	10	03.07884	02	17	40.44	+28	02	10.3	E 095
957	1986	10	02.94135	01	11	04.92	+21	05	57.0	095
957	1986	10	08.91869	01	06	39.62	+20	20	53.2	095

970	1986	08	08.84513	19	51	55.16	-22	05	38.0	095
975	1986	09	10.01109	00	36	49.89	+01	25	18.6	095
975	1986	09	14.03249	00	34	05.70	+01	09	12.1	095
975	1986	10	06.92492	00	15	59.84	-00	31	35.6	095
975	1986	10	10.83838	00	12	56.98	-00	47	27.8	E 095
975	1986	10	10.90642	00	12	53.74	-00	47	41.1	095
975	1986	10	11.92746	00	12	07.20	-00	51	37.0	095
996	1986	10	12.06773	03	07	12.36	+18	18	29.5	E 095
1001	1986	10	02.94135	00	52	06.62	+19	42	39.8	095
1001	1986	10	08.91869	00	47	42.44	+19	09	40.9	095
1004	1986	10	04.05028	02	38	28.50	+11	42	59.0	095
1004	1986	10	05.98977	02	37	31.79	+11	36	12.2	E 095
1020	1986	08	13.88890	21	23	04.78	-11	01	05.8	E 095
1020	1986	09	07.80617	21	05	31.18	-13	01	21.8	095
1030	1986	08	29.92286	22	54	12.56	+02	37	18.4	095
1030	1986	09	06.90472	22	48	54.94	+01	41	07.0	095
1030	1986	10	02.79977	22	34	01.04	-01	31	12.7	095
1043	1986	08	09.85412	20	30	47.20	-12	09	22.4	095
1044	1986	04	04.97383	14	03	18.69	-08	14	48.0	095
1064	1986	04	04.88146	11	14	03.01	-10	47	01.9	E 095
1089	1986	08	11.99982	23	53	59.84	-07	36	00.9	095
1089	1986	08	17.00339	23	52	16.71	-07	59	04.1	095
1089	1986	08	18.02764	23	51	50.64	-08	04	11.0	095
1089	1986	09	09.93366	23	34	47.72	-10	23	51.1	095
1089	1986	09	29.92844	23	15	39.44	-12	05	06.8	E 095
1089	1986	10	06.84611	23	10	15.92	-12	22	33.0	095
1095	1986	11	04.83282	01	48	31.90	+02	40	03.9	E 095
1100	1986	05	29.88462	16	18	07.57	-22	45	26.2	E 095
1100	1986	05	31.89289	16	16	20.29	-22	40	44.3	095
1111	1986	08	08.98957	22	59	36.42	-08	43	18.4	E 095
1111	1986	08	09.94784	22	59	08.04	-08	48	02.2	E 095
1111	1986	08	12.95570	22	57	32.95	-09	03	27.1	095
1111	1986	08	13.96193	22	56	59.11	-09	08	45.7	E 095
1111	1986	08	14.97569	22	56	24.10	-09	14	12.4	E 095
1112	1986	10	02.79977	22	46	26.78	+03	37	01.2	E 095
1119	1986	11	04.83282	01	15	40.06	+01	18	56.8	095
1122	1986	05	29.88462	16	14	19.18	-21	38	30.7	095
1139	1986	10	03.97910	01	54	14.96	+21	19	16.0	095
1139	1986	10	07.00164	01	54	07.63	+20	23	12.7	095
1139	1986	10	11.99273	01	53	23.61	+18	37	28.1	095
1153	1986	10	03.97910	02	01	40.44	+18	49	52.8	095
1153	1986	10	05.98977	01	59	53.70	+18	42	00.0	E 095
1153	1986	10	07.00164	01	58	57.98	+18	37	32.3	095
1153	1986	10	11.99273	01	54	06.72	+18	13	03.9	095
1154	1986	08	11.90954	22	02	45.19	-18	02	22.6	095
1154	1986	09	09.78124	21	42	58.60	-19	48	13.8	E 095
1156	1986	08	08.84513	19	52	37.55	-22	17	49.3	P 095
1157	1986	08	06.96875	22	16	33.72	-13	46	10.8	E 095
1157	1986	08	11.90954	22	12	40.58	-13	51	33.5	095
1157	1986	09	01.86168	21	55	04.47	-14	11	11.9	095
1157	1986	09	09.78124	21	49	07.51	-14	13	03.2	095
1175	1986	05	29.88462	16	21	46.47	-17	16	43.9	095
1175	1986	05	31.89289	16	20	12.39	-17	04	44.4	095
1181	1986	08	29.92286	22	49	44.24	+02	37	36.6	095
1181	1986	09	06.90472	22	42	54.16	+02	03	40.0	095
1181	1986	10	02.79977	22	24	09.53	-00	15	21.2	095
1183	1986	08	08.91666	21	38	10.09	-18	23	29.0	095
1183	1986	08	13.88890	21	33	09.28	-18	43	32.4	095
1183	1986	08	30.83331	21	17	15.38	-19	34	20.2	095

1195	1986	10	02.94135	01	09	25.78	+20	05	53.0	095
1197	1986	09	09.85693	22	16	35.43	+08	22	26.4	095
1197	1986	09	29.85135	22	04	22.81	+06	30	09.3	095
1197	1986	10	03.82287	22	02	39.24	+06	07	11.8	095
1197	1986	10	06.76521	22	01	33.51	+05	50	28.9	095
1202	1986	10	04.05028	02	30	29.50	+13	14	00.4	095
1202	1986	10	05.98977	02	29	30.34	+13	10	20.2	095
1202	1986	10	07.07490	02	28	55.79	+13	08	12.2	095
1202	1986	10	12.06773	02	26	04.21	+12	57	23.1	E 095
1202	1986	11	27.74559	01	56	57.66	+11	09	03.9	095
1213	1986	10	02.94135	00	59	37.03	+27	30	23.6	E 095
1213	1986	10	08.91869	00	54	57.42	+27	03	00.1	E 095
1228	1986	08	09.94784	22	58	33.68	-04	09	59.4	E 095
1228	1986	08	12.95570	22	56	38.42	-04	17	43.0	095
1228	1986	08	13.96193	22	55	57.92	-04	20	27.8	E 095
1228	1986	08	29.92286	22	43	40.47	-05	16	13.0	E 095
1228	1986	09	06.90472	22	37	01.68	-05	48	53.8	E 095
1231	1986	04	04.88146	11	27	58.57	-03	39	18.3	E 095
1234	1986	04	04.88146	11	32	57.58	-08	18	34.8	095
1256	1986	08	12.88139	22	01	24.24	-06	05	12.5	095
1256	1986	08	29.85203	21	50	48.26	-07	02	12.2	095
1256	1986	09	06.82972	21	46	07.30	-07	30	44.6	095
1257	1986	04	04.97383	13	46	26.66	-12	20	44.7	E 095
1260	1986	10	03.97910	01	41	06.96	+23	54	33.3	095
1260	1986	10	07.00164	01	38	30.41	+23	48	24.5	E 095
1260	1986	10	11.99273	01	33	57.75	+23	34	03.5	095
1261	1986	10	03.00940	01	35	37.23	+07	22	23.4	095
1261	1986	10	08.99090	01	31	25.92	+06	58	53.6	095
1261	1986	11	04.83282	01	12	16.36	+05	16	46.8	E 095
1266	1986	09	08.94442	23	25	16.60	+10	27	34.6	E 095
1266	1986	09	11.88540	23	22	54.70	+10	24	42.4	095
1271	1986	08	06.96875	22	49	07.13	-11	45	27.0	095
1271	1986	08	08.98957	22	48	06.66	-11	57	20.7	095
1271	1986	08	14.97569	22	44	45.01	-12	34	18.4	095
1271	1986	08	31.89587	22	33	10.64	-14	23	29.2	E 095
1271	1986	09	08.87521	22	27	26.93	-15	11	09.3	095
1282	1986	04	04.88146	11	15	06.60	-11	43	25.1	E 095
1286	1986	10	04.05028	02	30	58.28	+12	25	11.4	095
1286	1986	10	05.98977	02	29	54.69	+12	13	24.8	095
1289	1986	08	09.85412	20	52	09.00	-15	16	55.0	095
1292	1986	10	04.05028	02	24	04.58	+17	25	31.0	095
1292	1986	10	05.98977	02	22	47.28	+17	19	50.6	095
1292	1986	10	07.07490	02	22	01.74	+17	16	21.4	E 095
1295	1986	05	29.88462	16	00	45.65	-17	10	56.3	095
1305	1986	08	06.96875	22	27	02.90	-13	19	41.2	E 095
1305	1986	08	08.98957	22	25	41.34	-13	28	28.2	E 095
1305	1986	08	14.97569	22	21	24.72	-13	55	03.4	E 095
1305	1986	09	08.87521	22	02	30.26	-15	36	23.0	E 095
1306	1986	09	09.85693	22	22	37.85	+12	32	23.2	E 095
1306	1986	09	13.95749	22	19	32.83	+12	16	18.9	095
1306	1986	10	03.82287	22	07	58.85	+10	34	56.6	E 095
1306	1986	10	06.76521	22	06	54.49	+10	18	31.7	095
1310	1986	08	11.99982	00	05	01.41	-10	19	00.8	095
1310	1986	08	17.00339	00	01	53.86	-10	08	31.5	095
1310	1986	09	09.93366	23	35	25.50	-09	16	32.9	095
1317	1986	09	09.01388	01	24	30.37	+09	58	15.9	095
1317	1986	09	12.96859	01	22	01.80	+10	26	10.0	095
1317	1986	11	04.75992	00	29	26.80	+14	31	31.3	095
1324	1986	08	29.92286	23	05	18.90	+00	06	01.6	E 095

1324	1986	09	06.90472	22	57	02.32	-00	23	10.1	095
1339	1986	10	07.00164	02	02	04.80	+25	48	05.2	E 095
1343	1986	10	04.05028	02	49	54.12	+14	54	48.1	095
1343	1986	10	07.07490	02	47	55.26	+14	51	33.4	095
1343	1986	10	12.06773	02	44	11.76	+14	44	25.4	095
1343	1986	11	27.74559	02	02	40.10	+13	00	15.0	095
1382	1986	10	03.00940	01	54	48.78	+13	07	08.6	095
1382	1986	10	08.99090	01	49	10.37	+12	41	04.2	095
1386	1986	08	30.89424	23	14	46.28	-04	55	11.1	095
1386	1986	09	07.87911	23	11	07.40	-07	18	54.6	095
1386	1986	09	12.89567	23	08	45.39	-08	46	06.4	095
1387	1986	09	09.01388	01	28	47.36	+12	49	13.0	095
1387	1986	09	12.96859	01	27	53.21	+12	28	57.4	E 095
1394	1986	08	12.95570	23	20	53.64	-02	26	20.4	E 095
1394	1986	09	06.90472	23	02	29.34	-04	53	51.8	E 095
1394	1986	09	07.87911	23	01	38.68	-05	00	29.8	095
1394	1986	09	12.89567	22	57	22.62	-05	34	49.0	095
1395	1986	04	04.88146	11	34	31.65	-09	04	51.0	095
1398	1986	08	08.84513	19	54	02.86	-18	54	33.0	095
1411	1986	08	09.85412	20	32	01.28	-13	23	02.7	095
1420	1986	10	12.06773	03	00	52.16	+20	53	29.8	095
1424	1986	10	05.98977	02	22	32.56	+10	43	02.0	095
1443	1986	08	09.94784	23	24	06.98	-03	00	51.9	095
1443	1986	08	12.95570	23	22	47.64	-03	10	52.4	E 095
1443	1986	08	13.96193	23	22	18.76	-03	14	25.7	E 095
1443	1986	08	18.02764	23	20	10.64	-03	30	21.2	E 095
1443	1986	08	30.89424	23	11	47.30	-04	31	53.8	095
1443	1986	09	06.90472	23	06	34.28	-05	10	02.6	E 095
1443	1986	09	07.87911	23	05	49.34	-05	15	17.1	095
1443	1986	09	12.89567	23	02	01.82	-05	42	51.1	095
1457	1986	09	08.94442	23	48	24.37	+07	21	14.9	095
1457	1986	09	11.88540	23	45	56.18	+07	10	06.8	095
1462	1986	10	05.98977	02	12	07.93	+13	24	07.2	095
1463	1986	10	03.97910	02	02	29.16	+22	34	45.7	095
1463	1986	10	07.00164	02	00	25.77	+22	36	03.8	095
1463	1986	10	11.99273	01	56	41.18	+22	34	32.1	095
1466	1986	08	12.88139	21	51	11.28	-08	20	24.4	095
1466	1986	09	01.86168	21	34	48.17	-12	02	59.4	095
1466	1986	09	09.78124	21	29	43.74	-13	21	38.1	095
1485	1986	10	03.07884	02	30	35.38	+28	31	14.6	095
1494	1986	05	29.88462	16	30	09.85	-18	19	49.6	095
1499	1986	10	03.97910	01	50	23.77	+23	43	59.7	095
1499	1986	10	07.00164	01	48	06.53	+23	22	49.3	095
1499	1986	10	11.99273	01	44	05.32	+22	43	13.1	095
1516	1986	08	17.00339	23	36	55.08	-10	42	28.9	E 095
1521	1986	10	11.99273	01	37	17.34	+15	44	33.7	095
1528	1986	08	08.84513	19	56	56.48	-17	12	24.0	095
1546	1986	09	07.95147	00	59	03.96	+07	59	54.8	E 095
1564	1986	10	06.84611	23	08	26.30	-04	47	34.0	E 095
1570	1986	08	09.94784	23	14	36.46	-03	26	37.7	E 095
1570	1986	08	12.95570	23	13	05.95	-03	36	45.3	095
1570	1986	08	13.96193	23	12	33.21	-03	40	25.6	E 095
1570	1986	08	29.92286	23	01	55.30	-04	52	49.8	E 095
1570	1986	08	30.89424	23	01	10.86	-04	57	51.2	095
1570	1986	09	06.90472	22	55	43.80	-05	35	27.0	E 095
1570	1986	09	07.87911	22	54	57.68	-05	40	39.8	095
1570	1986	09	12.89567	22	51	03.69	-06	07	44.2	095
1583	1986	10	12.06773	03	03	36.77	+16	16	44.5	E 095
1586	1986	08	09.94784	23	02	49.89	-09	18	38.4	095

1586	1986 08	12.95570	23 00	52.05	-09 36	36.0	095
1586	1986 08	13.96193	23 00	10.32	-09 42	47.2	095
1598	1986 04	04.88146	11 12	58.24	-07 56	39.3	E 095
1604	1986 10	10.97100	03 11	45.56	+31 47	19.0	095
1604	1986 10	11.86359	03 11	14.66	+31 48	06.3	E 095
1612	1986 10	11.86359	03 03	27.37	+40 31	14.6	E 095
1613	1986 08	12.95570	22 54	31.92	-03 45	49.8	095
1613	1986 08	29.92286	22 40	16.48	-04 19	19.6	095
1613	1986 09	06.90472	22 32	46.92	-04 41	39.4	E 095
1615	1986 08	11.90954	21 55	02.12	-12 14	49.9	095
1615	1986 09	01.86168	21 39	05.45	-13 49	34.6	095
1615	1986 09	09.78124	21 33	48.58	-14 20	43.1	095
1621	1986 10	05.98977	02 14	58.20	+11 05	16.9	095
1631	1986 08	11.99982	23 52	33.30	-12 30	54.3	095
1631	1986 08	17.00339	23 50	52.57	-12 28	39.4	095
1631	1986 10	06.84611	23 07	50.37	-10 36	03.9	E 095
1632	1986 08	29.92286	22 44	17.72	-00 55	29.2	095
1632	1986 09	06.90472	22 38	14.55	-01 53	48.8	095
1632	1986 10	02.79977	22 23	41.14	-04 58	29.0	E 095
1650	1986 08	06.96875	22 26	22.01	-05 37	44.0	095
1650	1986 08	08.98957	22 24	50.78	-05 47	16.0	095
1650	1986 08	12.88139	22 21	44.48	-06 07	20.3	E 095
1650	1986 08	14.97569	22 19	58.86	-06 18	49.9	E 095
1650	1986 08	31.89587	22 05	06.64	-08 02	13.4	095
1650	1986 09	08.87521	21 58	46.74	-08 50	25.4	E 095
1673	1986 09	09.01388	01 27	36.12	+10 56	19.2	095
1673	1986 09	12.96859	01 26	25.07	+10 45	33.4	095
1673	1986 11	04.75992	00 53	37.38	+06 07	34.6	E 095
1674	1986 08	09.94784	23 01	54.11	-09 42	10.4	095
1674	1986 08	12.95570	23 00	15.99	-09 54	53.3	E 095
1682	1986 09	07.95147	00 53	20.74	+10 42	27.4	095
1682	1986 09	11.95554	00 50	56.91	+10 46	12.6	095
1682	1986 09	12.96859	00 50	15.18	+10 46	32.1	E 095
1682	1986 10	05.91052	00 29	39.85	+09 58	34.6	095
1686	1986 10	04.05028	02 46	49.41	+16 30	54.3	095
1686	1986 10	07.07490	02 45	08.32	+16 24	03.1	095
1686	1986 10	12.06773	02 42	00.02	+16 10	57.0	095
1686	1986 11	27.74559	02 07	45.06	+13 28	42.0	095
1694	1986 11	04.75992	00 44	45.86	+11 52	55.2	095
1703	1986 08	08.98957	23 00	41.34	-12 23	00.1	E 095
1703	1986 08	13.96193	22 58	27.05	-13 02	50.8	E 095
1703	1986 08	14.97569	22 57	54.39	-13 11	13.7	E 095
1721	1986 09	08.94442	23 28	56.79	+12 07	49.6	095
1721	1986 09	11.88540	23 26	27.11	+12 05	50.9	095
1737	1986 08	11.90954	22 08	25.52	-11 48	06.5	095
1737	1986 09	01.86168	21 50	56.34	-12 25	10.6	095
1737	1986 09	09.78124	21 44	57.91	-12 35	45.0	095
1749	1986 10	03.97910	02 03	02.60	+18 34	30.9	095
1749	1986 10	05.98977	02 02	05.40	+18 31	48.3	E 095
1749	1986 10	07.00164	02 01	36.25	+18 30	13.5	095
1749	1986 10	11.99273	01 59	05.95	+18 21	57.7	095
1782	1986 09	06.98042	23 58	19.00	-00 55	08.4	095
1782	1986 09	15.02825	23 52	35.94	-01 36	26.2	095
1782	1986 10	02.87262	23 39	47.34	-03 06	45.1	095
1782	1986 10	08.84440	23 36	01.84	-03 32	49.0	095
1785	1986 11	04.75992	00 53	05.78	+12 16	46.1	095
1787	1986 09	06.90472	23 02	35.06	+03 00	07.6	E 095
1787	1986 10	02.79977	22 43	39.98	+01 32	04.0	095
1793	1986 10	04.05028	02 39	44.57	+16 14	34.4	095

1793	1986	10	07.07490	02	37	42.26	+16	03	43.4	095
1793	1986	10	12.06773	02	33	50.02	+15	43	01.0	095
1793	1986	11	27.74559	01	51	16.78	+11	31	55.9	095
1796	1986	09	09.85693	22	10	26.23	+05	05	06.6	095
1796	1986	09	29.85135	22	01	09.32	+02	05	37.6	095
1796	1986	10	03.82287	21	59	59.62	+01	31	21.6	E 095
1797	1986	10	04.05028	02	42	26.27	+15	41	33.1	095
1797	1986	10	07.07490	02	40	27.90	+15	38	03.1	095
1797	1986	10	12.06773	02	36	37.50	+15	29	41.6	095
1797	1986	11	27.74559	01	53	02.53	+13	10	51.6	095
1803	1986	09	08.94442	23	35	50.16	+08	26	38.3	095
1803	1986	09	11.88540	23	32	08.50	+08	28	52.6	095
1812	1986	09	06.98042	23	55	31.66	+00	49	39.6	095
1812	1986	09	15.02825	23	50	15.43	-00	11	14.3	095
1812	1986	10	02.87262	23	38	08.22	-02	31	13.4	095
1812	1986	10	08.84440	23	34	32.32	-03	14	33.4	095
1832	1986	08	09.85412	20	51	02.24	-13	36	40.4	095
1833	1986	08	30.83331	20	59	45.08	-12	34	53.2	095
1833	1986	09	07.80617	20	56	07.52	-13	38	59.8	095
1840	1986	10	12.06773	02	59	13.84	+16	49	03.8	095
1850	1986	04	04.97383	13	59	32.20	-06	18	03.1	095
1875	1986	09	09.01388	01	35	29.80	+10	36	39.0	E 095
1875	1986	10	03.00940	01	24	36.29	+07	19	03.2	E 095
1875	1986	10	08.99090	01	20	40.29	+06	21	18.4	095
1880	1986	11	04.83282	01	40	36.12	+02	18	26.8	095
1881	1986	10	12.06773	03	03	03.81	+16	52	39.3	E 095
1882	1986	04	04.97383	13	55	54.83	-10	43	37.7	095
1887	1986	09	09.78124	21	29	13.54	-20	15	34.2	E 095
1888	1986	04	04.88146	11	35	35.73	-06	50	53.9	095
1905	1986	10	05.98977	02	21	14.84	+13	35	12.3	095
1914	1986	08	11.99982	23	51	53.62	-07	29	03.0	095
1914	1986	08	17.00339	23	49	59.14	-08	03	43.4	095
1914	1986	08	18.02764	23	49	31.37	-08	11	14.4	095
1914	1986	09	09.93366	23	33	04.16	-11	15	41.1	E 095
1914	1986	09	29.92844	23	16	36.88	-13	20	15.6	E 095
1914	1986	10	06.84611	23	12	18.64	-13	43	44.4	E 095
1935	1986	10	04.05028	02	37	36.45	+13	13	12.7	095
1935	1986	10	05.98977	02	37	04.00	+12	55	26.3	E 095
1935	1986	10	07.07490	02	36	42.65	+12	45	18.9	E 095
1942	1986	09	08.87521	22	30	31.59	-15	37	04.6	E 095
1971	1986	09	08.94442	23	33	41.74	+08	44	04.0	095
1971	1986	09	11.88540	23	31	20.26	+08	36	46.4	095
1976	1986	11	04.83282	01	29	14.76	+05	47	55.8	095
1990	1986	09	07.95147	00	34	29.08	+05	09	15.5	095
1990	1986	10	06.92492	00	08	35.33	+01	34	15.4	E 095
1990	1986	10	10.83838	00	05	09.52	+01	04	45.8	095
1990	1986	10	11.92746	00	04	14.72	+00	56	52.8	095
1997	1986	08	11.99982	23	52	36.16	-04	49	46.2	15.5V 095
1997	1986	08	18.02764	23	51	05.68	-04	29	09.3	095
1997	1986	09	09.93366	23	34	29.18	-03	45	55.1	095
1999	1986	08	08.91666	21	09	29.99	-12	21	50.6	095
1999	1986	08	30.83331	20	54	48.26	-14	29	24.0	095
1999	1986	09	07.80617	20	50	42.42	-15	10	37.4	095
2032	1986	08	08.84513	20	04	28.89	-22	49	15.8	N 095
2039	1986	04	04.97383	13	57	33.88	-08	11	32.5	095
2045	1986	11	04.75992	00	30	05.95	+05	22	45.6	095
2065	1986	10	10.97100	03	27	53.36	+29	37	07.7	E 095
2069	1986	09	14.03249	00	38	50.01	-06	00	54.0	E 095
2069	1986	10	06.92492	00	21	22.80	-07	18	39.8	E 095

2069	1986	10	10.90642	00	18	18.23	-07	28	12.0	095
2079	1986	09	08.87521	22	33	19.12	-14	41	45.8	E 095
2085	1986	08	08.91666	21	20	29.18	-17	36	07.4	095
2085	1986	08	13.88890	21	16	11.68	-18	02	35.6	095
2085	1986	08	30.83331	21	02	40.66	-19	20	25.8	095
2090	1986	10	10.97100	03	34	12.90	+34	33	47.6	E 095
2090	1986	10	11.86359	03	33	44.08	+34	36	41.8	E 095
2095	1986	10	03.97910	01	56	59.55	+16	42	41.8	095
2095	1986	10	11.99273	01	50	23.00	+16	19	35.0	095
2112	1986	10	04.05028	02	46	36.58	+19	53	09.2	E 095
2112	1986	10	07.07490	02	45	25.04	+19	45	00.1	095
2112	1986	10	12.06773	02	42	46.41	+19	27	11.4	095
2112	1986	11	27.74559	02	06	08.04	+14	26	01.7	095
2140	1986	09	12.96859	00	50	42.52	+16	37	47.8	E 095
2142	1986	10	07.07490	02	56	12.84	+15	57	31.1	E 095
2157	1986	09	07.95147	00	25	45.80	+05	24	25.6	095
2157	1986	10	05.91052	00	01	35.92	+04	12	31.0	E 095
2157	1986	10	10.83838	23	57	33.19	+03	57	54.8	095
2160	1986	10	03.00940	01	29	42.76	+05	01	29.6	E 095
2160	1986	10	08.99090	01	25	10.03	+04	29	33.2	E 095
2170	1986	09	09.01388	01	01	36.28	+10	37	57.3	095
2170	1986	09	12.96859	00	59	58.44	+10	30	40.2	095
2170	1986	11	04.75992	00	25	20.80	+06	00	34.9	095
2180	1986	05	29.88462	16	17	56.46	-18	04	26.8	095
2180	1986	05	31.89289	16	16	17.35	-17	54	34.4	095
2184	1986	08	12.88139	21	44	21.46	-05	51	30.2	E 095
2184	1986	08	29.85203	21	31	39.60	-06	48	28.1	095
2184	1986	09	06.82972	21	26	24.06	-07	17	42.0	095
2186	1986	09	07.95147	00	42	50.14	+08	34	46.8	095
2186	1986	09	11.95554	00	40	24.49	+08	23	52.0	095
2186	1986	10	05.91052	00	21	30.29	+06	36	11.2	095
2186	1986	10	10.83838	00	17	27.96	+06	09	20.6	E 095
2197	1986	08	18.02764	23	50	41.68	-04	31	37.4	095
2197	1986	09	09.93366	23	36	43.73	-06	05	59.9	095
2197	1986	09	29.92844	23	22	24.34	-07	29	40.8	095
2197	1986	10	06.84611	23	18	00.90	-07	52	23.6	095
2200	1986	09	07.87911	23	17	16.37	-04	20	37.1	N 095
2200	1986	09	12.89567	23	12	28.60	-04	42	26.0	095
2209	1986	05	29.88462	16	10	19.77	-17	05	16.0	095
2210	1986	08	06.96875	22	40	10.67	-10	52	28.2	095
2210	1986	08	08.98957	22	39	21.66	-11	04	12.8	095
2210	1986	08	31.89587	22	24	46.30	-13	37	53.0	095
2210	1986	09	08.87521	22	19	16.73	-14	25	32.4	095
2220	1986	10	03.00940	01	34	08.69	+05	29	06.4	E 095
2220	1986	10	08.99090	01	29	51.34	+05	03	30.5	E 095
2231	1986	09	06.98042	00	10	07.36	+04	41	34.0	E 095
2231	1986	10	10.83838	23	40	56.50	+05	08	55.8	E 095
2240	1986	04	04.97383	13	56	15.51	-11	10	29.4	095
2251	1986	10	12.06773	03	03	10.24	+12	24	14.9	E 095
2252	1986	08	18.02764	23	52	11.37	-02	36	11.1	095
2252	1986	09	09.93366	23	35	45.46	-03	40	54.1	095
2252	1986	10	06.84611	23	13	18.70	-05	05	58.3	E 095
2285	1986	09	06.98042	00	05	11.28	-02	30	26.8	095
2285	1986	09	15.02825	00	00	20.48	-03	54	21.2	095
2285	1986	09	29.92844	23	50	16.16	-06	22	28.5	E 095
2285	1986	10	02.87262	23	48	28.85	-06	47	11.4	E 095
2298	1986	10	03.00940	01	34	14.88	+09	58	36.8	095
2298	1986	10	08.99090	01	29	38.95	+09	07	41.6	095
2300	1986	08	08.91666	21	34	47.50	-18	07	12.0	095

2300	1986 08 13.88890	21 30 32.93	-18 26 32.2	095
2300	1986 08 30.83331	21 16 41.26	-19 20 14.4	095
2300	1986 09 07.80617	21 11 24.52	-19 35 44.2	095
2303	1986 08 07.93639	21 49 30.61	+08 16 55.1	095
2303	1986 08 14.90626	21 44 41.64	+07 40 36.5	095
2303	1986 08 31.82298	21 33 04.02	+05 41 47.0	095
2303	1986 09 08.80588	21 28 17.75	+04 35 36.5	095
2307	1986 11 27.74559	02 12 06.48	+18 20 19.0	095
2336	1986 10 05.98977	02 18 09.12	+10 12 52.2	095
2364	1986 10 05.98977	02 21 00.34	+10 40 44.7	095
2366	1986 09 07.87911	23 07 42.98	-04 14 41.8	095
2366	1986 09 12.89567	23 02 50.14	-04 42 14.0	095
2371	1986 08 29.92286	22 53 16.23	-03 58 24.9	095
2371	1986 09 06.90472	22 46 10.29	-04 43 35.4	E 095
2388	1986 10 03.00940	01 28 23.01	+12 14 36.6	095
2391	1986 10 03.00940	01 37 06.88	+06 51 43.8	095
2391	1986 10 08.99090	01 32 18.67	+06 12 24.2	095
2412	1986 08 12.88139	22 08 44.22	-06 14 43.2	095
2412	1986 08 29.85203	21 53 19.00	-06 40 44.5	E 095
2412	1986 09 06.82972	21 46 45.32	-06 56 22.8	095
2413	1986 08 12.95570	23 12 10.16	-02 41 43.2	095
2413	1986 08 29.92286	23 02 25.96	-04 39 53.0	E 095
2413	1986 08 30.89424	23 01 46.66	-04 47 30.4	095
2413	1986 09 06.90472	22 56 56.69	-05 43 39.4	E 095
2413	1986 09 07.87911	22 56 15.64	-05 51 30.8	095
2413	1986 09 12.89567	22 52 46.76	-06 32 05.0	095
2415	1986 08 08.91666	21 11 08.84	-19 10 34.0	095
2425	1986 04 04.97383	13 59 12.39	-03 56 16.4	E 095
2426	1986 05 29.88462	16 04 28.98	-18 53 15.1	095
2426	1986 05 31.89289	16 02 50.61	-18 41 23.7	095
2432	1986 09 12.89567	22 51 08.62	-12 26 36.0	E 095
2435	1986 08 09.85412	20 46 52.30	-13 29 00.6	095
2455	1986 09 08.94442	23 47 02.96	+09 20 32.2	095
2455	1986 09 11.88540	23 44 35.61	+09 13 46.1	095
2465	1986 09 09.01388	01 33 07.30	+15 37 27.3	E 095
2465	1986 09 12.96859	01 31 25.48	+15 34 55.2	E 095
2467	1986 10 03.07884	02 44 53.02	+26 38 27.9	E 095
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2505	1986 09 06.98042	00 12 41.01	-01 35 29.0	095
2505	1986 09 15.02825	00 07 00.08	-02 11 46.4	095
2505	1986 10 02.87262	23 53 43.35	-03 30 36.4	095
2505	1986 10 08.84440	23 49 39.16	-03 52 52.4	095
2506	1986 09 14.03249	00 29 07.10	+02 05 50.6	095
2506	1986 10 06.92492	00 12 06.92	-00 00 59.1	095
2506	1986 10 10.83838	00 09 16.87	-00 21 31.6	095
2506	1986 10 10.90642	00 09 13.88	-00 21 52.3	095
2506	1986 10 11.92746	00 08 31.09	-00 27 02.2	095
2519	1986 09 06.98042	00 18 14.08	-02 08 25.1	E 095
2519	1986 09 15.02825	00 12 46.37	-02 46 26.1	E 095
2519	1986 10 02.87262	23 59 32.90	-04 08 25.6	E 095
2519	1986 10 08.84440	23 55 27.44	-04 30 48.3	E 095
2519	1986 10 10.90642	23 54 08.69	-04 37 34.6	095
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2521	1986 10 03.97910	01 42 30.74	+22 24 03.0	095
2521	1986 10 07.00164	01 40 09.25	+22 14 25.8	E 095
2521	1986 10 11.99273	01 36 03.58	+21 55 10.4	095

2523	1986	10	02.94135	00	52	54.06	+19	41	29.1	095
2523	1986	10	08.91869	00	48	09.64	+19	14	40.9	095
2525	1986	08	11.90954	22	12	32.60	-15	10	13.2	095
2525	1986	09	01.86168	21	56	51.16	-16	47	08.8	E 095
2525	1986	09	09.78124	21	51	23.91	-17	15	09.5	E 095
2528	1986	08	09.85412	20	49	30.95	-17	20	36.6	E 095
2533	1986	08	06.96875	22	29	01.69	-07	33	19.8	095
2533	1986	08	08.98957	22	27	47.25	-07	40	31.5	095
2533	1986	08	14.97569	22	23	48.66	-08	04	00.4	095
2533	1986	08	31.89587	22	11	10.32	-09	20	19.4	095
2533	1986	09	08.87521	22	05	17.69	-09	56	43.2	095
2534	1986	08	08.84513	19	41	38.90	-20	29	47.0	095
2537	1986	10	10.97100	03	06	03.28	+36	55	00.4	095
2537	1986	10	11.86359	03	05	26.08	+36	59	46.5	095
2541	1986	10	12.06773	02	56	41.26	+13	29	33.8	095
2542	1986	04	04.97383	13	52	35.11	-05	14	47.7	095
2547	1986	09	06.98042	00	03	26.32	+01	26	31.2	095
2547	1986	09	15.02825	23	56	02.36	+01	17	21.4	095
2547	1986	10	02.87262	23	38	40.48	+00	45	26.6	095
2551	1986	08	08.91666	21	14	46.04	-16	48	33.2	095
2551	1986	08	30.83331	20	58	04.04	-17	56	41.0	095
2553	1986	08	06.96875	22	52	55.24	-11	28	53.0	E 095
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2553	1986	08	14.97569	22	48	26.75	-12	13	23.8	095
2553	1986	09	08.87521	22	30	51.78	-14	35	54.8	095
2562	1986	10	10.97100	03	14	21.12	+31	03	20.8	095
2579	1986	04	04.88146	11	21	40.89	-07	11	09.2	095
2587	1986	09	10.01109	00	50	16.01	+01	18	37.4	095
2587	1986	09	14.03249	00	47	49.78	+01	01	23.0	095
2587	1986	10	06.92492	00	31	24.28	-00	43	45.0	095
2616	1986	09	10.01109	00	21	52.42	+00	50	04.5	E 095
2616	1986	10	02.87262	00	01	32.18	-01	45	31.6	E 095
2616	1986	10	08.84440	23	56	28.44	-02	21	53.4	E 095
2616	1986	10	10.90642	23	54	52.65	-02	33	10.0	095
2616	1986	10	11.92746	23	54	07.25	-02	38	28.3	095
2624	1986	10	03.00940	01	52	12.86	+08	51	20.4	095
2624	1986	10	08.99090	01	48	46.44	+08	28	20.8	095
2624	1986	11	04.83282	01	32	20.20	+06	45	11.8	E 095
2634	1986	11	04.83282	01	47	19.78	+01	43	28.4	E 095
2644	1986	10	05.98977	02	04	17.24	+15	45	01.5	095
2644	1986	10	11.99273	01	58	10.89	+15	23	48.3	095
2670	1986	04	04.88146	11	26	02.74	-11	31	37.3	095
2682	1986	08	09.94784	23	09	38.98	-10	07	52.6	095
2682	1986	08	12.95570	23	08	23.45	-10	33	16.7	N 095
2682	1986	08	13.96193	23	07	54.96	-10	42	08.8	095
2687	1986	04	04.97383	13	52	39.99	-03	35	16.4	E 095
2689	1986	08	12.88139	21	46	25.98	-06	00	12.8	E 095
2689	1986	08	29.85203	21	30	41.55	-08	01	34.6	095
2694	1986	08	12.88139	21	54	06.81	-09	51	40.5	N 095
2708	1986	09	10.01109	00	40	45.53	+00	09	47.7	095
2708	1986	09	14.03249	00	38	22.55	-00	09	26.6	095
2708	1986	10	06.92492	00	21	52.14	-02	07	07.7	095
2708	1986	10	10.90642	00	18	56.10	-02	25	44.8	095
2708	1986	10	11.92746	00	18	11.76	-02	30	21.3	095
2710	1986	05	29.88462	16	09	07.48	-15	24	37.0	095
2717	1986	10	05.98977	02	16	41.99	+09	15	35.2	E 095
2727	1986	05	29.88462	16	19	04.96	-17	27	01.5	095
2728	1986	05	29.88462	16	20	55.73	-17	55	34.8	095
2728	1986	05	31.89289	16	19	01.02	-17	48	23.9	095

2737	1986 09 07.95147	00 38 00.77	+09 53 19.1	095
2737	1986 09 11.95554	00 35 10.29	+09 54 46.3	095
2737	1986 10 05.91052	00 13 38.24	+09 19 55.4	095
2739	1986 08 08.84513	19 46 44.96	-19 51 49.2	095
2743	1986 08 07.93639	21 32 44.21	+06 07 12.2	095
2743	1986 08 14.90626	21 26 36.93	+06 03 22.3	095
2743	1986 08 31.82298	21 12 16.20	+05 09 35.4	095
2743	1986 09 08.80588	21 06 54.76	+04 27 50.2	095
2752	1986 09 07.95147	00 58 25.54	+06 40 21.6	E 095
2754	1986 08 29.92286	22 35 29.54	+04 03 55.2	E 095
2754	1986 09 09.85693	22 26 13.74	+03 43 16.9	E 095
2754	1986 09 29.85135	22 15 05.41	+02 23 50.0	095
2754	1986 10 02.79977	22 14 34.62	+02 11 40.1	E 095
2754	1986 10 03.82287	22 14 28.90	+02 07 28.4	E 095
2756	1986 09 09.78124	21 30 08.27	-18 13 59.6	095
2762	1986 08 08.91666	21 22 58.36	-13 26 26.8	095
2762	1986 08 30.83331	21 01 54.37	-14 29 51.1	095
2762	1986 09 07.80617	20 55 58.67	-14 46 53.7	095
2763	1986 10 07.07490	02 26 19.41	+21 25 29.4	095
2763	1986 11 27.74559	01 45 23.62	+17 26 19.4	095
2764	1986 10 03.00940	01 29 19.62	+12 55 58.1	095
2777	1986 09 09.93366	00 00 13.29	-06 03 45.9	E 095
2777	1986 09 29.92844	23 41 09.99	-07 32 49.1	095
2777	1986 10 06.84611	23 35 02.46	-07 54 36.4	095
2784	1986 11 04.83282	01 44 49.42	-01 14 49.1	095
2796	1986 09 14.03249	00 43 10.70	-04 44 49.0	095
2798	1986 08 29.85203	21 26 04.06	-05 55 52.8	095
2798	1986 09 06.82972	21 20 13.42	-06 43 47.2	E 095
2823	1986 08 29.92286	22 35 12.18	-01 23 48.6	095
2823	1986 09 06.90472	22 28 08.53	-02 06 46.5	E 095
2827	1986 10 10.97100	03 26 53.34	+30 19 16.6	E 095
2835	1986 08 18.02764	23 47 12.72	-02 13 07.3	095
2835	1986 09 09.93366	23 31 44.20	-03 41 51.9	E 095
2835	1986 09 29.92844	23 15 49.95	-05 10 13.7	E 095
2835	1986 10 06.84611	23 11 21.39	-05 33 44.3	E 095
2837	1986 10 03.00940	01 48 19.64	+08 05 48.3	095
2837	1986 10 08.99090	01 43 51.70	+07 43 26.4	095
2852	1986 10 05.98977	01 59 47.76	+09 18 31.4	E 095
2852	1986 11 04.83282	01 35 42.64	+07 06 25.6	E 095
2866	1986 10 02.94135	00 57 06.98	+19 08 43.6	E 095
2866	1986 10 08.91869	00 51 48.18	+18 53 08.6	095
2878	1986 10 10.97100	03 06 57.70	+32 31 44.4	095
2878	1986 10 11.86359	03 06 24.74	+32 32 55.0	E 095
2886	1986 08 08.91666	21 20 10.36	-16 41 27.7	095
2889	1986 09 09.01388	01 15 46.68	+15 39 38.8	095
2889	1986 09 12.96859	01 14 13.30	+15 24 47.5	095
2889	1986 11 04.75992	00 41 41.06	+09 05 45.2	095
2911	1986 08 12.95570	23 04 53.08	-07 46 36.9	095
2911	1986 08 13.96193	23 04 18.20	-07 53 34.1	095
2920	1986 10 03.97910	02 04 09.04	+21 53 47.2	095
2920	1986 10 07.00164	02 02 49.21	+21 42 34.5	095
2920	1986 10 11.99273	02 00 30.00	+21 22 25.0	095
2945	1986 04 04.97383	13 51 48.60	-07 28 03.6	095
2952	1986 09 06.98042	23 59 03.83	+03 22 22.1	095
2952	1986 09 15.02825	23 52 07.89	+03 01 03.2	095
2952	1986 10 02.87262	23 35 31.82	+01 53 13.4	E 095
2963	1986 04 04.97383	13 47 33.81	-09 23 47.6	E 095
2966	1986 10 05.98977	02 18 11.01	+12 30 07.6	095
2982	1986 04 04.97383	14 12 13.00	-09 11 32.6	095

2983	1986 09 08.94442	23 39 56.42	+04 55 56.1	E 095
2995	1986 08 12.88139	21 46 02.44	-03 20 45.6	E 095
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3000	1986 09 06.90472	23 07 56.06	-02 02 18.7	E 095
3009	1986 09 08.87521	22 35 42.40	-14 02 56.9	E 095
3018	1986 08 12.88139	21 49 47.97	-02 50 35.4	095
3018	1986 08 29.85203	21 36 13.40	-04 22 21.4	095
3018	1986 09 06.82972	21 31 11.10	-05 12 10.1	095
3019	1986 08 06.96875	22 32 06.32	-12 49 37.8	N 095
3019	1986 09 08.87521	22 07 14.24	-15 36 28.2	E 095
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3020	1986 10 06.92492	00 17 58.64	-05 45 23.9	095
3020	1986 10 10.90642	00 15 05.07	-06 08 01.5	095
3026	1986 05 29.88462	16 26 51.14	-13 58 46.4	095
3030	1986 09 09.01388	01 21 58.38	+15 46 13.9	095
3030	1986 09 12.96859	01 21 40.56	+16 00 46.6	095
3030	1986 11 04.75992	00 49 03.44	+13 37 34.2	095
3032	1986 08 08.98957	22 57 08.93	-11 32 47.6	095
3032	1986 08 09.94784	22 56 37.32	-11 37 23.9	095
3032	1986 08 14.97569	22 53 37.00	-12 02 43.6	095
3032	1986 08 31.89587	22 41 07.91	-13 32 25.9	E 095
3032	1986 09 08.87521	22 34 51.04	-14 11 04.6	E 095
3039	1986 08 07.93639	21 56 13.99	+07 05 32.6	095
3039	1986 08 14.90626	21 51 03.07	+06 09 49.4	E 095
3039	1986 09 08.80588	21 33 40.29	+01 35 30.8	095
3047	1986 10 03.00940	01 39 51.14	+12 50 37.8	095
3049	1986 08 30.89424	23 21 10.72	-07 59 51.2	095
3049	1986 09 07.87911	23 15 19.56	-08 39 56.6	095
3049	1986 09 12.89567	23 11 34.92	-09 04 14.0	095
3055	1986 08 11.99982	23 50 19.03	-11 10 01.0	095
3055	1986 09 07.87911	23 27 08.75	-11 27 25.6	095
3055	1986 09 12.89567	23 21 38.34	-11 27 58.8	E 095
3058	1986 10 07.07490	02 52 44.80	+16 17 26.5	095
3058	1986 10 12.06773	02 50 37.60	+15 52 48.0	095
3064	1986 10 05.98977	02 21 42.18	+10 22 15.4	095
3065	1986 09 07.95147	00 18 35.42	+07 52 12.4	E 095
3065	1986 10 05.91052	23 55 58.78	+05 53 28.4	E 095
3065	1986 10 10.83838	23 52 11.68	+05 28 53.8	15.8V 095
3078	1986 09 07.87911	23 16 00.46	-12 49 56.8	E 095
3078	1986 09 12.89567	23 12 11.73	-13 07 15.4	E 095
3081	1986 10 12.06773	02 56 00.16	+15 06 16.8	095
3095	1986 08 12.88139	22 08 21.43	-09 00 16.5	095
3099	1986 10 06.92492	00 30 53.59	-06 24 12.9	095
3128	1986 08 09.94784	23 09 10.39	-09 18 53.3	095
3128	1986 08 12.95570	23 07 37.33	-09 32 46.8	095
3128	1986 08 13.96193	23 07 04.00	-09 37 38.3	095
3128	1986 08 30.89424	22 55 44.40	-11 05 12.2	E 095
3128	1986 09 12.89567	22 46 07.39	-12 08 44.4	E 095
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3136	1986 10 06.92492	00 32 18.86	-03 22 22.4	095
3175	1986 09 09.01388	01 12 25.25	+08 14 08.7	E 095
3227	1986 05 29.88462	16 20 37.94	-14 57 33.2	095
3249	1986 08 11.99982	23 58 54.18	-07 03 59.7	095
3249	1986 08 17.00339	23 58 55.53	-07 19 50.2	095
3249	1986 09 09.93366	23 48 22.54	-09 20 00.8	095
3249	1986 09 29.92844	23 32 33.41	-10 48 29.7	095
3249	1986 10 06.84611	23 27 59.77	-11 00 12.0	095
3257	1986 08 11.99982	23 39 31.42	-12 05 30.2	16.0V E 095
3257	1986 08 17.00339	23 36 54.01	-12 20 45.4	E 095

3268	1986	09	07.95147	00	40	04.43	+12	07	45.4		095
3268	1986	09	11.95554	00	37	27.28	+11	45	49.6		095
3268	1986	10	05.91052	00	17	38.67	+08	32	34.4		095
3268	1986	10	10.83838	00	13	40.20	+07	46	37.6	N	095
3279	1986	08	09.85412	21	00	10.14	-11	09	48.7		095
3281	1986	09	07.87911	23	22	14.92	-04	11	40.2		095
3281	1986	09	12.89567	23	17	10.18	-04	29	26.4		095
3282	1986	10	06.92492	00	31	17.82	+00	30	45.5		095
3305	1986	10	03.00940	01	44	28.89	+06	06	03.2	E	095
3316	1986	08	29.92286	22	53	12.06	+00	51	58.6		095
3316	1986	09	06.90472	22	47	42.53	+00	05	59.9		095
3316	1986	10	02.79977	22	32	19.66	-02	29	13.9		095
3326	1986	09	06.98042	23	55	48.00	-01	57	48.8		095
3326	1986	09	15.02825	23	48	05.12	-02	30	22.8		095
3326	1986	10	02.87262	23	31	26.14	-03	37	08.8		095
3326	1986	10	08.84440	23	26	58.74	-03	52	39.6		095
3353	1986	10	10.97100	02	58	07.68	+38	53	04.0	N	095
3436	1986	10	04.05028	02	50	21.86	+15	14	27.9		095
3436	1986	10	07.07490	02	48	47.02	+15	05	01.0		095
3436	1986	10	12.06773	02	45	45.70	+14	47	36.8		095
3487	1986	08	07.93639	21	28	53.00	+04	42	49.3		095
3487	1986	08	14.90626	21	23	52.40	+03	49	03.6		095
3487	1986	08	31.82298	21	12	57.34	+00	56	52.5		095
3497	1986	08	12.95570	22	56	08.82	-04	33	18.9		095
3497	1986	09	08.87521	22	36	20.86	-08	18	53.7		095
3499	1986	08	11.90954	22	09	40.09	-11	11	14.6	16.0V	095
3499	1986	09	09.78124	21	49	33.76	-13	29	41.6		095
3500	1986	09	06.90472	23	05	35.22	-00	31	08.5	E	095
3500	1986	10	02.79977	22	45	56.17	-01	29	39.0	E	095
3501	1986	08	29.85203	21	26	25.72	-06	51	09.0		095
3501	1986	09	06.82972	21	21	15.63	-07	24	08.4	E	095
3502	1986	08	11.99982	23	44	51.22	-05	32	47.6	E	095
3502	1986	08	17.00339	23	43	01.52	-05	52	26.4	E	095
3502	1986	08	18.02764	23	42	36.48	-05	56	40.6		095
3502	1986	09	07.87911	23	29	57.98	-07	41	48.0	E	095
3502	1986	09	09.93366	23	28	27.90	-07	52	37.3	E	095
3502	1986	09	29.92844	23	14	32.42	-09	22	58.1	E	095
3502	1986	10	06.84611	23	10	46.01	-09	43	09.1		095
3504	1986	08	08.91666	21	42	01.59	-15	05	18.6	E	095
3504	1986	08	11.90954	21	39	45.31	-15	19	21.0	E	095
3504	1986	08	13.88890	21	38	14.62	-15	28	27.8		095
3504	1986	08	30.83331	21	25	54.37	-16	39	28.6	E	095
3504	1986	09	09.78124	21	20	20.69	-17	09	36.0	E	095
3505	1986	08	29.92286	22	47	37.91	+02	02	17.6		095
3505	1986	09	06.90472	22	40	57.92	+01	45	49.6		095
3505	1986	10	02.79977	22	22	49.76	+00	30	29.2		095
3506	1986	08	11.90954	21	58	05.11	-17	30	08.8		095
3506	1986	09	09.78124	21	33	45.39	-17	56	13.1		095
3507	1986	05	29.88462	16	26	41.05	-19	54	19.6		095
3507	1986	05	31.89289	16	24	59.74	-19	52	48.5	E	095
3508	1986	08	13.96193	23	26	31.96	-08	53	01.0		095
3508	1986	08	30.89424	23	13	46.88	-09	35	54.1		095
3508	1986	09	07.87911	23	06	37.44	-09	57	00.8		095
3508	1986	09	12.89567	23	02	06.42	-10	08	39.8		095
3510	1986	10	03.97910	01	52	25.95	+21	02	15.8		095
3510	1986	10	07.00164	01	49	54.40	+20	51	10.0		095
3510	1986	10	11.99273	01	45	28.16	+20	29	06.2		095
3511	1986	10	02.79977	22	29	24.50	+02	19	59.6		095
3513	1986	08	12.95570	23	12	32.93	-04	03	29.2		095

3513	1986	09	06.90472	22	52	56.42	-05	35	30.8		E	095
3513	1986	09	12.89567	22	47	46.41	-06	01	06.6			095
3514	1986	09	12.89567	23	09	38.82	-08	49	28.1	16.2V		095
3515	1986	09	08.87521	22	05	13.52	-12	02	31.4			095
3516	1986	08	08.91666	21	26	58.72	-13	29	54.8			095
3516	1986	08	30.83331	21	10	08.54	-15	08	15.8			095
3517	1986	08	29.92286	22	41	50.54	-05	01	57.5		E	095
3523	1986	11	04.83282	01	23	37.86	+01	18	33.8			095
3525	1986	10	03.00940	01	41	12.32	+14	22	31.8		E	095
3527	1986	09	07.95147	00	55	36.15	+11	10	43.1			095
3527	1986	09	11.95554	00	52	58.78	+10	51	36.0		E	095
3527	1986	10	05.91052	00	32	27.48	+08	05	42.3		E	095
3530	1986	10	03.00940	01	24	19.68	+11	13	41.2		E	095
3530	1986	10	08.99090	01	19	12.40	+10	41	25.8		E	095
3533	1986	10	04.05028	02	53	55.44	+14	42	25.3			095
3533	1986	10	07.07490	02	52	50.30	+14	25	28.7			095
3533	1986	10	12.06773	02	50	23.48	+13	53	57.9			095
3534	1986	10	03.97910	01	59	42.77	+21	04	43.1			095
3534	1986	10	07.00164	01	57	46.02	+20	51	48.2			095
3534	1986	10	11.99273	01	54	11.82	+20	26	15.4			095
3535	1986	10	04.05028	02	38	31.45	+18	02	26.3			095
3535	1986	10	07.07490	02	37	17.90	+17	57	12.8			095
3535	1986	10	12.06773	02	34	36.96	+17	44	44.4			095
3535	1986	11	27.74559	01	58	35.07	+13	53	39.2			095
3537	1986	11	04.83282	01	43	09.18	+05	06	15.9			095
3542	1986	08	29.92286	22	37	40.15	+04	12	58.4		E	095
3543	1986	09	14.03249	00	30	03.67	+02	40	25.4	15.5V		095
3543	1986	10	10.83838	00	10	58.16	+00	29	17.2			095
3543	1986	10	10.90642	00	10	55.44	+00	29	01.6		E	095
3543	1986	10	11.92746	00	10	14.62	+00	24	32.4			095
3545	1986	10	05.98977	02	13	19.09	+10	42	58.0			095
3556	1986	09	08.94442	23	22	18.12	+11	39	16.0		E	095
3556	1986	09	11.88540	23	20	16.24	+11	24	45.0		E	095
3558	1986	10	03.07884	02	40	51.42	+31	47	30.8			095
3583	1986	10	05.98977	02	08	56.42	+12	07	14.4			095
3584	1986	08	08.91666	21	26	26.54	-14	20	35.3			095
3584	1986	09	07.80617	21	04	41.82	-15	43	10.2			095
3588	1986	08	06.96875	22	43	08.31	-07	57	25.2			095
3588	1986	09	08.87521	22	18	24.51	-09	21	05.6			095
3596	1986	10	11.86359	02	56	30.14	+40	17	07.1		E	095
3600	1986	10	02.87262	23	39	54.50	-03	32	01.9			095
3619	1986	11	04.83282	01	43	26.29	+03	55	05.2			095
3620	1986	09	08.94442	23	36	07.98	+12	30	53.0			095
3620	1986	09	11.88540	23	33	52.82	+12	21	48.4			095
3621	1986	08	08.91666	21	21	12.35	-12	39	00.1	15.0V		095
3621	1986	08	13.88890	21	17	26.38	-13	01	37.4			095
3621	1986	08	30.83331	21	05	39.68	-14	16	57.0			095
3621	1986	09	07.80617	21	01	36.30	-14	46	52.6			095
3655	1986	09	07.95147	00	22	30.40	+04	41	16.8		E	095
3655	1986	10	10.83838	00	01	45.77	+03	04	21.6			095
3759	1986	08	08.84513	19	56	44.38	-16	52	51.2			095
3768	1986	08	11.99982	00	04	34.76	-05	48	47.9			095
3768	1986	08	17.00339	00	04	21.52	-06	33	46.0			095
3768	1986	09	09.93366	23	55	54.83	-10	55	52.9			095
3774	1986	10	03.97910	01	48	52.35	+25	06	48.6		E	095
3774	1986	10	07.00164	01	46	37.15	+24	59	59.8		E	095
3774	1986	10	11.99273	01	42	41.80	+24	45	22.4		E	095
3778	1986	10	03.00940	01	28	38.88	+10	44	20.0			095
3778	1986	10	08.99090	01	23	56.72	+10	19	50.0			095

3781	1986 08 09.94784	23 06 26.02	-04 07 15.2		095
3781	1986 08 29.92286	22 53 24.64	-05 39 49.1	E	095
3789	1986 09 08.87521	22 27 38.08	-13 54 24.8		095
3803	1986 10 02.94135	01 04 16.48	+22 46 47.0		095
3803	1986 10 08.91869	00 59 47.25	+22 12 46.4		095
3811	1986 09 07.95147	00 47 59.84	+12 47 38.7		095
3811	1986 09 11.95554	00 45 10.60	+12 58 46.6		095
3811	1986 10 05.91052	00 22 33.55	+13 07 22.9	E	095
3813	1986 08 08.91666	21 07 53.72	-17 15 26.2		095
3813	1986 08 13.88890	21 03 02.10	-17 13 44.2	E	095
3813	1986 08 30.83331	20 49 58.27	-16 55 01.4	E	095
3819	1986 11 04.83282	01 50 16.46	+07 01 03.6	E	095
3829	1986 10 03.00940	01 53 45.58	+08 54 14.1		095
3829	1986 11 04.83282	01 28 47.21	+05 15 18.7		095
3830	1986 09 08.94442	23 22 42.44	+12 13 54.4	E	095
3830	1986 09 11.88540	23 20 29.34	+12 00 59.2	E	095
3844	1986 08 08.91666	21 31 06.62	-14 47 01.4		095
3844	1986 08 13.88890	21 27 01.00	-15 15 38.5		095
3844	1986 08 30.83331	21 13 47.77	-16 46 06.8		095
3844	1986 09 07.80617	21 08 58.20	-17 19 55.4		095
3848	1986 04 04.97383	14 03 22.28	-10 22 40.8	16.0V	095
3850	1986 11 04.83282	01 27 01.49	-01 35 55.6	E	095
3856	1986 09 06.98042	00 12 56.01	+01 44 37.1		095
3856	1986 09 15.02825	00 07 07.41	+01 11 47.7		095
3856	1986 10 02.87262	23 53 01.86	-00 09 53.0		095
3856	1986 10 08.84440	23 48 37.86	-00 35 39.0		095
3856	1986 10 10.83838	23 47 15.56	-00 43 38.0	E	095
3858	1986 09 07.95147	00 23 08.94	+04 42 43.7	E	095
3858	1986 10 10.83838	23 49 37.19	+05 53 19.4		095
3860	1986 08 12.88139	21 57 23.75	-03 35 50.8		095
3860	1986 08 29.85203	21 42 45.48	-03 54 53.9		095
3860	1986 09 06.82972	21 36 38.95	-04 10 56.3		095
3865	1986 08 12.88139	22 10 40.82	-00 12 00.8	16.0V E	095
3865	1986 09 06.82972	21 49 38.36	-02 54 53.4	15.2V	095
3874	1986 10 03.97910	01 48 58.75	+22 56 43.5		095
3874	1986 10 11.99273	01 42 23.30	+22 26 26.0		095
3881	1986 10 03.00940	01 20 34.74	+05 55 00.6	E	095
3881	1986 10 08.99090	01 15 04.54	+05 33 04.4	E	095
3890	1986 08 12.88139	22 05 33.56	-01 33 25.6	E	095
3890	1986 08 29.85203	21 50 35.31	-02 27 18.2		095
3890	1986 09 06.82972	21 44 17.33	-03 04 01.3		095
3896	1986 09 09.85693	22 10 53.38	+03 15 56.6	E	095
3896	1986 09 29.85135	22 00 07.06	+01 15 01.6	E	095
3978	1986 05 29.88462	15 54 06.09	-19 59 38.7	16.0V E	095
3989	1986 09 06.90472	23 07 30.73	-03 09 04.1	E	095
3989	1986 09 12.89567	23 01 48.35	-03 24 47.7	E	095
3989	1986 10 02.79977	22 46 04.26	-04 10 27.7	E	095
4003	1986 08 31.89587	22 28 25.16	-05 12 28.0	16.0V E	095
4017	1986 10 07.07490	02 58 46.42	+17 06 36.8	16.5V E	095
4017	1986 10 12.06773	02 55 39.84	+17 00 50.4		095
4081	1986 05 29.88462	16 05 46.96	-21 19 48.7	16.0V	095
4090	1986 08 12.95570	23 11 06.54	-02 46 37.4		095
4090	1986 08 29.92286	22 57 05.46	-04 03 53.8		095
4090	1986 09 06.90472	22 49 35.73	-04 48 58.2	E	095
4090	1986 09 12.89567	22 44 12.80	-05 22 32.4	E	095
4091	1986 11 04.83282	01 31 57.36	+02 49 01.8		095
4092	1986 09 07.95147	00 21 25.78	+10 38 34.6	E	095
4092	1986 09 11.95554	00 19 18.06	+10 28 48.8		095

4092	1986	10	05.91052	00	02	57.51	+08	23	25.0		095
4092	1986	10	10.83838	23	59	55.32	+07	50	21.6		E 095
4093	1986	10	07.00164	02	10	35.59	+24	10	54.0	16.0V	095
4101	1986	10	03.07884	02	54	16.34	+27	53	16.8		095
4105	1986	10	03.00940	01	38	17.06	+10	51	31.4	16.0V	095
4107	1986	09	07.80617	20	52	12.99	-14	33	32.9		095

220 Kavalur

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0.45-m f/3 Schmidt

SAOC

1988	DQ1	1989	05	04.88681	15	25	46.59	-06	22	22.8		220
1988	DQ1	1989	05	05.73576	15	25	09.32	-06	17	20.0		220
1988	DQ1	1989	05	06.74826	15	24	24.98	-06	12	18.7		220
1988	DQ1	1989	05	07.74549	15	23	39.90	-06	06	55.8		220

293 Burlington remote site

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0.20-m f/4.0 astrograph

SAOC

1982	TH3	1989	01	14.34028	06	29	32.95	+28	43	18.5		293
1982	TH3	1989	01	14.35764	06	29	31.89	+28	43	15.1		293

303 Merida

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Observers E. H. Geyer, M. Hoffmann

Measurers M. Geffert, M. Petr

1.0-m f/3 Schmidt

AGK3

1989	CN4	1989	02	05.29410	12	25	49.24	+00	23	22.2		303
1989	CN4	1989	02	05.31493	12	25	49.43	+00	23	24.5		303
1989	CN4	1989	02	05.32882	12	25	49.58	+00	23	25.7		303
1989	CN4	1989	02	06.30779	12	26	00.06	+00	25	03.8		303
1989	CN4	1989	02	06.32188	12	26	00.15	+00	25	05.4		303
1989	CN4	1989	02	06.34410	12	26	00.30	+00	25	08.0		303
1989	CN4	1989	02	10.29688	12	26	23.51	+00	33	55.2		303
1989	CN4	1989	02	10.31076	12	26	23.50	+00	33	58.1		303
1989	CN4	1989	02	10.33160	12	26	23.52	+00	34	00.6		303
1989	CN4	1989	02	11.31493	12	26	24.56	+00	36	43.8		303
1989	CN4	1989	02	11.33576	12	26	24.52	+00	36	48.3		303
1989	CN4	1989	02	11.35660	12	26	24.41	+00	36	50.9		303
1989	CN4	* 1989	02	12.32326	12	26	23.57	+00	39	44.5	18	303
1989	CN4	1989	02	12.33021	12	26	23.55	+00	39	46.4		303
1989	CN4	1989	02	12.33715	12	26	23.52	+00	39	47.9		303
1989	CN4	1989	02	12.35104	12	26	23.45	+00	39	50.4		303
1989	CN4	1989	02	13.31771	12	26	20.73	+00	42	56.8		303
1989	CN4	1989	02	13.33160	12	26	20.63	+00	42	59.8		303
1989	CN4	1989	02	13.33854	12	26	20.57	+00	43	00.7		303
1989	CN4	1989	02	13.35243	12	26	20.51	+00	43	03.9		303

372 Geisei

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0.60-m reflector

1989	EG1	1989	04	12.65208	11	43	49.81	+07	06	15.5	18	372
1989	EG1	1989	04	12.66250	11	43	49.65	+07	06	18.6		372
1989	ER1	1989	04	11.57604	10	59	06.63	+12	50	03.7	18	372
1989	ER1	1989	04	11.58785	10	59	06.49	+12	50	06.7		372
1791		1989	05	26.60799	15	27	05.80	-12	50	27.4	15	372

1791	1989 05	26.61979	15 27	05.20	-12 50	23.4				372
3565	1989 05	26.60799	15 26	45.76	-12 38	23.1		17.5		372
3565	1989 05	26.61979	15 26	45.21	-12 38	23.5				372

399 Kushiro

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Sapporo 005, Japan

Observers S. Ueda

Measurers H. Kaneda

0.16-m f/3.8 Wright-Schmidt camera

AGK3, SAOC

1966 CL	1988 02	07.43785	09 38	59.34	+15 34	15.3		16.5		399
1966 CL	1988 02	07.45434	09 38	58.52	+15 34	22.6				399
1969 TC2	1988 04	10.55660	13 32	34.40	-04 55	33.2		16.5		399
1969 TC2	1988 04	10.57153	13 32	33.83	-04 55	34.2				399
1969 TC2	1988 04	10.58819	13 32	32.99	-04 55	31.3				399
1969 TC2	1988 04	11.58108	13 31	43.38	-04 53	13.8		16.5		399
1969 TC2	1988 04	11.59618	13 31	42.72	-04 53	12.5				399
1969 TC2	1988 04	11.61331	13 31	41.93	-04 53	11.2				399
1978 PL4	1989 03	08.64375	10 22	48.07	-00 39	13.8		17		399
1978 PL4	1989 03	08.65833	10 22	47.34	-00 39	12.3				399
1978 PL4	1989 03	08.67367	10 22	46.55	-00 39	07.8				399
1982 KG1	1989 04	06.57361	13 19	47.62	-00 22	06.6		16		399
1982 KG1	1989 04	06.58819	13 19	46.66	-00 22	01.9				399
1982 KG1	1989 04	06.60451	13 19	45.88	-00 21	56.3				399
1982 KG1	1989 04	28.60104	13 00	41.41	+01 11	56.3		16.5		399
1982 KG1	1989 04	28.61568	13 00	40.67	+01 11	57.4				399
1982 KG1	1989 04	28.63229	13 00	39.96	+01 12	01.7				399
1982 KG1	1989 05	05.49931	12 56	22.09	+01 23	13.7		16.5		399
1982 KG1	1989 05	05.51563	12 56	21.45	+01 23	15.0				399
1982 KG1	1989 05	05.53160	12 56	20.91	+01 23	15.1				399
1982 KG1	1989 05	05.54688	12 56	20.39	+01 23	15.5				399
1982 SK8	1989 02	27.52726	09 17	53.03	+13 58	15.1		16.5		399
1982 SK8	1989 02	27.54253	09 17	52.28	+13 58	17.2				399
1984 YU1	1989 04	04.58611	10 53	52.38	+09 08	30.4		16.5		399
1984 YU1	1989 04	04.60069	10 53	51.99	+09 08	31.0				399
1984 YU1	1989 04	04.61690	10 53	51.38	+09 08	32.6				399
1986 QL	1989 02	27.52726	09 21	57.27	+13 39	52.2		16.5		399
1986 QL	1989 02	27.54253	09 21	56.65	+13 39	54.1				399
1987 CJ	1987 03	04.57867	10 59	33.86	+08 36	48.7		16		399
1987 CJ	1987 03	04.59372	10 59	33.15	+08 36	55.9				399
1987 CJ	1987 03	04.61015	10 59	32.46	+08 37	03.5				399
1987 DQ6	1987 03	04.57867	10 58	41.28	+11 05	01.3		16.5		399
1987 DQ6	1987 03	04.59372	10 58	40.34	+11 05	03.2				399
1987 DQ6	1987 03	04.61015	10 58	39.59	+11 05	05.5				399
1987 YL2	1988 01	10.46192	07 26	58.06	+13 23	23.9		16.5		399
1987 YL2	1988 01	10.47743	07 26	57.28	+13 23	25.9				399
1987 YL2	1988 01	10.49531	07 26	56.19	+13 23	29.6				399
1988 BW	1988 02	08.44826	09 34	44.12	+15 16	00.7		16.5		399
1988 BW	1988 02	08.48559	09 34	41.72	+15 15	58.5				399
1988 BW	1988 02	23.69740	09 18	25.05	+14 55	53.1		16.5		399
1988 BW	1988 02	23.73438	09 18	22.82	+14 55	51.4				399
1988 BZ1	1988 02	23.69740	09 18	21.10	+14 55	25.2		16.5		399
1988 BZ1	1988 02	23.71461	09 18	20.28	+14 55	29.3				399
1988 BA2	1988 02	23.69740	09 18	32.76	+15 01	50.9		16.5		399
1988 BA2	1988 02	23.71461	09 18	32.01	+15 01	53.7				399
1988 BA2	1988 02	23.73438	09 18	30.91	+15 02	01.2				399
1988 BA2	1989 04	06.69583	15 17	49.49	-15 11	25.9		17		399
1988 BA2	1989 04	06.71042	15 17	48.97	-15 11	23.5				399

1988 BA2	1989 04	06.72604	15 17	48.36	-15 11	19.9		399
1988 BA2	1989 04	28.65764	15 03	32.81	-13 56	48.2	16.5	399
1988 BA2	1989 04	28.67222	15 03	32.02	-13 56	45.2		399
1988 BA2	1989 04	28.68889	15 03	31.23	-13 56	42.0		399
1988 BA2	1989 05	05.57471	14 57	53.93	-13 29	55.4	16.5	399
1988 BA2	1989 05	05.59375	14 57	53.12	-13 29	52.2		399
1988 BA2	1989 05	05.60833	14 57	52.28	-13 29	49.0		399
1988 BA2	1989 05	23.49097	14 43	38.42	-12 25	58.5	17	399
1988 BA2	1989 05	23.52153	14 43	37.28	-12 25	53.3		399
1988 BA2	1989 05	25.48681	14 42	13.94	-12 20	03.9	17	399
1988 BA2	1989 05	25.50139	14 42	13.38	-12 20	01.5		399
1988 BA2	1989 05	25.51667	14 42	12.72	-12 19	57.8		399
1988 BA2	1989 05	25.53125	14 42	12.03	-12 19	56.4		399
1988 CF	1988 02	21.60891	09 39	12.33	+19 41	12.1	16.5	399
1988 CF	1988 03	13.49543	09 24	37.54	+19 04	42.1	17	399
1988 CF	1988 03	13.51372	09 24	37.11	+19 04	39.0		399
1988 CF	1988 03	13.54103	09 24	36.42	+19 04	33.0		399
1988 CQ	1988 02	19.61736	09 43	53.66	+20 42	42.4	16.5	399
1988 CQ	1988 02	19.63414	09 43	52.70	+20 42	56.2		399
1988 CQ	1988 02	19.65405	09 43	51.85	+20 43	08.7		399
1988 CT5	1988 02	18.66913	09 21	49.68	+14 30	01.1	16.5	399
1988 CT5	1988 02	18.68484	09 21	48.80	+14 30	01.3		399
1988 CT5	1988 02	18.70185	09 21	47.77	+14 30	02.8		399
1988 CT5	1988 02	19.68155	09 20	49.14	+14 31	07.9	16.5	399
1988 CT5	1988 02	19.69838	09 20	48.29	+14 31	08.7		399
1988 CT5	1988 02	19.71406	09 20	47.43	+14 31	10.7		399
1988 FE	1988 04	08.56944	11 56	54.54	+14 37	39.5	16.5	399
1988 FE	1988 04	08.58808	11 56	53.70	+14 37	34.8		399
1988 FE	1988 04	08.60799	11 56	52.53	+14 37	28.6		399
1988 FL3 *	1988 03	16.66435	11 59	40.25	+12 38	41.7		399
1988 FL3	1988 03	17.55781	11 58	51.93	+12 47	17.7	16.5	399
1988 FL3	1988 03	17.57431	11 58	51.01	+12 47	28.9		399
1988 FL3	1988 03	17.59456	11 58	49.73	+12 47	43.0		399
1988 FL3	1988 03	21.56753	11 55	12.92	+13 24	54.7	16.5	399
1988 FL3	1988 03	21.58281	11 55	11.98	+13 25	03.2		399
1988 FL3	1988 03	21.60023	11 55	10.91	+13 25	09.9		399
1988 FL3	1988 04	08.50590	11 39	41.13	+15 38	56.6	16.5	399
1988 FL3	1988 04	08.52118	11 39	40.40	+15 39	04.0		399
1988 FL3	1988 04	08.53912	11 39	39.59	+15 39	09.6		399
1988 FL3	1988 04	13.51638	11 36	05.50	+16 03	41.7	17	399
1988 FM3 *	1988 03	17.55781	12 00	35.25	+13 24	30.3	16.5	399
1988 FM3	1988 03	17.57431	12 00	34.25	+13 24	34.3		399
1988 FM3	1988 03	17.59456	12 00	33.18	+13 24	37.2		399
1988 FN3 *	1988 03	17.55781	12 09	02.73	+13 00	56.6	16.5	399
1988 FN3	1988 03	17.57431	12 09	01.73	+13 01	05.6		399
1988 FN3	1988 03	17.59456	12 09	00.42	+13 01	19.1		399
1988 RD	1988 09	17.65700	01 15	33.13	+09 49	21.5	16	399
1988 SN	1988 09	17.65700	01 16	43.57	+10 02	03.7	16.5	399
1988 SN	1988 10	16.51736	00 49	21.51	+09 46	29.1	16	399
1988 SN	1988 10	16.53333	00 49	20.49	+09 46	27.6		399
1988 SN	1988 10	16.55041	00 49	19.39	+09 46	27.4		399
1988 TJ	1988 10	15.58831	00 53	34.92	+10 59	12.1	16.5	399
1988 TK	1988 10	08.57037	01 01	35.03	+10 55	50.0	16.5	399
1988 TK	1988 10	15.58831	00 54	40.13	+10 43	47.0	16.5	399
1988 TK	1988 10	18.54074	00 51	52.99	+10 38	14.4	16.5	399
1988 TK	1988 10	18.55729	00 51	52.01	+10 38	14.3		399
1988 TL	1988 10	15.58831	00 58	16.24	+09 15	09.2	16	399
1988 TN	1988 10	31.47436	01 03	14.50	+09 10	24.9	16.5	399
1988 TN	1988 10	31.49242	01 03	13.49	+09 10	20.2		399

1988 TS	1988 10 15.58831	00 52 26.02	+10 13 58.4	16	399
1988 TT	1988 10 08.57037	01 03 56.81	+11 09 37.6	16.5	399
1988 TT	1988 10 15.58831	00 57 34.00	+10 58 36.0	16.5	399
1988 TK1	1988 10 03.49265	01 10 39.76	+11 51 50.4	16.5	399
1988 TK1	1988 10 03.50758	01 10 38.89	+11 51 45.0		399
1988 TK1	1988 10 03.53021	01 10 37.32	+11 51 39.7		399
1988 TK1	1988 10 03.54485	01 10 36.56	+11 51 33.4		399
1988 TK1	1988 10 08.57037	01 05 48.26	+11 24 46.8	16.5	399
1988 TK1	1988 10 15.58831	00 58 57.99	+10 43 51.4	16.5	399
1988 TK1	1988 10 19.58299	00 55 09.80	+10 19 39.5	16.5	399
1988 TK1	1988 10 19.59965	00 55 08.72	+10 19 35.8		399
1988 TK1	1988 10 19.61701	00 55 07.78	+10 19 27.7		399
1988 TW1	1988 10 08.57037	01 09 46.43	+10 45 13.6	16.5	399
1988 UV *	1988 10 18.54074	00 51 52.37	+08 50 01.0	16.5	399
1988 UV	1988 10 18.55729	00 51 51.51	+08 49 53.9		399
1988 UV	1988 10 19.58299	00 51 02.54	+08 38 54.4	16.5	399
1988 UV	1988 10 19.59965	00 51 01.55	+08 38 41.6		399
1988 UV	1988 10 19.61701	00 51 00.71	+08 38 29.4		399
1988 VS6	1988 10 13.58449	01 20 41.15	+09 31 18.3	16.5	399
1988 VS6	1988 10 13.60179	01 20 40.44	+09 31 10.8		399
1988 VS6	1988 10 13.62442	01 20 39.49	+09 31 05.2		399
1989 CH4	1989 02 04.64549	09 46 42.75	+13 54 57.5	16.5	399
1989 CH4	1989 02 04.66181	09 46 41.73	+13 55 03.8		399
1989 CH4	1989 02 04.67642	09 46 40.74	+13 55 08.0		399
1989 CH4	1989 02 05.58194	09 45 48.52	+13 58 29.2	16.5	399
1989 CH4	1989 02 11.70347	09 39 39.68	+14 21 47.2	16.5	399
1989 CH4	1989 02 11.71806	09 39 38.76	+14 21 50.0		399
1989 CH4	1989 02 11.73513	09 39 37.58	+14 21 55.4		399
1989 GE	1989 04 04.64045	13 26 56.48	+00 40 29.5	16	399
1989 GE	1989 04 28.60104	13 02 01.51	+00 54 34.5	16.5	399
1989 GE	1989 04 28.61568	13 02 00.83	+00 54 32.9		399
1989 GE	1989 04 28.63229	13 01 59.92	+00 54 32.6		399
1989 GE	1989 05 05.49931	12 56 21.40	+00 38 06.0	16.5	399
1989 GE	1989 05 05.51563	12 56 20.56	+00 38 02.3		399
1989 GE	1989 05 05.53160	12 56 19.90	+00 37 59.5		399
1989 GE	1989 05 05.54688	12 56 19.07	+00 37 55.5		399
1028	1989 05 23.49097	14 43 44.49	-12 02 00.2	15	399
1028	1989 05 23.50556	14 43 43.80	-12 01 59.2		399
1028	1989 05 23.52153	14 43 43.10	-12 01 58.4		399
1028	1989 05 25.48681	14 42 25.77	-12 00 13.1	15	399
1028	1989 05 25.50139	14 42 25.15	-12 00 13.1		399
1028	1989 05 25.51667	14 42 24.62	-12 00 11.7		399
1028	1989 05 25.53125	14 42 23.96	-12 00 11.4		399
1332	1989 04 06.62986	14 28 31.37	-15 52 07.4	16	399
1332	1989 04 06.64444	14 28 30.70	-15 52 04.6		399
1332	1989 04 06.66076	14 28 30.11	-15 52 03.3		399
3275	1989 04 06.57361	13 21 11.36	+00 07 23.7	14.5	399
3275	1989 04 06.58819	13 21 10.33	+00 07 23.9		399
3275	1989 04 06.60451	13 21 09.30	+00 07 24.5		399

400 Kitami

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Observers K. Endate, T. Fujii, A. Takahashi

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

1983 RO2	1989 04 28.58576	13 10 24.77	-00 40 17.6	16.5	400
1983 RO2	1989 04 28.60312	13 10 23.78	-00 40 10.8		400

1983 RO2	1989 04	28.61562	13 10	23.09	-00 40	06.3			400
1987 WR	1989 05	03.53819	14 39	47.27	-17 30	32.1	15.5		400
1987 WR	1989 05	03.55486	14 39	46.18	-17 30	28.5			400
1987 WR	1989 05	05.55208	14 37	45.84	-17 18	58.5	15.5		400
1987 WR	1989 05	05.57153	14 37	44.71	-17 18	50.4			400
1987 WR	1989 05	05.58681	14 37	43.75	-17 18	44.2			400
1987 WR	1989 05	25.49444	14 20	15.54	-15 27	53.8	15.5		400
1987 WR	1989 05	25.51111	14 20	14.63	-15 27	48.3			400
1987 WR	1989 05	26.53472	14 19	33.75	-15 22	55.4	16.0		400
1987 WR	1989 05	26.55069	14 19	33.24	-15 22	51.8			400
1987 WR	1989 06	01.53958	14 16	06.83	-14 56	41.4	16.0		400
1987 WR	1989 06	01.56042	14 16	06.34	-14 56	35.7			400
1989 GB	1989 04	28.58576	13 09	50.24	-00 47	54.7	16.5		400
1989 GB	1989 04	28.60312	13 09	49.11	-00 47	58.5			400
1989 GB	1989 04	28.61562	13 09	48.34	-00 47	59.1			400
1989 GF	1989 05	08.56215	13 08	38.91	+01 03	58.7	16.0		400
1989 GF	1989 05	08.58438	13 08	38.21	+01 03	55.2			400
1989 GF	1989 05	08.60660	13 08	37.36	+01 03	59.3			400
1989 GH5	1989 03	30.54271	12 45	34.20	-00 31	36.6	16.0		400
1989 GH5	1989 03	30.56354	12 45	32.90	-00 31	31.4			400
1989 GH5	1989 03	30.57465	12 45	32.40	-00 31	31.7			400
1989 JJ	1989 05	25.52396	15 43	02.32	-07 47	00.7	16		400
1989 JJ	1989 05	25.53993	15 43	01.29	-07 47	03.1			400
1989 JJ	1989 05	25.55312	15 43	00.54	-07 47	03.9			400
1989 JJ	1989 05	25.57049	15 42	59.55	-07 47	05.4			400
1989 JJ	1989 06	01.54271	15 36	38.61	-07 54	32.5	16.0		400
1989 JJ	1989 06	01.56354	15 36	37.59	-07 54	34.9			400
1989 JJ	1989 06	01.57743	15 36	36.72	-07 54	36.9			400
107	1989 05	25.52396	15 41	26.65	-07 01	48.8	12		400
107	1989 05	25.53993	15 41	25.96	-07 01	48.2			400
107	1989 05	25.55312	15 41	25.46	-07 01	44.9			400
107	1989 05	25.57049	15 41	24.80	-07 01	43.1			400
342	1989 05	03.53819	14 42	49.43	-17 41	57.8	13.5		400
342	1989 05	03.55486	14 42	48.64	-17 41	52.3			400
342	1989 05	05.55208	14 41	01.67	-17 28	23.6	13.5		400
342	1989 05	05.57153	14 41	00.53	-17 28	16.7			400
342	1989 05	05.58681	14 40	59.74	-17 28	09.8			400
2630	1989 05	05.55208	14 40	23.32	-17 28	37.5	16.5		400
2630	1989 05	05.57153	14 40	22.31	-17 28	36.2			400

413 Siding Spring

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

Observers M. Hartley, R. H. McNaught

Measurer R. H. McNaught

1.2-m Schmidt and (1) Uppsala Southern Schmidt

1977 OV *	1977 07	17.67196	22 05	25.12	-19 53	16.4			413
1977 OV	1977 07	17.72057	22 05	23.61	-19 53	23.3			413
1981 ET49*	1981 03	06.71939	13 43	06.77	-02 47	34.6			413
1981 ET49	1981 03	06.78189	13 43	05.90	-02 47	05.1			413
1981 JX1	1982 10	15.50413	23 58	18.18	-03 19	54.5	17.5		413
1981 JX1	1982 10	15.54927	23 58	16.08	-03 19	58.8			413
1982 UZ11	1982 10	15.50413	00 00	41.93	-03 34	02.9	17		413
1982 UZ11	1982 10	15.54927	00 00	39.57	-03 33	59.3			413
1983 RX	1983 07	17.74567	23 27	50.01	-02 47	25.0		E	413
1983 RX	1983 07	17.79081	23 27	50.77	-02 47	09.8		E	413
1986 UT	1989 03	07.55749	10 30	45.11	-04 54	59.3	16		413
1986 UT	1989 03	07.60957	10 30	42.72	-04 54	44.7			413

1988 DM	1989 06	12.77815	17 01	56.58	-19 34	50.3	16.5	1	413
1988 DM	1989 06	13.76818	17 01	00.55	-19 28	39.0		1	413
1988 DM	1989 07	07.58058	16 43	02.78	-17 18	43.3	17	1	413
1988 DR4	1989 04	28.50152	13 46	52.58	-28 09	19.1		1	413
1988 DR4	1989 04	29.53319	13 46	04.56	-28 03	50.1		1	413
1988 DR4	1989 06	26.46788	13 27	00.11	-22 40	15.3		1	413
1989 AJ6	1989 01	04.62750	09 04	39.88	+19 14	35.5	17.5		413
1989 AJ6	1989 01	04.67958	09 04	37.61	+19 14	39.7			413
1989 CG1	1989 03	07.55749	10 31	13.34	-07 05	37.6	15.5		413
1989 CG1	1989 03	07.60957	10 31	10.03	-07 05	35.3			413
1989 DA	1989 05	27.40167	12 36	57.61	-15 55	42.6	20	F	413
1989 NA	1989 07	05.75414	20 06	19.02	-29 22	16.6		1	413
1989 NA	1989 07	05.75903	20 06	19.22	-29 22	24.7		1	413
1989 NA	1989 07	07.63255	20 07	35.54	-30 24	17.8		1	413
1989 NA	1989 07	07.64385	20 07	35.93	-30 24	41.1	15	1	413
2079	1989 04	28.50152	13 47	16.43	-27 16	38.4		1	413
2079	1989 04	29.53319	13 46	10.04	-27 14	42.7		1	413
3307	1982 08	13.49558	20 16	37.80	-11 05	01.6			413
3307	1982 08	13.53377	20 16	35.58	-11 05	06.1			413
3307	1989 05	17.73345	22 16	30.51	-05 39	46.6		E	413
3307	1989 05	17.78336	22 16	34.01	-05 39	17.1		E	413
4108	1981 10	01.47037	23 28	17.30	-02 41	41.8	18		413
4108	1981 10	01.53287	23 28	14.51	-02 41	59.6			413
4108	1981 10	01.54172	23 28	14.05	-02 42	03.3			413
4108	1984 04	25.59835	15 09	26.04	-16 28	59.4	17		413
4108	1984 04	25.64002	15 09	23.91	-16 28	49.3			413
4108	1985 06	27.78372	22 35	42.50	-07 14	28.7	19		413
4108	1985 09	08.48878	21 55	25.75	-11 06	46.9	18		413
4108	1985 09	08.54087	21 55	23.40	-11 07	00.7			413
4108	1988 04	20.49211	11 50	37.69	+00 50	28.5	17		413
4108	1988 04	20.55808	11 50	36.01	+00 50	41.7			413

474 Mount John

A. C. Gilmore, P.O. Box 57, Lake Tekapo, New Zealand

Observer A. C. Gilmore

Measurer P. M. Kilmartin

AGK3, SAOC, CPZ, field plates from Carter Observatory

1989 JA	1989 05	10.56804	13 38	53.05	+20 24	01.0	16.7		474
1989 JA	1989 05	13.54676	13 24	25.29	+19 21	30.4	15.9		474
1989 JA	1989 05	13.55486	13 24	22.68	+19 21	17.5			474
1989 JA	1989 05	15.38333	13 14	19.14	+18 28	41.5			474
1989 JA	1989 05	15.40764	13 14	10.31	+18 27	54.2			474
1989 JA	1989 05	15.43333	13 14	00.95	+18 27	06.0			474

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

1983 VC7	1989 05	26.93958	16 33	51.77	-24 50	22.8	17.0		552
1983 VC7	1989 05	26.95694	16 33	50.46	-24 50	22.5			552
1983 VC7	1989 06	03.94583	16 24	15.99	-24 42	19.3	17.0		552
1983 VC7	1989 06	03.96319	16 24	14.74	-24 42	17.4			552
1983 VC7	1989 06	08.89861	16 18	20.17	-24 35	09.1	17.0		552
1983 VC7	1989 06	08.94097	16 18	16.98	-24 35	02.4			552
1986 OA	1989 05	05.84444	10 34	13.71	-10 14	30.6	17.0		552
1986 OA	1989 05	05.87014	10 34	14.34	-10 14	21.2			552

568 Mauna Kea Observatory

D. J. Tholen, Institute for Astronomy, 2680 Woodlawn Drive,
Honolulu, HI 96822, U.S.A.

Observers D. J. Tholen, A. J. Pickles, F. Cheigh
2.24-m telescope encoders

SAOC

1989 JA	1989 05	19.50838	12 47	17.27	+15 37	13.5	15.5V	568
1989 NA	1989 07	05.47779	20 06	08.48	-29 13	26.2		568

571 Cavriana

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

Observers L. Lai, I. Rocchetti, M. Ruzza, G. Vesentini

0.4-m reflector

SAOC

1983 VC7	1989 06	06.93194	16 20	40.50	-24 38	08.9		571
1983 VC7	1989 06	06.95694	16 20	38.31	-24 38	06.4		571
1983 VC7	1989 06	08.92847	16 18	18.02	-24 35	04.9		571
1983 VC7	1989 06	08.95139	16 18	16.32	-24 35	01.8		571
1989 AC	1989 01	29.78194	06 09	07.64	+23 12	55.2		571
1989 AC	1989 01	29.79792	06 09	10.48	+23 12	56.3		571
1989 AC	1989 01	30.87431	06 12	21.18	+23 13	41.1		571
1989 AC	1989 01	30.91250	06 12	27.32	+23 13	41.4		571
1989 AC	1989 02	01.85903	06 17	55.69	+23 14	19.3		571
1989 AC	1989 02	01.90208	06 18	02.48	+23 14	20.8		571
3206	1988 11	06.90972	01 12	47.13	-03 45	54.1		571
3206	1988 11	06.92361	01 12	46.44	-03 45	46.3		571

573 Eldagsen

W. Bonk, Nordstrasse 33, D-3257 Springe 3, Federal Republic of Germany

AGK3

247	1989 03	10.78220	09 42	44.36	+35 32	38.1		573
247	1989 03	10.78915	09 42	43.94	+35 32	34.3		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

1983 BE	1989 04	28.35771	16 36	10.93	-04 39	34.8		657
1983 BE	1989 04	28.39590	16 36	09.49	-04 39	29.5		657
1983 BE	1989 05	04.30840	16 32	43.22	-04 26	59.2		657
1983 BE	1989 05	04.34104	16 32	41.79	-04 26	58.8		657
1983 BE	1989 05	04.40632	16 32	39.32	-04 26	48.0		657
1983 BE	1989 06	02.33549	16 09	04.59	-04 30	34.1		657
1983 BE	1989 06	02.37229	16 09	02.78	-04 30	36.8		657
158	1989 05	07.26736	14 16	38.84	-15 02	15.5		657
158	1989 05	07.35694	14 16	34.38	-15 01	52.0		657
158	1989 05	08.34479	14 15	47.42	-14 57	42.0		657
163	1989 05	04.25215	15 01	37.45	-09 44	21.4		657
163	1989 05	04.32299	15 01	33.15	-09 44	00.2		657
163	1989 05	07.36667	14 58	34.80	-09 28	52.0		657
597	1989 04	11.40007	14 49	42.77	-16 29	52.6		657
597	1989 04	25.25979	14 37	09.14	-16 31	49.2		657
597	1989 04	25.28826	14 37	07.44	-16 31	48.0		657
597	1989 04	30.27222	14 32	06.48	-16 29	54.8		657
597	1989 04	30.33889	14 32	02.21	-16 29	51.1		657
597	1989 05	07.26736	14 24	58.41	-16 25	48.3		657
597	1989 05	07.35694	14 24	52.78	-16 25	43.7		657
651	1989 05	07.26736	14 19	17.96	-14 32	17.0		657
651	1989 05	07.35694	14 19	13.23	-14 32	07.6		657

651	1989 05 08.34479	14 18 23.87	-14 30 34.8	657
3748	1989 04 25.28826	14 34 05.37	-16 05 22.2	657
3748	1989 04 30.27222	14 29 01.85	-15 56 47.9	657
3748	1989 04 30.33889	14 28 57.66	-15 56 38.4	657
3748	1989 05 07.26736	14 22 02.51	-15 43 36.9	657

675 Palomar

J. Gibson, OAO Corporation and Jet Propulsion Laboratory, MS 238-332,
Pasadena, CA 91109, U.S.A. (1)

E. Helin, MS 183-501, Jet Propulsion Laboratory, Pasadena,
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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)

Observers T. Gehrels (4, L), J. Gibson (1, C), E. Helin (2, S), H. E. Holt
(3, S), A. Mejia (3, S), C. Mikolajczak (2, S), B. Roman (2, S), C. Shoemaker
(3, S), E. Shoemaker (3, S), N. G. Thomas (3, S), D. Tracy (2, S)
Measurers J. Alu (2), J. Gibson (1), H. Holt (3), B. Roman (2), C. Shoemaker
(3), D. Tracy (2), C. J. van Houten (4), I. van Houten-Groeneveld (4)

1.5-m reflector + CCD (C), 1.2-m (L) and 0.46-m (S) Schmidt telescopes					
1980 TG4	1984 08 27.26181	22 11 51.57	-28 30 52.6	16.7	2 675
1980 TG4	1984 08 27.30972	22 11 47.98	-28 30 48.3		2 675
1982 JE1	1989 06 03.40035	17 09 49.07	-23 29 30.4	16.7	2 675
1982 JE1	1989 06 03.42986	17 09 46.94	-23 29 32.7		2 675
1982 SU	1977 10 11.45556	01 51 19.45	-04 02 31.8	15.5	2 675
1982 SU	1977 10 11.46806	01 51 18.69	-04 02 48.3		2 675
1982 SU	1977 10 13.31875	01 49 38.69	-04 47 49.9		2 675
1982 SU	1977 10 13.33194	01 49 37.80	-04 48 08.4		2 675
1982 SU	1987 08 26.28316	22 28 05.55	+14 03 19.6	16.0	2 675
1982 SU	1987 08 26.39549	22 27 58.87	+14 01 20.6		2 675
1982 SU	1987 08 27.20712	22 27 13.42	+13 46 54.7		2 675
1982 SU	1987 08 27.32743	22 27 06.29	+13 44 45.7		2 675
1982 SU	1987 09 20.27413	22 06 41.32	+05 07 26.2	17.0	2 675
1982 SU	1987 09 20.29514	22 06 40.47	+05 06 59.9		2 675
1984 QT1 *	1984 08 27.26181	22 12 01.27	-28 55 30.0	16.5	2 675
1984 QT1	1984 08 27.30972	22 11 57.70	-28 55 27.0		2 675
1985 XB	1989 05 04.26858	14 17 57.61	+27 29 11.8	16.7	2 675
1985 XB	1989 05 04.29375	14 17 54.92	+27 28 35.5		2 675
1986 JH	1989 04 05.27969	11 45 23.38	+30 46 35.1	16.9	2 675
1986 JH	1989 04 05.30955	11 45 21.62	+30 46 29.9		2 675
1987 MO	1979 08 23.20069	20 32 20.81	+18 06 26.0	16.0	2 675
1987 MO	1979 08 23.21250	20 32 20.03	+18 06 27.6		2 675
1987 MO	1986 01 07.22396	07 22 23.44	+13 17 13.0	16.7	2 675
1987 MO	1986 01 07.25035	07 22 20.86	+13 16 58.8		2 675
1988 EH	1975 09 09.44653	22 34 40.65	-00 24 00.9	15.0	2 675
1988 EH	1975 09 09.46042	22 34 39.98	-00 24 19.7		2 675
1988 EH	1985 05 17.28854	15 51 47.35	+10 46 40.3	16.7	2 675
1988 EH	1985 05 17.31875	15 51 45.72	+10 46 48.8		2 675
1988 EH	1985 06 15.30000	15 28 20.34	+11 35 09.6	16.8	2 675
1988 EH	1985 06 15.32813	15 28 19.41	+11 35 09.5		2 675
1988 EH	1989 06 03.39323	17 01 22.73	+10 46 53.0	17.0	2 675
1988 EH	1989 06 03.42344	17 01 20.93	+10 46 58.3		2 675
1988 EH	1989 06 05.40486	16 59 32.52	+10 52 05.9		2 675
1988 EH	1989 06 05.43316	16 59 30.90	+10 52 10.6		2 675
1988 EK1	1989 06 03.38715	16 34 41.01	-18 04 02.0	16.7	2 675
1988 EK1	1989 06 03.41788	16 34 39.08	-18 03 56.9		2 675
1988 EK1	1989 06 05.34427	16 32 42.91	-17 58 43.6		2 675
1988 EK1	1989 06 05.37326	16 32 41.11	-17 58 38.3		2 675
1988 KC	1984 06 29.35625	19 34 38.39	-03 20 43.5	16.0	2 675

1988 KC	1984 06	29.38125	19 34	37.36	-03 20	31.4		2 675
1988 ND	1985 06	19.25139	16 39	13.67	+18 33	33.2	16.5	2 675
1988 ND	1985 06	19.28385	16 39	11.82	+18 33	12.3		2 675
1988 ND	1987 03	03.22153	07 59	50.00	+24 01	17.2	16.0	2 675
1988 ND	1987 03	03.25000	07 59	49.63	+24 01	47.0		2 675
1988 NN	1984 08	29.17708	20 45	19.32	+09 50	46.0	15.2	2 675
1988 NN	1984 08	29.21181	20 45	18.39	+09 50	23.2		2 675
1988 XB	1989 01	17.23221	05 41	42.56	+28 37	52.0		1 675
1988 XB	1989 01	17.24049	05 41	42.38	+28 37	51.2		1 675
1988 XB	1989 01	17.27303	05 41	41.71	+28 37	48.1		1 675
1988 XB	1989 01	18.31059	05 41	29.92	+28 36	13.6		1 675
1988 XB	1989 01	18.31545	05 41	29.88	+28 36	12.9		1 675
1988 XB	1989 01	18.32285	05 41	29.73	+28 36	12.0		1 675
1988 XB	1989 02	17.22186	05 58	19.35	+27 49	38.1		1 675
1988 XB	1989 02	17.22686	05 58	19.65	+27 49	37.0		1 675
1988 XB	1989 02	17.23771	05 58	20.38	+27 49	36.5		1 675
1989 AV2	1989 03	07.17118	07 35	52.19	+14 51	49.0	17.9	3 675
1989 AV2	1989 03	08.17743	07 35	41.25	+14 51	32.9		3 675
1989 EF	1989 04	29.24149	13 05	38.94	+07 08	33.8	16.0	2 675
1989 EF	1989 04	29.27222	13 05	37.87	+07 08	44.6		2 675
1989 EF	1989 05	01.22691	13 04	36.07	+07 20	47.0		2 675
1989 EF	1989 05	01.26684	13 04	34.72	+07 20	59.3		2 675
1989 EL1	1989 04	28.23924	12 09	26.05	+09 41	32.4	16.0	2 675
1989 EL1	1989 04	28.26441	12 09	25.79	+09 41	44.0		2 675
1989 EL1	1989 05	01.20747	12 09	08.05	+09 57	45.4		2 675
1989 EL1	1989 05	01.24774	12 09	07.79	+09 57	57.7		2 675
1989 EX4 *	1989 03	07.17118	07 36	20.75	+14 48	24.9	18.1	3 675
1989 EX4	1989 03	08.17743	07 36	39.02	+14 50	39.1		3 675
1989 FC	1989 05	22.18933	12 25	48.05	+08 31	19.6		1 675
1989 FC	1989 05	22.20252	12 25	48.90	+08 31	10.7		1 675
1989 FC	1989 05	22.21990	12 25	49.83	+08 30	59.3		1 675
1989 FC	1989 05	23.18662	12 26	51.49	+08 19	40.6		1 675
1989 FC	1989 05	23.19167	12 26	51.80	+08 19	37.4		1 675
1989 FC	1989 05	23.19757	12 26	52.16	+08 19	33.4		1 675
1989 FC	1989 05	23.20311	12 26	52.43	+08 19	29.7		1 675
1989 GH	1989 06	04.20677	13 44	49.38	+08 23	18.3	16.2	2 675
1989 GH	1989 06	04.23194	13 44	49.37	+08 23	08.5		2 675
1989 GH	1989 06	06.21337	13 44	48.77	+08 11	10.4		2 675
1989 GH	1989 06	06.23785	13 44	48.62	+08 11	02.6		2 675
1989 GJ	1989 04	30.28021	14 01	37.10	+10 52	56.3	17.2	2 675
1989 GJ	1989 05	02.34896	13 59	59.17	+11 02	38.5		2 675
1989 GK	1976 02	26.22569	08 13	36.28	+35 21	15.2	15.5	2 675
1989 GK	1976 02	26.24097	08 13	35.84	+35 21	17.7		2 675
1989 GK	1984 01	30.20278	06 55	18.32	+31 48	56.7	16.5	2 675
1989 GK	1984 01	30.22361	06 55	16.90	+31 49	00.3		2 675
1989 GK	1985 05	19.36319	14 25	46.13	+04 12	26.2	16.0	2 675
1989 GK	1985 05	19.40347	14 25	44.21	+04 12	21.0		2 675
1989 GK	1985 05	20.25660	14 25	02.72	+04 10	14.4		2 675
1989 GK	1985 05	20.28958	14 25	01.04	+04 10	08.1		2 675
1989 GK	1988 02	14.17153	06 03	14.00	+30 23	32.3	16.0	2 675
1989 GK	1988 02	14.20521	06 03	13.99	+30 23	43.6		2 675
1989 GK	1989 06	04.20677	13 47	57.41	+06 33	55.5	15.0	2 675
1989 GK	1989 06	04.23194	13 47	56.91	+06 33	45.8		2 675
1989 GK	1989 06	06.21337	13 47	19.61	+06 20	53.0		2 675
1989 GK	1989 06	06.23785	13 47	19.26	+06 20	42.3		2 675
1989 GL	1989 04	29.21771	11 46	52.44	+00 36	33.0	17.5	2 675
1989 GL	1989 04	29.25035	11 46	51.20	+00 36	02.8		2 675
1989 GL	1989 05	01.17743	11 45	45.45	+00 08	20.1		2 675
1989 GL	1989 05	01.24132	11 45	43.35	+00 07	24.5		2 675

1989	GO	1989	04	30.26788	13	55	04.21	-08	32	26.6	16.0	2	675	
1989	GO	1989	04	30.29167	13	55	02.80	-08	32	23.6		2	675	
1989	GO	1989	05	02.21719	13	53	19.81	-08	27	11.2		2	675	
1989	GO	1989	05	02.23924	13	53	18.65	-08	27	06.9		2	675	
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1989	GP	1989	05	02.21719	14	02	34.44	-06	37	14.7		2	675	
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1989	GH5	1989	04	29.26528	12	19	01.52	+00	42	19.8		2	675	
1989	GH5	1989	05	01.22066	12	17	57.27	+00	42	08.6		2	675	
1989	GH5	1989	05	01.26059	12	17	55.90	+00	42	06.1		2	675	
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1989	GL5	1989	05	01.22691	13	03	03.79	+04	49	59.3		2	675	
1989	GL5	1989	05	01.26684	13	03	02.29	+04	50	01.4		2	675	
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1989	HA	1989	05	29.29236	15	01	33.55	+09	54	25.7		3	675	
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1989	HD	1989	05	29.31910	15	38	00.87	+05	33	07.9		3	675	
1989	HD	1989	06	01.31806	15	35	42.38	+05	29	14.9		3	675	
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1989	HD	1989	06	02.26510	15	35	00.39	+05	27	25.6		3	675	
1989	HD	1989	06	02.30174	15	34	58.65	+05	27	20.9		3	675	
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1989	HD	1989	06	04.32830	15	33	31.17	+05	22	31.3		2	675	
1989	HD	1989	06	06.25642	15	32	11.83	+05	16	42.9		2	675	
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1989	HF		1989	05	02.21719	13	53	24.89	-08	23	52.9		2	675
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1989	HG		1989	05	04.31163	14	50	31.12	-02	15	54.3		2	675
1989	HG		1989	05	04.33438	14	50	29.97	-02	15	41.0		2	675
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1989	HG		1989	06	05.20382	14	31	00.08	+01	05	53.5		2	675
1989	HG		1989	06	05.22674	14	30	59.62	+01	05	55.2		2	675
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1989	JB		1989	06	04.32153	15	11	11.99	+04	58	58.0		2	675
1989	JB		1989	06	06.25104	15	09	13.08	+04	05	38.6		2	675
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1989 KH		1989 05 31.32309	15 59 31.31	+00 42 50.1		3 675
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1989 KJ	*	1989 05 31.28333	16 36 11.86	-07 41 23.7	17.4	3 675
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1989 LA		1989 06 03.36510	16 30 43.19	-15 13 27.5		2 675
1989 LA		1989 06 03.38715	16 30 42.14	-15 13 24.3	15.5	2 675
1989 LA		1989 06 03.41788	16 30 40.39	-15 13 21.6		2 675
1989 LA		1989 06 05.34427	16 28 58.01	-15 12 42.5		2 675
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1989 LA		1989 06 05.39896	16 28 55.14	-15 12 42.7		2 675
1989 LA		1989 06 05.42743	16 28 53.62	-15 12 40.4		2 675
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1989 LH		1989 06 06.34028	17 04 20.90	-11 42 06.0		2 675
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1989 LK		1989 06 06.26788	14 05 04.98	+00 37 24.9		2 675
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1989 LQ		1989 06 05.37326	16 35 12.74	-17 44 05.9		2 675
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1989 LR		1989 06 03.41198	16 16 08.70	-22 35 27.5		2 675
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1989 LT		1989 06 05.41042	16 50 39.21	-25 42 48.7		2 675
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1989 LU		1989 06 05.41042	16 55 56.80	-25 26 39.0		2 675
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1989 LW		1989 06 06.35295	17 49 25.08	+04 27 36.7		2 675
1989 LW		1989 06 29.25330	17 29 25.07	+10 38 40.5	16.2	2 675

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1989 MA	1989 06	30.39010	18 15	50.95	+09 32	07.8		2 675
1989 MA	1989 07	03.29653	18 12	29.42	+08 41	19.3		2 675
1989 MA	1989 07	03.32465	18 12	27.33	+08 40	48.3		2 675
1989 MB *	1989 06	29.38160	19 09	09.02	-15 35	28.2	16.0	2 675
1989 MB	1989 06	29.40642	19 09	07.67	-15 35	50.7		2 675
1989 MB	1989 07	03.33941	19 05	45.14	-16 36	28.3		2 675
1989 MB	1989 07	03.36892	19 05	43.54	-16 36	55.2		2 675
1989 NA *	1989 07	02.38646	20 03	54.81	-27 32	35.6	16.0	2 675
1989 NA	1989 07	03.39931	20 04	39.56	-28 05	26.6		2 675
1989 NA	1989 07	03.45868	20 04	41.30	-28 07	21.4		2 675
1989 NA	1989 07	04.32135	20 05	20.01	-28 35	32.1	15.5	2 675
1989 NA	1989 07	04.39063	20 05	22.46	-28 37	48.5		2 675
1989 NB *	1989 07	02.31302	19 18	08.08	+10 27	17.7	16.5	2 675
1989 NB	1989 07	02.33958	19 18	06.32	+10 27	01.9		2 675
1989 NB	1989 07	04.28073	19 16	00.71	+10 08	33.9		2 675
1989 NB	1989 07	04.30712	19 15	58.97	+10 08	17.2		2 675
2777 P-L	1989 04	30.26788	14 05	19.40	-07 43	18.4	16.5	2 675
2777 P-L	1989 04	30.29167	14 05	18.09	-07 43	08.9		2 675
2777 P-L	1989 05	02.21719	14 03	38.16	-07 32	15.3		2 675
2777 P-L	1989 05	02.23924	14 03	37.02	-07 32	05.8		2 675
4077 P-L *	1960 09	24.37573	00 22	26.46	+04 08	16.5	19.3	4 675
4077 P-L	1960 09	25.42780	00 21	28.50	+04 02	27.5		4 675
4077 P-L	1960 09	26.30558	00 20	40.31	+03 57	34.7		4 675
4077 P-L	1960 09	26.31530	00 20	39.71	+03 57	32.5		4 675
4077 P-L	1960 09	27.40836	00 19	39.13	+03 51	26.3		4 675
4077 P-L	1960 09	28.36808	00 18	46.05	+03 46	01.7		4 675
4077 P-L	1960 09	28.39725	00 18	44.42	+03 45	51.4		4 675
4077 P-L	1960 10	17.27085	00 02	25.70	+02 03	01.3		4 675
4077 P-L	1960 10	22.22293	23 58	55.91	+01 40	00.6		4 675
4077 P-L	1960 10	26.32573	23 56	24.86	+01 23	08.6		4 675
5119 T-3	1977 10	11.31111	01 39	20.51	-04 40	20.9		4 675
5119 T-3	1977 10	11.37865	01 39	17.19	-04 41	44.9		4 675
5119 T-3	1977 10	12.30885	01 38	34.63	-05 01	00.0		4 675
5119 T-3	1977 10	12.37500	01 38	31.38	-05 02	22.5		4 675
5119 T-3 *	1977 10	16.29444	01 35	25.16	-06 22	19.2	16.6	4 675
5119 T-3	1977 10	16.36024	01 35	21.77	-06 23	39.7		4 675
5119 T-3	1977 10	17.29688	01 34	36.37	-06 42	24.1		4 675
5119 T-3	1977 10	17.36372	01 34	32.97	-06 43	43.2		4 675
5119 T-3	1977 10	21.37622	01 31	16.13	-08 01	50.4		4 675
5119 T-3	1977 10	21.43611	01 31	13.04	-08 02	58.1		4 675
5119 T-3	1977 10	22.37274	01 30	27.16	-08 20	35.7		4 675
5119 T-3	1977 10	22.43872	01 30	23.90	-08 21	50.4		4 675
1393	1989 06	04.19236	13 31	23.54	-07 30	21.2	16.0	2 675
1393	1989 06	04.21944	13 31	23.32	-07 30	26.2		2 675
1393	1989 06	06.19566	13 31	17.75	-07 37	50.6		2 675
1393	1989 06	06.22803	13 31	17.72	-07 37	55.0		2 675
1550	1989 06	03.40035	16 51	53.92	-24 45	18.1	16.0	2 675
1550	1989 06	03.42986	16 51	51.95	-24 45	19.5		2 675
1550	1989 06	05.41042	16 49	39.05	-24 47	45.2		2 675
1550	1989 06	05.43889	16 49	37.25	-24 47	48.8		2 675
3840	1989 04	29.23455	12 18	43.19	+00 49	25.1	17.0	2 675
3840	1989 04	29.26528	12 18	42.03	+00 49	24.6		2 675
3840	1989 05	01.22066	12 17	46.06	+00 48	47.9		2 675
3840	1989 05	01.26059	12 17	44.97	+00 48	45.1		2 675

688 Lowell Observatory, Anderson Mesa Station
 E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
 Flagstaff, AZ 86001, U.S.A.

Observer F. N. Owen

Measurer S. J. Bus

1.1-m reflector + CCD

1989 FC	1989 06 05.16546	12 42 00.86	+05 43 00.0	688
1989 FC	1989 06 05.17809	12 42 01.76	+05 42 50.8	688

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

1941 HC	1989 06 03.25419	17 40 19.45	-11 09 31.8	w 801
1941 HC	1989 06 04.25785	17 39 32.58	-11 10 06.7	801
1968 FJ	1989 01 06.20095	06 10 07.63	+18 54 00.7	801
1968 FJ	1989 02 09.03812	05 47 44.79	+19 54 37.2	801
1969 OW	1989 04 02.30884	13 53 26.92	-10 23 21.5	801
1969 OW	1989 05 08.14032	13 21 02.82	-06 46 55.3	801
1969 TC2	1988 04 18.24720	13 26 10.21	-04 38 29.6	801
1977 DT1	1989 05 04.30101	15 19 17.38	+16 18 13.7	801
1977 DT1	1989 05 05.26772	15 18 35.21	+16 22 27.9	w 801
1977 DT1	1989 06 03.13145	14 58 42.24	+16 45 09.6	w 801
1977 DT1	1989 06 04.16305	14 58 07.72	+16 42 23.4	801
1978 TQ7	1989 04 09.28668	13 44 20.05	+06 43 08.1	801
1978 TQ7	1989 05 04.25454	13 25 51.61	+10 04 28.7	801
1978 TQ7	1989 06 03.10994	13 16 32.15	+10 25 25.9	801
1978 TQ7	1989 06 04.14090	13 16 35.76	+10 22 10.8	801
1981 ER22	1986 11 01.05432	22 42 51.23	-08 54 40.0	801
1981 KE	1989 04 09.35168	16 21 14.67	-06 30 22.7	801
1981 KE	1989 05 05.31056	15 50 03.84	-10 47 02.2	801
1982 BQ	1989 04 09.09211	10 30 04.25	+17 32 57.6	801
1982 DD2	1989 05 09.18190	12 27 03.04	+01 51 25.0	801
1983 BE	1989 05 05.32677	16 32 02.85	-04 25 11.3	801
1983 BE	1989 06 03.16247	16 08 22.98	-04 32 28.7	801
1983 EX	1989 04 02.24878	13 30 56.54	+16 37 54.7	w 801
1983 EX	1989 05 04.23135	13 07 48.44	+17 10 48.3	801
1983 NT	1989 05 05.13679	12 07 32.46	-09 20 20.0	801
1984 EZ	1986 10 31.29725	03 20 26.89	-00 10 53.5	801
1984 EZ	1989 06 02.28971	18 24 31.56	-03 19 30.1	801
1984 EZ	1989 06 03.27692	18 23 53.46	-03 18 17.6	w 801
1984 EZ	1989 06 04.27626	18 23 13.23	-03 17 18.8	801
1985 RE4	1989 04 09.32786	15 06 17.48	-01 11 32.7	801
1985 RE4	1989 05 05.23017	14 48 45.09	+01 00 40.5	801
1985 RS4	1989 04 02.34341	14 14 01.23	-05 09 24.3	W 801
1985 RS4	1989 05 05.17887	13 51 44.33	-02 15 46.3	801
1985 RS4	1989 05 08.15851	13 49 49.55	-02 04 39.4	801
1987 WR	1989 05 05.21497	14 38 06.06	-17 20 52.9	801
1987 XD	1989 04 09.18710	11 05 08.13	+20 43 27.6	801
1987 XD	1989 05 04.18261	11 01 27.92	+20 04 08.2	801
1987 XD	1989 05 05.11409	11 01 35.67	+20 00 39.2	801
1988 BU	1989 05 05.15999	13 10 28.87	-02 52 41.5	801
1989 BQ	1989 05 08.07589	08 58 06.80	+24 24 10.0	801
1989 EE	1989 05 09.11461	11 02 07.85	+19 18 28.2	801
243	1989 06 03.18943	16 52 12.68	-24 09 47.0	801
1580	1989 06 04.12138	12 37 57.50	-17 16 09.3	S 801

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Observers E. Elst, W. Landgraf, G. Pizarro, O. Pizarro

Measurers E. Elst, W. Landgraf, P. Van den Eijnde, R. M. West

GPO 0.4-m astrograph and Danish 1.5-m reflector

1980 OE	1989 04	08.24514	12 47	49.15	-07 33	41.9		4 809
1980 OE	1989 04	08.25625	12 47	48.55	-07 33	38.2		4 809
1980 OE	1989 04	08.26675	12 47	47.82	-07 33	33.3		4 809
1980 TB12	1989 04	08.21181	13 47	14.76	-14 53	36.0		4 809
1980 TB12	1989 04	08.22222	13 47	14.33	-14 53	32.0		4 809
1980 TB12	1989 04	08.23264	13 47	13.85	-14 53	28.6		4 809
1980 TB12	1989 04	10.25417	13 45	50.43	-14 41	42.2		4 809
1980 TB12	1989 04	10.26458	13 45	50.00	-14 41	38.2		4 809
1980 TB12	1989 04	10.27500	13 45	49.56	-14 41	35.0		4 809
1983 RL4	1989 02	07.18333	08 59	42.26	+02 54	39.9		4 809
1983 RL4	1989 02	07.19583	08 59	41.58	+02 54	47.5		4 809
1983 RL4	1989 02	07.20833	08 59	40.90	+02 54	54.1		4 809
1986 LK1	1986 05	31.29167	18 18	04.21	-14 56	29.0	17	4 809
1987 CH	1987 01	27.36805	11 17	34.98	+05 02	35.6	18	4 809
1987 CH	1987 01	27.37535	11 17	34.89	+05 02	38.6		4 809
1987 UK	1989 04	08.21181	13 45	45.53	-12 43	54.7		4 809
1987 UK	1989 04	08.22222	13 45	44.90	-12 43	49.8		4 809
1987 UK	1989 04	08.23264	13 45	44.29	-12 43	45.8		4 809
1987 UK	1989 04	10.25417	13 43	46.89	-12 29	23.7		4 809
1987 UK	1989 04	10.26458	13 43	46.28	-12 29	19.7		4 809
1987 UK	1989 04	10.27500	13 43	45.58	-12 29	15.2		4 809
1989 GA	1989 04	08.21181	13 35	48.26	-14 50	29.2		4 809
1989 GA	1989 04	08.22222	13 35	47.56	-14 50	26.9		4 809
1989 GA	1989 04	08.23264	13 35	46.89	-14 50	24.9		4 809
1989 GA	1989 04	10.25417	13 33	39.88	-14 43	32.3		4 809
1989 GA	1989 04	10.26458	13 33	39.17	-14 43	30.2		4 809
1989 GA	1989 04	10.27500	13 33	38.46	-14 43	27.9		4 809
1989 GZ	1989 04	08.21181	13 29	06.23	-12 46	38.2		4 809
1989 GZ	1989 04	08.22222	13 29	05.64	-12 46	34.9		4 809
1989 GZ	1989 04	08.23264	13 29	05.11	-12 46	31.4		4 809
1989 GA1	1989 04	08.21181	13 29	38.27	-13 08	05.2		4 809
1989 GA1	1989 04	08.22222	13 29	37.77	-13 08	02.1		4 809
1989 GA1	1989 04	08.23264	13 29	37.16	-13 07	59.2		4 809
1989 GA1	1989 04	10.25417	13 27	55.98	-12 58	23.6		4 809
1989 GA1	1989 04	10.26458	13 27	55.34	-12 58	21.0		4 809
1989 GA1	1989 04	10.27500	13 27	54.81	-12 58	18.0		4 809
1989 GB1	1989 04	08.21181	13 30	13.70	-12 19	45.1		4 809
1989 GB1	1989 04	08.22222	13 30	13.23	-12 19	41.8		4 809
1989 GB1	1989 04	08.23264	13 30	12.70	-12 19	38.2		4 809
1989 GB1	1989 04	10.25417	13 28	45.33	-12 08	25.5		4 809
1989 GB1	1989 04	10.26458	13 28	44.87	-12 08	22.2		4 809
1989 GB1	1989 04	10.27500	13 28	44.37	-12 08	18.9		4 809
1989 GC1	1989 04	08.21181	13 29	46.43	-14 22	44.8		4 809
1989 GC1	1989 04	08.22222	13 29	45.85	-14 22	41.7		4 809
1989 GC1	1989 04	08.23264	13 29	45.24	-14 22	38.7		4 809
1989 GC1	1989 04	10.25417	13 27	52.26	-14 12	42.9		4 809
1989 GC1	1989 04	10.26458	13 27	51.63	-14 12	39.9		4 809
1989 GC1	1989 04	10.27500	13 27	50.94	-14 12	36.6		4 809
1989 GD1	1989 04	08.21181	13 29	35.02	-13 55	14.7		4 809

1989	GD1	1989	04	08.22222	13	29	34.36	-13	55	12.6	4	809
1989	GD1	1989	04	08.23264	13	29	33.75	-13	55	10.8	4	809
1989	GD1	1989	04	10.25417	13	27	34.05	-13	48	35.2	4	809
1989	GD1	1989	04	10.26458	13	27	33.40	-13	48	33.2	4	809
1989	GD1	1989	04	10.27500	13	27	32.66	-13	48	30.4	4	809
1989	GF1	1989	04	08.21181	13	29	54.21	-14	35	01.0	4	809
1989	GF1	1989	04	08.22222	13	29	53.51	-14	34	58.3	4	809
1989	GF1	1989	04	08.23264	13	29	52.86	-14	34	56.3	4	809
1989	GF1	1989	04	10.25417	13	27	48.30	-14	26	59.6	4	809
1989	GF1	1989	04	10.26458	13	27	47.61	-14	26	57.5	4	809
1989	GF1	1989	04	10.27500	13	27	46.88	-14	26	55.1	4	809
1989	GG1	1989	04	08.21181	13	29	47.86	-12	45	32.6	4	809
1989	GG1	1989	04	08.22222	13	29	47.09	-12	45	31.6	4	809
1989	GG1	1989	04	08.23264	13	29	46.40	-12	45	30.0	4	809
1989	GH1	1989	04	08.21181	13	30	09.51	-12	22	38.6	4	809
1989	GH1	1989	04	08.22222	13	30	08.85	-12	22	35.0	4	809
1989	GH1	1989	04	08.23264	13	30	08.17	-12	22	32.5	4	809
1989	GH1	1989	04	10.25417	13	28	03.21	-12	14	35.7	4	809
1989	GH1	1989	04	10.26458	13	28	02.51	-12	14	32.3	4	809
1989	GH1	1989	04	10.27500	13	28	01.81	-12	14	30.2	4	809
1989	GJ1	1989	04	08.21181	13	31	51.40	-15	46	24.2	4	809
1989	GJ1	1989	04	08.22222	13	31	50.85	-15	46	20.9	4	809
1989	GJ1	1989	04	08.23264	13	31	50.32	-15	46	18.3	4	809
1989	GJ1	1989	04	10.25417	13	30	08.33	-15	36	22.0	4	809
1989	GJ1	1989	04	10.26458	13	30	07.78	-15	36	17.3	4	809
1989	GJ1	1989	04	10.27500	13	30	07.24	-15	36	13.8	4	809
1989	GK1	1989	04	08.21181	13	31	56.54	-14	56	08.7	4	809
1989	GK1	1989	04	08.22222	13	31	55.96	-14	56	08.5	4	809
1989	GK1	1989	04	08.23264	13	31	55.44	-14	56	07.9	4	809
1989	GK1	1989	04	10.25417	13	30	14.02	-14	52	18.6	4	809
1989	GK1	1989	04	10.26458	13	30	13.49	-14	52	17.7	4	809
1989	GK1	1989	04	10.27500	13	30	12.82	-14	52	16.4	4	809
1989	GL1	1989	04	08.21181	13	31	48.11	-14	34	08.0	4	809
1989	GL1	1989	04	08.22222	13	31	47.46	-14	34	05.6	4	809
1989	GL1	1989	04	08.23264	13	31	46.82	-14	34	02.1	4	809
1989	GL1	1989	04	10.25417	13	29	47.25	-14	24	52.8	4	809
1989	GL1	1989	04	10.26458	13	29	46.58	-14	24	49.8	4	809
1989	GL1	1989	04	10.27500	13	29	45.94	-14	24	47.2	4	809
1989	GM1	1989	04	08.21181	13	32	37.78	-14	40	34.5	4	809
1989	GM1	1989	04	08.22222	13	32	37.27	-14	40	30.1	4	809
1989	GM1	1989	04	08.23264	13	32	36.70	-14	40	24.7	4	809
1989	GM1	1989	04	10.25417	13	30	57.70	-14	25	10.7	4	809
1989	GM1	1989	04	10.26458	13	30	57.15	-14	25	06.2	4	809
1989	GM1	1989	04	10.27500	13	30	56.62	-14	25	00.9	4	809
1989	GO1	1989	04	08.21181	13	32	36.24	-11	49	49.4	4	809
1989	GO1	1989	04	08.22222	13	32	35.61	-11	49	45.7	4	809
1989	GO1	1989	04	08.23264	13	32	34.99	-11	49	42.4	4	809
1989	GO1	1989	04	10.25417	13	30	41.49	-11	37	47.5	4	809
1989	GO1	1989	04	10.26458	13	30	40.94	-11	37	43.5	4	809
1989	GO1	1989	04	10.27500	13	30	40.39	-11	37	40.0	4	809
1989	GP1	1989	04	08.21181	13	33	25.87	-12	12	52.4	4	809
1989	GP1	1989	04	08.22222	13	33	25.36	-12	12	49.8	4	809
1989	GP1	1989	04	08.23264	13	33	24.85	-12	12	47.8	4	809
1989	GP1	1989	04	10.25417	13	31	48.09	-12	06	26.2	4	809
1989	GP1	1989	04	10.26458	13	31	47.58	-12	06	24.6	4	809
1989	GP1	1989	04	10.27500	13	31	47.13	-12	06	23.2	4	809
1989	GQ1	1989	04	08.21181	13	32	58.42	-12	22	38.9	4	809
1989	GQ1	1989	04	08.22222	13	32	57.72	-12	22	34.5	4	809
1989	GQ1	1989	04	08.23264	13	32	57.15	-12	22	32.5	4	809

1989	GQ1	1989	04	10.25417	13	31	03.00	-12	10	49.2	4	809
1989	GQ1	1989	04	10.26458	13	31	02.32	-12	10	45.4	4	809
1989	GQ1	1989	04	10.27500	13	31	01.78	-12	10	41.3	4	809
1989	GR1	1989	04	08.21181	13	33	51.38	-14	58	40.8	4	809
1989	GR1	1989	04	08.22222	13	33	50.88	-14	58	34.4	4	809
1989	GR1	1989	04	08.23264	13	33	50.35	-14	58	29.2	4	809
1989	GR1	1989	04	10.25417	13	32	14.02	-14	39	32.8	4	809
1989	GR1	1989	04	10.26458	13	32	13.72	-14	39	29.4	4	809
1989	GR1	1989	04	10.27500	13	32	13.33	-14	39	25.2	4	809
1989	GT1	1989	04	08.21181	13	35	45.45	-14	24	51.3	4	809
1989	GT1	1989	04	08.22222	13	35	44.98	-14	24	46.8	4	809
1989	GT1	1989	04	08.23264	13	35	44.52	-14	24	41.6	4	809
1989	GT1	1989	04	10.25417	13	34	21.90	-14	08	34.7	4	809
1989	GT1	1989	04	10.26458	13	34	21.45	-14	08	29.8	4	809
1989	GT1	1989	04	10.27500	13	34	21.00	-14	08	24.5	4	809
1989	GU1	1989	04	08.21181	13	34	36.86	-13	46	55.4	4	809
1989	GU1	1989	04	08.22222	13	34	36.08	-13	46	50.7	4	809
1989	GU1	1989	04	08.23264	13	34	35.49	-13	46	45.5	4	809
1989	GU1	1989	04	10.25417	13	32	37.01	-13	34	15.3	4	809
1989	GU1	1989	04	10.26458	13	32	36.49	-13	34	10.7	4	809
1989	GU1	1989	04	10.27500	13	32	36.06	-13	34	07.8	4	809
1989	GV1	1989	04	08.21181	13	34	34.95	-16	05	05.4	4	809
1989	GV1	1989	04	08.22222	13	34	34.27	-16	05	04.2	4	809
1989	GV1	1989	04	08.23264	13	34	33.56	-16	05	02.6	4	809
1989	GV1	1989	04	10.25417	13	32	27.66	-15	59	42.0	4	809
1989	GV1	1989	04	10.26458	13	32	26.96	-15	59	40.0	4	809
1989	GV1	1989	04	10.27500	13	32	26.26	-15	59	38.6	4	809
1989	GW1	1989	04	08.21181	13	34	27.90	-12	34	12.4	4	809
1989	GW1	1989	04	08.22222	13	34	27.21	-12	34	09.2	4	809
1989	GW1	1989	04	08.23264	13	34	26.50	-12	34	06.9	4	809
1989	GW1	1989	04	10.25417	13	32	20.07	-12	26	16.8	4	809
1989	GW1	1989	04	10.26458	13	32	19.39	-12	26	15.3	4	809
1989	GW1	1989	04	10.27500	13	32	18.72	-12	26	11.4	4	809
1989	GY1	1989	04	10.25417	13	35	22.03	-15	49	54.6	4	809
1989	GY1	1989	04	10.26458	13	35	21.43	-15	49	52.0	4	809
1989	GY1	1989	04	10.27500	13	35	20.69	-15	49	51.2	4	809
1989	GZ1	1989	04	08.21181	13	37	13.53	-13	05	47.0	4	809
1989	GZ1	1989	04	08.22222	13	37	12.87	-13	05	42.9	4	809
1989	GZ1	1989	04	08.23264	13	37	12.23	-13	05	39.4	4	809
1989	GZ1	1989	04	10.25417	13	35	18.26	-12	53	59.2	4	809
1989	GZ1	1989	04	10.26458	13	35	17.58	-12	53	55.0	4	809
1989	GZ1	1989	04	10.27500	13	35	17.06	-12	53	51.6	4	809
1989	GA2	1989	04	08.21181	13	37	39.92	-14	36	08.2	4	809
1989	GA2	1989	04	08.22222	13	37	39.34	-14	36	03.7	4	809
1989	GA2	1989	04	08.23264	13	37	38.80	-14	35	58.1	4	809
1989	GA2	1989	04	10.25417	13	35	56.33	-14	19	59.8	4	809
1989	GA2	1989	04	10.26458	13	35	55.77	-14	19	55.7	4	809
1989	GA2	1989	04	10.27500	13	35	55.25	-14	19	49.8	4	809
1989	GB2	1989	04	08.21181	13	36	44.59	-15	18	12.4	4	809
1989	GB2	1989	04	08.22222	13	36	43.94	-15	18	10.2	4	809
1989	GB2	1989	04	08.23264	13	36	43.27	-15	18	08.1	4	809
1989	GB2	1989	04	10.25417	13	34	36.87	-15	10	29.7	4	809
1989	GB2	1989	04	10.26458	13	34	36.14	-15	10	27.2	4	809
1989	GB2	1989	04	10.27500	13	34	35.47	-15	10	25.3	4	809
1989	GC2	1989	04	08.21181	13	37	44.71	-12	18	30.2	4	809
1989	GC2	1989	04	08.22222	13	37	44.10	-12	18	26.4	4	809
1989	GC2	1989	04	08.23264	13	37	43.55	-12	18	23.3	4	809
1989	GC2	1989	04	10.25417	13	35	59.27	-12	07	51.5	4	809
1989	GC2	1989	04	10.26458	13	35	58.68	-12	07	48.7	4	809

1989	GC2	1989	04	10.27500	13	35	58.07	-12	07	45.5	4	809
1989	GD2	1989	04	08.21181	13	37	31.82	-13	38	25.7	4	809
1989	GD2	1989	04	08.22222	13	37	31.14	-13	38	23.2	4	809
1989	GD2	1989	04	08.23264	13	37	30.52	-13	38	20.7	4	809
1989	GD2	1989	04	10.25417	13	35	34.00	-13	30	05.5	4	809
1989	GD2	1989	04	10.26458	13	35	33.40	-13	30	02.8	4	809
1989	GD2	1989	04	10.27500	13	35	32.69	-13	30	00.5	4	809
1989	GE2	1989	04	08.21181	13	36	52.07	-12	44	25.7	4	809
1989	GE2	1989	04	08.22222	13	36	51.32	-12	44	23.0	4	809
1989	GE2	1989	04	08.23264	13	36	50.69	-12	44	22.4	4	809
1989	GE2	1989	04	10.25417	13	34	38.23	-12	38	16.7	4	809
1989	GE2	1989	04	10.26458	13	34	37.44	-12	38	15.1	4	809
1989	GE2	1989	04	10.27500	13	34	36.80	-12	38	13.0	4	809
1989	GF2	1989	04	08.21181	13	38	56.50	-15	12	12.9	4	809
1989	GF2	1989	04	08.22222	13	38	56.01	-15	12	07.3	4	809
1989	GF2	1989	04	08.23264	13	38	55.53	-15	12	00.8	4	809
1989	GF2	1989	04	10.25417	13	37	27.37	-14	52	43.7	4	809
1989	GF2	1989	04	10.26458	13	37	26.89	-14	52	37.4	4	809
1989	GF2	1989	04	10.27500	13	37	26.33	-14	52	30.3	4	809
1989	GG2	1989	04	08.21181	13	38	10.02	-13	27	08.1	4	809
1989	GG2	1989	04	08.22222	13	38	09.44	-13	27	05.4	4	809
1989	GG2	1989	04	08.23264	13	38	08.80	-13	27	02.1	4	809
1989	GG2	1989	04	10.25417	13	36	15.50	-13	18	23.8	4	809
1989	GG2	1989	04	10.26458	13	36	14.82	-13	18	21.0	4	809
1989	GG2	1989	04	10.27500	13	36	14.15	-13	18	18.6	4	809
1989	GH2	1989	04	08.21181	13	39	37.50	-12	21	48.3	4	809
1989	GH2	1989	04	08.22222	13	39	36.94	-12	21	44.8	4	809
1989	GH2	1989	04	08.23264	13	39	36.40	-12	21	42.7	4	809
1989	GH2	1989	04	10.25417	13	37	59.52	-12	13	37.6	4	809
1989	GH2	1989	04	10.26458	13	37	58.99	-12	13	34.6	4	809
1989	GH2	1989	04	10.27500	13	37	58.38	-12	13	32.5	4	809
1989	GJ2	1989	04	08.21181	13	39	55.84	-15	33	42.9	4	809
1989	GJ2	1989	04	08.22222	13	39	55.27	-15	33	38.7	4	809
1989	GJ2	1989	04	08.23264	13	39	54.67	-15	33	34.3	4	809
1989	GJ2	1989	04	10.25417	13	38	05.76	-15	19	05.6	4	809
1989	GJ2	1989	04	10.26458	13	38	05.18	-15	19	00.8	4	809
1989	GJ2	1989	04	10.27500	13	38	04.61	-15	18	56.2	4	809
1989	GK2	1989	04	08.21181	13	40	17.80	-13	07	00.9	4	809
1989	GK2	1989	04	08.22222	13	40	17.21	-13	06	58.8	4	809
1989	GK2	1989	04	08.23264	13	40	16.54	-13	06	57.8	4	809
1989	GK2	1989	04	10.25417	13	38	24.87	-13	02	11.7	4	809
1989	GK2	1989	04	10.26458	13	38	24.33	-13	02	10.4	4	809
1989	GK2	1989	04	10.27500	13	38	23.73	-13	02	09.5	4	809
1989	GM2	1989	04	08.21181	13	41	46.45	-12	58	36.3	4	809
1989	GM2	1989	04	08.22222	13	41	45.98	-12	58	31.9	4	809
1989	GM2	1989	04	08.23264	13	41	45.44	-12	58	27.2	4	809
1989	GM2	1989	04	10.25417	13	40	10.84	-12	43	22.5	4	809
1989	GM2	1989	04	10.26458	13	40	10.32	-12	43	17.7	4	809
1989	GM2	1989	04	10.27500	13	40	09.80	-12	43	12.8	4	809
1989	GN2	1989	04	08.21181	13	43	43.02	-15	19	29.2	4	809
1989	GN2	1989	04	08.22222	13	43	42.44	-15	19	24.8	4	809
1989	GN2	1989	04	08.23264	13	43	42.00	-15	19	20.4	4	809
1989	GN2	1989	04	10.25417	13	42	11.31	-15	04	15.8	4	809
1989	GN2	1989	04	10.26458	13	42	10.82	-15	04	11.0	4	809
1989	GN2	1989	04	10.27500	13	42	10.24	-15	04	06.3	4	809
1989	GP2	1989	04	08.21181	13	44	25.25	-14	48	01.6	4	809
1989	GP2	1989	04	08.22222	13	44	24.88	-14	47	56.9	4	809
1989	GP2	1989	04	08.23264	13	44	24.33	-14	47	52.8	4	809
1989	GP2	1989	04	10.25417	13	42	58.91	-14	33	48.6	4	809

1989 GP2	1989 04 10.26458	13 42 58.49	-14 33 44.1	4 809
1989 GP2	1989 04 10.27500	13 42 57.96	-14 33 39.5	4 809
1989 GQ2	1989 04 08.21181	13 43 55.33	-15 35 44.2	4 809
1989 GQ2	1989 04 08.22222	13 43 54.81	-15 35 42.0	4 809
1989 GQ2	1989 04 08.23264	13 43 54.26	-15 35 40.0	4 809
1989 GQ2	1989 04 10.25417	13 42 12.57	-15 28 36.2	4 809
1989 GQ2	1989 04 10.26458	13 42 12.01	-15 28 34.2	4 809
1989 GQ2	1989 04 10.27500	13 42 11.44	-15 28 32.0	4 809
1989 GR2	1989 04 08.21181	13 44 30.69	-12 44 15.8	4 809
1989 GR2	1989 04 08.22222	13 44 30.27	-12 44 13.4	4 809
1989 GR2	1989 04 08.23264	13 44 29.74	-12 44 10.4	4 809
1989 GR2	1989 04 10.25417	13 42 57.23	-12 35 30.2	4 809
1989 GR2	1989 04 10.26458	13 42 56.72	-12 35 27.0	4 809
1989 GR2	1989 04 10.27500	13 42 56.22	-12 35 23.6	4 809
1989 GS2	1989 04 08.21181	13 44 55.94	-16 09 13.7	4 809
1989 GS2	1989 04 08.22222	13 44 55.43	-16 09 09.5	4 809
1989 GS2	1989 04 08.23264	13 44 55.00	-16 09 06.4	4 809
1989 GS2	1989 04 10.25417	13 43 29.93	-15 56 23.8	4 809
1989 GS2	1989 04 10.26458	13 43 29.45	-15 56 20.3	4 809
1989 GS2	1989 04 10.27500	13 43 28.97	-15 56 16.5	4 809
1989 GU2	1989 04 08.21181	13 44 38.57	-14 07 50.7	4 809
1989 GU2	1989 04 08.22222	13 44 37.83	-14 07 49.4	4 809
1989 GU2	1989 04 08.23264	13 44 37.18	-14 07 47.7	4 809
1989 GU2	1989 04 10.25417	13 42 32.07	-14 02 21.5	4 809
1989 GU2	1989 04 10.26458	13 42 31.39	-14 02 20.4	4 809
1989 GU2	1989 04 10.27500	13 42 30.75	-14 02 18.4	4 809
1989 GW2	1989 04 08.21181	13 44 50.82	-13 25 27.2	4 809
1989 GW2	1989 04 08.22222	13 44 50.18	-13 25 24.7	4 809
1989 GW2	1989 04 08.23264	13 44 49.59	-13 25 21.8	4 809
1989 GX2	1989 04 08.21181	13 45 55.94	-12 39 44.6	4 809
1989 GX2	1989 04 08.22222	13 45 55.40	-12 39 40.5	4 809
1989 GX2	1989 04 08.23264	13 45 54.80	-12 39 35.9	4 809
1989 GX2	1989 04 10.25417	13 43 59.56	-12 25 06.1	4 809
1989 GX2	1989 04 10.26458	13 43 58.92	-12 25 01.0	4 809
1989 GX2	1989 04 10.27500	13 43 58.25	-12 24 56.8	4 809
1989 GA3	1989 04 08.21181	13 47 19.60	-12 18 22.3	4 809
1989 GA3	1989 04 08.22222	13 47 19.00	-12 18 19.4	4 809
1989 GA3	1989 04 08.23264	13 47 18.44	-12 18 15.6	4 809
1989 GA3	1989 04 10.25417	13 45 31.28	-12 06 30.8	4 809
1989 GA3	1989 04 10.26458	13 45 30.63	-12 06 26.7	4 809
1989 GA3	1989 04 10.27500	13 45 30.00	-12 06 23.0	4 809
1989 GB3	1989 04 08.21181	13 47 18.00	-14 41 34.2	4 809
1989 GB3	1989 04 08.22222	13 47 17.40	-14 41 33.4	4 809
1989 GB3	1989 04 08.23264	13 47 16.81	-14 41 32.7	4 809
1989 GB3	1989 04 10.25417	13 45 25.83	-14 39 18.4	4 809
1989 GB3	1989 04 10.26458	13 45 25.19	-14 39 17.4	4 809
1989 GB3	1989 04 10.27500	13 45 24.57	-14 39 15.9	4 809
1989 GC3	1989 04 08.21181	13 47 48.25	-13 52 53.0	4 809
1989 GC3	1989 04 08.22222	13 47 47.60	-13 52 51.9	4 809
1989 GC3	1989 04 08.23264	13 47 46.96	-13 52 51.5	4 809
1989 GC3	1989 04 10.25417	13 45 48.01	-13 50 39.8	4 809
1989 GC3	1989 04 10.26458	13 45 47.38	-13 50 38.6	4 809
1989 GC3	1989 04 10.27500	13 45 46.74	-13 50 38.0	4 809
1989 GD3	1989 04 08.21181	13 49 02.59	-15 52 42.0	4 809
1989 GD3	1989 04 08.22222	13 49 02.14	-15 52 35.7	4 809
1989 GD3	1989 04 08.23264	13 49 01.70	-15 52 29.2	4 809
1989 GD3	1989 04 10.25417	13 47 34.92	-15 31 07.1	4 809
1989 GD3	1989 04 10.26458	13 47 34.43	-15 31 00.2	4 809
1989 GD3	1989 04 10.27500	13 47 33.95	-15 30 53.8	4 809

1989	GE3	1989	04	08.21181	13	48	40.11	-14	57	31.6	4	809
1989	GE3	1989	04	08.22222	13	48	39.60	-14	57	29.5	4	809
1989	GE3	1989	04	08.23264	13	48	39.06	-14	57	26.8	4	809
1989	GE3	1989	04	10.25417	13	47	03.49	-14	50	41.1	4	809
1989	GE3	1989	04	10.26458	13	47	02.94	-14	50	38.6	4	809
1989	GE3	1989	04	10.27500	13	47	02.48	-14	50	37.2	4	809
1989	GF3	1989	04	08.21181	13	49	34.92	-13	55	59.7	4	809
1989	GF3	1989	04	08.22222	13	49	34.38	-13	55	55.2	4	809
1989	GF3	1989	04	08.23264	13	49	33.88	-13	55	52.3	4	809
1989	GF3	1989	04	10.25417	13	48	00.47	-13	42	22.6	4	809
1989	GF3	1989	04	10.26458	13	47	59.91	-13	42	18.9	4	809
1989	GF3	1989	04	10.27500	13	47	59.47	-13	42	15.1	4	809
1989	GG3	1989	04	08.21181	13	50	01.80	-13	45	51.4	4	809
1989	GG3	1989	04	08.22222	13	50	01.42	-13	45	46.8	4	809
1989	GG3	1989	04	08.23264	13	50	00.94	-13	45	41.5	4	809
1989	GM3	1989	04	12.24028	12	48	25.48	-03	19	38.1	4	809
1989	GM3	1989	04	12.25069	12	48	24.98	-03	19	36.1	4	809
1989	GN3	1989	04	12.24028	12	49	32.93	-02	23	09.2	4	809
1989	GN3	1989	04	12.25069	12	49	32.54	-02	23	04.9	4	809
1989	GW3	1989	04	08.24514	12	46	04.89	-07	35	03.5	4	809
1989	GW3	1989	04	08.25625	12	46	04.30	-07	35	03.0	4	809
1989	GW3	1989	04	08.26675	12	46	03.57	-07	35	01.8	4	809
1989	GX3	1989	04	08.24514	12	46	34.18	-07	12	51.3	4	809
1989	GX3	1989	04	08.25625	12	46	33.46	-07	12	49.2	4	809
1989	GX3	1989	04	08.26675	12	46	32.71	-07	12	46.6	4	809
1989	GA4	1989	04	06.11389	12	24	17.87	-05	15	17.6	4	809
1989	GA4	1989	04	06.12431	12	24	17.36	-05	15	14.6	4	809
1989	GA4	1989	04	06.13472	12	24	16.82	-05	15	10.6	4	809
1989	GA4	1989	04	08.12436	12	22	38.76	-05	03	36.3	4	809
1989	GA4	1989	04	08.13472	12	22	38.19	-05	03	32.4	4	809
1989	GA4	1989	04	08.14514	12	22	37.79	-05	03	29.4	4	809
1989	GB4	1989	04	05.10355	12	25	47.22	-03	57	27.3	4	809
1989	GB4	1989	04	05.11389	12	25	46.72	-03	57	23.4	4	809
1989	GB4	1989	04	06.11389	12	24	59.19	-03	52	38.1	4	809
1989	GB4	1989	04	06.12431	12	24	58.66	-03	52	35.7	4	809
1989	GB4	1989	04	06.13472	12	24	58.17	-03	52	32.4	4	809
1989	GB4	1989	04	08.12436	12	23	24.77	-03	43	05.9	4	809
1989	GB4	1989	04	08.13472	12	23	24.31	-03	43	03.6	4	809
1989	GB4	1989	04	08.14514	12	23	23.82	-03	42	59.8	4	809
1989	GB4	1989	04	12.18750	12	20	19.85	-03	24	18.1	4	809
1989	GB4	1989	04	12.19792	12	20	19.45	-03	24	14.8	4	809
1989	GC4	1989	04	05.10355	12	28	15.72	-04	51	58.5	4	809
1989	GC4	1989	04	05.11389	12	28	15.20	-04	51	55.0	4	809
1989	GC4	1989	04	06.11389	12	27	28.91	-04	46	50.5	4	809
1989	GC4	1989	04	06.12431	12	27	28.37	-04	46	46.6	4	809
1989	GC4	1989	04	06.13472	12	27	27.92	-04	46	43.8	4	809
1989	GC4	1989	04	08.12436	12	25	56.78	-04	36	38.2	4	809
1989	GC4	1989	04	08.13472	12	25	56.32	-04	36	36.5	4	809
1989	GC4	1989	04	08.14514	12	25	55.80	-04	36	33.6	4	809
1989	GC4	1989	04	12.18750	12	22	56.65	-04	16	31.2	4	809
1989	GC4	1989	04	12.19792	12	22	56.18	-04	16	26.2	4	809
1989	GD4	1989	04	05.10355	12	28	27.49	-03	46	59.0	4	809
1989	GD4	1989	04	05.11389	12	28	27.18	-03	46	55.5	4	809
1989	GD4	1989	04	06.11389	12	27	44.25	-03	40	59.8	4	809
1989	GD4	1989	04	06.12431	12	27	43.86	-03	40	56.2	4	809
1989	GD4	1989	04	06.13472	12	27	43.36	-03	40	52.2	4	809
1989	GD4	1989	04	08.12436	12	26	19.32	-03	29	09.2	4	809
1989	GD4	1989	04	08.13472	12	26	18.85	-03	29	06.2	4	809
1989	GD4	1989	04	08.14514	12	26	18.36	-03	29	03.5	4	809

1989	GD4	1989	04	12.18750	12	23	33.10	-03	05	52.5	4	809	
1989	GD4	1989	04	12.19792	12	23	32.68	-03	05	48.6	4	809	
1989	GJ4	1989	04	09.16285	12	37	20.92	-08	49	09.2	4	809	
1989	GJ4	1989	04	09.17292	12	37	20.42	-08	49	05.3	4	809	
1989	GJ4	1989	04	09.18333	12	37	19.90	-08	49	01.0	4	809	
1989	GK4	1989	04	09.16285	12	36	30.09	-09	06	46.1	4	809	
1989	GK4	1989	04	09.17292	12	36	29.46	-09	06	43.5	4	809	
1989	GK4	1989	04	09.18333	12	36	28.79	-09	06	40.7	4	809	
1989	GL4	1989	04	09.16285	12	38	39.41	-08	17	12.8	4	809	
1989	GL4	1989	04	09.17292	12	38	38.95	-08	17	04.6	4	809	
1989	GL4	1989	04	09.18333	12	38	38.54	-08	16	57.1	4	809	
1989	GN4	1989	04	09.16285	12	40	43.09	-08	50	43.4	4	809	
1989	GN4	1989	04	09.17292	12	40	42.54	-08	50	39.8	4	809	
1989	GN4	1989	04	09.18333	12	40	41.96	-08	50	35.6	4	809	
1989	GO4	1989	04	09.16285	12	41	27.61	-07	43	39.3	4	809	
1989	GO4	1989	04	09.17292	12	41	27.06	-07	43	36.9	4	809	
1989	GO4	1989	04	09.18333	12	41	26.52	-07	43	33.5	4	809	
1989	GO4	1989	04	10.17431	12	40	34.17	-07	38	17.7	4	809	
1989	GO4	1989	04	10.18403	12	40	33.68	-07	38	13.5	4	809	
1989	GO4	1989	04	10.19444	12	40	33.29	-07	38	11.3	4	809	
1989	GO4	1989	04	11.19201	12	39	41.10	-07	32	54.2	4	809	
1989	GO4	1989	04	11.20278	12	39	40.63	-07	32	50.5	4	809	
1989	GO4	1989	04	11.21319	12	39	40.19	-07	32	46.8	4	809	
1989	GP4	1989	04	10.17431	12	38	31.94	-05	52	15.6	4	809	
1989	GP4	1989	04	10.18403	12	38	31.27	-05	52	07.0	4	809	
1989	GP4	1989	04	10.19444	12	38	30.74	-05	52	01.5	4	809	
1989	GQ4	1989	04	09.26597	13	22	19.93	-06	18	31.4	4	809	
1989	GQ4	1989	04	09.27645	13	22	19.46	-06	18	26.3	4	809	
1989	GQ4	1989	04	09.28681	13	22	18.93	-06	18	20.0	4	809	
1989	GQ4	1989	04	11.32153	13	20	32.23	-05	59	51.8	4	809	
1989	GQ4	1989	04	11.33507	13	20	31.33	-05	59	44.0	4	809	
1989	GR4	1989	04	09.26597	13	23	56.51	-06	47	00.4	4	809	
1989	GR4	1989	04	09.27645	13	23	56.01	-06	46	55.9	4	809	
1989	GR4	1989	04	09.28681	13	23	55.36	-06	46	50.4	4	809	
1989	GR4	1989	04	11.32153	13	22	03.18	-06	30	21.6	4	809	
1989	GR4	1989	04	11.33507	13	22	02.45	-06	30	14.6	4	809	
1989	GR4	1989	04	12.28681	13	21	10.16	-06	22	34.9	4	809	
1989	GR4	1989	04	12.29861	13	21	09.57	-06	22	29.8	4	809	
1989	GR4	1989	04	12.30903	13	21	08.99	-06	22	24.5	4	809	
1989	GS4	1989	04	09.26597	13	26	27.59	-07	17	18.5	4	809	
1989	GS4	1989	04	09.27645	13	26	27.10	-07	17	14.6	4	809	
1989	GS4	1989	04	09.28681	13	26	26.58	-07	17	10.0	4	809	
1989	GS4	1989	04	11.32153	13	24	47.01	-07	05	10.7	4	809	
1989	GS4	1989	04	11.33507	13	24	46.44	-07	05	06.2	4	809	
1989	GS4	1989	04	12.28681	13	23	59.72	-06	59	28.9	4	809	
1989	GS4	1989	04	12.29861	13	23	59.08	-06	59	23.9	4	809	
1989	GS4	1989	04	12.30903	13	23	58.54	-06	59	20.7	4	809	
1989	GT4	1989	04	09.26597	13	25	57.98	-07	40	51.7	4	809	
1989	GT4	1989	04	09.27645	13	25	57.33	-07	40	47.1	4	809	
1989	GT4	1989	04	09.28681	13	25	56.74	-07	40	41.7	4	809	
1989	GT4	1989	04	11.32153	13	23	59.13	-07	25	25.6	4	809	
1989	GT4	1989	04	11.33507	13	23	58.40	-07	25	20.4	4	809	
1989	GT4	1989	04	12.28681	13	23	02.98	-07	18	09.1	4	809	
1989	GT4	1989	04	12.29861	13	23	02.33	-07	18	04.0	4	809	
1989	GT4	1989	04	12.30903	13	23	01.68	-07	17	58.4	4	809	
1989	GD5	1989	04	10.25972	13	57	12.18	-08	31	50.4	4	809	
1989	GD5	1989	04	10.27014	13	57	11.56	-08	31	50.6	4	809	
1989	GD5	1989	04	10.28056	13	57	10.90	-08	31	50.9	4	809	
1989	GS5	* 1989	04	10.17431	12	36	03.36	-06	11	11.1	18.0	4	809

1989	GS5	1989	04	10.18403	12	36	02.93	-06	11	10.1		4	809	
1989	GS5	1989	04	10.19444	12	36	02.56	-06	11	09.2		4	809	
1989	GS5	1989	04	11.19201	12	35	14.39	-06	09	15.6		4	809	
1989	GS5	1989	04	11.20278	12	35	13.93	-06	09	13.5		4	809	
1989	GS5	1989	04	11.21319	12	35	13.48	-06	09	11.9		4	809	
1989	GU5	*	1989	04	03.24375	13	33	18.53	-12	44	08.6	18.8	4	809
1989	GU5		1989	04	03.25417	13	33	18.06	-12	44	04.6		4	809
1989	GU5		1989	04	03.26458	13	33	17.43	-12	44	00.1		4	809
1989	GU5		1989	04	08.21181	13	29	02.75	-12	09	28.7		4	809
1989	GU5		1989	04	08.22222	13	29	02.16	-12	09	24.0		4	809
1989	GU5		1989	04	08.23264	13	29	01.60	-12	09	19.4		4	809
1989	GV5	*	1989	04	03.24375	13	37	14.80	-15	20	55.4	18.8	4	809
1989	GV5		1989	04	03.25417	13	37	14.05	-15	20	58.3		4	809
1989	GV5		1989	04	03.26458	13	37	13.32	-15	21	01.5		4	809
1989	GV5		1989	04	10.25417	13	29	12.81	-15	53	29.1	20.0	4	809
1989	GV5		1989	04	10.26458	13	29	12.03	-15	53	31.6		4	809
1989	GV5		1989	04	10.27500	13	29	11.25	-15	53	34.5		4	809
1989	GW5	*	1989	04	03.24375	13	38	36.62	-13	50	20.8	20.5	4	809
1989	GW5		1989	04	03.25417	13	38	36.06	-13	50	16.8		4	809
1989	GW5		1989	04	03.26458	13	38	35.47	-13	50	14.2		4	809
1989	GW5		1989	04	08.21181	13	34	39.49	-13	30	10.1		4	809
1989	GW5		1989	04	08.22222	13	34	38.88	-13	30	06.1		4	809
1989	GW5		1989	04	08.23264	13	34	38.41	-13	30	04.6		4	809
1989	GW5		1989	04	10.25417	13	32	55.78	-13	20	51.4	19.8	4	809
1989	GW5		1989	04	10.26458	13	32	55.19	-13	20	47.9		4	809
1989	GW5		1989	04	10.27500	13	32	54.61	-13	20	45.3		4	809
1989	GX5	*	1989	04	05.22917	13	42	12.71	-15	02	01.9	20.0	4	809
1989	GX5		1989	04	05.23958	13	42	12.07	-15	02	02.8		4	809
1989	GX5		1989	04	05.25000	13	42	11.27	-15	02	03.3		4	809
1989	GX5		1989	04	08.21181	13	39	14.31	-15	03	10.0	19.8	4	809
1989	GX5		1989	04	08.22222	13	39	13.67	-15	03	10.3		4	809
1989	GX5		1989	04	08.23264	13	39	13.01	-15	03	10.2		4	809
1989	GX5		1989	04	10.25417	13	37	08.83	-15	03	27.1	20.5	4	809
1989	GX5		1989	04	10.26458	13	37	08.10	-15	03	26.9		4	809
1989	GX5		1989	04	10.27500	13	37	07.12	-15	03	28.5		4	809
1989	GY5	*	1989	04	05.22917	13	44	45.05	-16	19	56.4		4	809
1989	GY5		1989	04	05.23958	13	44	44.62	-16	19	53.5		4	809
1989	GY5		1989	04	05.25000	13	44	44.21	-16	19	50.9		4	809
1989	GY5		1989	04	08.21181	13	42	37.44	-16	03	19.2	19.6	4	809
1989	GY5		1989	04	08.22222	13	42	36.95	-16	03	14.9		4	809
1989	GY5		1989	04	08.23264	13	42	36.45	-16	03	11.4		4	809
1989	GY5		1989	04	10.25417	13	41	07.53	-15	51	22.9	20.0	4	809
1989	GY5		1989	04	10.26458	13	41	07.05	-15	51	20.4		4	809
1989	GY5		1989	04	10.27500	13	41	06.56	-15	51	16.4		4	809
1989	GZ5	*	1989	04	05.22917	13	50	56.62	-12	39	18.9	18.2	4	809
1989	GZ5		1989	04	05.23958	13	50	56.02	-12	39	18.0		4	809
1989	GZ5		1989	04	05.25000	13	50	55.36	-12	39	16.8		4	809
1989	GZ5		1989	04	08.21181	13	48	02.86	-12	34	10.5		4	809
1989	GZ5		1989	04	08.22222	13	48	02.20	-12	34	09.6		4	809
1989	GZ5		1989	04	08.23264	13	48	01.60	-12	34	08.2		4	809
1989	GZ5		1989	04	10.25417	13	46	00.22	-12	30	14.8		4	809
1989	GZ5		1989	04	10.26458	13	45	59.52	-12	30	13.7		4	809
1989	GZ5		1989	04	10.27500	13	45	58.88	-12	30	12.5		4	809
1989	GA6	*	1989	04	08.21181	13	34	27.57	-11	27	43.9		4	809
1989	GA6		1989	04	08.22222	13	34	27.03	-11	27	41.1		4	809
1989	GA6		1989	04	08.23264	13	34	26.46	-11	27	39.3		4	809
1989	GA6		1989	04	10.25417	13	32	49.81	-11	19	06.0	19.5	4	809
1989	GA6		1989	04	10.26458	13	32	49.30	-11	19	02.7		4	809
1989	GA6		1989	04	10.27500	13	32	48.74	-11	18	59.7		4	809

1989	GB6	*	1989	04	08.21181	13	35	21.70	-13	29	45.0	20.0	4	809
1989	GB6		1989	04	08.22222	13	35	21.10	-13	29	41.0			4 809
1989	GB6		1989	04	08.23264	13	35	20.53	-13	29	38.5			4 809
1989	GB6		1989	04	10.25417	13	33	26.88	-13	18	19.0	20.0	4	809
1989	GB6		1989	04	10.26458	13	33	26.19	-13	18	15.1			4 809
1989	GB6		1989	04	10.27500	13	33	25.54	-13	18	11.8			4 809
1989	GC6	*	1989	04	08.21181	13	36	27.07	-12	02	39.2			4 809
1989	GC6		1989	04	08.22222	13	36	26.65	-12	02	35.0			4 809
1989	GC6		1989	04	08.23264	13	36	26.24	-12	02	31.9			4 809
1989	GC6		1989	04	10.25417	13	34	58.99	-11	50	24.9	19.8	4	809
1989	GC6		1989	04	10.26458	13	34	58.50	-11	50	21.5			4 809
1989	GC6		1989	04	10.27500	13	34	58.10	-11	50	17.4			4 809
1989	GD6	*	1989	04	08.21181	13	37	47.92	-11	34	42.8			4 809
1989	GD6		1989	04	08.22222	13	37	47.23	-11	34	38.6			4 809
1989	GD6		1989	04	08.23264	13	37	46.70	-11	34	34.8			4 809
1989	GD6		1989	04	10.25417	13	35	47.82	-11	13	55.0	19.0	4	809
1989	GD6		1989	04	10.26458	13	35	47.29	-11	13	51.9			4 809
1989	GD6		1989	04	10.27500	13	35	46.81	-11	13	49.3			4 809
1989	GE6	*	1989	04	08.21181	13	41	40.35	-12	55	10.7	20.5	4	809
1989	GE6		1989	04	08.22222	13	41	39.67	-12	55	06.0			4 809
1989	GE6		1989	04	08.23264	13	41	39.15	-12	55	02.4			4 809
1989	GE6		1989	04	10.25417	13	39	41.53	-12	41	34.0	20.0	4	809
1989	GE6		1989	04	10.26458	13	39	40.96	-12	41	29.0			4 809
1989	GE6		1989	04	10.27500	13	39	40.35	-12	41	24.8			4 809
1989	GF6	*	1989	04	08.21181	13	45	16.17	-12	02	55.1	19.0	4	809
1989	GF6		1989	04	08.22222	13	45	15.67	-12	02	53.3			4 809
1989	GF6		1989	04	08.23264	13	45	15.21	-12	02	50.1			4 809
1989	GF6		1989	04	10.25417	13	43	40.32	-11	54	43.5	19.7	4	809
1989	GF6		1989	04	10.26458	13	43	39.84	-11	54	39.9			4 809
1989	GF6		1989	04	10.27500	13	43	39.31	-11	54	37.7			4 809
1989	GG6	*	1989	04	08.21181	13	46	47.67	-15	23	17.2	20.0	4	809
1989	GG6		1989	04	08.22222	13	46	47.04	-15	23	13.7			4 809
1989	GG6		1989	04	08.23264	13	46	46.55	-15	23	11.6			4 809
1989	GG6		1989	04	10.25417	13	44	39.98	-15	22	30.8	19.6	4	809
1989	GG6		1989	04	10.26458	13	44	39.32	-15	22	26.9			4 809
1989	GG6		1989	04	10.27500	13	44	38.71	-15	22	24.6			4 809
1989	GH6	*	1989	04	08.21181	13	49	20.40	-15	46	31.7	20.0	4	809
1989	GH6		1989	04	08.22222	13	49	19.72	-15	46	29.6			4 809
1989	GH6		1989	04	08.23264	13	49	19.01	-15	46	27.4			4 809
1989	GH6		1989	04	10.25417	13	47	14.24	-15	40	11.6	20.0	4	809
1989	GH6		1989	04	10.26458	13	47	13.69	-15	40	10.8			4 809
1989	GH6		1989	04	10.27500	13	47	12.93	-15	40	07.8			4 809
1989	GJ6	*	1989	04	08.21181	13	49	52.67	-12	45	32.6	18.6	4	809
1989	GJ6		1989	04	08.22222	13	49	52.16	-12	45	31.5			4 809
1989	GJ6		1989	04	08.23264	13	49	51.62	-12	45	30.9			4 809
1989	GJ6		1989	04	10.25417	13	48	10.37	-12	42	42.5	19.0	4	809
1989	GJ6		1989	04	10.26458	13	48	09.82	-12	42	40.6			4 809
1989	GJ6		1989	04	10.27500	13	48	09.30	-12	42	39.9			4 809
1989	GK6	*	1989	04	08.21181	13	50	06.70	-13	42	35.7	18.5	4	809
1989	GK6		1989	04	08.22222	13	50	06.06	-13	42	34.7			4 809
1989	GK6		1989	04	08.23264	13	50	05.28	-13	42	34.1			4 809
1989	GK6		1989	04	10.25417	13	48	05.26	-13	38	54.0	18.5	4	809
1989	GK6		1989	04	10.26458	13	48	04.58	-13	38	52.0			4 809
1989	GK6		1989	04	10.27500	13	48	03.92	-13	38	50.9			4 809
1989	GL6		1989	04	10.25417	13	37	08.10	-12	09	42.8	20.0	4	809
1989	GL6		1989	04	10.26458	13	37	07.47	-12	09	39.9			4 809
1989	GL6		1989	04	10.27500	13	37	06.99	-12	09	37.1			4 809
1989	GM6		1989	04	08.21181	13	40	50.62	-15	56	04.3			4 809
1989	GM6		1989	04	08.22222	13	40	50.04	-15	56	00.8			4 809

1989 GM6	1989 04 08.23264	13 40 49.47	-15 55 56.6		4 809
1989 GM6	1989 04 10.25417	13 39 03.21	-15 43 11.6		4 809
1989 GM6	1989 04 10.26458	13 39 02.61	-15 43 08.3		4 809
1989 GM6	1989 04 10.27500	13 39 02.03	-15 43 04.4		4 809
1989 GN6 *	1989 04 03.07049	12 31 37.12	-03 51 48.5	18.0	4 809
1989 GN6	1989 04 03.08403	12 31 36.44	-03 51 41.9		4 809
1989 GN6	1989 04 03.09444	12 31 35.89	-03 51 37.1		4 809
1989 GN6	1989 04 06.11389	12 29 37.24	-03 24 42.2		4 809
1989 GN6	1989 04 06.12431	12 29 36.79	-03 24 38.1		4 809
1989 GN6	1989 04 06.13472	12 29 36.29	-03 24 36.3		4 809
1989 GO6 *	1989 04 11.22708	12 48 35.03	-04 56 39.8	17.2	4 809
1989 GO6	1989 04 11.23750	12 48 34.50	-04 56 38.2		4 809
1989 GO6	1989 04 11.24861	12 48 33.86	-04 56 36.2		4 809
1989 GO6	1989 04 12.26042	12 47 31.89	-04 54 31.6	18.0	4 809
1989 GO6	1989 04 12.27284	12 47 31.14	-04 54 29.3		4 809
1989 JA	1989 05 28.05417	11 26 11.66	+04 08 51.9	11.5V	2 809
1989 JA	1989 05 28.07986	11 25 52.56	+04 05 57.1		2 809
4276 P-L	1989 04 08.21181	13 36 28.82	-15 43 02.1		4 809
4276 P-L	1989 04 08.22222	13 36 28.18	-15 43 02.2		4 809
4276 P-L	1989 04 08.23264	13 36 27.48	-15 43 02.3		4 809
4276 P-L	1989 04 10.25417	13 34 23.60	-15 42 38.8		4 809
4276 P-L	1989 04 10.26458	13 34 22.90	-15 42 39.2		4 809
4276 P-L	1989 04 10.27500	13 34 22.18	-15 42 39.3		4 809
7072 P-L	1989 04 12.26042	12 50 36.91	-04 04 04.6		4 809
7072 P-L	1989 04 12.27284	12 50 36.33	-04 03 45.2		4 809
2158 T-3	1989 04 09.16285	12 37 52.70	-07 40 53.0		4 809
2158 T-3	1989 04 09.17292	12 37 52.07	-07 40 48.5		4 809
2158 T-3	1989 04 09.18333	12 37 51.41	-07 40 44.2		4 809
2158 T-3	1989 04 10.17431	12 36 51.90	-07 34 18.3		4 809
2158 T-3	1989 04 10.18403	12 36 51.40	-07 34 14.6		4 809
2158 T-3	1989 04 10.19444	12 36 50.81	-07 34 10.7		4 809
2158 T-3	1989 04 11.19201	12 35 51.29	-07 27 40.9		4 809
2158 T-3	1989 04 11.20278	12 35 50.79	-07 27 37.2		4 809
2158 T-3	1989 04 11.21319	12 35 50.23	-07 27 32.3		4 809
58	1989 03 14.34459	14 55 24.00	-11 21 36.3	14.0	5 809
86	1989 03 14.34459	14 57 32.50	-11 57 35.8	15.5	5 809
125	1989 03 14.34459	14 57 17.05	-12 35 26.6	14.5	5 809
171	1989 04 10.25972	13 55 46.32	-07 51 55.8	12.0	4 809
171	1989 04 10.27014	13 55 45.82	-07 51 53.0		4 809
171	1989 04 10.28056	13 55 45.34	-07 51 50.5		4 809
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271	1989 04 08.25625	12 45 25.22	-08 23 36.7		4 809
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353	1989 03 14.34459	15 05 52.57	-10 32 43.7	17.0	5 809
374	1989 06 01.12567	14 00 49.28	-10 28 01.4		5 809
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435	1989 04 04.32292	14 04 10.73	-12 47 45.3		4 809
435	1989 04 04.33333	14 04 10.26	-12 47 42.7		4 809
435	1989 04 09.33750	13 59 55.94	-12 28 23.4		4 809
435	1989 04 09.34792	13 59 55.46	-12 28 21.0		4 809
435	1989 04 09.35841	13 59 54.85	-12 28 18.1		4 809
522	1989 03 14.34459	15 03 37.21	-11 44 55.2	16.0	5 809
703	1989 04 05.10355	12 28 28.52	-04 47 10.1		4 809
703	1989 04 05.11389	12 28 27.91	-04 47 05.4		4 809
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703	1989 04 06.12431	12 27 29.33	-04 39 39.3		4 809
703	1989 04 06.13472	12 27 28.71	-04 39 34.7		4 809
703	1989 04 08.12436	12 25 34.97	-04 25 03.4		4 809
703	1989 04 08.13472	12 25 34.38	-04 24 59.4		4 809

703	1989 04 08.14514	12 25 33.75	-04 24 54.7	4 809
703	1989 04 12.18750	12 21 51.08	-03 56 06.2	4 809
703	1989 04 12.19792	12 21 50.56	-03 56 01.4	4 809
761	1989 04 12.28681	13 18 50.50	-08 11 24.2	16.0 4 809
761	1989 04 12.29861	13 18 49.92	-08 11 21.2	4 809
761	1989 04 12.30903	13 18 49.43	-08 11 18.2	4 809
872	1989 04 09.26597	13 18 42.62	-07 01 21.2	14.0 4 809
872	1989 04 09.27645	13 18 42.16	-07 01 16.3	4 809
872	1989 04 09.28681	13 18 41.68	-07 01 10.6	4 809
872	1989 04 12.28681	13 16 24.07	-06 36 43.6	4 809
872	1989 04 12.29861	13 16 23.57	-06 36 38.1	4 809
872	1989 04 12.30903	13 16 23.11	-06 36 32.4	4 809
1261	1989 04 09.26597	13 26 18.51	-06 02 50.7	16.0 4 809
1261	1989 04 09.27645	13 26 18.07	-06 02 48.5	4 809
1261	1989 04 09.28681	13 26 17.54	-06 02 45.4	4 809
1606	1989 04 10.25972	13 57 57.80	-08 31 03.2	4 809
1606	1989 04 10.27014	13 57 57.33	-08 30 58.7	4 809
1606	1989 04 10.28056	13 57 56.81	-08 30 54.2	4 809
1705	1989 04 10.25972	13 54 53.85	-07 46 48.9	4 809
1705	1989 04 10.27014	13 54 53.33	-07 46 43.0	4 809
1705	1989 04 10.28056	13 54 52.76	-07 46 38.8	4 809
1815	1989 03 14.34459	14 50 47.93	-12 47 01.1	17.5 5 809
1880	1989 03 14.34459	14 54 21.57	-09 39 10.9	17.0 5 809
1923	1989 04 08.21181	13 41 41.20	-15 14 23.1	4 809
1923	1989 04 08.22222	13 41 40.59	-15 14 22.1	4 809
1923	1989 04 08.23264	13 41 39.97	-15 14 19.8	4 809
1923	1989 04 10.25417	13 39 41.90	-15 08 10.9	4 809
1923	1989 04 10.26458	13 39 41.26	-15 08 08.8	4 809
1923	1989 04 10.27500	13 39 40.60	-15 08 07.1	4 809
2257	1989 04 08.21181	13 39 21.84	-14 15 35.9	4 809
2257	1989 04 08.22222	13 39 21.28	-14 15 32.7	4 809
2257	1989 04 08.23264	13 39 20.72	-14 15 29.1	4 809
2257	1989 04 10.25417	13 37 35.18	-14 03 44.7	4 809
2257	1989 04 10.26458	13 37 34.59	-14 03 41.9	4 809
2257	1989 04 10.27500	13 37 34.05	-14 03 38.2	4 809
2398	1989 03 14.34459	15 03 28.39	-12 30 26.5	18.5 5 809
2407	1989 04 08.21181	13 38 43.31	-12 47 54.7	4 809
2407	1989 04 08.22222	13 38 42.77	-12 47 51.9	4 809
2407	1989 04 08.23264	13 38 42.27	-12 47 49.6	4 809
2407	1989 04 10.25417	13 37 07.16	-12 40 01.4	4 809
2407	1989 04 10.26458	13 37 06.63	-12 39 58.9	4 809
2407	1989 04 10.27500	13 37 06.09	-12 39 56.7	4 809
2605	1989 03 14.34459	15 00 33.47	-09 03 29.5	18.5 5 809
2623	1989 04 10.17431	12 36 12.80	-06 51 32.1	17.7 4 809
2623	1989 04 10.18403	12 36 12.23	-06 51 28.3	4 809
2623	1989 04 10.19444	12 36 11.68	-06 51 24.5	4 809
2623	1989 04 11.19201	12 35 13.27	-06 46 15.4	4 809
2623	1989 04 11.20278	12 35 12.68	-06 46 11.1	4 809
2623	1989 04 11.21319	12 35 12.17	-06 46 06.9	4 809
2653	1989 04 09.26597	13 22 13.80	-07 39 10.7	4 809
2653	1989 04 09.27645	13 22 13.28	-07 39 06.1	4 809
2653	1989 04 09.28681	13 22 12.74	-07 39 00.9	4 809
2653	1989 04 11.32153	13 20 28.12	-07 23 08.8	4 809
2653	1989 04 11.33507	13 20 27.39	-07 23 03.1	4 809
2653	1989 04 12.28681	13 19 38.57	-07 15 37.8	4 809
2653	1989 04 12.29861	13 19 37.98	-07 15 32.4	4 809
2653	1989 04 12.30903	13 19 37.45	-07 15 27.2	4 809
2708	1989 04 10.25972	13 58 08.28	-07 54 10.3	4 809
2708	1989 04 10.27014	13 58 07.85	-07 54 07.6	4 809

2708	1989 04 10.28056	13 58 07.44	-07 54 05.1		4 809
2949	1989 03 14.34459	14 51 29.60	-11 19 10.5	17.5	5 809
3099	1989 04 10.25972	13 52 48.94	-08 43 17.6		4 809
3099	1989 04 10.27014	13 52 48.29	-08 43 18.9		4 809
3099	1989 04 10.28056	13 52 47.63	-08 43 20.8		4 809
3202	1989 04 09.16285	12 39 41.94	-07 27 24.9		4 809
3202	1989 04 09.17292	12 39 41.61	-07 27 21.7		4 809
3202	1989 04 09.18333	12 39 41.29	-07 27 17.8		4 809
3202	1989 04 10.17431	12 39 07.39	-07 21 24.4		4 809
3202	1989 04 10.18403	12 39 07.15	-07 21 21.6		4 809
3202	1989 04 10.19444	12 39 06.90	-07 21 18.1		4 809
3202	1989 04 11.19201	12 38 32.94	-07 15 22.8		4 809
3202	1989 04 11.20278	12 38 32.71	-07 15 18.8		4 809
3202	1989 04 11.21319	12 38 32.47	-07 15 14.8		4 809
3233	1989 04 10.17431	12 35 34.58	-06 54 38.4		4 809
3233	1989 04 10.18403	12 35 34.07	-06 54 35.7		4 809
3233	1989 04 10.19444	12 35 33.50	-06 54 31.8		4 809
3233	1989 04 11.19201	12 34 34.25	-06 49 33.4		4 809
3233	1989 04 11.20278	12 34 33.70	-06 49 29.8		4 809
3233	1989 04 11.21319	12 34 33.18	-06 49 25.7		4 809
3244	1989 04 09.16285	12 35 20.47	-08 11 13.9		4 809
3244	1989 04 09.17292	12 35 19.91	-08 11 10.6		4 809
3244	1989 04 09.18333	12 35 19.37	-08 11 07.4		4 809
3436	1989 04 04.31215	14 04 07.69	-11 43 45.7	17.6	4 809
3436	1989 04 04.32292	14 04 07.29	-11 43 42.2		4 809
3436	1989 04 04.33333	14 04 06.89	-11 43 39.5		4 809
3436	1989 04 09.33750	14 00 31.08	-11 21 09.1		4 809
3436	1989 04 09.34792	14 00 30.65	-11 21 05.1		4 809
3436	1989 04 09.35841	14 00 30.13	-11 21 02.4		4 809
3509	1989 04 08.21181	13 39 59.38	-15 33 57.6		4 809
3509	1989 04 08.22222	13 39 58.90	-15 33 52.7		4 809
3509	1989 04 08.23264	13 39 58.36	-15 33 47.9		4 809
3509	1989 04 10.25417	13 38 20.79	-15 17 57.5		4 809
3509	1989 04 10.26458	13 38 20.27	-15 17 52.5		4 809
3509	1989 04 10.27500	13 38 19.70	-15 17 47.9		4 809
3887	1989 03 14.34459	15 09 59.68	-12 43 15.1	18.5	5 809
4014	1989 04 08.21181	13 39 27.58	-11 51 34.4		4 809
4014	1989 04 08.22222	13 39 27.13	-11 51 31.8		4 809
4014	1989 04 08.23264	13 39 26.68	-11 51 29.4		4 809
4014	1989 04 10.25417	13 38 03.85	-11 43 36.2		4 809
4014	1989 04 10.26458	13 38 03.43	-11 43 34.2		4 809
4014	1989 04 10.27500	13 38 02.95	-11 43 31.5		4 809
4090	1989 04 08.24514	12 49 27.35	-07 52 14.7		4 809
4090	1989 04 08.25625	12 49 26.75	-07 52 11.0		4 809
4090	1989 04 08.26675	12 49 26.06	-07 52 06.6		4 809
4092	1989 04 08.21181	13 30 36.68	-14 16 27.2		4 809
4092	1989 04 08.22222	13 30 36.15	-14 16 24.4		4 809
4092	1989 04 08.23264	13 30 35.55	-14 16 21.3		4 809
4092	1989 04 10.25417	13 28 53.27	-14 05 53.9		4 809
4092	1989 04 10.26458	13 28 52.74	-14 05 51.0		4 809
4092	1989 04 10.27500	13 28 52.15	-14 05 47.7		4 809

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T. Furuta, Mitsuike 17-2, Kakiya-Cho, Tokai, Aichi-Ken 477, Japan

Observers M. Iwamoto

Measurer T. Furuta

0.25-m Wright-Schmidt

1989 BR	1989 02 05.51236	09 00 18.20	+19 24 07.5		872
1989 BR	1989 02 05.52769	09 00 17.14	+19 24 07.2		872

886 Susuno

T. Furuta, 17-2 Mitsuike, Kagiya, Tokai 477, Japan

Observer M. Akiyama

Measurer T. Furuta

1989 KA	*	1989 05	26.56701	16 24	08.75	-17 49	56.5	15.0	886
1989 KA		1989 05	26.57880	16 24	08.04	-17 49	51.5		886
1989 KA		1989 05	29.60104	16 21	26.61	-17 31	22.3		886
1989 KA		1989 05	29.62465	16 21	25.28	-17 31	14.7		886
1989 KA		1989 06	06.50868	16 14	40.62	-16 46	27.1		886
1989 KA		1989 06	06.52118	16 14	39.82	-16 46	23.1		886
1989 KA		1989 06	12.51736	16 10	10.20	-16 17	06.7		886
1989 KA		1989 06	12.59444	16 10	06.71	-16 16	45.4		886
83		1988 10	30.54306	03 16	19.73	+20 50	28.2		886
83		1988 10	30.55278	03 16	19.17	+20 50	26.0		886
277		1988 11	02.56389	02 52	06.96	+16 44	58.8		886
277		1988 11	02.57361	02 52	06.09	+16 44	57.7		886
552		1988 12	06.53542	04 54	16.76	+24 55	41.8		886
552		1988 12	06.54861	04 54	15.98	+24 55	39.1		886
1978		1988 12	06.53542	04 53	45.72	+25 17	51.5		886
1978		1988 12	06.54861	04 53	44.61	+25 17	47.8		886
3153		1988 11	02.56389	02 51	56.95	+17 12	20.8		886
3153		1988 11	02.57361	02 51	56.40	+17 12	20.0		886

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

3808		1989 03	08.61944	10 43	10.53	+10 33	16.2	16	897
3808		1989 03	08.66076	10 43	08.51	+10 33	40.4		897

* * * * *

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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 Shoemaker-Holt 2 (1989j)

T	1988 Aug. 7.44417 ET			Marsden
q	2.6449035	(1950.0)	P	Q
n	0.12298763	Peri. 5.86396	-0.25336031	-0.91946191
a	4.0046242	Node 99.09640	+0.87466608	-0.35050354
e	0.3395377	Incl. 17.72764	+0.41324061	+0.17814900
P	8.01			

From 45 observations 1989 Mar. 4-May 7.

Periodic Comet West-Hartley (1989k)

T	1988 Oct. 6.31902 ET			Marsden
q	2.1293623	(1950.0)	P	Q
n	0.12983395	Peri. 102.64427	-0.82997004	-0.52410894
a	3.8625775	Node 46.12588	+0.35066909	-0.75645352
e	0.4487198	Incl. 15.35993	+0.43379826	-0.39126448
P	7.59			

From 10 observations 1989 Mar. 14-June 8.

Comet Yanaka (1989a)

Epoch 1988 Nov. 15.0 ET = JDE 2447480.5

T	1988 Oct. 31.80184 ET			Nakano
q	1.8945966	(1950.0)	P	Q
z	+0.0006795	Peri. 351.55662	-0.87051184	-0.37615134
	+/-0.0000395	Node 156.39214	+0.48501019	-0.76511312
e	0.9987126	Incl. 52.41666	+0.08351197	+0.52260126

From 81 observations 1989 Jan. 2-June 3, mean residual 1".5.

Periodic Comet Brorsen-Metcalf (1989o)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

T	1989 Sept. 11.93841 ET			Yeomans
q	0.4787422	(1950.0)	P	Q
n	0.01397116	Peri. 129.62476	+0.13219366	-0.95910224
a	17.07318	Node 310.87639	+0.77733924	+0.25698807
e	0.9719594	Incl. 19.33097	+0.61503539	-0.11865932
P	70.55			

From 86 observations 1847-1989, mean residual 2".0. Nongravitational parameters A1 = +0.02, A2 = -0.0533.

Periodic Comet Machholz (1986 VIII)
 Epoch 1991 July 3.0 ET = JDE 2448440.5
 T 1991 July 22.01268 ET

Green

q	0.1255478	(1950.0)	P	Q
n	0.18819688	Peri. 14.52911	-0.18913770	-0.46405944
a	3.0157438	Node 93.82273	+0.79191150	-0.59316882
e	0.9583692	Incl. 60.14704	+0.58060581	+0.65787505
P	5.24			

From 73 observations 1986 May 13-1989 Apr. 6, mean residual 0".9.

One-opposition minor planets

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1986 LK1	13.0	860530	23.82	126.35	106.94	12.47	0.1081	2.5875	8	7	E	G
1986 PF	12.5	860818	9.88	72.50	245.12	5.52	0.0527	2.6409	33	6		N
1986 PM	14.5	860729	27.18	336.52	295.06	4.48	0.1968	2.1800	7	4		B
1986 PN1	14.5	860818	8.66	355.49	312.48	7.01	0.3021	2.7128	28	4		N
1986 PT4	11.5	860907	63.91	106.07	151.12	13.72	0.0719	3.1590	36	0	D	N
1986 PK6	12.9	860828	69.29	344.81	257.71	4.26	0.1623	2.2533	25	3		F
1986 PV6	14.2	860907	348.43	45.64	314.30	4.62	0.1729	2.2320	51	4		F
1986 QO	13.0	860818	4.65	51.91	262.84	1.74	0.1764	2.4340	30	0		B
1986 QZ	14.0	860818	347.95	230.29	118.58	3.99	0.1900	2.2062	36	0		B
1986 QT2	14.5	860818	14.35	193.95	114.74	2.22	0.1537	2.1660	34	0		B
1986 QV3	13.5	860907	352.41	237.03	122.11	5.17	0.2194	2.2529	56	8		N
1986 QO4	13.7	860907	349.39	2.35	2.54	6.71	0.1860	2.2767	47	5		F
1986 QF5	12.1	860907	54.12	338.57	283.65	9.37	0.1575	2.4469	10	3		F
1986 QK5	14.6	860907	351.82	64.92	285.45	7.48	0.2599	2.3367	10	3		F
1986 QR5	10.7	860917	279.64	112.88	326.35	13.87	0.1006	3.1282	34	3		F
1986 RR	15.0	860907	6.92	120.15	202.18	3.95	0.3028	2.3306	25	4		N
1986 RE1	15.0	860818	346.53	156.37	197.93	3.37	0.2517	2.2777	10	9		B
1986 RJ1	15.0	860818	357.71	354.91	342.60	5.15	0.2482	2.3865	31	0		B
1986 RP1	12.5	860907	125.08	26.04	183.39	5.44	0.0640	2.7516	7	5	E	N
1986 RS1	15.0	860818	356.18	177.01	163.01	5.49	0.1963	2.1956	13	5	E	B
1986 RU1	11.5	860907	313.63	241.82	166.65	24.96	0.1641	3.0354	7	4		N
1986 RX1	15.0	860907	13.50	2.43	310.17	7.05	0.3653	2.5540	35	0		B
1986 RU2	13.5	860907	322.48	62.45	341.81	2.62	0.1504	2.2639	35	6		N
1986 RX2	13.0	860907	357.93	17.33	343.40	1.60	0.2034	3.1273	35	0		B
1986 RA3	12.0	860907	285.71	157.49	281.45	11.63	0.0896	3.0634	26	6		B
1986 RF3	14.5	860907	18.98	143.07	181.87	2.47	0.1980	2.4151	29	8		B
1986 RG3	14.5	860907	16.47	153.61	163.14	7.81	0.2548	2.2638	23	6		N
1986 RJ3	11.5	860907	28.20	240.60	66.41	1.37	0.1628	3.1235	5	4	E	N
1986 RK3	14.0	860907	315.67	221.33	177.77	9.42	0.2007	2.3716	26	5		N
1986 RB5	13.0	860818	355.36	210.60	122.16	5.64	0.1797	2.2382	31	0		B
1986 RD5	13.0	860818	342.70	5.14	350.06	3.18	0.1761	3.0396	6	0	E	B
1986 RK5	13.0	860907	359.66	201.22	135.89	1.48	0.2444	2.9315	4	7	E	N
1986 RS5	12.5	860907	342.30	137.35	233.41	4.62	0.1871	3.1595	8	4		N
1986 RA7	12.3	860917	66.08	91.77	152.56	5.14	0.3743	2.7078	26	3		F
1986 RB7	12.3	860917	27.55	324.93	349.91	13.39	0.1893	2.6462	26	3		F
1986 RD7	10.3	860917	199.86	0.20	163.60	7.32	0.3128	2.7068	26	3		F
1986 RE7	13.0	860917	349.56	218.46	150.86	3.42	0.1776	2.3985	26	3		F
1986 RF13	11.0	860927	38.76	187.20	124.11	3.18	0.0717	2.9194	27	4		F
1986 SC	15.0	860927	9.03	137.04	209.04	4.32	0.2860	2.3812	11	7		B
1986 SD	12.5	860927	9.86	9.11	341.67	3.57	0.0983	2.7805	13	9		B
1986 SF	13.5	861017	1.91	23.31	344.48	3.02	0.0621	2.1648	10	5	E	N
1986 SZ1	11.6	861007	271.29	199.06	255.90	12.63	0.1557	2.5975	7	3		F
1986 TH	14.5	860907	340.14	72.17	311.00	5.13	0.1374	2.2762	34	7		B
1986 TJ	13.0	860927	359.09	140.91	224.41	8.06	0.1167	2.8604	23	3		N
1986 TR	13.5	860927	16.61	89.34	251.50	9.61	0.3062	2.6388	10	5		B
1986 TS	13.0	860927	346.92	64.86	334.71	13.05	0.2636	2.9104	10	5		B
1986 TE1	11.5	860927	186.36	72.55	120.60	3.03	0.0995	2.7832	6	4		N

1986	TG1	13.5	861017	31.83	344.50	357.56	14.33	0.1859	2.6140	8 4	N
1986	TK1	14.0	861017	39.93	50.54	277.60	4.81	0.2038	2.2517	32 6	N
1986	TP1	15.0	861017	358.57	256.65	118.11	2.74	0.2801	2.4134	5 5	E N
1986	TR1	14.5	860927	34.74	210.91	101.79	3.76	0.1942	2.1976	23 4	N
1986	TH3	13.5	860907	335.41	218.14	192.50	15.36	0.3100	2.7158	32 0	B
1986	TO3	14.0	861017	358.44	48.55	334.24	1.14	0.1023	2.1803	31 9	B
1986	TR3	12.0	860927	45.11	305.62	6.92	0.60	0.1949	3.1651	8 0	E B
1986	TS4	15.0	861017	7.01	20.34	349.83	10.78	0.2951	2.3721	35 4	D N
1986	TO5	14.0	861106	13.39	303.48	68.06	2.24	0.1960	2.4515	35 6	D N
1986	TQ5	12.5	860927	346.18	252.83	146.06	2.03	0.1415	3.1881	27 6	D N
1986	TX5	15.0	861017	350.11	152.00	244.48	1.07	0.2187	2.3049	32 5	N
1986	TF6	12.5	861017	356.74	5.75	24.54	5.47	0.1797	3.0444	8 4	N
1986	TE7	13.0	861017	349.14	198.15	213.26	13.62	0.2451	2.9168	5 5	N
1986	TR11	13.4	861007	43.78	73.13	238.39	8.74	0.2643	2.3404	8 3	F
1986	TT11	12.9	861007	34.55	328.04	4.04	13.78	0.2033	2.5783	8 3	F
1986	TU11	13.6	861007	344.60	185.97	220.67	12.81	0.2192	2.6670	8 3	F
1986	TZ11	12.4	861007	16.54	74.75	287.23	4.92	0.1800	3.1206	8 3	F
1986	TB12	12.3	861007	332.53	95.95	329.18	4.22	0.1651	2.7579	8 3	F
1986	TC12	13.8	861007	26.37	101.64	244.41	4.67	0.1981	2.4497	8 3	F
1986	TF15	12.5	860927	62.76	265.63	11.72	16.60	0.2317	2.7317	5 3	E B
1986	UO	14.0	861017	23.66	336.14	15.12	2.75	0.2533	2.5892	34 9	B
1986	UQ	14.0	861017	51.15	93.25	234.76	2.24	0.1250	2.1192	35 0	B
1986	UU	14.0	861017	28.38	107.83	235.81	6.06	0.2547	2.1999	58 0	D B
1986	UN2	14.0	861106	345.86	237.37	175.14	3.90	0.1620	2.3153	33 4	N
1986	UD3	12.0	861017	328.86	163.98	236.74	12.38	0.1774	2.6447	25 5	N
1986	UH3	14.5	861106	8.46	71.93	312.69	0.71	0.2360	2.5870	29 0	N
1986	VQ2	14.0	861017	22.62	75.66	278.12	5.38	0.1991	2.2759	31 6	N
1986	VF5	12.5	861017	335.81	56.18	2.77	10.19	0.1046	3.0145	32 5	N
1986	VK6	15.0	861017	11.07	348.93	25.94	5.04	0.2021	2.2296	35 6	B
1986	VM6	14.5	861017	15.77	324.40	42.67	4.12	0.2223	2.3555	33 5	N
1986	WM5	11.0	860927	38.64	1.60	293.38	12.05	0.1803	3.0948	79 4	N
1987	CH	14.0	870125	355.78	6.67	146.81	5.48	0.0627	2.1802	9 0	G
1987	DQ6	11.0	870306	165.36	2.15	352.02	16.57	0.0869	3.1019	12 0	N
1988	BW	12.5	880209	28.57	141.55	322.12	12.17	0.1232	2.6392	30 0	N
1988	BJ4	13.0	880120	107.29	222.64	153.84	4.29	0.0922	2.2605	22 0	D B
1988	CF	13.5	880229	2.27	149.04	356.12	5.39	0.2305	2.5739	33 0	N
1988	CQ	14.0	880229	331.72	64.21	126.97	10.31	0.1964	2.3081	8 7	E N
1988	CT5	11.5	880209	183.53	358.37	319.05	12.41	0.1430	2.5872	12 0	N
1988	FE	13.5	880320	353.87	139.55	47.26	10.26	0.1795	2.4123	23 0	N
1988	RD	13.0	880916	346.43	23.39	5.24	24.27	0.2305	2.3845	31 9	N
1988	SN	13.0	881006	355.31	20.81	0.63	6.84	0.1331	2.3848	31 0	N
1988	TJ	14.0	881006	347.61	38.50	353.89	5.66	0.1419	2.3190	15 0	N
1988	TK	12.5	881006	42.71	314.18	1.97	9.04	0.1900	2.7234	15 0	N
1988	TL	13.5	881006	315.25	140.32	296.67	1.51	0.1715	2.4145	16 0	N
1988	TN	13.0	881006	350.33	17.73	12.26	5.29	0.0606	2.4308	53 0	N
1988	TS	13.5	881026	21.03	129.05	207.88	13.54	0.3650	2.9327	6 0	N
1988	TT	12.0	881006	41.65	323.25	4.47	11.32	0.0949	3.0166	13 0	N
1988	TW1	12.5	881006	49.33	97.67	203.96	16.82	0.2485	2.6907	16 9	N
1988	TN2	12.5	881006	18.63	155.73	193.78	15.73	0.1635	2.5216	32 7	N
1988	VB3	12.0	881115	66.17	125.10	213.70	9.34	0.0798	3.0059	32 0	M
1988	VS6	13.5	881026	335.56	216.48	209.15	4.81	0.2625	4.0211	22 6	N
1988	XU2	12.5	881205	0.34	6.91	73.86	9.76	0.1193	2.6920	12 3	M
1988	XV2	14.0	881205	4.29	152.30	281.89	4.75	0.1406	2.3240	12 3	M
1989	AV2	10.0	890203	62.16	123.02	285.14	19.08	0.0942	5.2798	56 6	B
1989	AO3	12.0	890114	57.96	90.05	317.70	6.56	0.1749	3.1632	35 8	G
1989	AL5	12.0	890114	168.37	288.53	26.19	1.39	0.1315	3.2070	31 7	G
1989	AN5	13.5	890114	60.73	282.50	128.68	9.91	0.1249	3.0665	30 6	N
1989	AR5	14.5	890114	72.13	274.46	124.95	4.47	0.1161	2.6968	30 6	N
1989	AS5	12.0	881225	180.45	356.58	306.73	13.65	0.3471	2.5485	7 6	G

1989	AW5	13.5	881225	9.73	11.57	95.72	3.19	0.0714	2.5790	9 7	G
1989	AZ5	14.5	881225	7.50	356.91	108.65	4.26	0.1763	2.5348	7 6	G
1989	AD6	14.0	890114	20.66	253.04	192.07	9.80	0.0910	2.9976	25 6	N
1989	AG6	14.0	890114	327.29	63.64	102.06	2.68	0.1135	3.1934	24 5	G
1989	AH6	14.0	881225	174.61	348.05	318.48	7.11	0.2972	2.7364	3 3	E G
1989	AJ6	14.5	890114	251.53	286.10	317.42	5.77	0.1054	2.3989	29 6	N
1989	AK6	14.0	890114	70.29	292.22	121.82	8.05	0.0184	3.1807	24 5	E G
1989	AL6	15.0	890114	116.94	246.40	112.38	1.79	0.0883	2.2379	24 5	G
1989	AN6	13.5	890114	134.24	252.70	88.41	2.38	0.1613	3.1942	24 5	G
1989	AO6	12.5	890203	72.56	89.25	316.94	8.55	0.0961	3.0560	25 6	N
1989	AP6	12.5	890114	106.79	248.49	119.74	10.89	0.1109	3.0302	25 6	G
1989	AQ6	12.5	890114	111.17	255.29	102.37	1.98	0.1908	3.1164	25 6	G
1989	AR6	14.5	881225	174.25	358.56	306.20	8.14	0.1318	2.1639	3 3	E G
1989	AS6	15.5	890114	354.28	9.50	122.18	3.30	0.1536	2.4121	25 6	G
1989	AT6	14.0	890114	249.46	140.16	110.87	2.20	0.1482	2.3977	25 6	G
1989	AU6	14.0	890114	56.21	114.43	310.55	4.62	0.0503	2.7314	24 5	G
1989	AV6	13.5	890114	202.29	174.29	115.58	6.84	0.1748	2.2410	24 5	G
1989	AW6	14.5	890114	5.36	59.01	57.70	1.57	0.1424	2.4314	25 5	G
1989	AX6	12.0	881225	174.85	191.22	118.43	3.72	0.2029	3.1063	3 3	E G
1989	BR	14.5	890203	356.35	168.84	328.59	4.69	0.0900	2.2607	35 0	N
1989	CG1	11.5	890223	334.08	246.87	305.26	14.02	0.0884	2.5624	29 5	N
1989	CH4	14.0	890203	333.11	207.09	328.55	1.64	0.1534	2.3132	9 0	N
1989	CS4	13.5	890203	0.90	358.50	130.21	13.55	0.0553	2.7299	2 3	E G
1989	EE	13.0	890404	29.61	319.66	163.37	29.05	0.2742	3.1536	66 7	B
1989	EG1	15.0	890315	12.28	3.47	158.47	5.47	0.1017	2.2309	37 0	N
1989	ER1	14.5	890315	27.63	80.52	47.73	4.40	0.2009	2.3001	32 8	N
1989	FG	12.5	890315	46.74	69.25	53.03	3.84	0.1298	2.5564	68 0	N
1989	GB	13.0	890404	346.96	172.43	40.43	13.54	0.0661	2.3894	26 8	N
1989	GE	13.5	890424	322.03	205.77	52.41	7.89	0.1903	2.2704	31 0	N
1989	GF	12.0	890404	57.25	55.83	79.48	6.06	0.0622	2.3922	36 0	N
1989	GH	12.5	890424	352.12	82.22	138.00	12.01	0.1428	2.6667	62 0	B
1989	GJ	12.5	890404	301.48	140.27	141.56	14.09	0.1755	2.6756	27 6	B
1989	GL	14.0	890315	3.68	156.38	16.68	21.40	0.1907	2.2773	57 0	B
1989	GO	13.0	890404	21.69	111.94	65.24	3.16	0.1319	2.4093	25 8	B
1989	GP	13.5	890404	320.50	119.69	141.31	2.94	0.1772	2.3916	25 8	B
1989	GZ	16.5	890404	317.27	6.77	261.72	1.93	0.2594	2.4648	5 9	E B
1989	GA1	17.0	890404	334.84	322.76	276.13	1.76	0.2172	2.3856	7 0	B
1989	GB1	13.0	890404	41.20	282.79	225.25	4.62	0.1458	3.2273	7 0	E B
1989	GC1	15.5	890404	259.46	26.10	292.86	2.84	0.1541	2.4521	7 0	B
1989	GD1	16.0	890404	327.08	258.99	342.14	3.43	0.1087	2.2813	7 0	B
1989	GF1	14.5	890404	77.87	136.25	339.00	3.90	0.0718	2.2745	7 0	B
1989	GG1	15.0	890404	285.82	290.19	7.61	6.75	0.1991	2.1944	5 9	B
1989	GH1	16.0	890404	130.98	56.11	2.50	4.89	0.1578	2.3009	7 0	B
1989	GK1	13.5	890404	264.30	312.54	4.32	10.10	0.1596	3.1090	7 0	B
1989	GL1	14.0	890404	291.73	342.59	308.23	2.63	0.1863	2.2937	7 0	B
1989	GM1	14.5	890404	236.36	126.94	218.64	12.12	0.2376	2.6209	7 0	E B
1989	GO1	17.0	890404	33.45	240.60	263.08	1.06	0.2669	2.2906	7 0	B
1989	GP1	15.5	890404	54.13	130.23	2.22	4.21	0.1542	3.1711	7 0	B
1989	GQ1	15.5	890404	265.31	68.80	248.59	2.07	0.1918	2.3679	7 0	B
1989	GR1	14.5	890404	98.35	236.96	216.31	13.77	0.0979	2.6381	7 0	E B
1989	GT1	13.0	890404	43.93	289.65	216.06	13.07	0.1473	3.2431	7 0	E B
1989	GU1	16.5	890404	190.36	129.54	245.78	3.38	0.1860	2.2331	7 0	B
1989	GV1	15.0	890404	288.96	308.83	343.24	4.94	0.1661	2.2708	7 0	B
1989	GW1	16.5	890404	168.54	25.28	5.40	5.10	0.1619	2.2368	7 0	B
1989	GY1	15.0	890404	195.72	12.08	1.91	9.54	0.1951	2.7869	7 9	B
1989	GZ1	16.0	890404	263.81	70.33	248.44	2.34	0.1854	2.3447	7 0	B
1989	GB2	15.0	890404	95.50	112.01	342.85	4.27	0.1088	2.2658	7 0	B
1989	GC2	14.5	890404	308.78	15.89	252.15	1.51	0.1493	2.5230	7 0	B
1989	GE2	16.0	890404	103.49	82.42	7.92	5.27	0.0728	2.1766	7 0	B

1989	GF2	17.5	890404	22.17	294.99	224.99	5.29	0.2895	2.3618	7 0	B
1989	GG2	15.0	890404	306.04	333.16	317.63	1.84	0.3103	2.5103	7 0	E B
1989	GH2	14.5	890404	242.85	354.09	339.82	1.82	0.1392	2.8819	7 9	E B
1989	GJ2	14.0	890404	201.18	141.29	227.17	8.05	0.1717	2.3496	7 0	B
1989	GK2	15.5	890404	283.70	282.68	9.45	6.14	0.1110	2.6336	7 0	B
1989	GM2	14.0	890404	39.09	301.38	215.28	7.03	0.0913	2.6856	7 0	E B
1989	GN2	17.5	890404	11.55	311.16	232.07	4.02	0.2099	2.2791	7 0	E B
1989	GP2	14.5	890404	304.20	49.92	219.38	10.13	0.0901	3.0251	7 0	E B
1989	GR2	13.0	890404	236.76	86.25	263.60	1.52	0.2728	2.9327	7 0	B
1989	GS2	13.5	890404	316.64	35.55	228.19	8.24	0.1725	3.0871	7 0	B
1989	GU2	16.0	890404	283.72	297.15	1.38	4.37	0.1686	2.2198	7 0	B
1989	GW2	16.5	890404	176.07	27.50	359.35	3.45	0.1352	2.2580	5 9	B
1989	GX2	14.0	890404	231.31	129.43	216.14	4.74	0.1715	2.1913	7 0	B
1989	GC3	15.5	890404	316.16	250.09	10.18	5.62	0.1493	2.3351	7 0	B
1989	GD3	14.5	890404	322.54	36.65	216.23	12.73	0.1450	2.5598	7 0	B
1989	GE3	15.5	890404	158.44	55.40	346.82	3.86	0.1558	2.9138	7 0	B
1989	GF3	16.0	890404	2.40	334.12	224.89	3.48	0.1664	2.3718	7 0	B
1989	GG3	14.5	890404	59.48	281.50	212.76	12.70	0.1075	3.0164	5 9	B
1989	GM3	14.5	890404	345.48	156.83	63.84	1.23	0.2852	2.8421	9 8	B
1989	GN3	13.0	890404	47.23	302.05	187.30	12.14	0.1791	3.2065	9 0	B
1989	GW3	14.0	890404	347.99	205.00	6.37	8.32	0.1714	2.6525	2 8	E B
1989	GX3	15.0	890404	25.76	162.12	1.50	4.21	0.0871	2.1888	2 8	E B
1989	GA4	15.0	890404	338.19	322.21	260.51	1.34	0.1874	2.4907	5 0	B
1989	GC4	13.0	890404	311.49	327.04	273.30	1.10	0.0166	2.9171	9 0	B
1989	GD4	12.5	890404	89.26	251.26	195.99	4.36	0.1184	3.0525	9 0	E B
1989	GJ4	13.5	890404	21.65	289.72	236.51	3.75	0.1130	2.5521	6 8	M
1989	GK4	14.0	890404	300.01	283.61	339.01	4.50	0.0870	2.3408	6 8	M
1989	GL4	14.0	890404	323.87	35.25	203.51	14.31	0.1228	2.5754	6 8	M
1989	GN4	14.0	890404	320.92	352.50	250.21	2.91	0.1203	2.6124	6 8	M
1989	GP4	14.5	890404	297.08	62.59	202.42	6.77	0.0844	2.3468	7 8	M
1989	GQ4	12.0	890404	341.56	33.89	186.67	4.72	0.0947	2.2063	8 0	M
1989	GR4	14.0	890404	53.52	307.76	185.59	3.91	0.1189	2.2537	9 0	M
1989	GS4	14.0	890404	313.90	86.24	173.99	2.17	0.1526	2.7336	9 0	M
1989	GT4	13.5	890404	276.59	113.36	187.22	2.90	0.1545	2.2265	9 0	M
1989	GD5	13.0	890404	279.02	290.27	32.43	20.74	0.3240	2.8263	6 9	M
1989	GH5	13.5	890404	308.79	215.53	38.90	4.39	0.1207	2.2540	32 9	B
1989	GW5	17.0	890404	325.15	333.72	281.24	1.79	0.2287	2.4866	7 9	B
1989	GX5	15.5	890404	274.53	293.54	13.33	14.12	0.1532	2.6595	5 9	B
1989	GY5	14.5	890404	260.81	85.27	230.09	8.28	0.1036	2.9890	5 9	E B
1989	GZ5	14.0	890404	175.57	8.97	19.02	7.84	0.0448	2.4028	5 9	B
1989	HA	13.0	890514	331.21	124.90	142.40	15.10	0.1638	2.5803	34 7	G
1989	HD	13.0	890514	341.43	115.30	143.18	13.85	0.1473	2.6042	38 0	B
1989	HG	13.0	890514	39.94	344.39	191.08	14.77	0.1225	2.5658	36 7	B
1989	JB	14.5	890514	4.35	138.84	82.23	25.91	0.2347	2.2794	34 8	B
1989	JC	13.5	890514	95.36	239.37	232.40	19.45	0.0702	1.8587	34 8	B
1989	JF	13.5	890514	323.48	280.93	0.14	4.44	0.1701	2.1834	34 7	B
1989	JK	12.5	890514	25.92	34.98	160.17	13.05	0.1720	2.5841	35 0	G
1989	JL	12.5	890424	258.39	206.68	113.75	11.57	0.1400	2.2352	4 0	M
1989	JM	12.0	890424	350.89	131.45	82.16	14.34	0.0551	2.5586	4 8	M
1989	KB	13.0	890603	312.64	241.97	79.18	23.94	0.2710	2.4266	5 8	B
1989	KC	11.5	890514	116.10	1.33	102.20	14.40	0.2618	3.0202	2 6	M
1989	KD	12.0	890514	280.68	244.00	111.75	10.65	0.2955	2.4488	2 6	E M
1989	KE	14.0	890514	348.01	99.46	150.82	13.82	0.1457	2.5918	4 6	G
1989	KF	13.0	890514	356.23	153.00	85.04	14.76	0.1091	2.7691	2 6	E G
1989	KG	12.5	890514	317.18	120.12	163.59	12.37	0.1343	2.7621	4 5	G
1989	KH	11.5	890514	192.18	233.42	179.97	16.68	0.3276	2.5271	3 6	B
1989	KJ	14.0	890514	26.84	83.50	124.02	9.35	0.1408	2.4743	2 6	E G
1989	KK	12.5	890514	42.37	337.56	205.88	14.95	0.2068	2.8553	2 6	E G
1989	KL	14.0	890514	334.02	114.00	173.90	10.41	0.3280	2.5768	3 5	B

1989 LJ 12.5 890603 26.71 115.86 89.28 14.44 0.1206 2.5977 27 8 B
 1989 LW 13.5 890603 328.93 91.15 223.30 21.46 0.2757 2.3686 25 6 B
 1986 PT4 = 1986 RW4 (C. M. Bardwell, E. W. Elst, S. Nakano, MPC 12118)
 1986 TS4 = 1986 VE1 (S. Nakano)
 1986 TO5 = 1986 UV1 (S. Nakano)
 1986 TQ5 = 1986 UB2 (S. Nakano)
 1986 UU = 1986 XC1 (F. N. Bowman, MPC 11723)
 1988 BJ4 = 1988 BQ5 (C. M. Bardwell)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (5) Astraea Obs. 466 M 227.74907 Peri. 356.48056
 H 6.91 G 0.25 Opp. 38 n 0.23864749 Node 141.13236
 rms res. 0".93 (M-P) 1905-1987 e 0.1916908 Incl. 5.36240

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (36) Atalante Obs. 85 M 124.44066 Peri. 46.30130
 H 8.35 G 0.15 Opp. 26 n 0.21671491 Node 358.25120
 rms res. 1".63 (M-P) 1921-1987 e 0.3050101 Incl. 18.47949

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (66) Maja Obs. 117 M 66.84232 Peri. 42.91257
 H 9.39 G 0.15 Opp. 34 n 0.22916363 Node 7.38594
 rms res. 1".69 (M-P) 1902-1986 e 0.1748399 Incl. 3.04699

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (69) Hesperia Obs. 179 M 34.55283 Peri. 285.83540
 H 7.10 G 0.15 Opp. 36 n 0.19166366 Node 185.23540
 rms res. 1".42 (M-P) 1912-1985 e 0.1673439 Incl. 8.54758

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (76) Freia Obs. 286 M 32.86645 Peri. 256.13155
 H 8.08 G 0.44 Opp. 34 n 0.15642297 Node 204.00272
 rms res. 1".16 (M-P) 1933-1987 e 0.1665454 Incl. 2.12251

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (110) Lydia Obs. 203 M 12.50882 Peri. 281.41661
 H 7.79 G 0.18 Opp. 33 n 0.21822009 Node 56.65569
 rms res. 1".26 (M-P) 1901-1988 e 0.0783653 Incl. 5.96758

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (133) Cyrene Obs. 77 M 308.39909 Peri. 292.91136
 H 8.05 G 0.24 Opp. 30 n 0.18418085 Node 318.64701
 rms res. 2".04 (M-P) 1908-1984 e 0.1395057 Incl. 7.22161

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (140) Siwa Obs. 118 M 222.63866 Peri. 195.92521
 H 8.20 G 0.15 Opp. 31 n 0.21848566 Node 106.82221
 rms res. 1".85 (M-P) 1902-1986 e 0.2170337 Incl. 3.19143

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (144) Vibilia Obs. 132 M 67.76383 Peri. 293.51332
 H 7.87 G 0.08 Opp. 33 n 0.22763459 Node 76.13687
 rms res. 1".60 (M-P) 1905-1987 e 0.2335485 Incl. 4.81470

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Sumzina
 (165) Loreley Obs. 85 M 175.14185 Peri. 351.66451
 H 7.49 G 0.15 Opp. 26 n 0.17760365 Node 302.34443
 rms res. 1".88 (M-P) 1927-1984 e 0.0731949 Incl. 11.23502

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(173) Ino		Obs.	159	M 213.41988	Peri.	227.17909
H 7.79	G 0.12	Opp.	36	n 0.21698515	Node	148.03015
rms res. 1".06	(M-P)	1903-1986		e 0.2084088	Incl.	14.22613
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(179) Klytaemnestra		Obs.	85	M 353.38430	Peri.	103.72424
H 8.20	G 0.25	Opp.	32	n 0.19228562	Node	251.90747
rms res. 1".79	(M-P)	1908-1986		e 0.1087456	Incl.	7.81448
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(185) Eunike		Obs.	612	M 356.12992	Peri.	223.90752
H 7.73	G 0.27	Opp.	38	n 0.21750604	Node	153.45323
rms res. 0".52	(M-P)	1910-1988		e 0.1265385	Incl.	23.24130
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(189) Phthia		Obs.	113	M 341.03538	Peri.	165.78107
H 9.51	G 0.25	Opp.	33	n 0.25700654	Node	203.20451
rms res. 1".80	(M-P)	1905-1988		e 0.0358296	Incl.	5.17971
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(190) Ismene		Obs.	189	M 354.86173	Peri.	276.11830
H 7.67	G 0.15	Opp.	26	n 0.12348435	Node	175.64891
rms res. 1".38	(M-P)	1921-1986		e 0.1676290	Incl.	6.15263
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(200) Dynamene		Obs.	182	M 37.24430	Peri.	85.67814
H 8.20	G 0.06	Opp.	32	n 0.21752834	Node	324.20000
rms res. 1".30	(M-P)	1920-1986		e 0.1353186	Incl.	6.89589
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(218) Bianca		Obs.	69	M 114.53840	Peri.	61.20594
H 8.68	G 0.25	Opp.	28	n 0.22630659	Node	170.31052
rms res. 1".66	(M-P)	1901-1984		e 0.1154168	Incl.	15.21615
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(225) Henrietta		Obs.	73	M 46.03895	Peri.	104.83607
H 8.62	G 0.15	Opp.	17	n 0.15944193	Node	196.74638
rms res. 1".12	(M-P)	1939-1983		e 0.2766248	Incl.	20.91673
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(233) Asterope		Obs.	98	M 72.05938	Peri.	125.28733
H 8.30	G 0.17	Opp.	31	n 0.22700691	Node	221.84291
rms res. 1".40	(M-P)	1912-1982		e 0.0995651	Incl.	7.67621
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(238) Hypatia		Obs.	108	M 21.83225	Peri.	210.20669
H 8.10	G 0.15	Opp.	27	n 0.19880992	Node	183.71868
rms res. 1".54	(M-P)	1904-1988		e 0.0892772	Incl.	12.39365
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(254) Augusta		Obs.	65	M 250.34611	Peri.	233.11282
H 12.08	G 0.25	Opp.	16	n 0.30315726	Node	28.03731
rms res. 1".71	(M-P)	1912-1983		e 0.1215843	Incl.	4.51055
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(300) Geraldina		Obs.	130	M 54.26191	Peri.	342.03926
H 9.83	G 0.15	Opp.	35	n 0.17101795	Node	42.81867
rms res. 1".44	(M-P)	1904-1986		e 0.0429156	Incl.	0.74478

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(338) Budrosa		Obs. 128	M 162.25701			Peri. 107.60873
H 8.54 G 0.25		Opp. 31	n 0.19836108			Node 287.22129
rms res. 1".61 (M-P)		1904-1986	e 0.0200600			Incl. 6.03537
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(350) Ornamenta		Obs. 41	M 220.67532			Peri. 337.09091
H 8.48 G 0.15		Opp. 21	n 0.17880134			Node 89.91684
rms res. 1".99 (M-P)		1905-1983	e 0.1496463			Incl. 24.82608
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(360) Carlova		Obs. 96	M 289.43066			Peri. 289.75394
H 8.41 G 0.15		Opp. 29	n 0.18951194			Node 132.13882
rms res. 1".75 (M-P)		1904-1982	e 0.1773669			Incl. 11.71434
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(364) Isara		Obs. 126	M 164.60394			Peri. 312.39194
H 9.85 G 0.25		Opp. 25	n 0.29784057			Node 105.11876
rms res. 1".85 (M-P)		1913-1986	e 0.1492977			Incl. 6.00655
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(370) Modestia		Obs. 68	M 4.44296			Peri. 67.98101
H 10.69 G 0.25		Opp. 18	n 0.27815352			Node 290.55713
rms res. 1".56 (M-P)		1911-1982	e 0.0903290			Incl. 7.86273
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(384) Burdigala		Obs. 91	M 98.75429			Peri. 33.06868
H 9.68 G 0.25		Opp. 30	n 0.22820274			Node 47.58012
rms res. 1".52 (M-P)		1905-1985	e 0.1467615			Incl. 5.60829
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(390) Alma		Obs. 47	M 60.09535			Peri. 190.63253
H 10.25 G 0.15		Opp. 18	n 0.22815873			Node 304.81559
rms res. 0".96 (M-P)		1924-1983	e 0.1292983			Incl. 12.13169
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(391) Ingeborg		Obs. 50	M 328.25455			Peri. 146.48659
H 11.1 G 0.25		Opp. 20	n 0.27878101			Node 212.48622
rms res. 1".85 (M-P)		1901-1985	e 0.3058089			Incl. 23.15917
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Filenko
(404) Arsinoe		Obs. 69	M 248.28678			Peri. 121.08267
H 9.05 G 0.19		Opp. 22	n 0.23575902			Node 92.09055
rms res. 1".35 (M-P)		1909-1986	e 0.2004453			Incl. 14.12476
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Filenko
(415) Palatia		Obs. 58	M 85.49441			Peri. 295.98931
H 9.38 G 0.32		Opp. 18	n 0.21170002			Node 126.88722
rms res. 2".26 (M-P)		1910-1985	e 0.3050122			Incl. 8.13861
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(428) Monachia		Obs. 47	M 93.08887			Peri. 15.07230
H 11.93 G 0.25		Opp. 16	n 0.28119580			Node 17.18458
rms res. 1".65 (M-P)		1904-1986	e 0.1786597			Incl. 6.19773
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Filenko
(431) Nephele		Obs. 110	M 293.58485			Peri. 212.45245
H 8.97 G 0.25		Opp. 32	n 0.17823809			Node 117.02170
rms res. 1".60 (M-P)		1902-1988	e 0.1844094			Incl. 1.83030

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Filenko	
(432) Pythia		Obs.	73	M	235.23835	Peri.	174.15082
H 9.09	G 0.25	Opp.	22	n	0.27017981	Node	88.39781
rms res. 1".12	(M-P)	1908-1982		e	0.1449586	Incl.	12.12258
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(438) Zeuxo		Obs.	116	M	239.05903	Peri.	208.74594
H 9.97	G 0.15	Opp.	31	n	0.24159295	Node	48.75535
rms res. 1".98	(M-P)	1902-1984		e	0.0694386	Incl.	7.39536
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(444) Gyptis		Obs.	117	M	77.54563	Peri.	154.75831
H 7.85	G 0.23	Opp.	33	n	0.21339014	Node	195.44661
rms res. 1".70	(M-P)	1913-1983		e	0.1738181	Incl.	10.25925
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(448) Natalie		Obs.	70	M	91.37929	Peri.	294.75114
H 10.39	G 0.24	Opp.	22	n	0.17590490	Node	37.42522
rms res. 2".18	(M-P)	1916-1988		e	0.1719996	Incl.	12.72415
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(456) Abnoba		Obs.	59	M	88.24452	Peri.	5.43705
H 9.90	G 0.15	Opp.	25	n	0.21165458	Node	228.92508
rms res. 2".04	(M-P)	1900-1988		e	0.1786988	Incl.	14.40385
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(458) Hercynia		Obs.	46	M	38.44617	Peri.	275.51679
H 9.51	G 0.25	Opp.	21	n	0.19062022	Node	134.39079
rms res. 2".57	(M-P)	1900-1983		e	0.2463044	Incl.	12.64396
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(461) Saskia		Obs.	109	M	12.88840	Peri.	301.75477
H 10.54	G 0.15	Opp.	25	n	0.17970248	Node	156.96967
rms res. 1".62	(M-P)	1900-1987		e	0.1580301	Incl.	1.44365
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(474) Prudentia		Obs.	86	M	221.56899	Peri.	156.20427
H 10.52	G 0.25	Opp.	24	n	0.25679690	Node	161.32006
rms res. 1".79	(M-P)	1901-1987		e	0.2135281	Incl.	8.81715
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(476) Hedwig		Obs.	86	M	197.48001	Peri.	0.61428
H 8.71	G 0.15	Opp.	30	n	0.22849397	Node	285.91159
rms res. 1".95	(M-P)	1901-1985		e	0.0747116	Incl.	10.94332
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(496) Gryphia		Obs.	84	M	185.38240	Peri.	258.19416
H 11.89	G 0.25	Opp.	22	n	0.30221003	Node	207.17689
rms res. 2".17	(M-P)	1902-1986		e	0.0787186	Incl.	3.79209
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(499) Venusia		Obs.	105	M	23.49605	Peri.	177.90099
H 9.64	G 0.42	Opp.	25	n	0.12245416	Node	255.88157
rms res. 1".73	(M-P)	1902-1987		e	0.2143913	Incl.	2.09163
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina	
(505) Cava		Obs.	94	M	185.76586	Peri.	335.86945
H 8.80	G 0.15	Opp.	28	n	0.22370137	Node	90.57032
rms res. 1".87	(M-P)	1904-1988		e	0.2431157	Incl.	9.81025

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(518) Halawe		Obs.	57	M 147.03022	Peri.	116.77405
H 11.44	G 0.15	Opp.	19	n 0.24413664	Node	203.82668
rms res. 1".77	(M-P)	1903-1987		e 0.2234017	Incl.	6.73713
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(530) Turandot		Obs.	93	M 189.62974	Peri.	202.34605
H 9.27	G 0.15	Opp.	32	n 0.17357914	Node	128.61826
rms res. 1".56	(M-P)	1904-1988		e 0.2204915	Incl.	8.56768
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(531) Zerlina		Obs.	37	M 102.19225	Peri.	57.66681
H 11.1	G 0.25	Opp.	7	n 0.21183592	Node	197.33010
rms res. 1".84	(M-P)	1904-1983		e 0.1961867	Incl.	33.96811
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(537) Pauly		Obs.	62	M 302.52333	Peri.	184.10767
H 8.79	G 0.15	Opp.	23	n 0.18401401	Node	120.14023
rms res. 1".85	(M-P)	1902-1986		e 0.2385883	Incl.	9.91934
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(544) Jetta		Obs.	58	M 211.35373	Peri.	341.49718
H 10.18	G 0.15	Opp.	19	n 0.23633174	Node	297.86171
rms res. 1".71	(M-P)	1906-1983		e 0.1541591	Incl.	8.35495
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(548) Kressida		Obs.	81	M 207.03130	Peri.	319.72512
H 11.43	G 0.25	Opp.	28	n 0.28581810	Node	108.01700
rms res. 2".90	(M-P)	1904-1982		e 0.1849363	Incl.	3.87258
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(550) Senta		Obs.	79	M 220.75345	Peri.	44.86972
H 9.21	G 0.25	Opp.	31	n 0.23650590	Node	270.26198
rms res. 1".63	(M-P)	1900-1985		e 0.2191953	Incl.	10.09565
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(565) Marbachia		Obs.	56	M 106.34546	Peri.	289.91508
H 11.05	G 0.25	Opp.	19	n 0.25784001	Node	225.64899
rms res. 1".95	(M-P)	1905-1986		e 0.1279433	Incl.	10.97639
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(574) Reginhild		Obs.	32	M 273.07992	Peri.	76.29937
H 12.6	G 0.25	Opp.	15	n 0.29148680	Node	336.44451
rms res. 2".12	(M-P)	1905-1986		e 0.2393902	Incl.	5.68245
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(580) Selene		Obs.	55	M 198.49421	Peri.	320.09836
H 9.83	G 0.15	Opp.	21	n 0.16946507	Node	98.98500
rms res. 1".50	(M-P)	1905-1985		e 0.0830676	Incl.	3.64549
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(581) Tauntonia		Obs.	37	M 149.31970	Peri.	27.45114
H 9.57	G 0.15	Opp.	15	n 0.17079987	Node	102.32730
rms res. 1".56	(M-P)	1906-1987		e 0.0203211	Incl.	21.82961
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(584) Semiramis		Obs.	94	M 45.33402	Peri.	84.71156
H 8.74	G 0.34	Opp.	24	n 0.26939586	Node	281.83995
rms res. 1".51	(M-P)	1906-1984		e 0.2341590	Incl.	10.71071

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(585) Bilkis		Obs.	107	M	32.97023	Peri. 327.59522
H 10.34	G 0.15	Opp.	23	n	0.26026629	Node 179.77049
rms res. 1".33	(M-P)	1906-1987		e	0.1308886	Incl. 7.56336
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(587) Hypsipyle		Obs.	31	M	148.20251	Peri. 188.53500
H 12.4	G 0.25	Opp.	9	n	0.27609117	Node 324.09605
rms res. 1".98	(M-P)	1906-1981		e	0.1662589	Incl. 24.97090
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Fileenko
(588) Achilles		Obs.	87	M	58.41026	Peri. 132.01444
H 8.59	G 0.15	Opp.	24	n	0.08372185	Node 315.87719
rms res. 1".91	(M-P)	1906-1987		e	0.1492441	Incl. 10.33161
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(591) Irmgard		Obs.	39	M	0.90511	Peri. 217.93694
H 10.74	G 0.15	Opp.	19	n	0.22474662	Node 333.89618
rms res. 1".98	(M-P)	1906-1986		e	0.2070355	Incl. 12.47216
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(595) Polyxena		Obs.	72	M	131.26833	Peri. 262.27515
H 8.09	G 0.15	Opp.	24	n	0.17146089	Node 24.31443
rms res. 1".61	(M-P)	1906-1986		e	0.0529460	Incl. 17.90870
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(608) Adolfine		Obs.	41	M	287.21927	Peri. 67.99039
H 10.69	G 0.25	Opp.	14	n	0.18720366	Node 293.93914
rms res. 1".47	(M-P)	1911-1983		e	0.1183436	Incl. 9.38349
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(611) Valeria		Obs.	34	M	355.80960	Peri. 254.71008
H 9.36	G 0.25	Opp.	17	n	0.19171628	Node 189.38919
rms res. 2".87	(M-P)	1901-1987		e	0.1254233	Incl. 13.44236
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(615) Roswitha		Obs.	146	M	276.05789	Peri. 245.55301
H 10.37	G 0.15	Opp.	28	n	0.23112694	Node 13.38319
rms res. 1".34	(M-P)	1902-1987		e	0.1123636	Incl. 2.76618
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(620) Drakonia		Obs.	53	M	349.09499	Peri. 334.75092
H 11.37	G 0.40	Opp.	15	n	0.25928118	Node 359.73976
rms res. 1".24	(M-P)	1931-1984		e	0.1333466	Incl. 7.71359
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(631) Philippina		Obs.	63	M	307.99449	Peri. 277.12100
H 8.77	G 0.25	Opp.	19	n	0.21107196	Node 224.42902
rms res. 1".30	(M-P)	1907-1982		e	0.0839327	Incl. 18.93288
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(644) Cosima		Obs.	69	M	213.94040	Peri. 267.69473
H 10.91	G 0.25	Opp.	21	n	0.23517992	Node 109.47410
rms res. 1".52	(M-P)	1915-1985		e	0.1559330	Incl. 1.04299
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5						Sumzina
(647) Adelgunde		Obs.	35	M	122.92478	Peri. 175.65372
H 11.49	G 0.25	Opp.	14	n	0.25832753	Node 254.41569
rms res. 2".19	(M-P)	1907-1987		e	0.1931357	Incl. 7.31342

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(655) Briseis		Obs.	54	M 294.76083	Peri.	282.38936
H 10.16	G 0.15	Opp.	26	n 0.19072661	Node	129.73696
rms res. 2".04	(M-P)	1909-1988		e 0.0852910	Incl.	6.50622
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(667) Denise		Obs.	46	M 301.10344	Peri.	308.30879
H 9.12	G 0.15	Opp.	16	n 0.17364302	Node	152.75696
rms res. 2".10	(M-P)	1908-1988		e 0.1922145	Incl.	25.38738
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(672) Astarte		Obs.	30	M 354.97017	Peri.	309.54583
H 11.41	G 0.15	Opp.	14	n 0.24117862	Node	343.41511
rms res. 2".34	(M-P)	1907-1982		e 0.1359371	Incl.	11.14006
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(679) Pax		Obs.	70	M 231.97056	Peri.	265.74549
H 9.01	G 0.15	Opp.	19	n 0.23690216	Node	112.16266
rms res. 1".27	(M-P)	1909-1986		e 0.3114108	Incl.	24.39006
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(685) Hermia		Obs.	66	M 356.26912	Peri.	79.75095
H 11.78	G 0.25	Opp.	11	n 0.29479077	Node	234.93633
rms res. 1".20	(M-P)	1936-1985		e 0.1963621	Incl.	3.64903
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(692) Hippodamia		Obs.	52	M 28.94147	Peri.	56.71847
H 9.08	G 0.25	Opp.	22	n 0.15931132	Node	63.03750
rms res. 1".65	(M-P)	1901-1984		e 0.1780689	Incl.	26.13308
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(695) Bella		Obs.	85	M 318.12088	Peri.	78.12260
H 9.03	G 0.25	Opp.	24	n 0.24357503	Node	275.45941
rms res. 1".39	(M-P)	1913-1987		e 0.1591938	Incl.	13.88721
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(714) Ulula		Obs.	74	M 257.41424	Peri.	229.96758
H 9.09	G 0.25	Opp.	25	n 0.24426681	Node	233.65328
rms res. 1".36	(M-P)	1911-1988		e 0.0570378	Incl.	14.28578
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(722) Frieda		Obs.	39	M 199.25519	Peri.	256.90518
H 12.17	G 0.25	Opp.	23	n 0.30798486	Node	45.29713
rms res. 2".89	(M-P)	1910-1985		e 0.1452281	Incl.	5.63742
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(726) Joella		Obs.	68	M 15.02871	Peri.	111.57073
H 10.78	G 0.15	Opp.	14	n 0.23962455	Node	242.19482
rms res. 1".23	(M-P)	1935-1984		e 0.2809354	Incl.	15.41347
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(729) Watsonia		Obs.	49	M 277.90265	Peri.	86.89315
H 9.36	G 0.25	Opp.	16	n 0.21483403	Node	124.08157
rms res. 1".82	(M-P)	1917-1982		e 0.0944364	Incl.	18.05908
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(740) Cantabria		Obs.	57	M 115.93943	Peri.	51.72142
H 9.02	G 0.15	Opp.	26	n 0.18496016	Node	115.72954
rms res. 2".73	(M-P)	1913-1988		e 0.1135594	Incl.	10.84283

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(748) Simeisa		Obs. 152	M 348.18758		Peri.	182.33775
H 8.99 G 0.15		Opp. 32	n 0.12571877		Node	265.27254
rms res. 1".68 (M-P)		1920-1988	e 0.1881761		Incl.	2.26084
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(755) Quintilla		Obs. 130	M 140.39222		Peri.	43.58984
H 9.84 G 0.25		Opp. 24	n 0.17516542		Node	176.87999
rms res. 1".11 (M-P)		1921-1988	e 0.1547038		Incl.	3.23545
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(760) Massinga		Obs. 114	M 14.17989		Peri.	198.94066
H 8.23 G 0.25		Opp. 23	n 0.17409387		Node	331.58904
rms res. 1".38 (M-P)		1914-1984	e 0.2137062		Incl.	12.43853
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(763) Cupido		Obs. 26	M 228.93177		Peri.	88.33223
H 12.39 G 0.25		Opp. 14	n 0.29381923		Node	289.47719
rms res. 2".29 (M-P)		1913-1987	e 0.1657375		Incl.	4.08376
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(777) Gutemberga		Obs. 29	M 349.92134		Peri.	251.00164
H 10.02 G 0.15		Opp. 17	n 0.16980869		Node	284.04718
rms res. 1".95 (M-P)		1914-1989	e 0.0963067		Incl.	13.06171
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(778) Theobalda		Obs. 57	M 143.99644		Peri.	127.12111
H 9.58 G 0.01		Opp. 19	n 0.17132997		Node	323.15503
rms res. 2".08 (M-P)		1923-1988	e 0.2421357		Incl.	13.40559
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(797) Montana		Obs. 98	M 359.46340		Peri.	352.38486
H 10.45 G 0.25		Opp. 27	n 0.24410845		Node	237.97761
rms res. 1".36 (M-P)		1924-1986	e 0.0590798		Incl.	4.48833
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(805) Hormuthia		Obs. 48	M 236.28725		Peri.	135.07652
H 9.72 G 0.15		Opp. 19	n 0.17275233		Node	165.93174
rms res. 1".82 (M-P)		1911-1987	e 0.1858129		Incl.	15.71067
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(807) Ceraskia		Obs. 33	M 140.82684		Peri.	341.98723
H 10.62 G 0.30		Opp. 16	n 0.18780445		Node	131.96282
rms res. 2".53 (M-P)		1909-1988	e 0.0601114		Incl.	11.30763
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(811) Nauheima		Obs. 109	M 38.25811		Peri.	177.10102
H 10.82 G 0.25		Opp. 20	n 0.19996944		Node	130.60103
rms res. 1".37 (M-P)		1915-1987	e 0.0718281		Incl.	3.13706
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(819) Barnardiana		Obs. 71	M 99.23426		Peri.	305.38272
H 12.09 G 0.25		Opp. 23	n 0.30258642		Node	332.79424
rms res. 1".74 (M-P)		1904-1988	e 0.1416847		Incl.	4.89220
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Sumzina	
(825) Tanina		Obs. 87	M 29.01446		Peri.	111.47582
H 11.79 G 0.25		Opp. 30	n 0.29675551		Node	100.98352
rms res. 1".56 (M-P)		1916-1987	e 0.0748198		Incl.	3.40229

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (827) Wolfiana	Obs. 71	M 94.77641	Sumzina
H 12.98 G 0.25	Opp. 13	n 0.28729356	Peri. 195.10638
rms res. 1".30 (M-P) 1933-1988		e 0.1570116	Node 172.43749
			Incl. 3.42266
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (836) Jole	Obs. 49	M 175.10924	Sumzina
H 13.2 G 0.25	Opp. 8	n 0.30417539	Peri. 179.19292
rms res. 1".91 (M-P) 1903-1984		e 0.1764562	Node 199.33885
			Incl. 4.84290
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (856) Backlunda	Obs. 39	M 112.46272	Sumzina
H 10.62 G 0.25	Opp. 17	n 0.25924445	Peri. 74.16983
rms res. 2".19 (M-P) 1934-1988		e 0.1178267	Node 125.01870
			Incl. 14.31873
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (857) Glasenappia	Obs. 79	M 133.38941	Sumzina
H 11.38 G 0.25	Opp. 24	n 0.30389278	Peri. 238.76539
rms res. 1".83 (M-P) 1920-1985		e 0.0883129	Node 82.50891
			Incl. 5.30180
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (863) Benkoela	Obs. 42	M 163.41450	Sumzina
H 9.13 G 0.40	Opp. 17	n 0.17260756	Peri. 97.90216
rms res. 1".76 (M-P) 1917-1982		e 0.0457537	Node 116.57704
			Incl. 25.45337
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (874) Rotraut	Obs. 58	M 356.30429	Sumzina
H 9.77 G 0.15	Opp. 17	n 0.17569238	Peri. 14.90658
rms res. 1".45 (M-P) 1917-1986		e 0.0683781	Node 190.52527
			Incl. 11.14048
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (880) Herba	Obs. 21	M 287.07893	Sumzina
H 11.45 G 0.15	Opp. 4	n 0.18923102	Peri. 99.20731
rms res. 0".86 (M-P) 1917-1985		e 0.3205620	Node 263.15997
			Incl. 15.08314
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (883) Matteredania	Obs. 85	M 207.46085	Sumzina
H 12.86 G 0.25	Opp. 17	n 0.29449922	Peri. 41.79338
rms res. 1".26 (M-P) 1917-1986		e 0.1994867	Node 285.14896
			Incl. 4.72033
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (888) Parysatis	Obs. 47	M 60.27933	Sumzina
H 9.52 G 0.25	Opp. 18	n 0.22120641	Peri. 296.82927
rms res. 2".59 (M-P) 1906-1985		e 0.1959521	Node 123.77026
			Incl. 13.83817
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (891) Gunhild	Obs. 42	M 109.95917	Sumzina
H 10.23 G 0.15	Opp. 18	n 0.20386525	Peri. 293.04986
rms res. 2".15 (M-P) 1918-1984		e 0.0300263	Node 105.52157
			Incl. 13.54750
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (914) Palisana	Obs. 69	M 86.44730	Sumzina
H 8.82 G 0.15	Opp. 22	n 0.25584758	Peri. 47.72787
rms res. 1".29 (M-P) 1931-1985		e 0.2112365	Node 255.38080
			Incl. 25.29202
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1012) Sarema	Obs. 53	M 303.38635	Fileenko
H 12.33 G 0.15	Opp. 12	n 0.25229366	Peri. 23.67959
rms res. 1".73 (M-P) 1907-1981		e 0.1334809	Node 72.76212
			Incl. 4.04330

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1027) Aesculapia	Obs. 70	M 155.27757	Filenko
H 10.7 G 0.25	Opp. 22	n 0.17608097	Peri. 136.56652
rms res. 1".94 (M-P)	1908-1987	e 0.1310882	Node 28.97341
			Incl. 1.25372
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1031) Arctica	Obs. 38	M 191.13437	Filenko
H 9.56 G 0.15	Opp. 14	n 0.18555572	Peri. 305.47495
rms res. 2".27 (M-P)	1913-1988	e 0.0661706	Node 218.69548
			Incl. 17.60943
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1040) Klumpkea	Obs. 42	M 293.76529	Filenko
H 10.01 G 0.15	Opp. 10	n 0.17945180	Peri. 160.51080
rms res. 1".60 (M-P)	1925-1983	e 0.1910667	Node 279.71793
			Incl. 16.68933
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1044) Teutonia	Obs. 85	M 237.61674	Filenko
H 10.87 G 0.15	Opp. 24	n 0.23849857	Peri. 226.55683
rms res. 1".70 (M-P)	1924-1987	e 0.1421828	Node 59.59752
			Incl. 4.26591
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1045) Michela	Obs. 66	M 310.86496	Filenko
H 13.09 G 0.25	Opp. 10	n 0.27210058	Peri. 166.34914
rms res. 1".52 (M-P)	1953-1987	e 0.1581872	Node 267.40419
			Incl. 0.26002
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1061) Paeonia	Obs. 69	M 206.29118	Filenko
H 12.07 G 0.15	Opp. 14	n 0.17852931	Peri. 299.96899
rms res. 1".93 (M-P)	1925-1988	e 0.2182620	Node 91.25495
			Incl. 2.49252
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1066) Lobelia	Obs. 88	M 327.20364	Filenko
H 12.34 G 0.25	Opp. 15	n 0.26455307	Peri. 16.72768
rms res. 1".36 (M-P)	1926-1988	e 0.2072906	Node 344.78807
			Incl. 4.81170
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1073) Gellivara	Obs. 58	M 268.36758	Filenko
H 11.46 G 0.15	Opp. 15	n 0.17490649	Peri. 290.03945
rms res. 1".45 (M-P)	1923-1985	e 0.2045439	Node 39.11355
			Incl. 1.61528
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1080) Orchis	Obs. 55	M 127.32233	Filenko
H 12.32 G 0.15	Opp. 12	n 0.26186769	Peri. 56.92594
rms res. 1".93 (M-P)	1906-1981	e 0.2563445	Node 1.58375
			Incl. 4.59216
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1088) Mitaka	Obs. 46	M 3.72358	Filenko
H 11.45 G 0.25	Opp. 21	n 0.30173604	Peri. 319.08990
rms res. 2".58 (M-P)	1932-1988	e 0.1954777	Node 54.08923
			Incl. 7.65108
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1089) Tama	Obs. 64	M 271.28761	Filenko
H 11.78 G 0.25	Opp. 25	n 0.29918332	Peri. 353.98276
rms res. 1".82 (M-P)	1904-1988	e 0.1271438	Node 71.06111
			Incl. 3.72926
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1121) Natascha	Obs. 58	M 331.50464	Filenko
H 11.4 G 0.25	Opp. 16	n 0.24262735	Peri. 50.50135
rms res. 1".89 (M-P)	1930-1987	e 0.1587982	Node 357.58291
			Incl. 6.14649

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1125) China		Obs.	52	M 198.26679	Peri.	12.18193
H 12.01	G 0.15	Opp.	12	n 0.17736038	Node	96.80036
rms res. 1".92	(M-P)	1909-1987		e 0.2105710	Incl.	3.04009
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1128) Astrid		Obs.	78	M 245.57001	Peri.	236.77880
H 10.79	G 0.15	Opp.	27	n 0.21194119	Node	59.05269
rms res. 1".66	(M-P)	1920-1987		e 0.0467006	Incl.	1.01688
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1142) Aetolia		Obs.	90	M 116.96387	Peri.	96.26332
H 10.48	G 0.15	Opp.	27	n 0.17436585	Node	139.03428
rms res. 1".48	(M-P)	1902-1987		e 0.0986351	Incl.	2.10131
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1159) Granada		Obs.	56	M 175.98806	Peri.	313.81233
H 11.54	G 0.25	Opp.	20	n 0.26843985	Node	347.40501
rms res. 1".92	(M-P)	1929-1984		e 0.0580286	Incl.	13.04520
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1169) Alwine		Obs.	24	M 188.96266	Peri.	176.44074
H 13.2	G 0.25	Opp.	9	n 0.27913980	Node	254.65872
rms res. 1".99	(M-P)	1930-1987		e 0.1545760	Incl.	4.05141
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1188) Gothlandia		Obs.	81	M 74.45320	Peri.	6.57794
H 12.11	G 0.25	Opp.	17	n 0.30392654	Node	5.00921
rms res. 1".58	(M-P)	1930-1985		e 0.1805769	Incl.	4.81886
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1213) Algeria		Obs.	31	M 196.30024	Peri.	104.90712
H 11.0	G 0.25	Opp.	9	n 0.17801839	Node	271.50501
rms res. 0".91	(M-P)	1931-1981		e 0.1404274	Incl.	13.05397
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1222) Tina		Obs.	31	M 82.70424	Peri.	57.82466
H 12.1	G 0.25	Opp.	10	n 0.21118386	Node	245.90008
rms res. 2".05	(M-P)	1932-1988		e 0.2475892	Incl.	19.71282
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1230) Riceia		Obs.	16	M 12.74908	Peri.	185.01163
H 13.5	G 0.25	Opp.	6	n 0.23884477	Node	200.35345
rms res. 1".82	(M-P)	1931-1982		e 0.1776116	Incl.	10.48481
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1235) Schorria		Obs.	51	M 322.21772	Peri.	43.53853
H 12.96	G 0.15	Opp.	12	n 0.37333145	Node	12.42826
rms res. 1".79	(M-P)	1931-1988		e 0.1542851	Incl.	25.00209
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1245) Calvinia		Obs.	147	M 135.53394	Peri.	206.95142
H 10.05	G 0.49	Opp.	28	n 0.20046437	Node	151.44857
rms res. 1".73	(M-P)	1914-1987		e 0.0825652	Incl.	2.88846
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko	
(1264) Letaba		Obs.	72	M 198.09929	Peri.	30.30718
H 9.7	G 0.25	Opp.	13	n 0.20314489	Node	234.76803
rms res. 1".36	(M-P)	1933-1983		e 0.1555989	Incl.	25.02587

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1265) Schweikarda	Obs. 43	M 252.39801	Filenko
H 10.80 G 0.25	Opp. 16	n 0.18723540	Peri. 115.90111
rms res. 1".78 (M-P) 1911-1985		e 0.0706909	Node 314.13266
			Incl. 9.52258
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1276) Ucclia	Obs. 50	M 47.95766	Filenko
H 10.7 G 0.25	Opp. 14	n 0.17506750	Peri. 331.92466
rms res. 2".22 (M-P) 1933-1984		e 0.1092261	Node 114.24456
			Incl. 23.39995
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1287) Lorcica	Obs. 64	M 144.92407	Filenko
H 11.06 G 0.25	Opp. 17	n 0.18844547	Peri. 272.92638
rms res. 1".75 (M-P) 1933-1988		e 0.0585047	Node 202.21816
			Incl. 9.82430
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1299) Mertona	Obs. 73	M 345.39284	Filenko
H 11.91 G 0.15	Opp. 18	n 0.21021318	Peri. 260.59482
rms res. 1".36 (M-P) 1934-1986		e 0.1887580	Node 165.32104
			Incl. 7.87622
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1306) Scythia	Obs. 39	M 146.11479	Filenko
H 9.62 G 0.25	Opp. 19	n 0.17719345	Peri. 132.73994
rms res. 1".84 (M-P) 1930-1987		e 0.1067078	Node 274.06939
			Incl. 14.94901
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1307) Cimmeria	Obs. 58	M 118.71497	Filenko
H 12.33 G 0.25	Opp. 21	n 0.29197534	Peri. 206.62351
rms res. 1".96 (M-P) 1930-1987		e 0.0968127	Node 233.43336
			Incl. 3.94826
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1318) Nerina	Obs. 39	M 303.09531	Filenko
H 12.0 G 0.25	Opp. 6	n 0.28102755	Peri. 195.58528
rms res. 1".78 (M-P) 1934-1983		e 0.2022227	Node 357.82359
			Incl. 24.64971
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1351) Uzbekistania	Obs. 49	M 194.38657	Filenko
H 10.05 G 0.15	Opp. 19	n 0.17230104	Peri. 45.89604
rms res. 1".43 (M-P) 1917-1983		e 0.0636698	Node 9.61887
			Incl. 9.72330
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1361) Leuschneria	Obs. 74	M 3.64424	Filenko
H 11.40 G 0.15	Opp. 12	n 0.18184823	Peri. 168.51056
rms res. 1".05 (M-P) 1935-1987		e 0.1234906	Node 164.59243
			Incl. 21.53470
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1365) Henyey	Obs. 80	M 138.37736	Filenko
H 12.23 G 0.25	Opp. 21	n 0.29239628	Peri. 336.51998
rms res. 1".85 (M-P) 1928-1985		e 0.1236046	Node 258.11948
			Incl. 5.07552
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1367) Nongoma	Obs. 34	M 152.67814	Filenko
H 13.1 G 0.25	Opp. 11	n 0.27455191	Peri. 347.01016
rms res. 2".18 (M-P) 1934-1987		e 0.1305758	Node 270.39529
			Incl. 22.46674
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1382) Gerti	Obs. 60	M 99.77019	Filenko
H 12.26 G 0.25	Opp. 23	n 0.29809842	Peri. 246.10678
rms res. 2".42 (M-P) 1925-1988		e 0.1325331	Node 352.73271
			Incl. 1.56104

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1397) Umtata	Obs. 53	M 48.55669	Filenko
H 11.49 G 0.15	Opp. 16	n 0.22428175	Peri. 205.60447
rms res. 1".66 (M-P) 1936-1988		e 0.2524928	Node 77.18584
			Incl. 3.51616
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1398) Donnera	Obs. 52	M 145.20185	Filenko
H 10.31 G 0.25	Opp. 15	n 0.17623519	Peri. 75.61162
rms res. 1".77 (M-P) 1936-1981		e 0.1153988	Node 296.69230
			Incl. 11.85132
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1411) Brauna	Obs. 35	M 161.87329	Filenko
H 10.88 G 0.15	Opp. 11	n 0.18957579	Peri. 87.63514
rms res. 2".35 (M-P) 1937-1986		e 0.0603466	Node 284.46897
			Incl. 8.04657
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1412) Lagrula	Obs. 78	M 35.69670	Filenko
H 12.5 G 0.25	Opp. 18	n 0.29904767	Peri. 13.47982
rms res. 1".66 (M-P) 1929-1987		e 0.1128220	Node 65.68926
			Incl. 4.71761
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1417) Walinskia	Obs. 56	M 43.89465	Filenko
H 11.19 G 0.15	Opp. 14	n 0.19225295	Peri. 161.77684
rms res. 1".85 (M-P) 1937-1988		e 0.0773802	Node 95.96618
			Incl. 8.27262
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1424) Sundmania	Obs. 74	M 224.60686	Filenko
H 9.48 G 0.15	Opp. 22	n 0.17355891	Peri. 305.37323
rms res. 1".92 (M-P) 1918-1984		e 0.0744919	Node 42.79477
			Incl. 9.21815
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1433) Geramtina	Obs. 34	M 29.32229	Filenko
H 11.7 G 0.25	Opp. 9	n 0.21071971	Peri. 94.18762
rms res. 3".69 (M-P) 1937-1983		e 0.1727203	Node 321.28155
			Incl. 8.24026
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1461) Jean-Jacques	Obs. 86	M 180.02321	Filenko
H 10.07 G 0.25	Opp. 28	n 0.17803162	Peri. 321.39008
rms res. 1".93 (M-P) 1935-1986		e 0.0397657	Node 104.58387
			Incl. 15.28425
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1471) Tornio	Obs. 58	M 104.19355	Filenko
H 11.3 G 0.25	Opp. 18	n 0.22026827	Peri. 92.33710
rms res. 1".96 (M-P) 1931-1989		e 0.1193694	Node 321.71010
			Incl. 13.60785
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1473) Ounas	Obs. 40	M 154.64441	Filenko
H 12.4 G 0.25	Opp. 11	n 0.23866657	Peri. 129.38680
rms res. 1".69 (M-P) 1938-1981		e 0.2365017	Node 216.19582
			Incl. 13.67370
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1474) Beira	Obs. 17	M 316.21178	Filenko
H 12.61 G 0.15	Opp. 6	n 0.21773813	Peri. 83.65334
rms res. 1".43 (M-P) 1935-1980		e 0.4881466	Node 323.41289
			Incl. 26.71223
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1489) Attila	Obs. 44	M 344.14927	Filenko
H 11.47 G 0.15	Opp. 12	n 0.17158938	Peri. 12.28100
rms res. 1".81 (M-P) 1939-1984		e 0.1353177	Node 154.66544
			Incl. 2.41068

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1503) Kuopio	Obs. 65	M 314.88889	Filenko
H 10.64 G 0.15	Opp. 15	n 0.23136980	Peri. 175.80052
rms res. 1".34 (M-P) 1935-1986		e 0.1027341	Node 316.53401
			Incl. 12.35127
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1512) Oulu	Obs. 90	M 126.94309	Filenko
H 9.59 G 0.15	Opp. 21	n 0.12638303	Peri. 243.23980
rms res. 1".63 (M-P) 1939-1988		e 0.1569074	Node 9.88726
			Incl. 6.51926
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1520) Imatra	Obs. 63	M 141.76425	Filenko
H 10.37 G 0.15	Opp. 13	n 0.18042549	Peri. 118.40507
rms res. 1".63 (M-P) 1938-1986		e 0.1082904	Node 253.10378
			Incl. 15.28468
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1521) Seinajoki	Obs. 30	M 194.91912	Filenko
H 12.1 G 0.25	Opp. 8	n 0.20467210	Peri. 47.95807
rms res. 1".28 (M-P) 1938-1986		e 0.1365737	Node 12.24061
			Incl. 15.06447
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1538) Detre	Obs. 20	M 178.05111	Filenko
H 14.4 G 0.25	Opp. 3	n 0.27161226	Peri. 12.90996
rms res. 1".35 (M-P) 1940-1984		e 0.2184819	Node 342.78723
			Incl. 9.44923
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1546) Izsak	Obs. 40	M 111.28092	Filenko
H 10.6 G 0.25	Opp. 12	n 0.17381980	Peri. 272.64943
rms res. 1".71 (M-P) 1935-1986		e 0.1158818	Node 190.82985
			Incl. 16.14974
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1548) Palomaa	Obs. 58	M 240.98623	Filenko
H 11.7 G 0.25	Opp. 15	n 0.21144068	Peri. 86.40593
rms res. 1".61 (M-P) 1935-1984		e 0.0799963	Node 116.61889
			Incl. 16.52551
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1549) Mikko	Obs. 44	M 357.61804	Filenko
H 12.5 G 0.25	Opp. 17	n 0.29570876	Peri. 6.10366
rms res. 1".50 (M-P) 1937-1987		e 0.0842819	Node 84.86318
			Incl. 5.54823
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1555) Dejan	Obs. 63	M 313.78364	Filenko
H 11.55 G 0.15	Opp. 15	n 0.22327537	Peri. 46.41864
rms res. 1".34 (M-P) 1932-1987		e 0.2753511	Node 318.12015
			Incl. 6.04721
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1559) Kustaanheimo	Obs. 64	M 281.12890	Filenko
H 12.0 G 0.25	Opp. 18	n 0.26660308	Peri. 214.76255
rms res. 2".28 (M-P) 1935-1988		e 0.1354819	Node 327.72648
			Incl. 3.20075
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1568) Aisleen	Obs. 80	M 314.75566	Filenko
H 12.0 G 0.25	Opp. 13	n 0.27313874	Peri. 228.65329
rms res. 1".14 (M-P) 1946-1984		e 0.2535271	Node 145.77932
			Incl. 24.88457
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1570) Brunonia	Obs. 78	M 166.27963	Filenko
H 12.07 G 0.25	Opp. 18	n 0.20550962	Peri. 223.54446
rms res. 1".53 (M-P) 1948-1987		e 0.0563964	Node 189.72216
			Incl. 1.66147

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1573) Vaisala	Obs. 50	M 350.90026	Filenko
H 12.6 G 0.25	Opp. 11	n 0.27010483	Peri. 173.43240
rms res. 1".52 (M-P) 1949-1985		e 0.2319297	Node 201.92273
			Incl. 24.57229
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1578) Kirkwood	Obs. 75	M 341.69542	Filenko
H 10.33 G 0.15	Opp. 19	n 0.12604866	Peri. 4.52365
rms res. 1".83 (M-P) 1944-1988		e 0.2327974	Node 73.68921
			Incl. 0.81340
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1579) Herrick	Obs. 80	M 97.13791	Filenko
H 10.69 G 0.15	Opp. 21	n 0.15647166	Peri. 281.75695
rms res. 1".76 (M-P) 1931-1986		e 0.1487204	Node 184.26370
			Incl. 8.75700
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1582) Martir	Obs. 46	M 30.22654	Filenko
H 10.93 G 0.15	Opp. 12	n 0.17582883	Peri. 132.54535
rms res. 1".40 (M-P) 1950-1983		e 0.1286207	Node 93.56269
			Incl. 11.60212
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1583) Antilochus	Obs. 97	M 86.95900	Filenko
H 8.66 G 0.15	Opp. 20	n 0.08551331	Peri. 188.23085
rms res. 1".31 (M-P) 1950-1986		e 0.0521917	Node 220.65605
			Incl. 28.55654
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1584) Fuji	Obs. 128	M 35.44848	Filenko
H 10.81 G 0.25	Opp. 15	n 0.26929361	Peri. 187.72013
rms res. 1".56 (M-P) 1927-1982		e 0.1952662	Node 304.91757
			Incl. 26.67705
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1586) Thiele	Obs. 114	M 117.84602	Filenko
H 12.4 G 0.25	Opp. 16	n 0.25999270	Peri. 28.76088
rms res. 1".05 (M-P) 1939-1986		e 0.1020971	Node 125.36403
			Incl. 4.05832
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1587) Kahrstedt	Obs. 64	M 42.19876	Filenko
H 11.7 G 0.25	Opp. 14	n 0.24266382	Peri. 96.12485
rms res. 1".39 (M-P) 1933-1981		e 0.1511327	Node 357.42181
			Incl. 7.84197
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1589) Fanatica	Obs. 84	M 114.65291	Filenko
H 12.13 G 0.25	Opp. 22	n 0.26234954	Peri. 288.52759
rms res. 1".85 (M-P) 1924-1988		e 0.0935242	Node 90.02318
			Incl. 5.25789
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1621) Druzhba	Obs. 84	M 294.60283	Filenko
H 11.64 G 0.25	Opp. 19	n 0.29597204	Peri. 237.99196
rms res. 1".76 (M-P) 1926-1988		e 0.1187991	Node 181.44008
			Incl. 3.17328
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1622) Chacornac	Obs. 63	M 16.95641	Filenko
H 12.3 G 0.25	Opp. 17	n 0.29511158	Peri. 256.01678
rms res. 2".28 (M-P) 1932-1980		e 0.1640644	Node 3.98986
			Incl. 6.45857
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1642) Hill	Obs. 53	M 351.12293	Filenko
H 11.2 G 0.25	Opp. 15	n 0.21584935	Peri. 146.69288
rms res. 1".71 (M-P) 1940-1982		e 0.0665465	Node 338.87290
			Incl. 10.80760

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1668) Hanna	Obs. 61	M 320.92701	Filenko Peri. 188.72092
H 12.4 G 0.25	Opp. 16	n 0.20950442	Node 160.65548
rms res. 1".47 (M-P) 1933-1988		e 0.2143337	Incl. 4.72938
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1704) Wachmann	Obs. 64	M 274.38922	Filenko Peri. 279.92925
H 12.7 G 0.25	Opp. 13	n 0.29726394	Node 259.04788
rms res. 1".92 (M-P) 1924-1987		e 0.0872960	Incl. 0.96887
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1710) Gothard	Obs. 10	M 243.82305	Filenko Peri. 335.30014
H 13.4 G 0.25	Opp. 5	n 0.27875069	Node 356.22749
rms res. 2".73 (M-P) 1955-1986		e 0.2685122	Incl. 8.45920
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1718) Namibia	Obs. 60	M 345.02773	Filenko Peri. 132.82715
H 13.6 G 0.25	Opp. 10	n 0.27078305	Node 202.65395
rms res. 1".22 (M-P) 1942-1985		e 0.2756727	Incl. 7.68981
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1740) Paavo Nurmi	Obs. 16	M 329.17479	Filenko Peri. 78.82195
H 13.25 G 0.15	Opp. 7	n 0.25432250	Node 295.57086
rms res. 3".46 (M-P) 1939-1982		e 0.1884970	Incl. 2.00189
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1750) Eckert	Obs. 25	M 186.46535	Filenko Peri. 108.67247
H 13.52 G 0.25	Opp. 7	n 0.36864600	Node 273.26058
rms res. 1".88 (M-P) 1950-1985		e 0.1728596	Incl. 19.08389
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1754) Cunningham	Obs. 54	M 237.74268	Filenko Peri. 111.96854
H 9.74 G 0.15	Opp. 16	n 0.12545244	Node 162.65921
rms res. 1".85 (M-P) 1935-1986		e 0.1667706	Incl. 12.11662
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1758) Naantali	Obs. 33	M 336.00851	Filenko Peri. 122.15372
H 10.7 G 0.25	Opp. 11	n 0.18915220	Node 113.36864
rms res. 1".71 (M-P) 1942-1984		e 0.0366081	Incl. 10.82092
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1776) Kuiper	Obs. 54	M 31.24969	Filenko Peri. 273.93577
H 11.0 G 0.25	Opp. 12	n 0.18018412	Node 176.48312
rms res. 1".48 (M-P) 1930-1982		e 0.0239377	Incl. 9.45955
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1780) Kippes	Obs. 33	M 37.53346	Filenko Peri. 331.58190
H 10.69 G 0.25	Opp. 18	n 0.18821473	Node 291.01740
rms res. 2".71 (M-P) 1906-1982		e 0.0566051	Incl. 8.99295
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1789) Dobrovolsky	Obs. 61	M 23.68611	Filenko Peri. 214.13623
H 12.54 G 0.25	Opp. 12	n 0.29930947	Node 101.65733
rms res. 1".92 (M-P) 1953-1984		e 0.1878357	Incl. 1.97820
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (1818) Brahms	Obs. 16	M 277.02705	Filenko Peri. 73.90291
H 14.1 G 0.25	Opp. 6	n 0.30963596	Node 249.06816
rms res. 2".51 (M-P) 1939-1987		e 0.1785015	Incl. 2.97951

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1835) Gajdariya	Obs.	45	M	312.69065	Peri. 77.58191
H 11.6 G 0.25	Opp.	13	n	0.20663721	Node 296.65141
rms res. 1".54 (M-P)	1958-1988		e	0.0873956	Incl. 0.98966
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1859) Kovalevskaya	Obs.	52	M	82.95907	Peri. 250.48150
H 10.84 G 0.15	Opp.	13	n	0.17174612	Node 342.87720
rms res. 2".02 (M-P)	1915-1984		e	0.1081082	Incl. 7.72378
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1870) Glaukos	Obs.	25	M	81.20304	Peri. 131.34928
H 10.8 G 0.25	Opp.	7	n	0.08200842	Node 175.69897
rms res. 0".79 (M-P)	1971-1986		e	0.0321609	Incl. 6.57933
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1884) Skip	Obs.	24	M	166.23907	Peri. 110.14362
H 13.2 G 0.25	Opp.	6	n	0.26086278	Node 353.28516
rms res. 3".32 (M-P)	1943-1983		e	0.2643921	Incl. 21.75689
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1887) Virton	Obs.	144	M	172.00107	Peri. 28.41752
H 11.53 G 0.25	Opp.	8	n	0.18936415	Node 348.55957
rms res. 0".73 (M-P)	1950-1986		e	0.1157606	Incl. 9.63179
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1894) Haffner	Obs.	34	M	256.00405	Peri. 114.60061
H 12.3 G 0.25	Opp.	8	n	0.20084733	Node 257.89691
rms res. 1".21 (M-P)	1932-1984		e	0.0719020	Incl. 0.90555
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1896) Beer	Obs.	23	M	352.16426	Peri. 179.81037
H 13.7 G 0.25	Opp.	6	n	0.27045707	Node 181.74913
rms res. 1".97 (M-P)	1949-1982		e	0.2207871	Incl. 2.22141
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1908) Pobeda	Obs.	47	M	301.57603	Peri. 221.63687
H 11.2 G 0.25	Opp.	12	n	0.20063219	Node 14.19873
rms res. 1".93 (M-P)	1940-1985		e	0.0369190	Incl. 4.77577
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1912) Anubis	Obs.	53	M	282.30634	Peri. 316.99613
H 12.0 G 0.25	Opp.	11	n	0.19914124	Node 76.02003
rms res. 1".76 (M-P)	1943-1987		e	0.0917699	Incl. 3.16061
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1976) Kaverin	Obs.	61	M	104.07707	Peri. 120.00519
H 13.49 G 0.25	Opp.	12	n	0.26832965	Node 90.47821
rms res. 1".59 (M-P)	1959-1984		e	0.0762336	Incl. 2.37431
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1981) Midas	Obs.	44	M	329.10131	Peri. 267.68195
H 16.9 G 0.25	Opp.	5	n	0.41632283	Node 356.51585
rms res. 2".69 (M-P)	1973-1987		e	0.6501988	Incl. 39.83431
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5					Filenko
(1993) Guacolda	Obs.	20	M	349.03107	Peri. 146.94537
H 12.2 G 0.25	Opp.	6	n	0.18417323	Node 157.96006
rms res. 1".48 (M-P)	1968-1987		e	0.0665502	Incl. 11.46105

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2015) Kachuevskaya	Obs. 22	M 354.90091	Filenko
H 12.3 G 0.25	Opp. 8	n 0.27616188	Peri. 274.06039
rms res. 2".23 (M-P) 1958-1983		e 0.1052917	Node 344.10399
			Incl. 11.89957
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2018) Schuster	Obs. 20	M 13.23304	Filenko
H 14.5 G 0.25	Opp. 5	n 0.30552784	Peri. 157.25008
rms res. 2".10 (M-P) 1931-1982		e 0.1915606	Node 185.64322
			Incl. 2.55685
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2022) West	Obs. 49	M 323.03694	Filenko
H 12.14 G 0.15	Opp. 7	n 0.22142823	Peri. 37.60033
rms res. 1".28 (M-P) 1938-1987		e 0.1165643	Node 2.14731
			Incl. 5.66323
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2029) Binomi	Obs. 32	M 211.05886	Filenko
H 13.2 G 0.25	Opp. 8	n 0.27370490	Peri. 66.37048
rms res. 1".24 (M-P) 1969-1986		e 0.1283498	Node 277.65925
			Incl. 5.59542
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2030) Belyaev	Obs. 30	M 124.16452	Filenko
H 13.6 G 0.25	Opp. 9	n 0.29266099	Peri. 61.19827
rms res. 2".04 (M-P) 1969-1988		e 0.0941711	Node 169.37331
			Incl. 2.58210
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2037) Tripaxeptalis	Obs. 44	M 237.06526	Filenko
H 13.7 G 0.25	Opp. 6	n 0.28234183	Peri. 345.43189
rms res. 0".79 (M-P) 1973-1987		e 0.1319207	Node 9.10703
			Incl. 4.25115
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2054) Gawain	Obs. 42	M 141.76881	Filenko
H 12.5 G 0.25	Opp. 7	n 0.19298932	Peri. 186.59266
rms res. 1".97 (M-P) 1960-1986		e 0.0987137	Node 293.13145
			Incl. 3.78224
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2056) Nancy	Obs. 46	M 80.85496	Filenko
H 12.2 G 0.25	Opp. 12	n 0.29832116	Peri. 145.22344
rms res. 1".67 (M-P) 1909-1985		e 0.1391519	Node 225.31775
			Incl. 3.93117
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2117) Danmark	Obs. 104	M 34.26066	Filenko
H 11.7 G 0.25	Opp. 10	n 0.20276581	Peri. 262.13100
rms res. 1".26 (M-P) 1936-1987		e 0.0678050	Node 59.33225
			Incl. 2.93527
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2150) 1977 TA	Obs. 39	M 147.62405	Filenko
H 13.4 G 0.25	Opp. 6	n 0.37244690	Peri. 235.36952
rms res. 1".37 (M-P) 1969-1984		e 0.0571119	Node 200.49040
			Incl. 25.32209
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2214) Carol	Obs. 35	M 72.53122	Filenko
H 11.7 G 0.25	Opp. 6	n 0.17352142	Peri. 132.27543
rms res. 1".41 (M-P) 1953-1988		e 0.2504009	Node 188.98214
			Incl. 14.01061
Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (2298) Cindijon	Obs. 17	M 312.13129	Filenko
H 12.9 G 0.25	Opp. 6	n 0.26398278	Peri. 146.42961
rms res. 1".09 (M-P) 1915-1986		e 0.1709523	Node 198.22957
			Incl. 5.15279

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5
 (2339) 2509 P-L Obs. 27 M 89.66446 Filenko
 H 13.55 G 0.15 Opp. 8 n 0.24515320 Peri. 341.07611
 rms res. 2".51 (M-P) 1948-1986 e 0.1957402 Node 11.67005
 Incl. 4.84987

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5
 (2611) Boyce Obs. 26 M 245.31736 Filenko
 H 11.96 G 0.15 Opp. 9 n 0.18521579 Peri. 132.14055
 rms res. 1".38 (M-P) 1970-1988 e 0.0496736 Node 72.06203
 Incl. 3.32927

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5
 (2780) Monnig Obs. 25 M 191.46419 Filenko
 H 13.3 G 0.25 Opp. 4 n 0.30324657 Peri. 311.38144
 rms res. 1".17 (M-P) 1971-1988 e 0.1160148 Node 274.55058
 Incl. 5.46169

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5
 (3008) Nojiri Obs. 72 M 339.84466 Filenko
 H 11.88 G 0.15 Opp. 4 n 0.17497845 Peri. 302.58823
 rms res. 1".51 (M-P) 1938-1985 e 0.1459461 Node 168.35208
 Incl. 0.80026

(4109)* 1969 OW = 1976 QC2 = 1976 SW6 = 1983 TC2

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 Observatory.

Id. S. Nakano (MPC 11145)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5
 M 340.24720 (1950.0) P Nakano
 n 0.28916921 Peri. 116.36585 +0.38452029 Q
 a 2.2648252 Node 176.24684 -0.85605379 +0.35728697
 e 0.1604673 Incl. 1.51607 -0.34542156 +0.14214384
 P 3.41 H 13.3 G 0.25

Residuals in seconds of arc

690717	095	3.5+	2.2+	831006	046	0.8-	1.5-	831014	046	2.3+	3.3+
690808	095	3.1-	0.7+	831007	046	2.1-	2.6-	831015	046	0.7+	0.5-
690814	095	0.4-	2.2-	831007	046	0.6+	2.0-	831015	046	1.5+	2.8+
760828	675	0.8+	1.0-	831013	046	2.7-	0.3+	890402	801	1.1-	1.3+
760925	095	1.0-	0.4+	831013	046	0.9+	2.4+	890508	801	1.2+	0.7-
831006	046	0.4+	1.7-	831014	046	0.7-	0.5+				

(4110)* 1977 CZ = 1950 HN = 1967 JF = 1968 QO1 = 1969 VM1 = 1972 GC1
 = 1979 QM7 = 1979 SF3 = 1980 VR2 = 1982 BQ9 = 1984 MV
 = 1985 UZ6 = 1985 VL1 = 1989 LB

Discovered 1977 Feb. 13 by E. Bowell at Palomar.

Id. A. Lowe (k, MPC 12438), S. Nakano; 1977 CZ = 1979 QE6 is invalid
 (MPC 12438).

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5
 M 13.97148 (1950.0) P Nakano
 n 0.18143398 Peri. 68.36714 -0.13112326 Q
 a 3.0902264 Node 194.10713 -0.92252203 -0.12530876
 e 0.1294272 Incl. 2.09836 -0.36298731 -0.03963164
 P 5.43 H 11.7 G 0.25

Residuals in seconds of arc

500416	760	0.4+	0.9-	790820	095	0.2-	1.8+	851107	688	0.6+	0.6+
500416	760	2.6-	3.1+	790924	095	4.7-	1.3-	851112	095	1.8+	2.3+
670502	095	6.1+	0.6+	801113	330	2.1+	0.0	890603	675	0.2-	0.8-
680828	095	0.3-	0.2+	820119	095	0.2+	3.0-	890603	675	0.6+	1.7-
691113	095	2.7-	1.3+	820120	095	1.3-	1.1-	890605	675	2.1-	1.6-
720412	095	4.2+	6.0+	840629	095	0.3+	1.0+	890605	675	1.3-	0.4+
770213	675	1.7-	0.7+	851018	095	1.7+	4.3+				
770214	675	1.6-	0.8+	851107	688	0.1+	1.5-				

(4111)* 1981 EN12

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

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

				Green			
M		(1950.0)		P		Q	
n	0.28283873	Peri.	333.53469	-0.75078631		+0.65913774	
a	2.2984945	Node	247.76796	-0.59745388		-0.70545589	
e	0.1286532	Incl.	2.66856	-0.28172465		-0.26051761	
P	3.48	H	15.0	G	0.25		

Residuals in seconds of arc

780707	675	0.1-	0.0	810312	413	0.1+	0.4+	831230	675	2.0-	1.5-
780708	675	0.1+	0.3-	810312	413	1.1+	0.6-	840108	675	1.8+	0.3+
810212	413	0.8+	0.5+	810406	413	1.8-	0.1-	880320	809	2.5+	0.4+
810213	413	1.7-	2.5+	810406	413	1.5+	1.7-	880320	809	0.7+	0.1-
810214	413	0.7-	0.1+	810408	413	0.2-	0.4+	880325	809	2.3-	1.2+
810301	413	0.5-	0.5+	810408	413	2.4+	1.4-	880325	809	0.1+	0.2+
810301	413	1.0+	0.5-	810409	413	1.0-	0.3-	880326	809	0.3+	0.1-
810306	413	0.3-	0.9+	810409	413	0.4+	1.8-	880326	809	0.4-	0.8+
810308	413	1.4-	0.2-	810501	413	1.6-	0.3+				
810308	413	0.5+	0.8-	810503	413	(3.5-	2.2+)				

(4112)* 1981 ST = 1957 JA = 1968 HL1 = 1987 UV

Discovered 1981 Sept. 25 by M. Mahrova at Klet.

Id. E. Bowell (k, MPC 12706), D. W. E. Green (ibid.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

				Green			
M		(1950.0)		P		Q	
n	0.17936056	Peri.	180.85476	+0.99787152		+0.06114343	
a	3.1139962	Node	175.44991	-0.05800254		+0.99108413	
e	0.0509537	Incl.	16.60427	-0.02980154		+0.11837959	
P	5.50	H	11.3	G	0.25		

Residuals in seconds of arc

570502	760	0.1-	1.6-	811005	688	(9.3-	4.2-)	871020	688	1.0+	1.7+
570502	760	0.2-	0.9-	811005	688	0.5-	1.4-	871020	688	0.6+	2.0+
680422	095	0.6+	3.2+	811005	688	(4.4-	0.6-)	871119	688	1.2-	0.9+
810925	688	0.2+	2.4-	811005	688	0.0	2.1-	871119	688	0.1+	1.1+
810925	688	0.6+	1.9-	811006	046	0.7+	1.5+	890127	046	0.6+	1.7-
810925	046	0.2+	0.3-	811006	046	1.0-	0.2+	890127	046	0.7-	1.0-
810925	095	1.0+	1.7+	811007	046	1.1-	0.4-	890128	046	1.2-	0.7-
810925	046	0.4+	0.8-	811007	046	0.6+	0.8+	890128	046	0.2+	0.4+
810926	688	0.1-	2.0-	811022	095	1.2-	2.2+	890209	801	0.1+	0.4-
810926	688	0.1-	1.0-	811026	095	(9.3-	5.1+)	890309	801	0.4+	1.6-

(4113)* 1982 BQ = 1965 AD1 = 1986 JO

Discovered 1982 Jan. 18 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. C. M. Bardwell (MPC 10766)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

				Bardwell			
M		(1950.0)		P		Q	
n	0.28987420	Peri.	48.06972	-0.99440090		-0.06017080	
a	2.2611516	Node	128.29568	+0.02799436		-0.94268594	
e	0.0954028	Incl.	6.35491	+0.10189778		-0.32821135	
P	3.40	H	13.6	G	0.25		

Residuals in seconds of arc

650111	330	0.6+	1.5+	820121	046	1.0+	0.4+	860502	675	0.2+	0.2-
820118	688	0.6-	0.4-	820121	046	0.1+	0.1+	860502	675	0.2+	0.8-
820118	688	0.6+	0.4-	820125	046	1.4-	2.3-	860503	675	0.6+	1.4+
820119	095	(4.1+	1.3+)	820125	046	0.8-	1.9-	860604	801	1.5-	1.2-
820120	046	0.2-	0.2+	820127	046	0.4+	0.6-	860608	675	(6.9-	3.5+)
820120	046	0.8-	3.5+	820128	046	0.4+	0.1-	860608	675	(5.3-	1.0+)

870925	801	1.0+	1.7-	890306	046	0.7-	0.8-	890307	046	(3.5+	0.3-)
890305	046	0.1-	0.5-	890306	046	0.1-	0.3-	890409	801	0.5+	0.9+
890305	046	0.8+	0.6-	890307	046	(2.7+	0.2-)				

(4114)* 1982 QB1 = 1970 SH = 1978 SO2

Discovered 1982 Aug. 19 by Z. Vavrova at Klet.

Id. D. W. E. Green (MPC 13593)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	253.97387		(1950.0)			P		Green		Q
n	0.24361854	Peri.	43.36982	+0.99120314						-0.10706986
a	2.5389988	Node	322.56723	+0.05581049						+0.87114080
e	0.2021426	Incl.	7.35354	+0.12000636						+0.47921785
P	4.05	H	13.8	G	0.25					

Residuals in seconds of arc

700927	095	0.4-	0.8-	820819	046	(2.9-	3.0-)	820826	046	(0.7+	3.4+)
701001	095	0.2-	1.9+	820819	046	2.4-	0.1-	820912	095	1.8+	0.1+
780926	095	2.9+	1.5-	820822	046	1.0+	1.1-	860808	095	0.2+	0.1-
781002	095	1.7-	0.2-	820822	046	1.7-	1.6-	860831	095	0.3+	1.2-
820814	095	2.1+	0.9+	820823	095	0.9+	0.9+	860908	095	1.2-	2.6+
820816	095	1.0+	1.4+	820826	046	2.6-	0.9-				

(4115)* 1982 QS3 = 1972 TX6 = 1977 RK5 = 1983 XJ = 1987 PE

Discovered 1982 Aug. 29 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. A. Lowe (k, MPC 13675), D. W. E. Green (ibid.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	356.79861		(1950.0)			P		Green		Q
n	0.18940607	Peri.	281.57113	-0.60999005						-0.78895688
a	3.0028948	Node	206.45598	+0.77618555						-0.57612703
e	0.0352222	Incl.	9.54640	+0.15952472						-0.21359933
P	5.20	H	11.8	G	0.25					

Residuals in seconds of arc

721006	095	0.6-	2.4+	831206	688	2.3+	0.9-	870806	010	0.5+	0.2-
770909	095	0.5+	1.3-	831209	688	1.5-	0.9-	881110	801	0.0	1.0+
820829	095	1.2+	0.9+	831209	688	1.2-	1.5-	881111	801	0.1+	0.9+
820920	095	0.1-	1.5-	870806	010	1.8-	0.2-	881207	801	0.0	2.3+
831206	688	0.4+	0.5-	870806	010	1.2+	0.2-				

(4116)* 1982 SU = 1989 EK1

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

Id. E. Helin (MPC 14473)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	125.39111		(1950.0)			P		Bardwell		Q
n	0.38467200	Peri.	322.47254	-0.83465460						-0.54982030
a	1.8724447	Node	184.54831	+0.54979715						-0.83523324
e	0.0805482	Incl.	24.11032	-0.03278404						-0.00911453
P	2.56	H	13.3	G	0.25					

Residuals in seconds of arc

771011	675	0.7-	0.0	821011	675	(2.1+	3.7+)	870920	675	2.0-	1.1+
771011	675	1.6-	1.8+	821012	675	2.5-	2.2-	870920	675	(1.9-	4.0+)
771013	675	2.0+	0.9-	821012	675	1.0+	1.1+	890304	675	1.0-	0.3-
771013	675	0.2+	0.3-	821012	675	(2.5-	3.4-)	890305	675	1.8-	0.7-
820920	675	(3.8-	2.5-)	821012	675	1.0+	0.8+	890405	675	0.8+	0.8+
820920	675	(5.4+	16.1+)	821013	675	(0.2+	3.3+)	890405	675	0.8+	0.3-
820924	675	0.3-	2.8-	821013	675	(3.1+	6.4+)	890407	675	0.6+	0.7+
820924	675	1.6+	0.3-	870826	675	0.4+	0.4+	890407	675	0.2-	0.7+
820928	675	0.1-	0.7-	870826	675	0.3+	0.1-	890429	675	0.7+	2.4-
820929	675	0.7-	0.3+	870827	675	0.3+	0.4+	890429	675	0.6-	0.1+
821011	675	(6.0-	11.4-)	870827	675	0.7+	0.9+				

(4117)* 1982 SU3 = 1977 PF1

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

Id. S. Nakano (MPC 13605)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Schmadel

M	205.49971		(1950.0)		P		Q
n	0.20611486	Peri.	140.29709		+0.63196561		+0.77365330
a	2.8383319	Node	168.64573		-0.75680798		+0.62873906
e	0.1730968	Incl.	13.39465		-0.16691662		+0.07840766
P	4.78	H	12.5	G	0.25		

Residuals in seconds of arc

770814	095	0.6-	1.3+	821015	095	0.4+	0.6-	890111	033	0.4-	1.1-
770821	095	0.3+	0.3+	881106	033	0.5-	0.1-	890203	033	0.6+	0.7+
820916	095	2.1+	3.6-	881106	033	0.4-	0.4+	890203	033	0.2-	0.8+
820920	095	0.2-	0.9-	890109	033	0.5-	0.1-	890306	033	0.9+	1.0+
820924	033	1.2-	1.8+	890111	033	0.4-	1.3-	890306	033	0.9+	1.1+
820924	033	0.9-	2.3+								

(4118)* 1982 TH3 = 1950 PQ = 1966 SC = 1971 QV = 1973 AO2 = 1984 BJ

Discovered 1982 Oct. 15 by L. V. Zhuravleva at the Crimean Astrophysical Observatory.

Id. D. W. E. Green (MPC 13594)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Green

M	110.36388		(1950.0)		P		Q
n	0.18825810	Peri.	81.97162		+0.86866555		-0.48002334
a	3.0150899	Node	306.62960		+0.37271573		+0.79610918
e	0.1115431	Incl.	8.77780		+0.32634820		+0.36849391
P	5.24	H	12.0	G	0.25		

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

500814	760	(0.03-	0.01+)	840126	046	(3.5-	1.9+)	840206	372	0.8-	1.7+
660920	095	1.2-	1.7-	840127	046	0.5+	0.9-	840206	372	1.9-	0.9-
710818	095	(11.6+	2.2+)	840127	046	0.3+	1.4-	840208	372	1.6+	0.5+
730102	095	1.2+	1.3-	840129	046	1.1+	0.7+	840208	372	1.0+	0.4-
821015	095	0.7-	1.1+	840129	046	0.2+	0.4+	890114	293	0.3-	1.0-
821024	095	1.1+	0.9+	840131	372	1.3+	2.7-	890114	293	2.0-	1.4-
821109	095	0.3-	1.2+	840131	372	(0.5+	3.2-)	890209	801	2.1-	1.7+
821111	095	0.8+	0.0	840202	372	0.2+	2.1+	890308	801	0.7-	1.8+
840126	046	(3.2-	1.2-)	840202	372	0.3-	1.7+				

(4119)* 1983 BE = 1984 KA1 = 1988 CJ2

Discovered 1983 Jan. 16 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. S. Nakano (MPC 11835, unpublished)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Nakano

M	66.28120		(1950.0)		P		Q
n	0.20122532	Peri.	75.85502		-0.95867662		+0.19824032
a	2.8841265	Node	115.24613		-0.25390590		-0.91974174
e	0.1296331	Incl.	13.03862		+0.12833914		-0.33878592
P	4.90	H	12.2	G	0.25		

Residuals in seconds of arc

830110	675	0.4-	1.2+	830121	688	0.7+	3.3-	880211	809	1.6+	0.7-
830110	675	0.7+	2.5+	840523	095	1.2+	1.7+	880216	809	0.5-	2.1-
830111	675	3.4-	1.4-	840526	095	0.2-	0.5+	880216	809	0.1+	2.7-
830111	675	1.4-	1.0+	880111	372	1.2-	1.5+	880216	809	0.2+	2.6-
830112	675	1.5+	2.1+	880111	372	2.8-	2.7+	880318	801	1.0+	2.0+
830112	675	0.5-	3.0+	880118	071	0.4-	0.4-	880418	801	0.9+	1.4+
830116	688	0.7+	0.8-	880118	071	0.2+	0.8+	890428	657	2.6-	2.1-
830116	688	0.3+	0.4-	880119	071	2.8+	0.2-	890428	657	0.5+	2.0-
830121	688	1.3+	1.9-	880119	071	0.7-	1.0-	890504	657	0.9+	1.9+

890504 657	1.0-	1.3-	890505 801	0.1-	1.6+	890602 657	0.9+	0.1+
890504 657	1.4+	2.5+	890602 657	0.9-	2.3-	890603 801	(4.0+	1.5+)

(4120)* 1985 RS4 = 1988 BR4

Discovered 1985 Sept. 14 by H. Debehogne at the European Southern Observatory.

Id. S. Nakano (MPC 13449)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	17.18897		(1950.0)		P		Nakano	Q
n	0.17551696	Peri.	68.93913		-0.72230898		+0.68973841	
a	3.1592936	Node	154.58620		-0.67000920		-0.67991353	
e	0.0840845	Incl.	6.73174		-0.17134003		-0.24895485	
P	5.62	H	12.3		G	0.25		

Residuals in seconds of arc

830315 095	0.1-	0.3-	850921 809	0.3+	0.3-	880127 809	0.0	0.1-
850914 809	0.1-	1.3-	880123 809	0.5+	0.2-	880128 809	0.3-	0.4-
850914 809	0.2+	1.2-	880123 809	1.3+	0.4+	880129 809	1.0-	0.6-
850914 809	0.3+	1.1-	880124 809	0.1-	0.6-	880130 809	0.3-	1.0-
850919 809	0.1+	0.4-	880124 809	0.3-	0.2-	890402 801	4.4-	4.9-
850919 809	0.3+	0.4-	880124 809	0.2-	0.2+	890505 801	2.7+	0.3-
850919 809	0.3+	0.4-	880126 809	0.4-	0.8-	890508 801	0.5+	1.5+
850921 809	0.2+	0.2-	880126 809	0.1+	0.2-			
850921 809	0.2+	0.3-	880127 809	0.3+	0.5+			

(4121)* 1986 JH = 1950 TN3 = 1982 FF4 = 1983 VB2 = 1983 WK1

Discovered 1986 May 2 in the course of the International Near-Earth Asteroid Survey.

Id. C. M. Bardwell (MPC 11054)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	269.66667		(1950.0)		P		Bardwell	Q
n	0.26949815	Peri.	279.84830		+0.77367632		+0.56661780	
a	2.3737348	Node	46.32255		-0.30713542		+0.72676825	
e	0.2553891	Incl.	23.07771		-0.55415953		+0.38826818	
P	3.66	H	12.6		G	0.25		

Residuals in seconds of arc

501013 760	0.4+	0.1-	831128 688	1.0+	0.1-	890304 675	1.5+	2.5+
820330 808	2.4-	0.2-	860502 675	1.4-	2.4+	890304 675	0.5+	0.7+
831107 675	2.2-	0.6+	860502 675	3.2+	2.6+	890306 675	0.1+	0.0
831107 675	0.6-	1.2+	860503 675	0.6+	1.6-	890306 675	1.9+	2.8-
831107 675	1.3-	1.5+	860606 675	0.8+	0.3-	890405 675	1.7-	0.6+
831107 675	2.2-	1.3+	860606 675	1.4+	1.7+	890405 675	0.6+	0.7+
831128 688	1.0+	0.6+	860609 675	(9.6+	2.1-)			

(4122)* 1986 OA = 1954 UN1

Discovered 1986 July 28 at the Osservatorio San Vittore.

Id. D. W. E. Green (MPC 12708)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	12.96712		(1950.0)		P		Green	Q
n	0.24092663	Peri.	308.49717		-0.83889568		+0.49338820	
a	2.5578761	Node	262.18080		-0.39851223		-0.84437741	
e	0.0512054	Incl.	13.41412		-0.37073175		-0.20879384	
P	4.09	H	12.4		G	0.25		

Residuals in seconds of arc

541024 760	1.1+	1.9-	860730 552	1.1+	0.2+	860803 552	0.1-	0.3+
541024 760	0.4-	0.8-	860801 552	1.5-	1.3-	860806 552	1.0-	0.3+
860728 552	0.2+	0.6+	860801 552	0.1-	0.0	860806 552	0.3-	1.6+
860728 552	1.2+	0.4-	860801 552	0.6-	1.3-	860810 552	1.3+	2.3+
860730 552	1.6-	0.9+	860803 552	0.3+	0.6+	860810 552	0.8+	0.1+
860730 552	0.2+	0.3-	860803 552	0.2+	0.1+	860811 552	1.5+	1.4-

860811	552	1.3+	0.1-	860906	552	0.5-	0.8-	871211	552	1.4-	1.8+
860812	552	1.3-	0.4-	860906	552	0.4-	1.5-	871211	552	0.3+	1.3+
860812	552	0.3+	0.2+	860911	552	0.7+	0.1+	871223	552	1.1-	3.2-
860824	552	1.0-	0.1-	860911	552	0.4+	0.6-	871223	552	0.8+	0.1+
860824	552	0.3-	0.8+	871115	552	0.1+	0.2+	890304	552	1.0+	0.7-
860825	552	0.1+	1.2+	871115	552	1.0+	0.2-	890304	552	1.3+	1.3-
860825	552	0.3-	0.6-	871117	552	(0.4-	5.5-)	890326	552	0.7-	0.1+
860829	552	1.3+	1.3+	871117	552	(1.6-	3.9-)	890326	552	1.2-	0.4-
860829	552	1.6-	0.8+	871119	688	0.4+	0.1-	890505	552	1.6-	1.1-
860905	552	1.0+	1.1-	871119	688	0.5+	0.3+	890505	552	1.2-	0.1-
860905	552	0.4-	2.4-	871121	552	0.0	0.0				
860905	552	0.0	2.0-	871121	552	0.2-	0.0				

(4123)* 1986 QP1 = 1975 GF1 = 1977 VC2 = 1982 UJ10

Discovered 1986 Aug. 27 by H. Debehogne at the European Southern Observatory.

Id. S. Nakano (MPC 12134)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	164.43069		(1950.0)		P		Nakano
n	0.20660719	Peri.	357.15458		+0.61525293		-0.78734946
a	2.8338211	Node	54.87171		+0.72418870		+0.54479328
e	0.0648072	Incl.	2.75438		+0.31147160		+0.28858466
P	4.77	H	13.3	G	0.25		

Residuals in seconds of arc

750415	805	1.3-	1.1+	860902	809	0.2-	0.5-	860908	095	(2.9+	1.8-)
750420	805	0.8+	1.1-	860902	809	0.5-	0.6-	860909	809	0.3-	0.7+
771114	805	0.8+	0.5+	860904	809	0.6-	0.8-	860909	809	0.3-	0.5+
821023	095	0.7-	1.1-	860904	809	0.6-	0.8-	860909	809	0.0	0.4+
860827	809	(2.2+	0.4+)	860904	809	0.7-	1.1-	860911	809	0.0	0.4+
860827	809	(2.2+	0.9+)	860905	809	0.8-	0.4+	860911	809	0.4+	0.2+
860827	809	(2.2+	1.0+)	860905	809	0.6-	0.3+	860911	809	0.5+	0.2+
860828	809	1.1+	0.5+	860905	809	0.5-	0.2+	860911	809	1.1+	0.4-
860828	809	1.5+	0.5+	860907	809	0.6-	0.1-	860911	809	1.2+	0.5-
860828	809	1.4+	0.5+	860907	809	0.7-	0.1+	860911	809	1.3+	0.6-
860901	809	0.3+	0.4+	860907	809	0.6-	0.1+	890204	033	0.1+	0.8-
860901	809	0.4+	0.3+	860908	809	0.3-	0.4-	890204	033	1.1-	1.6-
860901	809	0.4+	0.3+	860908	809	0.4-	0.7-	890306	033	0.2+	0.5-
860902	809	0.4-	0.7-	860908	809	0.4-	0.6-	890306	033	0.1+	0.2+

(4124)* 1986 SE = 1956 EX = 1963 TH1 = 1965 AJ1 = 1981 RA3 = 1989 GQ2

Discovered 1986 Sept. 29 by Z. Vavrova at Klet.

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	153.17978		(1950.0)		P		Nakano
n	0.21182746	Peri.	115.85372		+0.05923412		-0.99777202
a	2.7870700	Node	330.70065		+0.89190063		+0.06670987
e	0.0302748	Incl.	3.59637		+0.44833534		-0.00088421
P	4.65	H	12.5	G	0.25		

Residuals in seconds of arc

560309	760	1.3-	0.2-	860929	046	3.2+	1.0-	890405	809	0.1-	0.8-
560309	760	(27.1-	0.5+)	860930	046	0.3-	0.7-	890405	809	0.5-	0.2-
631015	760	0.8+	0.7+	860930	046	1.3+	0.9-	890408	809	0.1+	0.0
631015	760	0.9+	2.0+	861001	046	0.8+	0.8-	890408	809	0.4+	0.1+
631017	760	0.8+	0.4+	861001	046	1.2+	1.2-	890408	809	0.2+	0.1-
631017	760	(5.9+	1.8-)	861010	095	2.1-	0.2+	890410	809	0.3+	1.2-
650111	330	2.2-	1.0-	890403	809	0.1-	0.5+	890410	809	0.1+	1.5-
810902	095	2.1-	1.0+	890403	809	0.0	0.2+	890410	809	0.2-	1.6-
860907	095	2.7-	2.8-	890403	809	0.0	0.5+				
860929	046	0.8+	1.5-	890405	809	0.4+	0.9-				

(4125)* 1987 MO

Discovered 1987 June 28 by E. Helin at Palomar.

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Bardwell

M	299.43615		(1950.0)		P		Q
n	0.37005438	Peri.	33.49398		+0.59492983		+0.72466267
a	1.9214349	Node	275.52232		-0.79259751		+0.45700361
e	0.1181774	Incl.	20.44821		-0.13359524		+0.51576324
P	2.66	H	13.7	G	0.25		

Residuals in seconds of arc

790823	675	0.5+	0.6-	870823	675	0.5-	1.3+	890212	675	2.4-	0.8-
790823	675	1.0+	0.9-	870823	675	2.1-	2.5+	890212	474	2.1+	2.2+
860107	675	0.4+	2.4+	870919	675	0.1+	0.9+	890212	474	0.8-	1.6+
860107	675	1.1-	1.5+	870919	675	0.4-	0.8+	890304	675	3.2+	0.8+
870628	675	1.9-	2.0+	871119	801	1.1+	0.4+	890306	675	1.4+	1.6-
870630	675	(5.7-	0.2+)	890208	474	0.6-	2.5+	890306	675	1.9+	1.9-
870726	675	1.3-	0.1-	890208	474	0.7-	2.2+				
870730	675	(15.8+	0.3-)	890211	675	0.2+	1.5-				

(4126)* 1988 BU = 1965 AX = 1971 DU = 1975 WA1

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

Id. S. Nakano (MPC 13052)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Nakano

M	130.76515		(1950.0)		P		Q
n	0.17131526	Peri.	343.50100		+0.08480208		-0.99491966
a	3.2107416	Node	101.60980		+0.92027687		+0.05733401
e	0.1403506	Incl.	3.17507		+0.38196739		+0.08275078
P	5.75	H	11.6	G	0.25		

Residuals in seconds of arc

650109	330	0.0	0.5+	880124	400	3.2+	3.3+	880223	809	1.2-	0.5-
710218	095	0.6+	3.0+	880124	400	2.0+	2.2+	880223	809	2.3-	0.5-
751128	095	0.1+	0.6-	880211	809	1.5+	0.6-	880223	809	2.1-	0.7-
830409	095	2.4+	1.7+	880215	809	0.4-	0.1+	890330	400	0.2+	0.8-
880118	071	2.3-	1.3+	880216	809	0.7-	0.8-	890330	400	1.1+	0.1-
880118	071	0.1+	1.1-	880216	809	0.5-	0.9-	890406	400	1.2-	0.4-
880118	071	1.5-	0.6+	880216	809	1.5-	0.7-	890406	400	1.1-	0.2+
880119	400	2.3+	1.2+	880217	809	0.7-	0.1+	890406	400	1.4+	1.5+
880119	400	3.0+	1.2-	880217	809	1.3-	0.5-	890412	400	1.7-	1.6-
880119	400	2.2+	0.2-	880217	809	1.0-	0.4-	890412	400	1.8-	0.0
880119	071	3.7+	0.0	880221	809	1.9-	0.1+	890505	801	0.7+	1.7-
880123	400	0.4-	1.7-	880221	809	2.0-	0.0				
880123	400	2.5+	3.4-	880221	809	2.6-	0.2+				

(4127)* 1988 BA2 = 1981 UL16 = 1986 WY3

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

Id. S. Nakano (MPC 14354)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Nakano

M	245.38770		(1950.0)		P		Q
n	0.20294633	Peri.	219.16968		+0.97527560		-0.22028962
a	2.8677982	Node	153.54051		+0.21137978		+0.90664754
e	0.0391957	Incl.	2.26467		+0.06446785		+0.35980930
P	4.86	H	11.9	G	0.25		

Residuals in seconds of arc

811024	095	0.5-	1.5+	880122	303	0.0	0.9+	880125	399	1.1-	1.9+
861125	010	2.3-	0.7+	880123	303	0.8+	0.9+	880126	399	0.5+	0.8-
861125	010	1.9+	0.6+	880123	303	(7.2+	6.9-)	880126	399	0.7+	0.9-
861125	010	(12.2-	1.1+)	880123	303	(6.8+	6.5-)	880126	399	0.8-	0.8- Y
880122	303	0.1+	1.7+	880125	399	1.2+	1.2+	880207	399	1.1-	0.1+
880122	303	0.1+	0.6+	880125	399	0.6+	0.1-	880207	399	0.3+	2.6+

880208 399	1.6-	0.9+	880217 809	0.4-	0.3-	890428 399	(4.5+	1.2-)
880208 399	1.0-	0.9+	880217 809	1.3+	0.8-	890428 399	(3.4+	1.6-)
880211 399	1.0-	0.6+	880218 399	(3.3+	1.8-)	890428 399	(3.8+	2.3-)
880211 399	0.4+	1.1+	880218 399	0.0	1.2-	890505 399	1.3+	0.5+
880213 809	0.6-	1.4-	880218 399	1.6+	1.1+	890505 399	2.7+	0.7+
880213 809	0.5-	1.3-	880219 399	(3.2-	1.3+)	890505 399	0.3+	2.0+
880214 809	1.2+	2.2-	880219 399	0.0	0.2-	890523 399	1.7+	1.4+
880214 809	(10.6-	1.2+)	880223 399	0.1+	1.9-	890523 399	1.5-	1.8+
880214 809	1.3+	1.8-	880223 399	2.4-	0.6+	890525 399	2.1-	0.8-
880214 809	(10.1-	1.1+)	880223 399	0.8-	0.3-	890525 399	1.1-	0.8-
880214 809	1.0+	1.3-	890406 399	1.1-	0.3+	890525 399	1.2-	0.3+
880216 809	0.1+	0.2+	890406 399	1.3+	0.7-	890525 399	2.0-	0.7-
880216 809	0.4+	0.3+	890406 399	2.7+	0.7-			

(4128)* 1988 BM5

Discovered 1988 Jan. 28 by R. H. McNaught at Siding Spring.

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Green

M 58.98433		(1950.0)		P		Q
n 0.24139810	Peri.	328.99096		-0.14315042		+0.96808395
a 2.5545446	Node	292.08853		-0.85639585		-0.22535283
e 0.1408438	Incl.	12.82752		-0.49607873		+0.10967938
P 4.08	H 14.0		G 0.25			

Residuals in seconds of arc

800313 413	0.8-	0.3+	850724 413	0.2+	0.1+	880128 413	0.9-	0.9-
800313 413	1.2+	0.3+	850724 413	1.2-	0.3-	880223 413	0.5-	0.9-
810710 413	0.3+	0.1+	850724 413	3.1+	0.4-	880223 413	0.6+	0.4+
840329 413	0.1+	0.3-	850906 413	1.3-	0.2-	880312 413	1.6+	0.5+
840329 413	0.2-	0.3-	850906 413	0.3+	0.4-	880312 413	0.5-	0.5+
850724 413	0.1+	0.1-	880128 413	1.3-	1.9-			

(4129)* 1988 DM = 1973 TW = 1977 RE4 = 1986 VZ7

Discovered 1988 Feb. 22 by R. H. McNaught at Siding Spring.

Id. S. Nakano (MPC 13053)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Nakano

M 351.87489		(1950.0)		P		Q
n 0.24028340	Peri.	69.91338		+0.70411096		+0.70110155
a 2.5624390	Node	245.37758		-0.68895267		+0.63609387
e 0.2555696	Incl.	7.11665		-0.17196505		+0.32224403
P 4.10	H 13.2		G 0.25			

Residuals in seconds of arc

731002 095	1.0-	2.6+	880216 809	0.9-	0.4-	880223 809	1.4+	1.3+
770909 095	0.5+	1.1-	880221 809	0.7+	0.8+	880223 413	0.9-	0.1-
861108 033	0.4+	0.8-	880221 809	0.6+	0.3+	880225 413	1.0-	0.1-
861108 033	0.7-	0.2-	880221 809	0.9+	0.3+	880310 413	(3.2-	0.7+)
880213 809	0.3-	0.2-	880222 413	(3.8-	1.3+)	880310 413	0.6-	0.7-
880215 809	1.7-	0.8-	880222 413	0.5+	0.6-	890612 413	0.4-	0.4+
880216 809	0.4-	0.7-	880223 809	1.5+	1.9+	890613 413	0.2+	0.5+
880216 809	0.5-	1.0-	880223 809	1.4+	1.7+	890707 413	0.3+	0.5-

(4130)* 1988 DQ1 = 1978 GU1 = 1979 OF = 1983 HU1 = 1985 PU1

Discovered 1988 Feb. 17 by R. Rajamohan at Kavalur.

Id. S. Nakano (MPC 13054)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Nakano

M 28.02663		(1950.0)		P		Q
n 0.18467718	Peri.	53.20011		-0.66572865		+0.74604575
a 3.0539405	Node	174.98329		-0.72726810		-0.64425519
e 0.0445364	Incl.	9.79049		-0.16699243		-0.16837755
P 5.34	H 12.0		G 0.25			

Residuals in seconds of arc

780407	095	0.9-	0.9+	830416	033	2.3+	0.5-	880314	220	2.2-	1.1-	Y
790721	805	2.2-	0.9+	850814	010	1.7+	1.7-	890504	220	1.2-	2.3-	
790722	805	1.0-	1.7+	850816	010	1.7+	1.5+	890505	220	(5.4-	23.1+)	
790722	805	0.8-	1.3+	880217	220	2.9-	1.2+	Y	890506	220	1.4+	2.3-
830315	095	0.6+	2.7+	880217	220	1.7-	1.2+	Y	890507	220	(8.8-	3.7+)
830320	095	3.9+	0.6+	880218	220	1.2-	2.1+	Y				
830416	033	2.1+	0.7-	880313	220	1.0+	3.5-	Y				

(4131)* 1988 DR4 = 1975 XP5 = 1979 OT12

Discovered 1988 Feb. 23 by A. J. Noymer at Siding Spring.

Id. B. G. Marsden (MPC 13457)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Marsden

M	233.65421		(1950.0)		P		Q
n	0.17520275	Peri.	91.04274		+0.94768115		-0.24158173
a	3.1630698	Node	282.96146		+0.13206376		+0.89180608
e	0.1133529	Incl.	12.36359		+0.29061933		+0.38251822
P	5.63	H	11.4	G	0.25		

Residuals in seconds of arc

751204	095	0.3+	0.7+	880225	413	0.7-	0.3+	880420	413	0.0	0.7+
790726	675	0.8-	0.7+	880225	413	0.4+	0.2+	890428	413	0.0	0.1+
790727	675	0.1+	0.6+	880310	413	0.3-	0.1+	890429	413	0.6-	0.1-
880223	413	0.1+	0.7-	880310	413	0.4-	0.3+	890626	413	0.7+	0.5-
880223	413	0.6+	0.0	880420	413	1.0+	0.2+				

(4132)* 1988 EH

Discovered 1988 Mar. 12 by J. Alu at Palomar.

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Bardwell

M	222.47113		(1950.0)		P		Q
n	0.26386036	Peri.	254.40957		+0.38004735		-0.92357416
a	2.4074279	Node	172.62830		+0.92485942		+0.38026770
e	0.2888156	Incl.	23.29585		-0.01410913		+0.04906370
P	3.74	H	12.0	G	0.25		

Residuals in seconds of arc

750909	675	0.2-	0.6-	880314	675	0.9+	1.7-	880415	875	1.1-	1.5-
750909	675	0.1+	3.1-	880314	675	0.1+	0.7-	880517	675	1.6+	2.0-
850517	675	1.1-	0.8-	880409	675	(3.5-	1.1-)	880520	675	0.1-	0.2-
850517	675	0.6-	1.8-	880409	675	(4.1-	0.4-)	890603	675	1.2+	0.4+
850615	675	0.1-	0.8-	880413	875	(3.2+	4.2+)	890603	675	0.4-	0.6+
850615	675	2.3+	2.2+	880413	875	1.2-	1.6+	890605	675	0.2-	0.5+
880311	675	0.5+	0.7-	880415	875	1.5-	0.2-	890605	675	0.7-	1.3+
880312	675	2.0+	0.9+	880415	875	1.4-	0.2+				

1930 XK = 1966 UC1 = 1977 TY3 = 1987 MJ1 = 1988 VP2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Kobayashi

M	147.46267		(1950.0)		P		Q
n	0.27193597	Peri.	338.03081		+0.94542078		+0.32578974
a	2.3595270	Node	2.97780		-0.27771664		+0.81583457
e	0.1397967	Incl.	7.04415		-0.17044944		+0.47778134
P	3.62	H	12.5	G	0.25		

Residuals in seconds of arc

301213	690	0.7-	0.3-	771010	095	0.0	1.7+	881112	675	1.0-	0.2-
301214	690	2.4-	0.3-	771013	330	1.9+	1.6+	881113	675	2.3-	2.7+
301216	690	3.4+	0.6-	870627	675	0.5-	1.8+	881201	054	0.5-	3.4+
661018	095	0.7+	3.0-	870629	675	2.9+	3.5+				

1968 OH = 1986 WF5

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano	
M 261.06656	(1950.0) P	Q	
n 0.22130283	Peri. 56.64910	+0.78768337	+0.58398756
a 2.7069419	Node 266.86004	-0.61009878	+0.69512172
e 0.1709412	Incl. 11.33490	-0.08564105	+0.41924256
P 4.45	H 13.0	G 0.25	

Residuals in seconds of arc

680718 805	0.8+	0.7-	680730 805	1.3-	0.9+	860913 095	1.3+	0.6+
680719 805	1.2+	2.0-	680730 805	0.1-	0.2+	861127 010	0.3+	1.4-
680725 805	0.0	0.6-	680821 805	1.1+	0.3-	861127 010	1.9+	1.4-
680728 805	1.1-	1.2+	860909 095	1.8-	2.6+	861127 010	2.1-	0.7-

1973 UC = 1986 RK16

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		Nakano	
M 241.68369	(1950.0) P	Q	
n 0.22470702	Peri. 349.45237	+0.97474756	-0.21706325
a 2.6795280	Node 23.28596	+0.21332018	+0.83563762
e 0.2800700	Incl. 7.62394	+0.06604306	+0.50457241
P 4.39	H 14.0	G 0.25	

Residuals in seconds of arc

731025 026	2.4+	0.6-	731119 026	1.5-	0.9-	860914 095	2.2-	0.0
731028 026	0.7-	0.4+	731124 026	2.1+	1.0-	861006 095	3.3+	2.1+
731102 026	0.4+	0.7+	731218 026	0.7+	1.1-	861010 095	0.1+	1.6-
731103 026	1.1-	0.0	731219 801	0.5-	1.2+	861011 095	1.4-	0.3-
731119 026	0.8-	0.1-	731224 801	1.1-	1.7+			

1975 QC = 1986 RV1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano	
M 314.36275	(1950.0) P	Q	
n 0.27386678	Peri. 170.71302	+0.91673186	+0.39842002
a 2.3484285	Node 165.69927	-0.37373673	+0.88127977
e 0.1375158	Incl. 6.83500	-0.14115079	+0.25417998
P 3.60	H 13.5	G 0.25	

Residuals in seconds of arc

750811 808	0.6-	0.0	750901 808	2.2+	0.4-	860905 046	0.9+	2.2+
750811 808	0.1-	0.9-	750904 808	1.0+	0.5+	860906 046	0.2-	0.1+
750829 808	0.1-	0.2+	750904 808	1.2-	0.4+	860907 095	0.8-	0.1-
750829 808	0.7-	0.3+	750907 808	1.4-	0.1+	860912 095	0.1+	2.3-
750901 808	1.4+	0.4+	750907 808	0.4-	0.5-			

1975 YD = 1989 GA2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5		Kobayashi	
M 163.27551	(1950.0) P	Q	
n 0.24000430	Peri. 204.86983	+0.47076214	-0.87276491
a 2.5644252	Node 217.42451	+0.84080258	+0.48813803
e 0.2533380	Incl. 12.26419	+0.26727146	+0.00163491
P 4.11	H 13.5	G 0.25	

Residuals in seconds of arc

751231 808	0.3+	0.7-	890403 809	0.1+	0.5-	890408 809	1.8+	1.1+
751231 808	0.2-	0.8+	890403 809	0.5+	0.5-	890408 809	1.2+	0.7+
760103 808	0.1+	0.0	890403 809	0.1+	0.8-	890408 809	1.3+	1.4+
760103 808	0.5+	0.6-	890405 809	0.3+	0.0	890410 809	1.5-	0.0
760106 808	0.9-	0.5+	890405 809	0.6-	0.1-	890410 809	1.7-	0.9-
760106 808	0.4-	0.1+	890405 809	0.1-	0.5-	890410 809	1.3-	0.0

1976 WC1 = 1968 HD1 = 1989 JN

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
 M 11.89866 (1950.0) P Q
 n 0.27916498 Peri. 162.96195 -0.40236489 +0.88700167
 a 2.3186202 Node 82.83035 -0.86426975 -0.28643093
 e 0.1148430 Incl. 13.19982 -0.30189451 -0.36219519
 P 3.53 H 12.5 G 0.25

Residuals in seconds of arc

680426	095	0.1-	0.1-	761126	808	0.7-	1.3-	890508	046	0.3-	0.1-
761118	808	0.5+	0.3+	890505	046	0.2-	0.7+	890509	046	1.6+	0.0
761118	808	0.3-	0.8+	890505	046	0.5-	0.4+	890509	046	0.7+	0.6-
761123	808	0.7+	0.3+	890507	046	1.0-	0.3-	890509	046	0.3+	0.3-
761123	808	0.2-	0.1+	890507	046	0.1-	0.2+	890509	046	1.2+	0.9-
761126	808	0.1+	0.7-	890508	046	1.5-	0.8+				

1977 DD1 = 1951 CJ = 1969 VT2 = 1982 US9

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi
 M 61.58849 (1950.0) P Q
 n 0.30374372 Peri. 252.38795 +0.82349211 -0.56386262
 a 2.1917845 Node 141.86862 +0.55133205 +0.76936596
 e 0.1060627 Incl. 5.81945 +0.13376743 +0.30022487
 P 3.24 H 14.5 G 0.25

Residuals in seconds of arc

510210	760	0.8+	0.8+	770214	675	0.2-	0.0	770219	381	0.1-	0.1+
510210	760	0.8-	0.5-	770218	381	0.7+	0.3-	821022	095	0.8-	2.0+
691115	095	0.4+	1.5-	770218	381	0.2-	0.0	821025	095	0.4+	0.4-
770213	675	0.5-	0.2-	770219	381	0.2+	0.3+				

1979 FD3 = 1979 HE2 = 1979 KY = 1989 CN4

Id. S. Nakano (d, MPC 10610), B. G. Marsden
 Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Marsden
 M 20.79477 (1950.0) P Q
 n 0.29467208 Peri. 99.45349 -0.69701316 +0.71585507
 a 2.2365447 Node 126.27425 -0.67641713 -0.63718642
 e 0.1247253 Incl. 2.95234 -0.23797589 -0.28556083
 P 3.34 H 14.5 G 0.25

Residuals in seconds of arc

790331	095	0.4-	0.2-	890206	303	0.1+	0.2+	890212	303	0.1-	0.8-
790420	095	0.0	0.9-	890206	303	0.0	0.4+	890212	303	0.1+	0.2-
790523	809	0.1-	0.3+	890210	303	0.4-	0.4+	890212	303	0.1+	0.0
790524	809	0.4+	0.7+	890210	303	0.4-	1.1+	890212	303	0.1+	0.0
890205	303	0.4-	0.3-	890210	303	0.2+	0.3+	890213	303	0.1+	0.2-
890205	303	0.3-	0.0	890211	303	0.2+	0.3-	890213	303	0.0	0.0
890205	303	0.1+	0.1-	890211	303	0.5+	0.6+	890213	303	0.2-	0.4-
890206	303	0.2+	0.1+	890211	303	0.2-	0.4-	890213	303	0.4+	0.0

1979 HW6 = 1982 DZ4 = 1989 GS3

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Kobayashi
 M 10.29183 (1950.0) P Q
 n 0.29179454 Peri. 345.76111 -0.30608618 +0.95198294
 a 2.2512200 Node 266.41507 -0.87278420 -0.28325395
 e 0.1296447 Incl. 0.36188 -0.38020914 -0.11617092
 P 3.38 H 14.5 G 0.25

Residuals in seconds of arc

790426	323	0.4-	1.0-	790518	323	1.6-	0.6-	890405	809	0.2+	1.3-
790427	323	0.0	1.7+	820222	010	0.1+	0.1+	890405	809	1.1+	1.4-
790503	323	1.7+	0.8+	890402	809	2.3-	0.0	890411	809	0.0	0.5+
790504	323	0.5-	0.4+	890402	809	0.5-	0.5+	890411	809	0.4+	0.3+
790517	323	0.9+	0.9-	890402	809	0.0	0.4+	890411	809	0.8+	0.5+

1979 OD15 = 1986 RY6

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
 M 307.25501 (1950.0) P Q
 n 0.28960503 Peri. 204.11778 +0.98085549 -0.19378254
 a 2.2625569 Node 167.01178 +0.18967786 +0.92829731
 e 0.1232978 Incl. 4.91517 +0.04409998 +0.31735222
 P 3.40 H 14.0 G 0.25

Residuals in seconds of arc

790721	095	1.0+	0.4-	860906	095	1.4-	3.7-	861002	095	1.4-	0.5+
790730	095	1.5+	1.4+	860909	095	0.2-	1.8-	861006	095	1.2+	4.2+
790819	095	2.8-	0.4+	860929	095	2.3+	0.1+				

1979 QT8 = 1979 QO9 = 1979 SJ5 = 1986 TY12

Id. T. Furuta (d, MPC 11501), S. Nakano

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
 M 347.62988 (1950.0) P Q
 n 0.28822221 Peri. 1.50415 +0.93498516 +0.35427856
 a 2.2697880 Node 337.72321 -0.32586976 +0.83909301
 e 0.1607378 Incl. 2.57233 -0.14004162 +0.41280700
 P 3.42 H 14.5 G 0.25

Residuals in seconds of arc

790820	095	0.8+	0.1+	790923	095	0.9-	1.5+	861011	095	2.6+	2.0-
790828	095	0.1+	1.4-	861005	095	2.5-	1.6+				

1980 FY4 = 1974 QB = 1985 VL4

Id. H. Oishi (MPC 10295, unpublished)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Oishi
 M 75.53381 (1950.0) P Q
 n 0.27674453 Peri. 163.23556 +0.98201814 +0.18855085
 a 2.3321199 Node 185.92035 -0.18199478 +0.93222785
 e 0.1742658 Incl. 5.24614 -0.05018235 +0.30886860
 P 3.56 H 14.6 G 0.25

Residuals in seconds of arc

740816	808	0.6-	0.1-	800316	809	0.0	0.1+	800317	809	0.0	1.2+
740816	808	0.1-	0.0	800316	809	0.3-	0.6+	800317	809	0.1-	0.8-
740817	808	0.4+	1.3+	800316	809	0.0	0.3+	800323	809	1.8+	1.5-
740817	808	0.6-	0.3-	800316	809	1.2-	0.5-	851111	095	0.0	0.2-
740818	808	0.2+	0.4+	800317	809	0.0	0.1-				
740818	808	0.7+	1.6-	800317	809	0.4-	0.2+				

1980 RC = 1989 EO3

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Kobayashi
 M 125.81536 (1950.0) P Q
 n 0.26893623 Peri. 237.43663 +0.66750932 -0.74396406
 a 2.3770401 Node 170.49992 +0.73029180 +0.64604974
 e 0.2390375 Incl. 10.75593 +0.14527624 +0.17069626
 P 3.66 H 15.0 G 0.25

Residuals in seconds of arc

800903	552	0.6-	0.8+	890302	809	1.4-	1.3+	890303	809	0.8+	1.4-
800904	552	1.0+	0.9-	890302	809	0.8-	1.6+	890303	809	0.6+	1.1-
800910	552	0.4-	3.8+	890302	809	1.2+	1.3-	890303	809	0.7+	1.6-
800910	552	0.2+	3.7-	890302	809	0.2-	0.5+				
890302	809	1.2-	2.3+	890302	809	1.1+	0.5-				

1980 UC = 1966 FJ = 1986 WA2

Id. T. Kobayashi (k, MPC 13056), S. Nakano

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M 250.01577

(1950.0)

P

Q

n 0.17739080 Peri. 229.64709 +0.93334053 +0.35626484

a 3.1370120 Node 109.44083 -0.31351862 +0.86885451

e 0.2211564 Incl. 2.68464 -0.17487577 +0.34375458

P 5.56 H 12.5 G 0.25

Residuals in seconds of arc

660316 330 0.2+ 0.6+ 801111 046 2.3+ 1.7+ 861130 046 1.6- 1.5+

801030 046 0.7- 0.1+ 801111 046 1.2- 0.8+ 861201 046 0.0 2.0-

801030 046 0.2+ 1.6+ 861129 046 2.3+ 0.2- 861201 046 2.2- 2.8-

801106 688 0.1+ 1.3- 861129 046 3.9+ 0.7+

801106 688 0.9- 2.3- 861130 046 2.3- 2.0+

1980 YB = 1964 CC = 1978 GN2 = 1988 AR1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M 158.51941

(1950.0)

P

Q

n 0.28492890 Peri. 31.63727 -0.72844214 -0.67958670

a 2.2872445 Node 105.29062 +0.60826930 -0.69982930

e 0.0714864 Incl. 5.16268 +0.31524674 -0.22000198

P 3.46 H 13.5 G 0.25

Residuals in seconds of arc

640215 760 1.8- 2.2- 801230 688 0.6- 0.9+ 880113 046 1.0- 0.8+

640215 760 1.9- 1.2+ 801230 688 0.3+ 0.6+ 880114 046 0.8- 1.7-

640306 760 2.8+ 0.7- 810109 688 0.3+ 0.1+ 880114 046 0.6- 1.2+

640306 760 0.6+ 0.7+ 810109 688 0.0 0.1- 880115 046 2.0+ 0.5+

780411 095 0.1+ 0.1+ 810109 688 0.1+ 0.1- 880115 046 1.4+ 0.1+

801210 095 0.1- 2.3- 880113 046 0.9- 0.6+

1981 DF2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Bardwell

M 305.11324

(1950.0)

P

Q

n 0.27946145 Peri. 126.37210 +0.92215973 -0.36670878

a 2.3169801 Node 255.42791 +0.30147759 +0.88071988

e 0.2016258 Incl. 7.30551 +0.24234828 +0.29976183

P 3.53 H 14.5 G 0.25

Residuals in seconds of arc

810209 413 0.2+ 0.2- 810308 413 1.6+ 0.4- 810409 413 0.7+ 0.6-

810212 413 0.4- 1.4+ 810312 413 0.4- 0.1+ 810501 413 0.3+ 0.6+

810228 413 0.5- 1.0- 810312 413 1.9+ 0.9- 810503 413 1.6+ 0.0

810228 413 0.2- 0.6- 810408 413 0.3- 0.2+ 861003 095 1.1- 1.7-

810306 413 2.7- 1.6+ 810408 413 1.7+ 1.3- 861007 095 1.3- 1.4+

810308 413 0.9- 0.3+ 810409 413 2.3- 0.3+ 861011 095 2.8+ 0.9+

1981 EX30

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M 284.35628

(1950.0)

P

Q

n 0.27172836 Peri. 224.10604 +0.96986087 -0.24229960

a 2.3607333 Node 149.88832 +0.23532412 +0.90409747

e 0.2166528 Incl. 2.93708 +0.06318592 +0.35199244

P 3.63 H 15.5 G 0.25

Residuals in seconds of arc

770213 675 0.9- 0.0 810311 413 2.2- 0.8- 810502 413 1.2- 1.3+

770214 675 0.8+ 0.2- 810315 413 (3.9+ 4.1-) 860912 095 0.2+ 0.6-

810302 413 1.7- 1.8+ 810315 413 2.1+ 1.9-

810302 413 (6.0- 0.3+) 810426 413 2.9+ 0.9-

1981 VK = 1986 QV5

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
 M 191.35283 (1950.0) P Q
 n 0.17883629 Peri. 327.19878 +0.98616845 +0.16566794
 a 3.1200854 Node 23.26678 -0.14914885 +0.90039470
 e 0.1907051 Incl. 0.73843 -0.07229388 +0.40229780
 P 5.51 H 12.5 G 0.25

Residuals in seconds of arc

811023	095	0.4+	0.1+	811105	688	0.8+	0.3+	860831	095	0.2-	0.5-
811102	688	1.3-	0.9+	811124	688	0.8+	0.6-	860908	095	0.3+	0.3+
811105	688	1.6-	0.7+	811124	688	1.1+	1.5-				

1982 FC3 = 1970 WO1 = 1984 YD6 = 1989 GD2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
 M 67.34723 (1950.0) P Q
 n 0.28749765 Peri. 210.65795 -0.99880160 +0.04555126
 a 2.2735999 Node 331.93604 -0.03350267 -0.90296897
 e 0.0933039 Incl. 2.18068 -0.03567833 -0.42728458
 P 3.43 H 14.0 G 0.25

Residuals in seconds of arc

701123	033	0.2-	1.1+	820326	809	0.8+	0.2-	820401	809	0.0	0.5+
820320	809	2.2-	0.3-	820326	809	1.2+	0.0	820401	809	0.3+	0.5-
820320	809	1.0-	0.3-	820327	809	(3.4-	0.1-)	820401	809	0.4+	0.3-
820320	809	0.3+	0.5-	820327	809	(3.4-	0.0)	841223	010	0.2+	1.4+
820321	809	1.2-	0.4-	820327	809	(3.5-	0.0)	841223	010	(4.5-	7.8-)
820321	809	1.7-	0.0	820328	809	0.2-	1.2-	890403	809	1.4+	0.6+
820321	809	0.9-	0.4-	820328	809	0.1-	1.1-	890403	809	0.8+	0.3+
820322	809	1.6-	0.2-	820328	809	0.4-	1.0-	890403	809	0.2+	0.1+
820322	809	1.3-	0.6-	820330	809	0.9+	1.0+	890405	809	0.3+	0.7+
820322	809	0.7-	0.5-	820330	809	0.5+	1.3+	890405	809	0.4-	0.2+
820323	809	0.4-	0.0	820330	809	1.5+	1.3+	890405	809	0.5-	0.2+
820323	809	0.2-	0.0	820331	809	0.1+	0.0	890408	809	1.8+	1.4+
820323	809	0.0	0.4-	820331	809	0.3+	0.5+	890408	809	1.0+	1.4+
820324	809	1.3+	0.4-	820331	809	0.9+	0.6+	890408	809	1.1+	1.4+
820324	809	0.9+	0.1+	820331	809	0.2-	0.3-	890410	809	1.2-	0.4-
820324	809	0.8+	0.3+	820331	809	0.3-	0.8-	890410	809	0.7-	0.3-
820326	809	0.5+	0.2-	820331	809	0.0	0.1-	890410	809	1.8-	0.7-

1982 RH = 1951 EJ = 1981 ET49

Id. R. H. McNaught (k), C. M. Bardwell
 Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Bardwell
 M 292.97604 (1950.0) P Q
 n 0.23279914 Peri. 113.52627 +0.21320034 +0.97599300
 a 2.6170740 Node 168.51267 -0.95796215 +0.21778329
 e 0.1388673 Incl. 12.92166 -0.19197430 -0.00284471
 P 4.23 H 13.0 G 0.25

Residuals in seconds of arc

510313	024	0.1-	0.9-	820915	688	0.1+	0.2-	820922	688	0.5+	1.0-
810306	413	0.9+	0.6+	820916	095	1.8-	3.3+	820922	688	0.7-	2.5-
810306	413	0.9-	0.6-	820921	688	1.9+	0.1-	821017	688	0.3+	1.7+
820915	688	0.3-	1.8-	820921	095	(2.2-	5.1+)	821017	688	0.1+	0.1+

1982 SX5 = 1956 TB1

Id. T. Kobayashi (MPC 13692)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M	261.01346		(1950.0)		P		Q	
n	0.22793930	Peri.	351.41718		+0.62004540		+0.78413785	
a	2.6541417	Node	316.89691		-0.71751914		+0.55338849	
e	0.1973092	Incl.	2.17341		-0.31734836		+0.28087188	
P	4.32	H	12.5		G	0.25		

Residuals in seconds of arc

561001	024	1.3+	3.6-	820916	095	1.3-	2.3+	821022	095	2.1-	2.6+
561001	024	2.1+	4.0-	820920	095	1.0-	2.8+	860808	095	0.2-	0.7+
561010	024	0.8+	1.4-	820926	095	0.3+	1.0+				

1982 UU5 = 1982 VD6 = 1986 RP10

Id. S. Nakano (d, MPC 9019; unpublished)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M	324.42397		(1950.0)		P		Q	
n	0.23583728	Peri.	21.36445		+0.36561097		+0.92795924	
a	2.5945494	Node	270.13936		-0.86405194		+0.30952098	
e	0.1245621	Incl.	4.14333		-0.34603882		+0.20757748	
P	4.18	H	13.0		G	0.25		

Residuals in seconds of arc

821020	095	1.9+	0.1+	821108	095	2.1-	0.2-	860911	095	3.5+	0.9+
821021	095	0.3+	0.4-	821109	095	1.0+	2.1+				
821022	095	1.0-	1.8-	860909	095	3.6-	0.6-				

1982 UX5 = 1989 GJ1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M	162.14138		(1950.0)		P		Q	
n	0.21885512	Peri.	159.51828		+0.30553044		-0.94958799	
a	2.7270877	Node	272.63957		+0.86348607		+0.30740528	
e	0.0889665	Incl.	4.03212		+0.40130158		+0.06151947	
P	4.50	H	13.5		G	0.25		

Residuals in seconds of arc

821020	095	0.7+	0.1+	890403	809	0.1+	0.7-	890408	809	0.6-	0.5+
821022	095	1.2-	0.6-	890405	809	1.3+	0.8-	890408	809	0.4-	0.1+
821024	095	0.5+	0.6+	890405	809	0.0	0.2+	890410	809	0.1+	1.1-
890403	809	0.3-	0.4+	890405	809	0.1-	0.0	890410	809	0.0	0.5+
890403	809	0.4+	0.0	890408	809	0.5-	0.2+	890410	809	0.1+	0.8+

1982 UG6 = 1982 XR4 = 1975 BO = 1986 RC17

Id. Purple Mountain Observatory (d, MPC 10376), I. A. Filippova (k),
C. M. Bardwell

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Bardwell

M	217.03717		(1950.0)		P		Q	
n	0.23425350	Peri.	13.49807		+0.39865854		-0.91682711	
a	2.6062307	Node	53.01215		+0.83876126		+0.35464262	
e	0.2324378	Incl.	1.60323		+0.37087857		+0.18345753	
P	4.21	H	13.0		G	0.25		

Residuals in seconds of arc

750117	095	0.0	0.2-	821110	330	1.1-	1.4+	860914	095	1.3-	1.5+
821020	095	1.8-	0.2+	821114	095	0.1-	0.8-	861006	095	0.7+	0.6+
821025	095	0.7+	1.0+	821117	330	2.0+	0.5+	861010	095	0.4+	1.3-
821109	095	0.6+	1.1+	821206	330	1.2-	0.6-	861010	095	0.5+	2.1-

1982 UY6 = 1982 VU = 1982 VE9 = 1969 TJ5

Id. T. Furuta (d, MPC 11515), H. Oishi (ibid.)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	273.81800		(1950.0)		P				Kastel'
									Q
n	0.23090028	Peri.	296.75648		+0.86328510				+0.50074251
a	2.6313972	Node	33.30312		-0.41243735				+0.77208305
e	0.2533956	Incl.	6.61090		-0.29091970				+0.39133706
P	4.27	H	13.6		G	0.25			

Residuals in seconds of arc

691014	095	(7.7+)	1.1+	821109	095	0.9+	0.9-	860914	095	0.1-	0.0
691015	095	0.5-	1.7+	821115	688	1.9+	0.9+	861006	095	(3.1+)	0.5-
691017	095	0.5-	0.9+	821115	688	0.2+	2.7-	861010	095	1.2+	0.7-
821020	095	2.9-	2.5+	860910	095	0.2-	0.6-	861011	095	(4.6-	3.5+)

1982 UX10 = 1986 VG3

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

M	342.72289		(1950.0)		P				Nakano
									Q
n	0.23834271	Peri.	58.31413		+0.34474349				+0.91724416
a	2.5763350	Node	233.17021		-0.92331992				+0.29302874
e	0.1118469	Incl.	14.43554		-0.16921064				+0.26980977
P	4.14	H	12.5		G	0.25			

Residuals in seconds of arc

821025	095	0.5+	1.6-	861007	095	1.6-	0.6+	861104	010	1.1+	0.3+
821109	095	0.6-	0.8+	861011	095	0.1-	0.0	861104	010	1.8+	0.0
821114	095	0.0	0.7+	861104	010	1.2-	0.8-				

1983 PP = 1978 NB4 = 1979 SU3 = 1981 DX3 = 1988 VF7

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

M	52.63260		(1950.0)		P				Nakano
									Q
n	0.24188566	Peri.	316.14188		-0.46147498				-0.88580377
a	2.5511158	Node	161.17372		+0.84997046				-0.45725579
e	0.1330567	Incl.	8.71823		+0.25414770				-0.07917589
P	4.07	H	12.5		G	0.25			

Residuals in seconds of arc

780710	095	0.3-	0.1-	830813	688	1.0+	1.1-	830906	688	0.3+	0.5+
790924	095	1.2-	1.7+	830902	688	0.4+	0.2-	881105	033	0.3-	0.1+
810223	095	0.2+	2.2-	830902	688	0.3-	2.1-	881106	033	0.3-	0.4+
830813	688	0.9+	1.1-	830906	688	0.2-	0.4+	881106	033	0.2+	0.0

1984 EP = 1984 FZ1 = 1951 ES2 = 1979 HM4 = 1986 OJ

Id. T. Furuta (d, JAM 2040), T. Kobayashi

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M	350.67291		(1950.0)		P				Kobayashi
									Q
n	0.17845664	Peri.	12.90017		-0.99887167				-0.04106665
a	3.1245027	Node	164.68590		+0.03142635				-0.94812413
e	0.0844775	Incl.	5.18146		+0.03560573				-0.31523667
P	5.52	H	12.0		G	0.25			

Residuals in seconds of arc

510313	711	0.9-	1.2+	Y	840301	688	0.8-	0.8-	860727	413	1.1-	1.1+
790424	095	1.3-	0.4-		840330	095	0.9-	1.8+	860801	413	1.8-	1.1-
840301	688	1.0+	0.7-		840403	095	2.9-	1.2+	860801	413	1.0+	0.4+

1984 GR = 1933 FN1 = 1986 RA17

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

M	303.68191		(1950.0)		P				Nakano
									Q
n	0.17491084	Peri.	266.29996		-0.42535116				+0.90490906
a	3.1665943	Node	338.50852		-0.81356666				-0.38942852
e	0.0513362	Incl.	2.29897		-0.39646648				-0.17171201
P	5.63	H	11.5		G	0.25			

Residuals in seconds of arc

330325 024	0.1+	0.2+	840423 809	0.2-	0.3+	840429 809	0.6-	0.6-
840404 071	0.9+	0.7+	840424 809	0.5+	0.0	840429 809	0.8-	0.5-
840404 071	0.8+	0.2+	840424 809	0.3+	0.1+	840429 809	0.8-	0.0
840405 071	0.9+	1.0+	840428 809	0.8-	0.2-	860915 095	1.2-	1.1+
840423 809	0.7+	0.3-	840428 809	0.8-	0.2-	861002 095	0.9+	0.5-

1984 SS1 = 1989 EP3

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Kobayashi

M 82.40160		(1950.0)		P	Q
n 0.28633211	Peri.	251.69657	-0.42015539		-0.90623934
a 2.2797611	Node	223.24422	+0.85625205		-0.37880431
e 0.2007714	Incl.	3.92541	+0.30050271		-0.18771670
P 3.44	H 15.0		G 0.25		

Residuals in seconds of arc

840927 046	1.2+	0.3-	840930 046	0.1+	0.1-	890302 809	0.5+	0.4-
840927 046	0.6-	0.1-	840930 046	0.4+	0.1-	890303 809	0.1-	0.1+
840929 046	2.0-	0.8-	890302 809	0.5-	0.8-	890303 809	0.9-	1.0+
840929 046	1.1+	1.4+	890302 809	0.0	0.5-	890303 809	1.2+	0.6+

1985 JJ = 1981 SV2

Id. S. Nakano (MPC 13449)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M 210.62464		(1950.0)		P	Q
n 0.18995493	Peri.	149.20462	+0.91707887		+0.39794067
a 2.9971136	Node	187.47269	-0.39342399		+0.89314711
e 0.1151084	Incl.	10.94347	-0.06468314		+0.20959833
P 5.19	H 12.0		G 0.25		

Residuals in seconds of arc

810928 095	2.0+	1.9-	850515 688	0.8-	0.1+	850521 688	0.0	1.1+
810929 511	0.6-	0.5+	850515 688	0.6-	1.3-	860906 095	0.0	0.2+
810929 511	1.1-	0.5+	850518 688	0.4+	0.4-			
810929 511	0.3-	0.6+	850518 688	1.0+	0.4+			

1986 PE = 1989 LR

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Bardwell

M 312.89760		(1950.0)		P	Q
n 0.28429018	Peri.	86.31376	+0.92781482		+0.34425208
a 2.2906690	Node	253.50760	-0.37303906		+0.85748159
e 0.0864804	Incl.	8.61925	+0.00123421		+0.38238178
P 3.47	H 13.5		G 0.25		

Residuals in seconds of arc

860804 675	0.4-	1.5-	860908 095	(6.3-	8.6-)	890603 675	0.3+	1.1+
860804 675	0.8-	0.1+	860929 010	0.3+	0.7-	890605 675	0.9-	0.8-
860806 675	2.7+	2.1+	860929 010	1.3-	0.3-	890605 675	0.4-	1.9-
860814 095	(0.8+	6.5-)	890603 675	0.4+	1.2-			

1986 PN4 = 1981 UV12

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M 212.23978		(1950.0)		P	Q
n 0.18337760	Peri.	14.65714	+0.81061639		+0.54901789
a 3.0683582	Node	310.18940	-0.56049510		+0.62674958
e 0.1947126	Incl.	15.46264	-0.16954736		+0.55295960
P 5.37	H 12.0		G 0.25		

Residuals in seconds of arc

811023 095	1.5+	2.0+	860808 071	0.3-	0.2+	860829 095	0.6-	0.6-
811028 095	1.6-	1.9-	860809 071	0.5+	0.5-	860906 095	1.8+	0.4+
860808 071	0.5-	1.1-	860812 095	0.8-	1.6+			

1986 PX5 = 1978 TJ4 = 1978 VJ12

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M	247.95247	(1950.0)		P		Q	
n	0.24234344	Peri.	273.93559	+0.89346798		-0.44151468	
a	2.5479021	Node	112.28106	+0.43923764		+0.82072493	
e	0.2383669	Incl.	5.10511	+0.09372969		+0.36259534	
P	4.07	H	13.5	G	0.25		

Residuals in seconds of arc

781004	095	0.9-	0.9+	860811	095	0.4+	0.8-	860929	095	1.8+	1.6+
781102	095	1.1+	1.5-	860909	095	0.9-	2.0-	861006	095	1.4-	1.6+

1986 QT = 1989 LD

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Bardwell

M	12.80276	(1950.0)		P		Q	
n	0.29736114	Peri.	162.60504	+0.24939035		+0.96749093	
a	2.2230409	Node	121.81801	-0.89422751		+0.24672628	
e	0.1593164	Incl.	2.83456	-0.37170098		+0.05556476	
P	3.31	H	14.0	G	0.25		

Residuals in seconds of arc

860826	809	0.9-	0.1-	860902	809	0.1-	0.1-	860907	809	0.4+	0.1-
860826	809	0.5-	0.3+	860902	809	0.0	0.2-	860908	095	(1.3+	0.7-)
860826	809	0.2-	0.2+	860904	809	0.1+	0.4-	860909	809	0.1+	0.2-
860827	809	0.1+	0.3+	860904	809	0.1-	0.0	860909	809	0.0	0.2-
860827	809	0.1+	0.6+	860904	809	0.2+	0.4-	860909	809	0.3-	0.3-
860827	809	0.0	0.4+	860905	809	0.9-	0.7-	860911	809	0.4+	0.6+
860829	809	0.4+	0.7+	860905	809	0.6-	0.7-	860911	809	0.3+	0.5+
860829	809	0.7+	0.5+	860905	809	0.5-	0.7-	860911	809	0.3+	0.4+
860829	809	0.7+	0.3+	860906	809	0.2-	0.4-	890603	675	0.8+	0.4+
860901	809	0.6+	0.1+	860906	809	0.2-	0.4-	890603	675	0.4-	0.5+
860901	809	0.6+	0.3+	860906	809	0.0	0.3-	890605	675	0.1-	0.6+
860901	809	0.4+	0.2+	860907	809	0.3-	0.0	890605	675	0.4-	1.6-
860902	809	0.4-	0.0	860907	809	0.1-	0.1-				

1986 QP2 = 1981 SG8 = 1989 CT4

Id. D. W. E. Green, S. Nakano

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Green

M	206.56647	(1950.0)		P		Q	
n	0.17615120	Peri.	192.20538	+0.76817478		+0.63943953	
a	3.1517119	Node	127.99719	-0.58391037		+0.72021868	
e	0.1870515	Incl.	2.32793	-0.26259510		+0.26907647	
P	5.60	H	13.0	G	0.25		

Residuals in seconds of arc

810924	033	0.4-	0.0	860828	809	0.4-	0.6-	860901	809	0.1-	0.7+
810924	033	0.3+	0.3-	860828	809	0.2-	0.5-	860901	809	0.0	0.6+
860727	413	0.7-	0.4-	860828	809	0.0	0.3-	860901	809	0.1+	0.4+
860727	413	0.7+	2.8+	860830	809	0.1+	0.1+	890202	033	0.3+	0.1+
860801	413	0.6-	1.6-	860830	809	0.1+	0.1+	890203	033	0.1-	0.2+
860801	413	0.2-	1.0+	860830	809	0.0	0.1+				

1986 QR3 = 1989 LN

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Bardwell

M	10.41170	(1950.0)		P		Q	
n	0.28225072	Peri.	252.06682	+0.17708641		+0.98341784	
a	2.3016903	Node	28.22303	-0.86873813		+0.17486496	
e	0.0860651	Incl.	4.74414	-0.46253050		+0.04807916	
P	3.49	H	13.5	G	0.25		

Residuals in seconds of arc

860829	809	0.5-	0.4-	860901	809	0.4+	0.2-	860907	809	0.6-	0.1-
860829	809	0.4-	0.2-	860902	809	0.5+	0.0	860907	809	0.7-	0.1-
860829	809	0.4-	0.3-	860902	809	0.5+	0.2-	890604	675	0.0	0.9-
860831	809	0.3+	0.3+	860902	809	0.6+	0.2-	890604	675	0.6+	0.9-
860831	809	0.1+	0.3+	860904	809	0.2+	0.0	890606	675	0.5+	0.3-
860831	809	0.0	0.3+	860904	809	0.2+	0.0	890606	675	1.1-	1.0+
860901	809	0.1+	0.1-	860904	809	0.3+	0.1-				
860901	809	0.5+	0.2-	860907	809	0.7-	0.0				

1986 QY4 = 1954 XF = 1975 RQ1 = 1977 BO = 1981 TM2 = 1981 WB3 = 1983 CD1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M 176.34836

(1950.0)

P

Q

n 0.18095166 Peri. 267.51041 +0.89850912 -0.43755762

a 3.0957214 Node 118.43581 +0.41687755 +0.82563677

e 0.1823937 Incl. 2.28080 +0.13745715 +0.35618430

P 5.45 H 11.5 G 0.25

Residuals in seconds of arc

541201	024	2.2+	1.9+	830211	688	0.1+	0.4-	860830	095	4.3+	1.7+
750905	095	3.8-	2.4-	830211	688	3.5+	0.1-	860907	095	2.3+	0.1+
770120	095	2.9-	0.2+	830214	381	2.0-	0.5+	860909	095	2.2-	2.6+
811004	095	0.6+	1.4-	830219	688	0.9-	0.8-	860929	095	0.7+	0.2-
811124	033	0.5-	0.8-	830219	688	0.6+	0.6+	861006	095	0.8-	0.6+
811124	033	1.1-	1.1-	860818	095	0.6-	0.4-				

1986 RK1 = 1931 TY = 1977 RU4 = 1987 YX1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Bardwell

M 203.54384

(1950.0)

P

Q

n 0.21451911 Peri. 224.60399 +0.87097013 -0.49088436

a 2.7637129 Node 164.75518 +0.47018540 +0.82026996

e 0.1215343 Incl. 4.59420 +0.14260688 +0.29358089

P 4.59 H 13.0 G 0.25

Residuals in seconds of arc

311006	024	(25.2-	11.6-)	860905	046	0.9+	0.4+	871220	010	1.3+	0.6-
311017	024	0.9+	2.4-	860905	046	0.5+	0.0	871220	010	(6.0-	0.6+)
770909	095	1.1-	3.0+	860905	046	0.4+	1.3-	871220	010	0.7-	1.4+
860812	095	0.5+	0.1-	860905	046	0.2+	0.6+	871229	010	(5.6+	1.8-)
860902	046	0.0	0.9+	860907	095	(4.7-	2.0-)	871229	010	0.6-	0.9-
860903	046	(3.0+	6.0+)	860912	095	2.2-	1.1-				

1986 RO1 = 1986 PL4 = 1975 FL = 1985 DY3

Id. S. Nakano, T. Kobayashi

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M 88.78592

(1950.0)

P

Q

n 0.29694764 Peri. 285.71775 -0.80443949 +0.59302858

a 2.2251041 Node 290.66678 -0.52986643 -0.74262711

e 0.0767220 Incl. 2.11665 -0.26854921 -0.31116247

P 3.32 H 13.5 G 0.25

Residuals in seconds of arc

750317	095	0.9+	2.1+	860812	095	1.5-	0.9-	860904	046	0.4-	0.3-
850220	675	0.4-	1.8-	860831	010	(6.2-	0.1+)	860905	046	0.5+	0.6+
850222	675	1.0-	1.3-	860831	010	1.2+	0.8+	860905	046	0.9+	0.8-
860806	801	0.3+	0.8-	860904	046	0.6-	0.1+				

1986 RV2 = 1979 OW15 = 1989 LC

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Bardwell

M	7.45493		(1950.0)		P		Q
n	0.28794778	Peri.	104.40597	+0.37457614		+0.92713904	
a	2.2712298	Node	187.61610	-0.87776599		+0.35100928	
e	0.1869171	Incl.	4.45367	-0.29869646		+0.13117046	
P	3.42	H	14.0	G	0.25		

Residuals in seconds of arc

790730	095	0.8-	3.2+	860912	688	0.5+	0.6+	890603	675	0.7+	1.5-
860906	688	3.0-	2.0-	861005	688	0.9+	1.4+	890605	675	1.1-	1.5+
860906	688	3.4+	2.6-	861005	688	2.8-	2.1-	890605	675	0.6+	0.2-
860912	688	1.6+	1.4+	890603	675	0.4-	0.8-				

1986 RU4 = 1986 VC1 = 1986 WK3 = 1937 JN = 1956 UH = 1976 ME = 1977 TY7
= 1982 UN11

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

(J-P)

Nakano

M	118.04391		(1950.0)		P		Q
n	0.22928308	Peri.	248.19057	-0.93981585		-0.27465756	
a	2.6437613	Node	275.40310	+0.33623208		-0.84922720	
e	0.1196261	Incl.	11.77999	-0.06077951		-0.45097271	
P	4.30	H	11.0	G	0.25		

Residuals in seconds of arc

370504	078(33.3-	22.6-)X	821016	095	1.0-	3.0-	861106	054	0.2+	0.1+	
370506	078(31.5+	8.5+)X	860907	071	(2.5+	6.8-)	861125	010	0.5-	1.3-	
561028	760	1.3+	2.8+	860907	071	1.9+	0.6+	861125	010	0.4+	0.6+
561028	760	2.0-	1.1+	861002	095	2.0+	1.4+	861125	010	1.0-	1.6-
760620	095	0.2+	0.3-	861008	095	1.4-	0.6+				
771012	095	0.8-	1.4-	861106	054	0.7+	0.7-				

1986 RC7 = 1959 UB = 1969 RL = 1969 RW1 = 1973 YG2 = 1988 CK1

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Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

(J-P)

Nakano

M	319.92165		(1950.0)		P		Q
n	0.29053528	Peri.	8.65795	+0.99918038		+0.03696434	
a	2.2577248	Node	349.18248	-0.04036198		+0.87875758	
e	0.1124996	Incl.	5.04333	-0.00308016		+0.47583479	
P	3.39	H	13.5	G	0.25		

Residuals in seconds of arc

591028	760	0.0	0.3+	690913	095	2.0-	2.4-	861008	095	1.2-	2.0+
591028	760	2.9+	0.1-	731220	095	0.7-	0.2+	880213	054	0.2+	0.6+
591103	760	2.9-	3.0-	860906	095	1.1-	0.7+	880213	054	0.8+	0.5+
591103	760	1.9+	0.5+	860915	095	1.1+	0.9+				
690908	095	2.8+	0.6-	861002	095	1.8-	2.3+				

1986 RB12 = 1987 XQ

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

(J-P)

Nakano

M	185.76737		(1950.0)		P		Q
n	0.17278512	Peri.	88.10091	+0.95940455		+0.12522718	
a	3.1925131	Node	264.64281	-0.21400903		+0.90683558	
e	0.1193773	Incl.	14.70345	+0.18369278		+0.40245172	
P	5.70	H	11.0	G	0.25		

Residuals in seconds of arc

860909	095	0.4-	1.3-	871214	046	1.9-	2.2-	871215	046	1.8+	1.2-
860913	095	0.5+	1.6+	871214	046	0.2+	0.8+				
861006	095	0.2-	0.3-	871215	046	0.1-	2.7+				

1986 RH12 = 1989 GE5

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano
M 273.64036	(1950.0)	P Q
n 0.25160870	Peri. 147.33930	+0.98793661 +0.10949210
a 2.4849623	Node 207.02428	-0.12885658 +0.97345196
e 0.1759638	Incl. 13.94669	+0.08589086 +0.20100438
P 3.92	H 12.5	G 0.25

Residuals in seconds of arc

860909 095	0.6+	0.3+	890406 809	0.0	0.8+	890407 809	0.5-	0.8-
860913 095	0.9-	0.0	890406 809	0.9+	0.3+	890407 809	0.4-	0.3-
861003 095	2.2+	2.3-	890406 809	1.3+	0.8+			
861006 095	1.9-	2.0+	890407 809	1.2-	0.9-			

1986 SC2 = 1982 QB2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano
M 326.84523	(1950.0)	P Q
n 0.25582172	Peri. 57.14280	+0.28995038 +0.94498621
a 2.4576044	Node 230.46863	-0.93051007 +0.24136378
e 0.1800528	Incl. 11.32253	-0.22378516 +0.22078176
P 3.85	H 13.0	G 0.25

Residuals in seconds of arc

820816 095	0.8+	0.2-	860909 095	0.6-	0.8-	860929 095	3.0+	1.2-
820823 095	0.9-	0.6+	860909 095	0.6-	0.8-	861003 095	1.6-	2.5+

1986 TG4 = 1986 WD5 = 1969 SB = 1978 EL8 = 1989 CO4

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano
M 196.42470	(1950.0)	P Q
n 0.17616633	Peri. 16.84971	+0.96353592 +0.19416147
a 3.1515314	Node 329.98445	-0.26757892 +0.69979021
e 0.0928367	Incl. 21.59635	+0.00024374 +0.68745544
P 5.59	H 11.0	G 0.25

Residuals in seconds of arc

690919 808	0.5-	2.7+	861002 095	0.0	0.7+	861127 010	0.9-	0.3-
690920 808	0.2-	1.4+	861004 675	2.2-	0.7-	861127 010	0.8+	0.5+
780305 095	3.7-	2.9+	861004 675	1.2+	0.9-	861127 010	2.4+	0.5+
860829 095	0.7-	0.4+	861005 675	1.1-	0.5+	890207 046	2.9+	0.2+
860906 095	1.9-	2.2-	861005 675	2.2+	0.1+	890207 046	2.9+	0.7-

1986 UM1 = 1954 UC2 = 1970 EN = 1977 TM8 = 1982 VT11 = 1987 YT5

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano
M 151.23419	(1950.0)	P Q
n 0.21491180	Peri. 68.71446	-0.16056605 -0.98576088
a 2.7603453	Node 30.65791	+0.86534472 -0.16492825
e 0.0698910	Incl. 5.62051	+0.47476001 -0.03277432
P 4.59	H 12.5	G 0.25

Residuals in seconds of arc

541025 760	0.3+	0.6+	821113 095	0.2+	2.8-	861026 010	5.2+	0.5-
541025 760	1.4+	0.6-	860910 095	0.8-	0.8+	861026 010	(12.3+	0.1-)
700307 095	2.9-	3.8-	860914 095	3.0-	3.6-	871224 010	0.1+	1.0+
771013 095	0.3-	0.2-	861006 095	0.1+	0.8+	871224 010	1.9+	1.2+
771017 095	2.8-	0.5-	861010 095	0.5+	1.8+	871224 010	1.0+	2.2+

1986 VD1 = 1971 OH1 = 1973 AF

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano
M 227.81886	(1950.0)	P Q
n 0.20229007	Peri. 56.21479	+0.96843286 -0.21014133
a 2.8740029	Node 315.49437	+0.11289246 +0.84930563
e 0.1437963	Incl. 11.02752	+0.22224555 +0.48427323
P 4.87	H 12.0	G 0.25

Residuals in seconds of arc

710728 095	0.0	0.0	730103 095	0.3+	0.6+	861008 095	0.1+	0.3+
730101 095	0.3-	0.7-	861002 095	0.1+	0.6-	861106 054	0.3-	0.2+

1986 WM3 = 1930 QL = 1943 SC = 1977 QK = 1980 BX1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

M 340.84819

(1950.0)

P

Nakano

Q

n 0.23088470 Peri. 288.74852 -0.03821918 +0.99613585

a 2.6315156 Node 338.59046 -0.81562679 -0.07681477

e 0.2363354 Incl. 12.51068 -0.57731467 +0.04257762

P 4.27 H 11.5 G 0.25

Residuals in seconds of arc

300821 078	0.3+	2.5-	770818 095	0.4-	3.0+	861008 095	0.2+	0.3-
300821 078	0.9-	2.6-	770908 095	0.9-	0.7+	861125 010	2.2-	0.0
430923 020	2.5+	2.1-	800123 095	0.3-	2.0-	861125 010	2.6-	0.7-
431003 020	2.6+	4.2+	861002 095	0.5+	1.1-			

1987 BC = 1953 EK = 1975 TD6

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Oishi

M 296.13444

(1950.0)

P

Q

n 0.19663082 Peri. 185.97491 +0.99957565 -0.02899391

a 2.9288864 Node 175.68357 +0.02803029 +0.93117389

e 0.2096933 Incl. 2.13669 +0.00792617 +0.36342061

P 5.01 H 12.1 G 0.25

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

530311 020	0.3+	0.7+	870128 887	0.3-	1.5+	870204 887	0.8+	4.4-
530311 020	(0.10+	0.03-)	870128 887	1.0+	2.8+	870220 887	0.3-	0.4-
751009 711	1.0-	1.4-	870128 887	1.6-	1.7+	870220 887	0.5+	1.4-
751009 711	0.9+	1.7+	870204 887	(6.7+	6.9-)			

1988 AF = 1986 SF3

Id. G. R. Kastel'

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Bardwell

M 169.19510

(1950.0)

P

Q

n 0.23583067 Peri. 158.17560 -0.06433786 -0.97803777

a 2.5945979 Node 295.04470 +0.88012121 +0.03802625

e 0.1334442 Incl. 12.63994 +0.47036932 -0.20492955

P 4.18 H 12.0 G 0.25

Residuals in seconds of arc

860929 095	0.6+	1.0+	880119 400	1.3+	0.8-	880124 400	0.5-	0.9+
861003 095	0.6-	0.9-	880119 400	0.2+	0.8+	880124 400	1.1+	0.9+
880111 400	0.5-	0.4-	880120 400	0.6-	1.5+	880216 400	0.7-	0.9-
880111 400	1.6-	0.9-	880120 400	0.1-	0.2-	880216 400	1.3+	0.3+
880111 400	1.9-	1.6-	880120 400	1.4+	0.7+	880216 400	1.3-	1.2-
880119 400	2.2+	1.0-	880124 400	0.5-	1.1+			

1988 AK1 = 1974 HM2 = 1986 RR7

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M 320.87978

(1950.0)

P

Q

n 0.26748057 Peri. 331.00956 +0.76593721 +0.64271505

a 2.3856611 Node 348.95181 -0.57250832 +0.67048726

e 0.0626171 Incl. 4.80390 -0.29253104 +0.37062676

P 3.68 H 13.0 G 0.25

Residuals in seconds of arc

740424 805	0.5-	1.0-	871224 010	0.1+	1.1+	880113 046	0.8+	1.5-
860907 095	0.2-	1.1-	880110 046	1.1-	0.1+	880113 046	1.7+	2.6-
860912 095	0.9+	0.3-	880110 046	0.4-	2.0-	880120 046	0.3+	0.7+
871224 010	2.4-	1.4+	880112 046	1.4-	0.2+	880120 046	2.8+	0.4-
871224 010	0.2+	0.9+	880112 046	1.1-	1.2+			

1988 BJ1 = 1984 BF1 = 1986 RK13

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano
M 123.24458	(1950.0)	P Q
n 0.25358148	Peri. 134.91708	-0.93312772 -0.35752993
a 2.4720574	Node 24.21080	+0.29819996 -0.82864826
e 0.1468137	Incl. 5.31858	+0.20087168 -0.43071384
P 3.89	H 12.5	G 0.25

Residuals in seconds of arc

840124 381	0.3-	0.3-	880112 033	1.5+	0.3-	880210 877	1.1+	0.5+ Y
840124 381	0.2+	0.8+	880112 033	0.8+	0.2-	880210 877	0.6-	1.3- Y
860909 095	0.1-	1.0- Y	880121 511	(5.6-	0.8+)	880213 877	1.4+	1.7- Y
860929 095	1.9-	0.7+	880121 511	3.1-	1.0+	880213 877	0.6-	0.8- Y
861002 095	2.3+	0.3-	880121 511	0.3-	1.9+			

1988 BB4 = 1976 YN1 = 1986 RF10

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano
M 140.16569	(1950.0)	P Q
n 0.27724009	Peri. 256.87203	-0.96614390 -0.23423107
a 2.3293401	Node 269.50310	+0.25798700 -0.88185377
e 0.0760718	Incl. 6.21034	-0.00294671 -0.40923065
P 3.56	H 13.0	G 0.25

Residuals in seconds of arc

761216 095	0.0	0.4-	880120 809	0.3-	0.2+	880126 809	0.3-	0.1-
860908 095	1.2-	0.1+	880120 809	0.3-	0.2+	880126 809	0.2+	0.0
860911 095	1.0+	0.3+	880122 809	0.6-	0.1+	880128 809	0.8+	0.0
880119 809	0.6-	0.5+	880122 809	0.5-	0.3-	880128 809	0.8+	0.3-
880119 809	0.6-	0.5+	880124 809	0.3-	0.0	880130 809	2.8+	0.8-
880119 809	0.5-	0.5+	880124 809	0.4-	0.0			

1988 BG4 = 1986 RX11

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Nakano
M 213.95688	(1950.0)	P Q
n 0.22677960	Peri. 102.24143	+0.76578546 -0.61198393
a 2.6631825	Node 295.82975	+0.47083335 +0.74283677
e 0.1903874	Incl. 12.68202	+0.43805089 +0.27142069
P 4.35	H 12.5	G 0.25

Residuals in seconds of arc

860909 095	0.4-	0.9-	880121 809	0.3+	0.4+	880126 809	0.0	0.7-
860929 095	0.7+	0.1+	880123 809	0.4+	1.1-	880128 809	0.6-	0.2+
861003 095	0.2-	0.7+	880123 809	0.4+	1.0-	880128 809	0.6-	0.1+
880120 809	0.1-	1.5+	880125 809	0.2+	1.7-	880130 809	0.0	1.6+
880120 809	0.1-	1.4+	880125 809	0.2+	1.7-	880130 809	0.4-	1.6+
880120 809	0.2+	1.2+	880125 809	0.2+	1.6-			
880121 809	0.3+	0.5+	880126 809	0.5-	0.8-			

1988 DN = 1986 RB17

Id. G. R. Kastel'

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5	(J-P)	Bardwell
M 166.43227	(1950.0)	P Q
n 0.20989479	Peri. 231.75226	-0.04392293 -0.99583835
a 2.8041579	Node 220.98495	+0.95038897 -0.01701195
e 0.1934705	Incl. 6.99343	+0.30794736 -0.08953535
P 4.70	H 13.0	G 0.25

Residuals in seconds of arc

860907 095	1.2+	0.3+	880219 413	2.4-	1.2+	880223 809	0.6+	1.9+
860911 095	1.2-	0.2-	880219 413	4.8+	1.9-	880223 809	0.4+	1.1+
861005 095	0.4-	0.1-	880221 809	0.3+	1.9+	880223 413	1.6-	0.3+
880213 809	0.4-	0.0	880221 809	0.1-	2.0+	880223 413	0.9+	0.5-
880215 809	2.0-	0.8-	880221 809	0.1-	1.7+	880225 413	0.8-	0.0
880216 809	1.1-	1.1-	880222 413	2.5-	0.6+	880225 413	1.2+	0.9-
880216 809	0.6-	1.0-	880222 413	0.5-	1.4-	880310 413	1.7-	0.0
880216 809	0.8-	1.7-	880223 809	0.8+	1.5+	880310 413	0.0	1.6-

1988 FL3 = 1959 RZ = 1970 NF

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Kobayashi

M 48.87998		(1950.0)		P	Q
n 0.26485512	Peri.	166.65278	+0.55991740	+0.81695849	
a 2.4013961	Node	137.17132	-0.77758146	+0.57568025	
e 0.2715963	Incl.	11.72087	-0.28611113	+0.03422092	
P 3.72	H 12.0		G 0.25		

Residuals in seconds of arc

590903 024	0.1+	0.8-	880317 399	3.6-	1.7+	880408 399	0.8+	1.0+
700712 095	0.0	0.2+	880321 399	0.5+	1.5+	880408 399	1.4+	0.7+
880316 399	1.8+	1.7-	880321 399	0.6-	1.6+	880413 399	2.7+	0.0
880317 399	1.4-	2.4-	880321 399	1.8-	1.2-			
880317 399	1.4-	0.8-	880408 399	0.9+	1.3-			

1988 ND

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Bardwell

M 72.26937		(1950.0)		P	Q
n 0.36732846	Peri.	267.82284	+0.66884294	-0.67325465	
a 1.9309291	Node	134.28098	+0.72479962	+0.68484478	
e 0.0923597	Incl.	26.12481	-0.16527136	+0.27877555	
P 2.68	H 13.0		G 0.25		

Residuals in seconds of arc

850619 675	2.4-	1.0-	880714 675	0.8+	0.2-	880815 675	0.0	0.2+
850619 675	2.3+	0.7+	880715 675	1.3-	1.0+	880817 675	1.7-	0.1+
870303 675	0.6-	0.5-	880809 675	0.7+	0.3+	880905 675	0.5+	0.1+
870303 675	0.3+	1.6+	880811 675	(7.0+	1.3+)	880907 675	1.4+	0.5-

1988 VK4 = 1950 RW = 1983 DK

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Nakano

M 274.90931		(1950.0)		P	Q
n 0.28964546	Peri.	208.21937	-0.59518390	+0.80085043	
a 2.2623464	Node	25.42827	-0.70514735	-0.48092844	
e 0.0911234	Incl.	8.88149	-0.38538726	-0.35685631	
P 3.40	H 13.5		G 0.25		

Residuals in seconds of arc

500913 839	0.0	0.0	830219 688	0.8-	1.3-	881201 054	0.2+	0.2+
830211 095	0.4-	1.1-	881103 054	0.8-	0.3-	881207 054	0.7-	0.4-
830215 095	1.5+	2.7+	881103 054	1.4+	0.1-			
830219 688	0.3-	0.4-	881104 054	0.1-	0.4+			

1988 XB

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Nakano

M 199.76042		(1950.0)		P	Q
n 0.55467390	Peri.	279.67154	+0.99069207	+0.12576989	
a 1.4670477	Node	73.11699	-0.09343570	+0.90647610	
e 0.4815253	Incl.	3.11924	-0.09898987	+0.40309182	
P 1.78	H 17.5		G 0.25		

From 40 observations 1988 Dec. 5-1989 Feb. 17, mean residual 0".9.

1989 BO = 1952 BT = 1972 YJ = 1982 YR2

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Oishi
 M 288.75778 (1950.0) P Q
 n 0.18876075 Peri. 150.91758 -0.25132871 +0.94903223
 a 3.0097410 Node 103.98406 -0.92158233 -0.17457737
 e 0.0568775 Incl. 11.30299 -0.29583761 -0.26241299
 P 5.22 H 11.1 G 0.25

Residuals in seconds of arc

520123	711	1.0+	2.1-	Y	890202	552	0.3-	1.5+	890227	888	0.7-	0.4+
721229	095	1.4-	0.3-		890202	552	1.2+	2.1+	890305	552	0.9-	1.1-
821222	095	0.3-	1.2+		890207	552	0.3-	0.1-	890305	552	0.0	0.3-
890130	552	(0.7-	4.5-)		890207	552	1.0+	0.7+	890309	888	1.4+	0.7-
890130	552	(0.7-	4.8-)		890226	888	(9.1-	2.6+)	890309	888	1.3+	0.5-
890201	552	0.6-	1.4-		890226	888	(8.9-	2.5+)	890310	888	0.1-	0.1-
890201	552	0.5+	0.0		890227	888	0.8-	0.3+	890310	888	0.7-	0.3+

1989 BQ

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 Nakano
 M 28.31471 (1950.0) P Q
 n 0.08377879 Peri. 353.57434 -0.48241977 -0.83156955
 a 5.1726527 Node 124.92148 +0.81782848 -0.54014770
 e 0.2528741 Incl. 19.61498 +0.31373196 +0.12935431
 P 11.76 H 10.0 G 0.25

From 14 observations 1989 Jan. 29-May 8, mean residual 0".9.

1989 CQ1 = 1977 AP1

Id. S. Nakano (MPC 14360)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Nakano
 M 87.95150 (1950.0) P Q
 n 0.08598061 Peri. 85.06336 +0.62686263 -0.76514156
 a 5.0839728 Node 324.71088 +0.57506865 +0.58165037
 e 0.0962968 Incl. 14.73880 +0.52567984 +0.27611817
 P 11.46 H 10.0 G 0.25

Residuals in seconds of arc

770113	095	1.0-	1.2+		890111	675	1.2-	1.0+	890202	675	0.5+	0.6-
770120	095	0.9+	1.6-		890114	675	1.2+	0.5-	890202	675	0.1+	0.3+
861003	095	0.0	0.1+		890114	675	0.3-	0.2+				

1989 CD4 = 1971 UY1 = 1971 VB1 = 1979 BL2 = 1981 UL8 = 1981 UC18

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P) Green
 M 123.04045 (1950.0) P Q
 n 0.29623054 Peri. 102.41361 +0.42366712 -0.90482642
 a 2.2286936 Node 322.42898 +0.80169266 +0.39633003
 e 0.1377360 Incl. 3.98472 +0.42165751 +0.15560099
 P 3.33 H 14.0 G 0.25

Residuals in seconds of arc

711020	095	0.5+	2.7-		811030	381	0.7-	0.6+	890201	220	(0.1+	6.7-)
711111	095	1.3-	1.0-		890111	033	2.1-	2.1+	890202	220	(1.9+	5.9-)
790124	095	2.0+	0.1-		890111	033	1.7-	1.8+	890202	033	0.7+	1.2-
811024	095	2.1+	1.2+		890114	033	0.9-	1.4+	890203	033	0.8+	1.4-
811030	381	0.3-	1.5+		890201	220	(3.3-	6.4-)	890205	033	1.1+	2.4-

1989 DA

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Bardwell

M	74.11679	(1950.0)		P		Q
n	0.30997400	Peri.	138.69668	-0.61368728		-0.78926435
a	2.1623162	Node	349.10279	+0.69171087		-0.52449718
e	0.5436137	Incl.	6.44060	+0.38068884		-0.31931878
P	3.18	H	18.0	G	0.25	

From 16 observations 1989 Feb. 27-May 27, mean residual 0".8.

1989 GA3 = 1970 EJ3 = 1985 DX3

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

(J-P)

Nakano

M	89.51246	(1950.0)		P		Q
n	0.26237337	Peri.	280.33541	-0.83563890		-0.54888378
a	2.4165201	Node	226.37781	+0.51452626		-0.76892452
e	0.1539482	Incl.	1.64952	+0.19227678		-0.32784397
P	3.76	H	14.5	G	0.25	

Residuals in seconds of arc

700310	805	1.1+	1.2+	890403	809	0.2+	0.9-	890408	809	0.2-	0.9+
700310	805	0.3+	0.2+	890403	809	0.1-	0.7-	890408	809	0.0	1.1+
700310	805	0.6-	0.7+	890405	809	0.0	0.1+	890410	809	1.0+	0.8-
850220	675	0.6-	1.2-	890405	809	0.2+	0.3-	890410	809	0.1+	0.4-
850222	675	0.0	0.5-	890405	809	0.4-	0.1+	890410	809	0.6-	0.5-
890403	809	0.5-	0.4-	890408	809	0.1+	1.6+				

1989 GB3 = 1980 BE6 = 1985 JY1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

(J-P)

Nakano

M	1.98852	(1950.0)		P		Q
n	0.23917531	Peri.	257.44583	-0.12851009		+0.99166818
a	2.5703525	Node	5.19543	-0.86734485		-0.10803435
e	0.1996551	Incl.	5.64611	-0.48083060		-0.07016263
P	4.12	H	14.0	G	0.25	

Residuals in seconds of arc

800123	095	0.1+	0.2+	890403	809	0.6-	1.1+	890408	809	0.4+	0.2-
850511	675	0.2+	1.0+	890405	809	0.1-	1.0+	890408	809	0.4+	0.1-
850514	675	0.0	0.3-	890405	809	0.0	0.2+	890410	809	0.2+	2.5-
890403	809	0.2-	2.2+	890405	809	0.1-	0.6+	890410	809	0.3-	2.3-
890403	809	0.3-	1.3+	890408	809	0.6+	0.3-	890410	809	0.5-	1.6-

1989 GT3 = 1980 TF12

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Kobayashi

M	270.26373	(1950.0)		P		Q
n	0.29360505	Peri.	89.90445	+0.98783404		+0.15463987
a	2.2419557	Node	261.19963	-0.14847398		+0.90638998
e	0.1427953	Incl.	0.95347	-0.04625350		+0.39312049
P	3.36	H	14.0	G	0.25	

Residuals in seconds of arc

801010	095	0.6+	0.2+	890402	809	0.9+	0.1-	890411	809	0.2+	0.9+
801017	095	0.1+	0.2+	890405	809	1.5-	0.6-	890411	809	1.3+	0.0
890402	809	1.3-	0.2+	890405	809	2.2+	1.0-				
890402	809	0.3-	0.1+	890411	809	0.1-	0.1+				

1989 GB4 = 1948 TX1 = 1972 TN4 = 1986 RC8

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

(J-P)

Nakano

M	243.27185	(1950.0)		P		Q
n	0.20629951	Peri.	7.96676	+0.97525972		+0.22088787
a	2.8366436	Node	339.26572	-0.20415323		+0.88472332
e	0.0798263	Incl.	1.42056	-0.08479355		+0.41045487
P	4.78	H	12.5	G	0.25	

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

481007	094	(0.10-	0.07-)X	890403	809	1.2-	0.0	890407	809	0.4+	0.1-
721005	095	0.0	0.1-	890405	809	0.7+	0.5+	890407	809	1.9+	0.4-
860907	095	1.1-	0.5-	890405	809	0.9+	1.5+	890408	809	0.3-	0.1-
861005	095	1.3+	1.8-	890406	809	0.3+	0.2-	890408	809	0.3+	0.7-
861010	095	0.2+	1.4+	890406	809	0.0	0.7-	890408	809	0.5+	0.1+
890403	809	0.9-	0.1-	890406	809	0.3+	0.4-	890412	809	1.6-	0.1+
890403	809	0.8-	0.1-	890407	809	0.6-	1.0-	890412	809	0.5-	0.6+

1989 GO4 = 1985 DE4

Id. T. Kobayashi

Epoch	1989 Oct. 1.0	ET =	JDE 2447800.5	(J-P)	Nakano
M	66.91557		(1950.0)	P	Q
n	0.26044061	Peri.	220.19271	-0.97946796	-0.20014947
a	2.4284609	Node	308.24501	+0.19195009	-0.88927307
e	0.1161078	Incl.	1.76134	+0.06162534	-0.41125854
P	3.78	H	14.0	G	0.25

Residuals in seconds of arc

850222	675	0.1-	0.4-	890405	809	0.1+	0.1+	890410	809	1.0-	0.7+
850223	675	0.1+	0.4+	890405	809	0.5+	0.3+	890410	809	1.7+	0.4-
890403	809	(6.0+	0.5+)	890405	809	0.3+	0.2+	890410	809	0.1-	0.1+
890403	809	(6.7+	0.8+)	890405	809	0.5+	0.0	890410	809	0.1+	0.7+
890403	809	(7.2+	1.1+)	890409	809	0.2+	0.9+	890411	809	(2.7-	0.9-)
890403	809	0.8-	0.1-	890409	809	0.3+	0.1+	890411	809	1.0-	0.7-
890403	809	0.7-	0.9-	890409	809	0.9+	0.2+	890411	809	0.9+	0.3-
890403	809	0.2-	0.8-	890410	809	1.7-	0.4-				

1989 GL5 = 1932 EY = 1982 BN8 = 1986 TS2

Epoch	1989 Oct. 1.0	ET =	JDE 2447800.5	(J-P)	Nakano
M	98.25333		(1950.0)	P	Q
n	0.17308181	Peri.	20.29262	-0.53892559	-0.83235412
a	3.1888637	Node	102.52136	+0.75336238	-0.54499403
e	0.0590503	Incl.	7.61747	+0.37683462	-0.10083716
P	5.69	H	11.5	G	0.25

Residuals in seconds of arc

320315	024	0.6+	1.4+	890405	675	1.8+	1.0+	890429	675	2.1-	2.7-
820119	095	0.8+	0.3+	890405	675	0.5+	1.0+	890501	675	0.2-	0.5-
820120	095	1.1-	0.6-	890406	675	0.1+	0.3-	890501	675	1.0-	1.6-
861007	688	2.6+	2.0-	890406	675	0.7+	0.8-				
861007	688	0.8-	1.8-	890429	675	2.1-	1.6-				

1989 JG = 1989 JJ = 1972 BU = 1979 YA8 = 1980 BD4 = 1983 XT1

Epoch	1989 Oct. 1.0	ET =	JDE 2447800.5	(J-P)	Nakano
M	107.58903		(1950.0)	P	Q
n	0.24131449	Peri.	39.99415	-0.81326045	-0.55912581
a	2.5551397	Node	105.28922	+0.48194831	-0.80244772
e	0.1432646	Incl.	9.62016	+0.32608781	-0.20846100
P	4.08	H	12.5	G	0.25

Residuals in seconds of arc

720120	033	2.8-	2.3+	890504	675	0.3+	0.3+	890525	400	0.7-	0.7+
720120	033	0.7+	0.6-	890504	675	0.9-	0.6+	890601	400	(0.1-	3.2+)
791223	095	4.7+	3.3+	890505	400	0.9-	1.3+	890601	400	1.4+	2.7+
800122	095	3.6+	5.1-	890505	400	0.3+	1.5+	890601	400	0.4-	2.0+
831205	561	1.6-	0.7+	890508	400	(4.3+	1.1-)	890604	675	0.9+	1.1-
831205	561	1.6-	0.2+	890508	400	1.9-	2.3-	890604	675	1.3+	2.5-
831205	561	1.6-	0.4+	890508	400	0.5+	0.2+	890606	675	1.1+	0.8-
831205	561	1.5-	0.3+	890525	400	(0.1+	3.6+)	890606	675	2.4+	2.1-
890502	675	0.5-	1.6-	890525	400	1.4-	1.8+				
890502	675	0.5+	1.4-	890525	400	1.1-	1.5+				

1989 KA = 1971 DO1

Id. T. Furuta

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Ichikawa

M	52.94887		(1950.0)		P		Q
n	0.27923433	Peri.	355.74550	-0.76494152			+0.64148305
a	2.3182363	Node	224.33680	-0.58844424			-0.73262153
e	0.1928677	Incl.	4.76046	-0.26191190			-0.22751964
P	3.53	H	13.6	G	0.25		

Residuals in seconds of arc

710218	095	1.2-	1.1-	890529	886	0.4-	1.3+	890612	886	0.2-	0.1+
710223	095	1.2+	1.1+	890529	886	0.3-	0.4+	890612	886	1.3-	0.9+
890526	886	0.1+	0.9-	890606	886	2.4+	0.8-				
890526	886	0.5-	0.3-	890606	886	0.2+	0.7-				

1989 NA

Epoch 1989 June 23.0 ET = JDE 2447700.5

Green

M	353.81370		(1950.0)		P		Q
n	0.22070212	Peri.	201.52573	+0.46217683			+0.85148168
a	2.7118462	Node	96.74880	-0.77280755			+0.52374915
e	0.4656083	Incl.	14.44564	-0.43492651			-0.02580250
P	4.47	H	15.0	G	0.25		

From 9 observations 1989 July 2-7.

4077 P-L = 1951 ED = 1962 CB1

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5 (J-P)

Oishi

M	117.29453		(1950.0)		P		Q
n	0.26413964	Peri.	214.46243	-0.98920025			-0.14567999
a	2.4057354	Node	317.15178	+0.13924441			-0.89969093
e	0.1438236	Incl.	1.35916	+0.04575864			-0.41150161
P	3.73	H	15.1	G	0.25		

Residuals in seconds of arc

510306	024	0.4-	0.9-	600927	675	0.1-	0.6+	601026	675	0.8+	0.6+
600924	675	0.8-	0.1+	600928	675	0.2-	0.5-	620210	033	1.7-	0.9+
600925	675	0.7-	0.7-	600928	675	0.3+	0.9-	620210	033	1.8+	0.5-
600926	675	0.0	0.9-	601017	675	1.9+	0.8+				
600926	675	0.7-	0.1+	601022	675	0.2-	0.1+				

5568 P-L = 1977 RY = 1986 XB2

Id. T. Kobayashi (MPC 12583, unpublished)

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Kobayashi

M	287.04928		(1950.0)		P		Q
n	0.22963036	Peri.	320.76560	+0.98418429			+0.16253477
a	2.6410898	Node	30.10394	-0.10525509			+0.85642797
e	0.1238251	Incl.	8.07483	-0.14248734			+0.49001385
P	4.29	H	14.0	G	0.25		

Residuals in seconds of arc

601017	675	1.2-	0.6+	770907	095	0.1+	0.1-	861203	010	0.3-	2.5+
601022	675	0.1-	0.3-	861201	010	1.2+	0.5-	861203	010	1.5+	2.2+
601025	675	0.5+	0.0	861201	010	0.7-	2.1-				
601026	675	0.8+	0.0	861201	010	1.7-	2.1-				

5119 T-3 = 1982 FB2 = 1989 GQ3

Epoch 1989 Oct. 1.0 ET = JDE 2447800.5

Kobayashi

M	117.99001		(1950.0)		P		Q
n	0.28685306	Peri.	281.95849	-0.22856289			-0.97348621
a	2.2770002	Node	181.35954	+0.97346460			-0.22842949
e	0.2344422	Incl.	22.66869	+0.01121092			-0.01202409
P	3.44	H	13.5	G	0.25		

Residuals in seconds of arc

771011	675	0.6-	0.0	771017	675	0.1-	0.3-	820323	675	1.0-	0.4-
771011	675	1.2-	0.0	771017	675	0.6+	0.5+	820323	675	1.1+	0.1+
771012	675	0.3+	0.9-	771021	675	0.7+	0.5+	890405	675	1.2+	0.1-
771012	675	0.3+	1.5-	771021	675	0.5+	0.7+	890405	675	0.2-	0.0
771016	675	0.5+	0.2+	771022	675	1.3-	1.1+	890406	675	0.2+	0.0
771016	675	0.3+	0.9-	771022	675	0.4+	0.1+	890406	675	1.2-	0.3-

* * * * *

EPHEMERIDES.

Periodic Comet West-Hartley (1989k)

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	ml	Elements MPC 14747
1989	07	13	14 00.02	-14 25.3	2.550	2.948	102.9	19.6	18.2
1989	07	23	14 06.21	-15 27.5					
1989	08	02	14 13.82	-16 32.2	2.903	3.036	87.7	19.5	18.6
1989	08	12	14 22.67	-17 38.6					
1989	08	22	14 32.56	-18 45.7	3.257	3.123	73.4	18.1	19.0
1989	09	01	14 43.36	-19 52.9					
1989	09	11	14 54.94	-20 59.3	3.597	3.211	59.8	15.7	19.3
1989	09	21	15 07.19	-22 04.4					
1989	10	01	15 20.01	-23 07.3	3.906	3.298	46.6	12.7	19.6
1989	10	11	15 33.33	-24 07.8					
1989	10	21	15 47.04	-25 05.1	4.171	3.385	33.4	9.3	19.9

1989 NA

a, e, i = 2.71, 0.47, 14

Elements MPC 14797

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V	Elements MPC 14797
1989	07	13	20 10.92	-33 21.0	0.445	1.451	165.0	10.4	14.6
1989	07	23	20 16.36	-38 28.7					
1989	08	02	20 21.69	-42 36.7	0.470	1.454	154.8	17.3	15.0
1989	08	12	20 28.23	-45 22.6					
1989	08	22	20 36.98	-46 44.3	0.553	1.482	141.0	25.5	15.6
1989	09	01	20 48.20	-46 51.2					
1989	09	11	21 01.72	-45 56.8	0.680	1.533	129.8	30.3	16.2
1989	09	21	21 16.98	-44 15.6					
1989	10	01	21 33.33	-41 59.9	0.845	1.604	120.4	32.6	16.9
1989	10	11	21 50.34	-39 19.7					
1989	10	21	22 07.64	-36 23.6	1.048	1.690	111.6	33.2	17.5
1989	10	31	22 24.99	-33 17.7					
1989	11	10	22 42.30	-30 06.9	1.287	1.786	102.5	32.8	18.0
1989	11	20	22 59.49	-26 54.9					
1989	11	30	23 16.52	-23 44.4	1.559	1.890	93.1	31.4	18.5

Periodic Comet Brorsen-Metcalf (1989o)

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2	Elements MPC 14747
1989	07	13	00 56.48	+17 21.2	0.901	1.362	90.3	48.3	16.1
1989	07	18	01 20.84	+21 41.3					
1989	07	23	01 51.44	+26 34.1	0.739	1.196	84.4	57.7	15.1
1989	07	28	02 30.55	+31 45.9					
1989	08	02	03 20.35	+36 42.0	0.640	1.026	72.7	70.8	14.1
1989	08	07	04 21.02	+40 24.8					
1989	08	12	05 28.07	+41 56.5	0.633	0.854	57.1	84.5	13.3
1989	08	17	06 33.01	+41 00.1					
1989	08	22	07 29.09	+38 08.7	0.726	0.688	42.8	91.3	12.7
1989	08	27	08 14.80	+34 10.8					
1989	09	01	08 52.01	+29 40.6	0.898	0.547	32.7	84.9	12.1

1989 09 06	09 23.40	+24 55.3						
1989 09 11	09 51.11	+20 03.0	1.118	0.479	25.4	64.2	12.0	
1989 09 16	10 16.37	+15 12.1						
1989 09 21	10 39.62	+10 32.6	1.342	0.527	20.0	40.8	12.9	

1987 SY		a,e,i = 1.44, 0.59, 6			Elements MPC 14353			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 09 11		03 57.69	+28 07.3	1.391	1.910	104.5	30.7	20.8
1989 09 21		03 55.28	+28 42.1					
1989 10 01		03 47.93	+29 02.7	1.253	2.008	125.6	23.9	20.5
1989 10 11		03 35.47	+29 02.6					
1989 10 21		03 18.53	+28 34.9	1.164	2.090	150.7	13.5	20.1
1989 10 31		02 58.74	+27 35.3					
1989 11 10		02 38.57	+26 07.4	1.175	2.157	169.7	4.7	19.9
1989 11 20		02 20.58	+24 23.5					
1989 11 30		02 06.47	+22 39.4	1.307	2.210	148.8	13.4	20.5
1989 12 10		01 57.00	+21 08.7					
1989 12 20		01 52.06	+19 58.8	1.533	2.249	125.2	20.9	21.1

1986 RU4		a,e,i = 2.64, 0.12, 12			Elements MPC 14789			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 07 13		17 53.39	-23 08.2	1.761	2.732	158.4	7.9	14.9
1989 07 23		17 46.48	-22 28.3					
1989 08 02		17 42.09	-21 52.4	1.928	2.756	136.7	14.6	15.3
1989 08 12		17 40.43	-21 21.7					
1989 08 22		17 41.45	-20 56.4	2.164	2.778	117.3	18.9	15.7

1980 YB		a,e,i = 2.29, 0.07, 5			Elements MPC 14782			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 07 13		17 58.08	-22 21.0	1.431	2.410	159.5	8.5	16.7
1989 07 23		17 50.38	-22 44.6					
1989 08 02		17 45.53	-23 06.3	1.572	2.419	137.5	16.5	17.2
1989 08 12		17 43.87	-23 26.6					
1989 08 22		17 45.37	-23 45.5	1.779	2.428	118.3	21.5	17.6

1988 BJ1		a,e,i = 2.47, 0.15, 5			Elements MPC 14792			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 07 13		17 58.84	-31 36.0	1.630	2.601	158.2	8.3	16.1
1989 07 23		17 51.04	-31 22.5					
1989 08 02		17 46.09	-31 03.3	1.791	2.629	137.3	15.2	16.6
1989 08 12		17 44.24	-30 41.8					
1989 08 22		17 45.45	-30 20.0	2.023	2.655	118.3	19.6	17.0

1979 OD15		a,e,i = 2.26, 0.12, 5			Elements MPC 14781			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 07 13		18 15.95	-15 18.7	1.239	2.228	162.0	8.1	16.7
1989 07 23		18 07.45	-15 47.2					
1989 08 02		18 01.58	-16 20.7	1.318	2.200	140.7	17.0	17.1
1989 08 12		17 58.99	-16 57.1					
1989 08 22		17 59.84	-17 34.3	1.465	2.172	121.4	23.4	17.5

1981 DF2		a,e,i = 2.32, 0.20, 7			Elements MPC 14782			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 07 13		18 17.92	-17 47.1	1.315	2.307	163.3	7.3	17.4
1989 07 23		18 08.60	-17 26.7					
1989 08 02		18 01.84	-17 11.6	1.381	2.261	140.9	16.5	17.7
1989 08 12		17 58.30	-17 02.3					
1989 08 22		17 58.21	-16 58.1	1.517	2.215	121.0	23.0	18.1

1986	RC7			$a, e, i = 2.26, 0.11,$	5		Elements MPC 14789	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	07 13	18 26.64	-31 54.0	1.175	2.168	163.3	7.7	16.0
1989	07 23	18 16.76	-31 31.7					
1989	08 02	18 09.91	-30 58.9	1.248	2.143	142.3	16.8	16.4
1989	08 12	18 06.84	-30 20.4					
1989	08 22	18 07.70	-29 39.9	1.391	2.120	123.1	23.6	16.8
1986	RO1			$a, e, i = 2.23, 0.08,$	2		Elements MPC 14788	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	07 13	19 23.95	-22 07.0	1.148	2.164	179.3	0.3	15.5
1989	07 23	19 13.33	-22 13.9					
1989	08 02	19 04.41	-22 16.5	1.216	2.182	155.7	11.0	16.2
1989	08 12	18 58.33	-22 14.8					
1989	08 22	18 55.62	-22 09.6	1.368	2.199	134.5	19.1	16.7
1988	BB4			$a, e, i = 2.33, 0.08,$	6		Elements MPC 14792	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	07 13	19 35.30	-17 33.4	1.408	2.422	175.2	2.0	15.9
1989	07 23	19 24.78	-17 32.3					
1989	08 02	19 15.39	-17 32.6	1.464	2.436	158.4	8.8	16.3
1989	08 12	19 08.19	-17 33.4					
1989	08 22	19 03.81	-17 34.1	1.612	2.449	136.7	16.5	16.8
1989	09 01	19 02.48	-17 33.9					
1989	09 11	19 04.15	-17 32.0	1.827	2.460	117.5	21.3	17.2
1979	QT8			$a, e, i = 2.27, 0.16,$	3		Elements MPC 14781	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	07 13	19 39.39	-25 20.5	0.982	1.997	175.5	2.3	16.2
1989	07 23	19 28.82	-25 28.9					
1989	08 02	19 19.29	-25 27.4	0.991	1.971	158.5	10.9	16.6
1989	08 12	19 12.43	-25 15.8					
1989	08 22	19 09.22	-24 56.0	1.081	1.948	137.3	20.6	17.0
1989	09 01	19 09.99	-24 30.0					
1989	09 11	19 14.66	-23 58.6	1.226	1.930	119.3	27.0	17.4
1985	PE2			$a, e, i = 2.36, 0.20,$	7		Elements MPC 14020	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	09 11	02 11.66	+02 21.9	1.882	2.692	135.2	15.3	17.3
1989	09 21	02 07.05	+01 25.4					
1989	10 01	02 00.12	+00 23.1	1.769	2.717	156.5	8.5	16.9
1989	10 11	01 51.48	-00 39.2					
1989	10 21	01 42.02	-01 34.7	1.757	2.739	168.0	4.3	16.7
1989	10 31	01 32.76	-02 17.4					
1989	11 10	01 24.67	-02 42.9	1.858	2.759	149.7	10.4	17.1
1989	11 20	01 18.51	-02 49.5					
1989	11 30	01 14.67	-02 37.5	2.054	2.776	128.3	16.2	17.5
1982	SC2			$a, e, i = 2.22, 0.12,$	5		Elements MPC 13157	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989	09 11	02 12.36	+06 00.3	1.537	2.354	134.3	17.8	16.6
1989	09 21	02 08.19	+05 14.0					
1989	10 01	02 01.23	+04 17.6	1.425	2.376	156.3	9.7	16.2
1989	10 11	01 52.16	+03 17.0					
1989	10 21	01 42.06	+02 19.5	1.407	2.396	171.9	3.4	15.9
1989	10 31	01 32.18	+01 32.3					
1989	11 10	01 23.74	+01 01.6	1.496	2.415	151.8	11.2	16.4
1989	11 20	01 17.61	+00 50.3					
1989	11 30	01 14.23	+00 58.8	1.678	2.432	130.0	18.1	16.9

(3882) 1962 RN $a, e, i = 2.45, 0.14, 5$ Elements MPC 13473
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 11.24 +12 51.9 1.723 2.517 132.7 17.1 16.8
 1989 09 21 02 07.60 +12 11.5
 1989 10 01 02 01.45 +11 16.4 1.603 2.546 155.0 9.6 16.4
 1989 10 11 01 53.40 +10 10.1
 1989 10 21 01 44.42 +08 58.7 1.578 2.574 178.2 0.7 16.0
 1989 10 31 01 35.58 +07 49.2
 1989 11 10 01 27.96 +06 49.1 1.665 2.600 155.8 9.0 16.5
 1989 11 20 01 22.36 +06 03.8
 1989 11 30 01 19.20 +05 36.0 1.850 2.625 133.1 15.9 17.0

2035 T-3 $a, e, i = 5.16, 0.15, 7$ Elements MPC 13688
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 03.75 +18 49.7 4.070 4.804 132.1 8.9 18.5
 1989 09 21 02 00.58 +18 48.1
 1989 10 01 01 56.32 +18 38.8 3.912 4.825 153.0 5.4 18.3
 1989 10 11 01 51.25 +18 22.3
 1989 10 21 01 45.76 +18 00.0 3.859 4.847 172.3 1.6 18.0
 1989 10 31 01 40.25 +17 33.7
 1989 11 10 01 35.17 +17 05.8 3.926 4.869 160.2 4.0 18.2
 1989 11 20 01 30.87 +16 38.7
 1989 11 30 01 27.65 +16 14.8 4.108 4.892 138.7 7.7 18.5

1966 PM $a, e, i = 3.10, 0.13, 2$ Elements MPC 11145
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 09.55 +11 28.0 2.551 3.326 133.6 12.7 17.8
 1989 09 21 02 06.01 +11 10.3
 1989 10 01 02 00.64 +10 43.6 2.370 3.306 155.4 7.2 17.4
 1989 10 11 01 53.83 +10 09.7
 1989 10 21 01 46.18 +09 31.7 2.291 3.286 178.3 0.5 17.0
 1989 10 31 01 38.41 +08 53.3
 1989 11 10 01 31.29 +08 18.9 2.330 3.265 157.1 6.8 17.4
 1989 11 20 01 25.48 +07 52.1
 1989 11 30 01 21.44 +07 35.8 2.475 3.243 134.4 12.5 17.7

1988 JU $a, e, i = 2.37, 0.19, 23$ Elements MPC 13470
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 17.07 +08 43.9 1.691 2.485 132.6 17.4 16.9
 1989 09 21 02 13.90 +06 43.4
 1989 10 01 02 08.21 +04 27.6 1.581 2.523 154.6 9.8 16.6
 1989 10 11 02 00.58 +02 05.0
 1989 10 21 01 51.96 -00 13.4 1.574 2.558 169.0 4.3 16.4
 1989 10 31 01 43.40 -02 16.6
 1989 11 10 01 35.94 -03 55.6 1.682 2.592 150.9 10.7 16.8
 1989 11 20 01 30.38 -05 06.1
 1989 11 30 01 27.15 -05 47.9 1.886 2.624 129.3 16.9 17.3

1977 QU2 $a, e, i = 2.49, 0.10, 5$ Elements MPC 14343
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 13.70 +13 53.6 1.481 2.279 131.8 19.2 16.5
 1989 09 21 02 12.38 +13 22.7
 1989 10 01 02 08.16 +12 33.7 1.328 2.266 153.1 11.5 16.0
 1989 10 11 02 01.49 +11 29.3
 1989 10 21 01 53.29 +10 15.2 1.261 2.255 176.8 1.4 15.4
 1989 10 31 01 44.75 +08 59.4
 1989 11 10 01 37.21 +07 51.5 1.297 2.247 158.3 9.4 15.9
 1989 11 20 01 31.75 +06 59.1
 1989 11 30 01 29.01 +06 26.8 1.426 2.240 135.7 17.9 16.3

1985 QM4 $a, e, i = 2.43, 0.17, 3$ Elements MPC 14020
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 16.78 +10 10.7 1.234 2.051 132.2 21.3 16.4
 1989 09 21 02 16.06 +10 13.6
 1989 10 01 02 11.99 +10 03.6 1.094 2.037 152.9 13.0 15.9
 1989 10 11 02 04.97 +09 43.3
 1989 10 21 01 56.02 +09 17.0 1.033 2.027 176.0 2.0 15.3
 1989 10 31 01 46.56 +08 51.2
 1989 11 10 01 38.20 +08 33.0 1.067 2.022 158.8 10.2 15.7
 1989 11 20 01 32.25 +08 28.2
 1989 11 30 01 29.48 +08 40.1 1.188 2.022 136.7 19.5 16.3

(3976) 1983 JM $a, e, i = 2.76, 0.07, 13$ Elements MPC 14172
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 21.59 +20 32.8 1.912 2.649 127.6 17.5 16.0
 1989 09 21 02 19.71 +19 58.6
 1989 10 01 02 15.36 +19 05.4 1.754 2.661 148.9 11.2 15.7
 1989 10 11 02 08.97 +17 54.2
 1989 10 21 02 01.30 +16 28.8 1.685 2.674 172.1 2.9 15.2
 1989 10 31 01 53.31 +14 55.6
 1989 11 10 01 46.05 +13 22.7 1.728 2.688 162.2 6.5 15.5
 1989 11 20 01 40.40 +11 58.4
 1989 11 30 01 36.90 +10 48.7 1.877 2.701 139.2 13.8 15.9

1978 VS5 $a, e, i = 2.44, 0.16, 2$ Elements MPC 12579
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 32.25 +16 10.6 1.969 2.695 126.8 17.4 17.9
 1989 09 21 02 29.31 +15 54.9
 1989 10 01 02 23.79 +15 25.5 1.813 2.718 148.5 11.1 17.6
 1989 10 11 02 16.12 +14 43.4
 1989 10 21 02 07.04 +13 51.7 1.748 2.738 172.6 2.7 17.2
 1989 10 31 01 57.54 +12 55.0
 1989 11 10 01 48.69 +11 59.6 1.796 2.757 162.5 6.2 17.4
 1989 11 20 01 41.44 +11 11.6
 1989 11 30 01 36.38 +10 35.5 1.952 2.773 139.0 13.5 17.9

1988 JF $a, e, i = 2.68, 0.24, 11$ Elements MPC 13162
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 31.75 +00 18.4 2.500 3.246 130.5 13.6 16.2
 1989 09 21 02 28.10 -00 28.2
 1989 10 01 02 22.46 -01 18.2 2.355 3.265 150.7 8.6 15.9
 1989 10 11 02 15.20 -02 07.2
 1989 10 21 02 06.93 -02 50.5 2.310 3.282 165.2 4.4 15.7
 1989 10 31 01 58.36 -03 23.7
 1989 11 10 01 50.28 -03 43.0 2.381 3.297 153.4 7.7 16.0
 1989 11 20 01 43.38 -03 46.9
 1989 11 30 01 38.16 -03 35.0 2.558 3.308 132.8 12.6 16.3

1980 RZ3 $a, e, i = 2.69, 0.23, 7$ Elements MPC 14015
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 27.24 +16 46.1 1.286 2.062 127.8 22.7 16.1
 1989 09 21 02 27.09 +17 43.9
 1989 10 01 02 23.48 +18 28.7 1.149 2.064 147.4 15.1 15.6
 1989 10 11 02 16.71 +18 58.6
 1989 10 21 02 07.69 +19 12.7 1.086 2.072 169.0 5.3 15.1
 1989 10 31 01 57.82 +19 12.5
 1989 11 10 01 48.76 +19 03.0 1.119 2.087 163.4 7.8 15.3
 1989 11 20 01 41.93 +18 51.1
 1989 11 30 01 38.22 +18 43.6 1.243 2.107 141.7 16.9 15.9

1982 SX2 a,e,i = 2.26, 0.10, 6 Elements MPC 13686
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 30.59 +16 38.2 1.267 2.039 127.0 23.2 17.0
 1989 09 21 02 30.08 +17 21.7
 1989 10 01 02 25.93 +17 51.4 1.116 2.031 147.1 15.5 16.5
 1989 10 11 02 18.39 +18 05.3
 1989 10 21 02 08.36 +18 03.3 1.039 2.027 169.8 5.0 16.0
 1989 10 31 01 57.29 +17 47.5
 1989 11 10 01 47.00 +17 24.1 1.057 2.025 163.0 8.2 16.2
 1989 11 20 01 39.07 +17 01.1
 1989 11 30 01 34.47 +16 45.7 1.166 2.026 140.4 18.1 16.7

1985 SR a,e,i = 2.39, 0.20, 3 Elements MPC 14021
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 35.92 +13 51.1 1.581 2.327 126.7 20.3 17.7
 1989 09 21 02 33.20 +13 46.5
 1989 10 01 02 27.42 +13 28.6 1.460 2.371 148.3 12.8 17.4
 1989 10 11 02 19.07 +12 58.9
 1989 10 21 02 09.09 +12 20.8 1.424 2.414 172.7 3.0 17.0
 1989 10 31 01 58.71 +11 39.6
 1989 11 10 01 49.25 +11 01.7 1.495 2.457 162.3 7.0 17.3
 1989 11 20 01 41.76 +10 32.7
 1989 11 30 01 36.88 +10 16.7 1.668 2.498 139.0 15.0 17.8

1980 DE1 a,e,i = 3.22, 0.11, 10 Elements MPC 10613
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 29.42 +13 01.6 2.588 3.309 128.5 13.8 17.4
 1989 09 21 02 26.54 +13 05.6
 1989 10 01 02 21.64 +13 01.7 2.386 3.290 149.8 8.8 17.0
 1989 10 11 02 15.02 +12 50.7
 1989 10 21 02 07.20 +12 34.3 2.279 3.269 173.1 2.1 16.6
 1989 10 31 01 58.87 +12 15.1
 1989 11 10 01 50.86 +11 56.3 2.289 3.249 163.0 5.1 16.7
 1989 11 20 01 43.91 +11 41.4
 1989 11 30 01 38.60 +11 33.4 2.411 3.228 139.8 11.4 17.1

1938 HE a,e,i = 2.34, 0.19, 6 Elements MPC 13155
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 34.51 +05 44.1 1.363 2.144 129.0 21.4 15.7
 1989 09 21 02 32.61 +04 55.6
 1989 10 01 02 27.45 +03 57.1 1.263 2.188 149.8 13.3 15.4
 1989 10 11 02 19.57 +02 54.9
 1989 10 21 02 10.00 +01 56.8 1.247 2.232 168.8 5.0 15.1
 1989 10 31 02 00.06 +01 10.6
 1989 11 10 01 51.13 +00 42.9 1.331 2.276 156.9 9.8 15.5
 1989 11 20 01 44.30 +00 36.6
 1989 11 30 01 40.17 +00 51.6 1.510 2.319 135.6 17.3 16.0

1982 UP6 a,e,i = 2.33, 0.16, 24 Elements MPC 13167
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 34.03 +25 17.6 1.825 2.520 123.0 19.6 17.2
 1989 09 21 02 31.71 +24 19.2
 1989 10 01 02 26.56 +22 55.9 1.664 2.548 144.7 13.1 16.8
 1989 10 11 02 19.04 +21 08.2
 1989 10 21 02 10.01 +19 00.3 1.591 2.575 168.8 4.3 16.4
 1989 10 31 02 00.58 +16 40.2
 1989 11 10 01 51.93 +14 19.5 1.633 2.599 163.8 6.1 16.6
 1989 11 20 01 45.04 +12 09.5
 1989 11 30 01 40.52 +10 18.7 1.789 2.621 139.8 14.0 17.1

2533 P-L $a, e, i = 2.18, 0.21, 2$ Elements MPC 5523
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 34.99 +12 15.3 1.066 1.858 127.4 25.5 17.7
 1989 09 21 02 34.40 +11 58.3
 1989 10 01 02 29.85 +11 24.4 0.977 1.903 148.3 16.1 17.3
 1989 10 11 02 21.91 +10 37.1
 1989 10 21 02 11.83 +09 42.8 0.959 1.950 172.2 4.0 16.9
 1989 10 31 02 01.24 +08 50.0
 1989 11 10 01 51.92 +08 07.8 1.036 2.000 161.6 9.0 17.3
 1989 11 20 01 45.18 +07 42.9
 1989 11 30 01 41.67 +07 37.8 1.201 2.051 139.1 18.4 18.0

1988 FL3 $a, e, i = 2.40, 0.27, 12$ Elements MPC 14793
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 36.27 -01 51.8 1.247 2.042 129.6 22.3 15.0
 1989 09 21 02 34.78 -03 31.8
 1989 10 01 02 29.88 -05 15.0 1.184 2.102 148.2 14.6 14.7
 1989 10 11 02 22.22 -06 50.3
 1989 10 21 02 12.93 -08 06.2 1.203 2.164 159.8 9.1 14.6
 1989 10 31 02 03.36 -08 54.1
 1989 11 10 01 54.91 -09 09.5 1.316 2.227 149.6 13.0 15.0
 1989 11 20 01 48.61 -08 53.6
 1989 11 30 01 44.98 -08 10.7 1.514 2.289 131.5 18.8 15.5

1981 EY38 $a, e, i = 2.32, 0.26, 9$ Elements MPC 10515
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 39.61 +26 12.8 1.512 2.212 121.5 22.8 18.6
 1989 09 21 02 37.62 +26 09.1
 1989 10 01 02 32.24 +25 42.1 1.396 2.271 142.2 15.7 18.3
 1989 10 11 02 24.00 +24 50.1
 1989 10 21 02 13.94 +23 34.9 1.355 2.330 164.6 6.5 17.9
 1989 10 31 02 03.44 +22 02.1
 1989 11 10 01 53.94 +20 21.8 1.419 2.387 164.4 6.4 18.1
 1989 11 20 01 46.58 +18 44.9
 1989 11 30 01 42.00 +17 20.5 1.587 2.443 142.3 14.3 18.7

1988 NH $a, e, i = 2.64, 0.16, 13$ Elements MPC 13591
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 34.96 +01 30.1 2.246 2.990 129.6 15.0 17.4
 1989 09 21 02 32.41 +00 18.6
 1989 10 01 02 27.68 -00 58.9 2.101 3.006 149.5 9.7 17.1
 1989 10 11 02 21.13 -02 17.1
 1989 10 21 02 13.36 -03 29.6 2.052 3.021 163.8 5.3 16.8
 1989 10 31 02 05.14 -04 30.3
 1989 11 10 01 57.34 -05 13.9 2.116 3.033 153.2 8.5 17.0
 1989 11 20 01 50.71 -05 37.8
 1989 11 30 01 45.82 -05 41.6 2.283 3.043 133.1 13.7 17.4

1983 AN $a, e, i = 2.41, 0.12, 7$ Elements MPC 11843
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 36.13 +04 17.9 1.472 2.245 128.9 20.4 16.0
 1989 09 21 02 35.64 +03 49.3
 1989 10 01 02 32.00 +03 12.0 1.305 2.223 148.7 13.5 15.5
 1989 10 11 02 25.43 +02 31.1
 1989 10 21 02 16.65 +01 52.9 1.219 2.202 167.6 5.6 15.0
 1989 10 31 02 06.79 +01 24.6
 1989 11 10 01 57.30 +01 12.8 1.232 2.183 158.3 9.7 15.2
 1989 11 20 01 49.51 +01 21.5
 1989 11 30 01 44.36 +01 51.4 1.338 2.166 137.0 18.1 15.6

1985 QH4 $a, e, i = 2.37, 0.14, 4$ Elements MPC 11351
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 36.39 +18 36.2 1.288 2.041 125.1 23.8 16.9
 1989 09 21 02 36.89 +19 17.6
 1989 10 01 02 33.79 +19 43.7 1.142 2.043 144.7 16.5 16.4
 1989 10 11 02 27.31 +19 52.3
 1989 10 21 02 18.26 +19 43.0 1.067 2.049 166.9 6.3 15.9
 1989 10 31 02 07.98 +19 18.0
 1989 11 10 01 58.21 +18 43.5 1.085 2.059 165.6 6.9 16.0
 1989 11 20 01 50.51 +18 07.9
 1989 11 30 01 45.87 +17 39.1 1.196 2.072 143.2 16.6 16.6

1983 RY3 $a, e, i = 3.03, 0.06, 11$ Elements MPC 13448
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 41.72 +21 05.2 2.536 3.198 123.0 15.3 17.3
 1989 09 21 02 39.14 +21 31.9
 1989 10 01 02 34.33 +21 48.4 2.340 3.202 143.7 10.7 17.0
 1989 10 11 02 27.52 +21 53.7
 1989 10 21 02 19.27 +21 47.5 2.232 3.205 165.3 4.5 16.6
 1989 10 31 02 10.29 +21 30.8
 1989 11 10 02 01.50 +21 06.5 2.238 3.208 166.0 4.3 16.6
 1989 11 20 01 53.75 +20 38.6
 1989 11 30 01 47.70 +20 11.7 2.358 3.210 144.1 10.4 17.0

1985 RL1 $a, e, i = 2.43, 0.17, 10$ Elements MPC 13159
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 36.52 +19 00.4 1.367 2.111 124.9 23.0 16.8
 1989 09 21 02 37.06 +18 18.7
 1989 10 01 02 34.27 +17 14.1 1.237 2.139 145.5 15.4 16.4
 1989 10 11 02 28.51 +15 48.5
 1989 10 21 02 20.67 +14 07.5 1.183 2.169 169.5 4.8 15.9
 1989 10 31 02 11.99 +12 20.1
 1989 11 10 02 03.89 +10 37.8 1.229 2.202 165.4 6.5 16.1
 1989 11 20 01 57.60 +09 11.1
 1989 11 30 01 53.88 +08 06.6 1.375 2.236 142.0 15.8 16.7

1988 LB $a, e, i = 2.55, 0.13, 12$ Elements MPC 13470
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 45.03 +31 41.0 1.973 2.603 118.1 20.0 17.4
 1989 09 21 02 43.65 +32 09.0
 1989 10 01 02 39.27 +32 18.0 1.806 2.630 137.2 15.0 17.1
 1989 10 11 02 32.20 +32 04.5
 1989 10 21 02 23.18 +31 26.6 1.712 2.656 156.7 8.5 16.8
 1989 10 31 02 13.26 +30 24.9
 1989 11 10 02 03.72 +29 04.7 1.720 2.682 162.6 6.4 16.7
 1989 11 20 01 55.72 +27 34.3
 1989 11 30 01 50.07 +26 03.1 1.837 2.706 145.2 12.0 17.1

1977 CD $a, e, i = 1.94, 0.08, 22$ Elements MPC 13163
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 09 11 02 34.46 +06 27.0 1.108 1.908 128.9 24.3 16.1
 1989 09 21 02 36.83 +03 20.5
 1989 10 01 02 35.60 -00 19.2 0.964 1.888 147.6 16.5 15.6
 1989 10 11 02 30.89 -04 18.6
 1989 10 21 02 23.46 -08 15.5 0.906 1.868 158.5 11.3 15.3
 1989 10 31 02 14.59 -11 44.2
 1989 11 10 02 06.00 -14 23.7 0.942 1.849 146.1 17.4 15.5
 1989 11 20 01 59.27 -16 04.3
 1989 11 30 01 55.48 -16 47.4 1.055 1.832 127.6 25.3 16.0

7633 P-L		a,e,i = 2.84, 0.06, 3			Elements MPC 7374			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 09 11		02 42.48	+11 07.0	2.065	2.778	125.9	17.1	18.1
1989 09 21		02 40.99	+10 47.6					
1989 10 01		02 37.04	+10 18.5	1.897	2.789	146.8	11.3	17.7
1989 10 11		02 30.92	+09 41.8					
1989 10 21		02 23.23	+09 00.8	1.816	2.800	169.3	3.8	17.3
1989 10 31		02 14.77	+08 19.9					
1989 11 10		02 06.54	+07 44.2	1.845	2.812	164.4	5.4	17.5
1989 11 20		01 59.45	+07 18.1					
1989 11 30		01 54.19	+07 04.6	1.983	2.824	141.6	12.5	17.9

1949 QL		a,e,i = 2.22, 0.20, 6			Elements MPC 11856			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 09 11		02 40.72	+23 09.0	1.043	1.797	122.5	28.2	16.0
1989 09 21		02 43.07	+24 32.5					
1989 10 01		02 41.21	+25 37.7	0.925	1.813	140.5	20.6	15.5
1989 10 11		02 35.22	+26 19.1					
1989 10 21		02 25.95	+26 32.5	0.866	1.835	160.6	10.4	15.1
1989 10 31		02 15.01	+26 16.6					
1989 11 10		02 04.56	+25 37.1	0.890	1.863	164.8	8.0	15.1
1989 11 20		01 56.53	+24 45.4					
1989 11 30		01 52.12	+23 53.6	0.999	1.897	145.6	17.1	15.7

1950 HJ		a,e,i = 3.02, 0.06, 9			Elements MPC 14342			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 09 11		02 42.08	+21 52.7	2.527	3.185	122.7	15.4	17.3
1989 09 21		02 40.41	+21 42.5					
1989 10 01		02 36.57	+21 19.0	2.330	3.190	143.4	10.8	16.9
1989 10 11		02 30.84	+20 42.1					
1989 10 21		02 23.71	+19 52.9	2.219	3.194	165.9	4.4	16.6
1989 10 31		02 15.89	+18 54.1					
1989 11 10		02 08.21	+17 50.2	2.222	3.197	168.0	3.7	16.6
1989 11 20		02 01.48	+16 46.7					
1989 11 30		01 56.31	+15 48.8	2.340	3.200	145.2	10.1	16.9

1982 HS1		a,e,i = 3.06, 0.21, 4			Elements MPC 11842			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		02 38.44	+09 31.5	2.533	3.413	146.6	9.3	18.2
1989 10 11		02 32.33	+08 55.1					
1989 10 21		02 25.05	+08 16.0	2.462	3.444	168.8	3.2	17.9
1989 10 31		02 17.22	+07 37.8					
1989 11 10		02 09.59	+07 04.2	2.509	3.474	164.6	4.3	18.0
1989 11 20		02 02.82	+06 38.4					
1989 11 30		01 57.44	+06 22.6	2.671	3.502	142.0	10.0	18.4
1989 12 10		01 53.82	+06 18.3					
1989 12 20		01 52.12	+06 25.3	2.923	3.528	120.7	13.9	18.8

5010 T-3		a,e,i = 5.13, 0.01, 12			Elements MPC 14206			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		02 34.08	+01 53.7	4.203	5.081	148.1	6.0	17.1
1989 10 11		02 30.20	+01 14.5					
1989 10 21		02 25.64	+00 36.8	4.113	5.082	165.1	2.9	16.9
1989 10 31		02 20.72	+00 02.9					
1989 11 10		02 15.83	-00 24.7	4.142	5.083	159.8	3.9	16.9
1989 11 20		02 11.32	-00 44.5					
1989 11 30		02 07.53	-00 55.4	4.285	5.084	140.3	7.1	17.1
1989 12 10		02 04.71	-00 56.8					
1989 12 20		02 03.04	-00 49.0	4.521	5.085	120.0	9.6	17.4

(3950) 1986 CH $a, e, i = 2.99, 0.06, 9$ Elements MPC 14008
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 02 44.39 +26 17.5 2.297 3.127 139.5 12.0 17.0
 1989 10 11 02 38.76 +26 00.3
 1989 10 21 02 31.48 +25 27.6 2.164 3.121 160.7 6.1 16.7
 1989 10 31 02 23.26 +24 40.5
 1989 11 10 02 14.99 +23 42.4 2.139 3.114 167.8 3.8 16.5
 1989 11 20 02 07.58 +22 38.7
 1989 11 30 02 01.76 +21 35.2 2.228 3.106 147.6 9.8 16.9
 1989 12 10 01 58.03 +20 37.8
 1989 12 20 01 56.63 +19 50.6 2.414 3.098 126.2 14.8 17.2

1985 PZ1 $a, e, i = 2.37, 0.15, 9$ Elements MPC 14019
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 02 49.74 +03 22.3 1.491 2.377 144.3 14.2 17.0
 1989 10 11 02 43.36 +02 07.8
 1989 10 21 02 34.92 +00 56.0 1.439 2.409 163.4 6.8 16.6
 1989 10 31 02 25.45 -00 05.3
 1989 11 10 02 16.17 -00 48.9 1.489 2.441 159.5 8.2 16.8
 1989 11 20 02 08.25 -01 10.6
 1989 11 30 02 02.48 -01 09.5 1.640 2.472 139.2 15.1 17.3
 1989 12 10 01 59.34 -00 47.0
 1989 12 20 01 58.92 -00 06.5 1.867 2.502 119.4 20.0 17.7

1979 TZ1 $a, e, i = 2.90, 0.02, 1$ Elements MPC 10941
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 02 49.13 +17 44.2 2.080 2.935 142.0 12.1 17.1
 1989 10 11 02 43.59 +17 25.0
 1989 10 21 02 36.28 +16 56.0 1.958 2.931 164.9 5.1 16.7
 1989 10 31 02 27.90 +16 19.5
 1989 11 10 02 19.39 +15 39.2 1.946 2.927 170.6 3.2 16.6
 1989 11 20 02 11.69 +15 00.1
 1989 11 30 02 05.57 +14 26.8 2.046 2.923 147.0 10.6 17.0
 1989 12 10 02 01.61 +14 03.2
 1989 12 20 02 00.03 +13 51.3 2.239 2.919 125.2 16.0 17.3

1976 QN $a, e, i = 2.16, 0.15, 0$ Elements MPC 14471
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 02 58.59 +17 01.6 1.257 2.124 140.1 17.6 17.4
 1989 10 11 02 52.00 +16 34.4
 1989 10 21 02 42.63 +15 53.5 1.185 2.159 163.9 7.4 17.0
 1989 10 31 02 31.68 +15 03.2
 1989 11 10 02 20.76 +14 10.5 1.210 2.193 170.6 4.2 17.0
 1989 11 20 02 11.39 +13 23.3
 1989 11 30 02 04.66 +12 48.2 1.337 2.226 146.2 14.3 17.6
 1989 12 10 02 01.13 +12 29.5
 1989 12 20 02 00.89 +12 28.1 1.545 2.257 124.9 20.9 18.1

6787 P-L $a, e, i = 2.17, 0.09, 1$ Elements MPC 9303
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 02.69 +15 50.2 1.499 2.351 139.5 16.1 18.3
 1989 10 11 02 56.63 +15 20.3
 1989 10 21 02 47.92 +14 39.1 1.386 2.356 163.0 7.1 17.8
 1989 10 31 02 37.49 +13 50.0
 1989 11 10 02 26.68 +12 58.9 1.375 2.359 171.4 3.6 17.7
 1989 11 20 02 16.89 +12 12.7
 1989 11 30 02 09.25 +11 37.6 1.471 2.360 146.9 13.2 18.2
 1989 12 10 02 04.50 +11 17.9
 1989 12 20 02 02.87 +11 15.1 1.653 2.359 125.0 20.0 18.6

1981 FQ $a, e, i = 3.11, 0.15, 0$ Elements MPC 12010
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 02 56.62 +16 51.4 2.727 3.558 140.6 10.3 17.5
 1989 10 11 02 51.33 +16 29.3
 1989 10 21 02 44.62 +16 00.1 2.601 3.566 163.4 4.6 17.2
 1989 10 31 02 37.02 +15 25.8
 1989 11 10 02 29.22 +14 49.3 2.588 3.573 172.7 2.0 17.0
 1989 11 20 02 21.93 +14 14.1
 1989 11 30 02 15.76 +13 43.5 2.695 3.578 149.1 8.1 17.4
 1989 12 10 02 11.20 +13 20.4
 1989 12 20 02 08.50 +13 06.7 2.903 3.582 126.9 12.7 17.7

1982 SF $a, e, i = 2.27, 0.18, 5$ Elements MPC 12011
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 02 57.03 +07 22.4 0.971 1.867 142.3 19.2 15.6
 1989 10 11 02 53.86 +06 14.6
 1989 10 21 02 47.50 +05 03.3 0.899 1.873 162.5 9.2 15.2
 1989 10 31 02 39.07 +03 58.4
 1989 11 10 02 30.23 +03 10.6 0.912 1.885 164.6 8.0 15.2
 1989 11 20 02 22.66 +02 47.7
 1989 11 30 02 17.64 +02 52.3 1.011 1.902 144.6 17.5 15.7
 1989 12 10 02 15.90 +03 23.4
 1989 12 20 02 17.58 +04 16.5 1.178 1.925 125.6 24.6 16.3

9508 P-L $a, e, i = 3.17, 0.14, 2$ Elements MPC 14630
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 02 58.21 +14 07.2 2.715 3.548 140.9 10.2 18.5
 1989 10 11 02 53.21 +13 42.8
 1989 10 21 02 46.74 +13 12.8 2.571 3.536 163.5 4.6 18.1
 1989 10 31 02 39.30 +12 39.4
 1989 11 10 02 31.58 +12 05.7 2.540 3.523 172.0 2.3 18.0
 1989 11 20 02 24.28 +11 35.0
 1989 11 30 02 18.03 +11 10.5 2.629 3.509 148.7 8.4 18.3
 1989 12 10 02 13.35 +10 54.6
 1989 12 20 02 10.54 +10 48.8 2.817 3.494 126.6 13.1 18.6

1987 DH6 $a, e, i = 2.68, 0.12, 1$ Elements MPC 13307
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 03.76 +18 56.1 2.000 2.828 138.4 13.6 16.5
 1989 10 11 02 58.27 +18 34.1
 1989 10 21 02 50.76 +18 01.4 1.888 2.849 161.3 6.4 16.1
 1989 10 31 02 41.96 +17 20.1
 1989 11 10 02 32.84 +16 34.1 1.882 2.869 173.9 2.1 15.9
 1989 11 20 02 24.43 +15 48.4
 1989 11 30 02 17.57 +15 08.1 1.992 2.888 150.0 9.8 16.4
 1989 12 10 02 12.88 +14 37.4
 1989 12 20 02 10.61 +14 18.8 2.197 2.906 127.8 15.5 16.8

2563 P-L $a, e, i = 3.20, 0.15, 2$ Elements MPC 6207
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 00.80 +14 56.9 2.662 3.490 140.1 10.6 17.9
 1989 10 11 02 55.76 +14 30.0
 1989 10 21 02 49.26 +13 57.2 2.547 3.510 162.8 4.8 17.6
 1989 10 31 02 41.84 +13 20.8
 1989 11 10 02 34.19 +12 44.0 2.544 3.529 172.8 2.0 17.5
 1989 11 20 02 27.02 +12 10.1
 1989 11 30 02 20.94 +11 42.3 2.661 3.546 149.6 8.1 17.9
 1989 12 10 02 16.43 +11 23.2
 1989 12 20 02 13.77 +11 14.1 2.878 3.563 127.5 12.7 18.2

1984 SG1 $a, e, i = 2.78, 0.08, 3$ Elements MPC 11425
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 02.37 +22 02.9 1.729 2.559 137.6 15.3 17.0
 1989 10 11 02 57.82 +21 52.8
 1989 10 21 02 50.91 +21 28.4 1.605 2.563 159.8 7.7 16.6
 1989 10 31 02 42.41 +20 50.6
 1989 11 10 02 33.42 +20 03.3 1.582 2.568 173.3 2.6 16.3
 1989 11 20 02 25.15 +19 12.2
 1989 11 30 02 18.61 +18 23.9 1.667 2.574 151.0 10.7 16.8
 1989 12 10 02 14.52 +17 44.1
 1989 12 20 02 13.17 +17 16.8 1.845 2.582 129.3 17.2 17.2

1978 TU7 $a, e, i = 2.38, 0.23, 9$ Elements MPC 7608
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 04.15 +02 09.1 0.950 1.838 140.6 20.2 16.1
 1989 10 11 03 00.44 +01 53.4
 1989 10 21 02 53.31 +01 45.1 0.881 1.848 159.9 10.7 15.7
 1989 10 31 02 43.89 +01 51.1
 1989 11 10 02 33.90 +02 17.4 0.894 1.866 164.2 8.3 15.6
 1989 11 20 02 25.17 +03 05.6
 1989 11 30 02 19.07 +04 14.2 0.994 1.892 145.6 17.1 16.2
 1989 12 10 02 16.40 +05 39.5
 1989 12 20 02 17.33 +07 16.9 1.165 1.923 126.8 24.2 16.7

1981 EM8 $a, e, i = 3.11, 0.16, 4$ Elements MPC 12714
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 02.14 +20 53.9 1.924 2.752 138.1 14.1 18.3
 1989 10 11 02 57.58 +20 32.7
 1989 10 21 02 51.00 +19 59.2 1.819 2.777 160.5 6.9 18.0
 1989 10 31 02 43.11 +19 15.3
 1989 11 10 02 34.90 +18 25.1 1.817 2.804 174.2 2.0 17.7
 1989 11 20 02 27.37 +17 33.8
 1989 11 30 02 21.37 +16 47.1 1.927 2.832 151.3 9.6 18.2
 1989 12 10 02 17.51 +16 09.6
 1989 12 20 02 16.03 +15 44.1 2.133 2.861 129.5 15.4 18.7

(4052) 1981 DP2 $a, e, i = 3.02, 0.07, 9$ Elements MPC 14465
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 05.21 +30 36.0 2.060 2.843 133.4 14.8 16.9
 1989 10 11 03 00.64 +30 50.9
 1989 10 21 02 53.79 +30 48.4 1.909 2.834 153.4 9.0 16.5
 1989 10 31 02 45.31 +30 27.1
 1989 11 10 02 36.21 +29 47.9 1.855 2.826 166.2 4.8 16.3
 1989 11 20 02 27.63 +28 54.8
 1989 11 30 02 20.59 +27 54.3 1.911 2.820 151.9 9.5 16.5
 1989 12 10 02 15.83 +26 53.5
 1989 12 20 02 13.73 +25 58.8 2.065 2.814 131.3 15.2 16.9

1981 SN $a, e, i = 2.48, 0.16, 5$ Elements MPC 10309
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 09.77 +18 24.2 1.265 2.112 137.2 18.8 17.0
 1989 10 11 03 06.74 +17 40.3
 1989 10 21 03 00.72 +16 40.8 1.165 2.126 159.5 9.4 16.5
 1989 10 31 02 52.57 +15 29.8
 1989 11 10 02 43.66 +14 15.0 1.154 2.143 175.6 2.0 16.2
 1989 11 20 02 35.48 +13 05.3
 1989 11 30 02 29.28 +12 08.9 1.245 2.164 151.6 12.5 16.8
 1989 12 10 02 25.88 +11 31.4
 1989 12 20 02 25.59 +11 14.3 1.420 2.187 130.2 20.1 17.3

1975 XJ $a, e, i = 2.31, 0.05, 8$ Elements MPC 11991
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 13.79 +05 31.1 1.480 2.325 138.2 16.7 17.1
 1989 10 11 03 09.67 +04 24.5
 1989 10 21 03 02.83 +03 15.5 1.360 2.314 158.3 9.1 16.6
 1989 10 31 02 53.96 +02 11.3
 1989 11 10 02 44.25 +01 20.1 1.336 2.304 164.0 6.8 16.5
 1989 11 20 02 35.02 +00 48.7
 1989 11 30 02 27.46 +00 40.5 1.413 2.293 145.3 14.2 16.9
 1989 12 10 02 22.45 +00 56.2
 1989 12 20 02 20.39 +01 33.3 1.572 2.283 125.0 20.7 17.3

1985 TE1 $a, e, i = 2.46, 0.11, 1$ Elements MPC 10391
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 17.53 +17 41.8 1.360 2.190 135.6 18.7 16.7
 1989 10 11 03 14.52 +17 24.6
 1989 10 21 03 08.45 +16 55.1 1.237 2.190 157.6 10.0 16.2
 1989 10 31 03 00.02 +16 15.4
 1989 11 10 02 50.48 +15 30.3 1.203 2.193 177.7 1.1 15.7
 1989 11 20 02 41.34 +14 46.3
 1989 11 30 02 33.92 +14 10.2 1.272 2.198 153.4 11.6 16.4
 1989 12 10 02 29.24 +13 47.5
 1989 12 20 02 27.72 +13 40.9 1.428 2.207 131.5 19.5 16.9

1982 UJ3 $a, e, i = 2.24, 0.04, 3$ Elements MPC 13594
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 21.57 +17 22.9 1.336 2.161 134.7 19.2 16.2
 1989 10 11 03 18.38 +16 52.1
 1989 10 21 03 11.98 +16 07.8 1.208 2.159 157.0 10.4 15.7
 1989 10 31 03 03.07 +15 13.0
 1989 11 10 02 52.93 +14 13.4 1.169 2.159 177.0 1.4 15.2
 1989 11 20 02 43.11 +13 16.6
 1989 11 30 02 35.03 +12 30.2 1.233 2.159 153.0 12.0 15.8
 1989 12 10 02 29.76 +12 00.3
 1989 12 20 02 27.77 +11 49.1 1.383 2.160 130.9 20.1 16.3

1978 VP8 $a, e, i = 3.20, 0.14, 2$ Elements MPC 13043
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 19.39 +15 27.1 2.864 3.648 135.7 11.1 17.7
 1989 10 11 03 15.16 +15 05.4
 1989 10 21 03 09.33 +14 38.1 2.701 3.642 157.9 5.9 17.4
 1989 10 31 03 02.30 +14 06.9
 1989 11 10 02 54.69 +13 34.2 2.647 3.636 176.5 0.9 17.0
 1989 11 20 02 47.17 +13 03.0
 1989 11 30 02 40.40 +12 36.2 2.714 3.628 154.3 6.8 17.4
 1989 12 10 02 34.95 +12 16.5
 1989 12 20 02 31.20 +12 05.7 2.888 3.619 131.8 11.7 17.7

(3895) 1987 DE $a, e, i = 2.35, 0.18, 24$ Elements MPC 13587
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 24.78 -14 10.6 1.763 2.550 132.7 16.8 16.7
 1989 10 11 03 21.19 -16 28.6
 1989 10 21 03 14.99 -18 35.6 1.650 2.515 142.8 13.9 16.5
 1989 10 31 03 06.71 -20 20.0
 1989 11 10 02 57.29 -21 31.1 1.626 2.479 141.6 14.4 16.4
 1989 11 20 02 47.90 -22 02.9
 1989 11 30 02 39.69 -21 54.2 1.688 2.441 130.0 18.0 16.6
 1989 12 10 02 33.60 -21 08.1
 1989 12 20 02 30.16 -19 51.4 1.815 2.402 115.0 21.8 16.8

1985 DD $a, e, i = 1.96, 0.12, 24$ Elements MPC 13465
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 40.33 -15 55.6 1.303 2.081 128.6 22.1 17.6
 1989 10 11 03 34.90 -17 00.0
 1989 10 21 03 25.60 -17 43.9 1.181 2.057 141.7 17.5 17.2
 1989 10 31 03 13.11 -17 54.0
 1989 11 10 02 58.87 -17 19.3 1.135 2.032 145.8 15.9 17.1
 1989 11 20 02 44.74 -15 55.9
 1989 11 30 02 32.52 -13 48.1 1.177 2.005 135.7 20.1 17.2
 1989 12 10 02 23.54 -11 05.6
 1989 12 20 02 18.39 -08 00.9 1.296 1.977 119.7 25.6 17.6

1988 QP $a, e, i = 3.09, 0.09, 8$ Elements MPC 13859
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 29.13 +30 00.3 2.307 3.038 129.0 14.8 17.5
 1989 10 11 03 25.82 +30 11.3
 1989 10 21 03 20.16 +30 08.6 2.120 3.021 149.5 9.6 17.1
 1989 10 31 03 12.59 +29 50.3
 1989 11 10 03 03.89 +29 16.6 2.029 3.003 167.6 4.1 16.7
 1989 11 20 02 55.09 +28 29.5
 1989 11 30 02 47.16 +27 33.8 2.050 2.986 157.7 7.2 16.9
 1989 12 10 02 40.99 +26 35.5
 1989 12 20 02 37.13 +25 40.6 2.178 2.970 136.5 13.2 17.2

1981 DE2 $a, e, i = 3.02, 0.04, 9$ Elements MPC 13604
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 30.80 +30 54.5 2.298 3.023 128.4 15.1 17.4
 1989 10 11 03 27.21 +31 16.5
 1989 10 21 03 21.19 +31 25.0 2.121 3.015 148.6 9.9 17.1
 1989 10 31 03 13.21 +31 17.7
 1989 11 10 03 04.07 +30 54.1 2.037 3.007 166.0 4.6 16.8
 1989 11 20 02 54.83 +30 15.8
 1989 11 30 02 46.50 +29 27.2 2.065 2.999 157.2 7.3 16.9
 1989 12 10 02 40.00 +28 34.4
 1989 12 20 02 35.88 +27 43.3 2.200 2.991 136.5 13.1 17.3

1982 OK $a, e, i = 2.24, 0.21, 4$ Elements MPC 10033
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 35.60 +12 35.5 1.225 2.038 132.3 21.3 17.4
 1989 10 11 03 32.00 +11 50.9
 1989 10 21 03 24.98 +10 59.1 1.144 2.086 154.3 11.9 17.0
 1989 10 31 03 15.36 +10 05.2
 1989 11 10 03 04.56 +09 16.1 1.151 2.136 172.2 3.6 16.8
 1989 11 20 02 54.20 +08 38.7
 1989 11 30 02 45.66 +08 17.8 1.258 2.185 153.4 11.7 17.3
 1989 12 10 02 39.91 +08 15.9
 1989 12 20 02 37.35 +08 32.2 1.455 2.234 131.8 19.2 17.9

1976 YO4 $a, e, i = 2.20, 0.06, 3$ Elements MPC 13684
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 35.91 +15 05.9 1.308 2.111 131.8 20.7 16.6
 1989 10 11 03 33.51 +14 30.9
 1989 10 21 03 27.69 +13 45.6 1.184 2.122 153.5 12.1 16.1
 1989 10 31 03 19.05 +12 53.4
 1989 11 10 03 08.80 +12 00.1 1.146 2.134 174.5 2.6 15.7
 1989 11 20 02 58.50 +11 13.0
 1989 11 30 02 49.64 +10 38.5 1.210 2.146 155.4 11.0 16.2
 1989 12 10 02 43.40 +10 21.3
 1989 12 20 02 40.39 +10 23.0 1.363 2.159 133.2 19.4 16.7

(3862) 1972 KM $a, e, i = 2.54, 0.25, 9$ Elements MPC 13444
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 40.65 +07 20.7 1.858 2.631 131.5 16.6 17.4
 1989 10 11 03 36.04 +06 43.7
 1989 10 21 03 28.94 +06 05.7 1.758 2.682 152.8 9.8 17.1
 1989 10 31 03 19.94 +05 30.9
 1989 11 10 03 10.00 +05 03.7 1.756 2.732 167.8 4.4 16.9
 1989 11 20 03 00.19 +04 48.1
 1989 11 30 02 51.53 +04 46.5 1.867 2.780 152.5 9.4 17.3
 1989 12 10 02 44.81 +04 59.6
 1989 12 20 02 40.48 +05 26.7 2.078 2.825 131.2 15.2 17.8

(3814) 1981 JA $a, e, i = 3.14, 0.12, 2$ Elements MPC 13037
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 34.11 +17 14.1 2.760 3.508 131.8 12.3 17.9
 1989 10 11 03 30.49 +16 56.5
 1989 10 21 03 25.06 +16 32.7 2.582 3.503 153.8 7.2 17.5
 1989 10 31 03 18.17 +16 03.9
 1989 11 10 03 10.42 +15 32.1 2.508 3.497 176.8 0.9 17.1
 1989 11 20 03 02.53 +15 00.1
 1989 11 30 02 55.22 +14 30.9 2.554 3.490 158.3 6.0 17.5
 1989 12 10 02 49.16 +14 07.7
 1989 12 20 02 44.80 +13 52.5 2.711 3.481 135.5 11.4 17.8

1981 EO19 $a, e, i = 2.98, 0.07, 9$ Elements MPC 10618
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 34.62 +11 34.4 2.029 2.806 132.6 15.2 18.5
 1989 10 11 03 32.20 +10 41.9
 1989 10 21 03 27.50 +09 43.1 1.869 2.796 153.6 9.1 18.1
 1989 10 31 03 20.92 +08 41.8
 1989 11 10 03 13.19 +07 43.2 1.807 2.788 170.1 3.5 17.8
 1989 11 20 03 05.25 +06 52.5
 1989 11 30 02 58.04 +06 14.4 1.857 2.780 154.7 8.7 18.1
 1989 12 10 02 52.38 +05 52.2
 1989 12 20 02 48.83 +05 46.7 2.006 2.774 133.2 15.0 18.5

1978 VL11 $a, e, i = 2.41, 0.17, 6$ Elements MPC 11995
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 43.32 +15 19.1 2.065 2.815 130.0 15.8 17.6
 1989 10 11 03 39.39 +15 07.1
 1989 10 21 03 32.90 +14 49.1 1.893 2.812 152.2 9.5 17.2
 1989 10 31 03 24.28 +14 26.3
 1989 11 10 03 14.32 +14 01.1 1.818 2.806 175.2 1.7 16.7
 1989 11 20 03 04.05 +13 37.0
 1989 11 30 02 54.57 +13 17.5 1.860 2.797 157.7 7.7 17.1
 1989 12 10 02 46.82 +13 06.2
 1989 12 20 02 41.43 +13 05.4 2.007 2.786 134.4 14.6 17.5

1987 GC $a, e, i = 2.69, 0.11, 13$ Elements MPC 11855
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 38.25 +11 02.6 2.218 2.980 131.8 14.5 17.8
 1989 10 11 03 35.04 +09 57.3
 1989 10 21 03 29.65 +08 45.7 2.057 2.979 153.0 8.7 17.5
 1989 10 31 03 22.49 +07 31.9
 1989 11 10 03 14.28 +06 21.1 1.998 2.975 168.7 3.7 17.2
 1989 11 20 03 05.88 +05 18.9
 1989 11 30 02 58.18 +04 30.0 2.055 2.971 153.6 8.5 17.4
 1989 12 10 02 51.95 +03 57.5
 1989 12 20 02 47.71 +03 42.4 2.215 2.965 132.0 14.3 17.8

1977 EK1		a,e,i = 2.29, 0.15, 5			Elements MPC 12004			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		03 43.19	+16 17.5	1.852	2.610	129.9	17.1	18.7
1989 10 11		03 40.06	+15 40.1					
1989 10 21		03 34.15	+14 53.0	1.675	2.596	151.9	10.4	18.3
1989 10 31		03 25.86	+13 58.2					
1989 11 10		03 16.04	+12 59.8	1.592	2.579	174.2	2.2	17.8
1989 11 20		03 05.84	+12 03.1					
1989 11 30		02 56.43	+11 14.2	1.622	2.560	157.2	8.6	18.1
1989 12 10		02 48.90	+10 38.1					
1989 12 20		02 43.93	+10 17.7	1.754	2.538	134.0	16.2	18.5
1976 EC		a,e,i = 2.91, 0.07, 2			Elements MPC 10940			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		03 40.03	+17 54.0	2.200	2.948	130.3	15.0	17.3
1989 10 11		03 37.26	+17 36.3					
1989 10 21		03 32.18	+17 10.7	2.017	2.934	152.0	9.2	16.9
1989 10 31		03 25.14	+16 38.3					
1989 11 10		03 16.85	+16 01.6	1.931	2.919	175.4	1.5	16.4
1989 11 20		03 08.21	+15 23.9					
1989 11 30		03 00.19	+14 49.3	1.960	2.905	159.6	6.8	16.7
1989 12 10		02 53.65	+14 21.9					
1989 12 20		02 49.21	+14 04.6	2.095	2.890	136.6	13.5	17.1
1949 GH		a,e,i = 3.38, 0.11, 19			Elements MPC 13588			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		03 37.35	+07 12.2	2.696	3.451	132.3	12.4	17.0
1989 10 11		03 34.35	+05 59.9					
1989 10 21		03 29.63	+04 44.9	2.557	3.469	152.3	7.7	16.7
1989 10 31		03 23.55	+03 31.4					
1989 11 10		03 16.69	+02 23.9	2.523	3.488	164.8	4.3	16.6
1989 11 20		03 09.71	+01 27.0					
1989 11 30		03 03.26	+00 43.8	2.606	3.506	151.8	7.6	16.8
1989 12 10		02 57.94	+00 16.4					
1989 12 20		02 54.16	+00 04.8	2.793	3.524	131.6	12.1	17.1
(3892) 1941 HD		a,e,i = 2.61, 0.14, 14			Elements MPC 13586			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		03 47.43	+03 17.2	2.219	2.962	129.9	15.0	17.7
1989 10 11		03 44.34	+02 06.6					
1989 10 21		03 39.02	+00 55.1	2.068	2.966	149.0	9.9	17.4
1989 10 31		03 31.84	-00 12.1					
1989 11 10		03 23.47	-01 09.0	2.016	2.969	160.9	6.3	17.2
1989 11 20		03 14.77	-01 50.6					
1989 11 30		03 06.63	-02 13.3	2.074	2.970	150.0	9.6	17.4
1989 12 10		02 59.85	-02 15.8					
1989 12 20		02 55.00	-01 59.3	2.233	2.969	130.6	14.6	17.7
1982 SA4		a,e,i = 2.27, 0.19, 5			Elements MPC 9067			
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		03 57.61	+21 05.6	1.268	2.022	125.6	23.7	16.9
1989 10 11		03 55.96	+21 34.7					
1989 10 21		03 50.37	+21 54.0	1.157	2.064	146.8	15.3	16.5
1989 10 31		03 41.30	+22 01.9					
1989 11 10		03 29.93	+21 57.9	1.123	2.107	171.0	4.2	16.1
1989 11 20		03 17.98	+21 44.1					
1989 11 30		03 07.20	+21 25.2	1.189	2.151	162.7	7.8	16.4
1989 12 10		02 59.07	+21 07.6					
1989 12 20		02 54.35	+20 56.8	1.351	2.195	139.6	16.9	17.0

(3804) 1969 TB2 $a, e, i = 2.90, 0.06, 2$ Elements MPC 12966
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 52.18 +21 20.4 2.209 2.920 126.8 15.9 17.4
 1989 10 11 03 49.59 +21 21.5
 1989 10 21 03 44.54 +21 14.6 2.039 2.933 148.3 10.3 17.1
 1989 10 31 03 37.38 +20 59.7
 1989 11 10 03 28.78 +20 37.5 1.961 2.944 171.9 2.7 16.7
 1989 11 20 03 19.68 +20 10.2
 1989 11 30 03 11.08 +19 41.2 1.997 2.956 163.4 5.5 16.8
 1989 12 10 03 03.90 +19 14.7
 1989 12 20 02 58.78 +18 54.0 2.144 2.968 140.2 12.3 17.3

(3938) 1949 PL $a, e, i = 2.49, 0.04, 2$ Elements MPC 14004
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 03 53.58 +17 35.7 1.863 2.594 127.2 17.9 16.8
 1989 10 11 03 51.40 +17 17.3
 1989 10 21 03 46.39 +16 50.6 1.692 2.595 148.7 11.5 16.4
 1989 10 31 03 38.90 +16 17.0
 1989 11 10 03 29.69 +15 38.8 1.611 2.596 172.3 2.9 16.0
 1989 11 20 03 19.84 +15 00.0
 1989 11 30 03 10.54 +14 25.1 1.641 2.596 161.7 6.8 16.2
 1989 12 10 03 02.89 +13 58.7
 1989 12 20 02 57.64 +13 43.9 1.776 2.595 138.4 14.6 16.6

1936 PB $a, e, i = 2.67, 0.32, 7$ Elements MPC 11856
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 04 01.73 +30 02.9 1.896 2.575 122.4 19.2 16.8
 1989 10 11 03 58.43 +30 17.4
 1989 10 21 03 52.04 +30 18.0 1.776 2.644 143.5 12.9 16.5
 1989 10 31 03 43.08 +30 02.4
 1989 11 10 03 32.50 +29 29.9 1.742 2.711 165.2 5.4 16.3
 1989 11 20 03 21.59 +28 42.7
 1989 11 30 03 11.58 +27 45.9 1.818 2.776 162.9 6.0 16.4
 1989 12 10 03 03.55 +26 46.3
 1989 12 20 02 58.12 +25 50.6 2.005 2.839 141.2 12.5 16.9

1982 PC $a, e, i = 2.22, 0.20, 4$ Elements MPC 13604
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 04 03.16 +15 21.9 1.391 2.132 125.3 22.5 17.8
 1989 10 11 04 01.32 +14 47.0
 1989 10 21 03 55.90 +14 03.9 1.278 2.180 146.7 14.5 17.4
 1989 10 31 03 47.40 +13 15.6
 1989 11 10 03 36.84 +12 26.8 1.246 2.227 169.6 4.6 17.1
 1989 11 20 03 25.71 +11 43.1
 1989 11 30 03 15.48 +11 10.0 1.317 2.273 161.1 8.1 17.4
 1989 12 10 03 07.44 +10 51.9
 1989 12 20 03 02.33 +10 50.2 1.488 2.318 138.4 16.4 18.0

1976 QC1 $a, e, i = 2.16, 0.19, 2$ Elements MPC 12940
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 04 04.76 +23 30.9 1.341 2.069 123.5 23.8 18.2
 1989 10 11 04 03.24 +23 41.0
 1989 10 21 03 57.80 +23 38.8 1.222 2.114 144.7 15.8 17.8
 1989 10 31 03 48.85 +23 22.7
 1989 11 10 03 37.49 +22 52.7 1.177 2.158 169.0 5.0 17.4
 1989 11 20 03 25.37 +22 12.0
 1989 11 30 03 14.22 +21 26.6 1.235 2.201 164.3 6.9 17.6
 1989 12 10 03 05.53 +20 44.1
 1989 12 20 03 00.13 +20 10.8 1.392 2.242 140.8 16.1 18.2

1979	FV1				$a, e, i = 3.44, 0.03, 7$		Elements MPC 10033	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		03 56.71	+28 25.3	2.817	3.476	123.9	13.8	17.1
1989 10 11		03 54.31	+28 45.5					
1989 10 21		03 49.76	+28 57.6	2.613	3.472	144.5	9.6	16.8
1989 10 31		03 43.33	+28 59.9					
1989 11 10		03 35.54	+28 51.7	2.500	3.467	165.3	4.2	16.5
1989 11 20		03 27.13	+28 33.3					
1989 11 30		03 18.93	+28 06.6	2.502	3.462	164.4	4.4	16.5
1989 12 10		03 11.77	+27 35.0					
1989 12 20		03 06.27	+27 02.6	2.619	3.457	143.1	9.8	16.8
1982	SY2				$a, e, i = 2.22, 0.18, 3$		Elements MPC 13686	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		04 07.21	+21 25.0	1.705	2.406	123.3	20.3	17.5
1989 10 11		04 04.73	+21 32.2					
1989 10 21		03 58.94	+21 30.6	1.554	2.437	145.0	13.6	17.1
1989 10 31		03 50.16	+21 19.5					
1989 11 10		03 39.27	+20 59.1	1.486	2.466	169.5	4.2	16.7
1989 11 20		03 27.56	+20 31.4					
1989 11 30		03 16.44	+20 00.6	1.528	2.492	164.7	6.0	16.8
1989 12 10		03 07.22	+19 32.0					
1989 12 20		03 00.74	+19 10.5	1.677	2.516	140.7	14.3	17.3
1982	UE				$a, e, i = 2.26, 0.22, 4$		Elements MPC 13605	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		03 56.97	+14 14.2	0.979	1.772	126.9	26.9	16.3
1989 10 11		03 58.99	+14 21.5					
1989 10 21		03 56.73	+14 23.5	0.874	1.791	146.5	17.9	15.8
1989 10 31		03 50.43	+14 22.5					
1989 11 10		03 41.16	+14 21.6	0.835	1.817	169.3	5.8	15.3
1989 11 20		03 30.69	+14 24.2					
1989 11 30		03 20.97	+14 33.8	0.882	1.850	164.0	8.4	15.6
1989 12 10		03 13.79	+14 53.7					
1989 12 20		03 10.14	+15 25.0	1.015	1.889	141.8	18.8	16.3
1982	SV5				$a, e, i = 2.26, 0.20, 6$		Elements MPC 13605	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		03 55.31	+12 56.8	1.041	1.831	127.5	25.7	16.4
1989 10 11		03 57.51	+11 54.8					
1989 10 21		03 55.71	+10 42.4	0.932	1.847	146.7	17.2	16.0
1989 10 31		03 50.22	+09 26.0					
1989 11 10		03 42.01	+08 14.3	0.891	1.868	166.2	7.2	15.6
1989 11 20		03 32.71	+07 17.1					
1989 11 30		03 24.06	+06 42.1	0.939	1.895	159.7	10.4	15.8
1989 12 10		03 17.62	+06 33.4					
1989 12 20		03 14.34	+06 50.0	1.071	1.926	139.3	19.4	16.4
1985	SA				$a, e, i = 2.32, 0.13, 7$		Elements MPC 11832	
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 01		04 08.35	+10 14.8	1.615	2.333	124.5	20.7	17.0
1989 10 11		04 06.75	+09 40.0					
1989 10 21		04 01.97	+09 01.7	1.477	2.363	145.1	14.0	16.6
1989 10 31		03 54.32	+08 23.7					
1989 11 10		03 44.61	+07 50.8	1.421	2.392	165.5	6.0	16.3
1989 11 20		03 34.04	+07 27.6					
1989 11 30		03 23.90	+07 17.9	1.470	2.420	160.1	8.0	16.4
1989 12 10		03 15.44	+07 24.1					
1989 12 20		03 09.49	+07 46.1	1.621	2.447	138.7	15.4	16.9

1982 RW $a, e, i = 2.22, 0.19, 2$ Elements MPC 13594
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 04 11.73 +24 15.5 1.382 2.090 121.7 24.0 17.3
 1989 10 11 04 11.06 +24 28.7
 1989 10 21 04 06.49 +24 30.5 1.256 2.134 142.5 16.5 16.9
 1989 10 31 03 58.32 +24 18.8
 1989 11 10 03 47.52 +23 53.3 1.203 2.178 166.5 6.1 16.5
 1989 11 20 03 35.64 +23 15.8
 1989 11 30 03 24.38 +22 31.6 1.250 2.221 166.7 5.9 16.6
 1989 12 10 03 15.30 +21 48.1
 1989 12 20 03 09.34 +21 11.8 1.399 2.264 143.1 15.1 17.2

1979 KR $a, e, i = 2.57, 0.14, 11$ Elements MPC 14014
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 01 04 07.25 +14 11.3 2.211 2.897 124.4 16.6 17.8
 1989 10 11 04 05.25 +13 18.4
 1989 10 21 04 00.78 +12 18.6 2.033 2.909 145.5 11.2 17.5
 1989 10 31 03 54.12 +11 14.3
 1989 11 10 03 45.86 +10 09.7 1.946 2.918 166.6 4.5 17.1
 1989 11 20 03 36.85 +09 09.3
 1989 11 30 03 28.04 +08 18.1 1.974 2.926 161.5 6.1 17.2
 1989 12 10 03 20.35 +07 39.9
 1989 12 20 03 14.49 +07 16.9 2.112 2.932 139.6 12.6 17.6

1981 EX4 $a, e, i = 3.10, 0.13, 20$ Elements MPC 8143
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 21 03 59.53 +09 32.0 2.160 3.034 145.7 10.6 17.7
 1989 10 31 03 53.70 +08 03.6
 1989 11 10 03 46.48 +06 37.5 2.095 3.060 164.3 5.0 17.4
 1989 11 20 03 38.66 +05 19.1
 1989 11 30 03 31.04 +04 13.8 2.146 3.086 158.8 6.6 17.5
 1989 12 10 03 24.44 +03 25.0
 1989 12 20 03 19.46 +02 54.4 2.307 3.112 138.4 12.1 17.9
 1989 12 30 03 16.46 +02 41.3
 1990 01 09 03 15.61 +02 44.2 2.550 3.137 118.3 16.0 18.3

1988 PT $a, e, i = 2.59, 0.21, 13$ Elements MPC 13678
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 21 04 07.25 +10 12.3 2.269 3.128 143.9 10.8 17.9
 1989 10 31 04 00.84 +09 09.2
 1989 11 10 03 52.86 +08 07.0 2.167 3.131 164.0 5.0 17.5
 1989 11 20 03 44.07 +07 10.2
 1989 11 30 03 35.29 +06 22.9 2.182 3.131 161.2 5.8 17.6
 1989 12 10 03 27.40 +05 48.7
 1989 12 20 03 21.08 +05 29.2 2.310 3.129 140.1 11.6 17.9
 1989 12 30 03 16.78 +05 24.7
 1990 01 09 03 14.73 +05 34.1 2.525 3.124 119.2 16.0 18.2

1985 RS1 $a, e, i = 2.40, 0.22, 3$ Elements MPC 11151
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 21 04 14.32 +23 00.0 1.270 2.138 141.2 17.0 17.5
 1989 10 31 04 07.19 +23 01.1
 1989 11 10 03 57.28 +22 51.4 1.214 2.185 164.9 6.8 17.1
 1989 11 20 03 46.01 +22 32.1
 1989 11 30 03 35.01 +22 06.6 1.257 2.234 169.2 4.8 17.1
 1989 12 10 03 25.86 +21 40.5
 1989 12 20 03 19.60 +21 19.4 1.403 2.283 145.4 14.1 17.7
 1989 12 30 03 16.68 +21 07.2
 1990 01 09 03 17.14 +21 05.6 1.629 2.332 124.5 20.3 18.3

1987 GG		a,e,i = 2.65, 0.31, 30				Elements MPC 11997		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 21		04 10.69	-19 42.7	2.651	3.401	132.3	12.5	18.4
1989 10 31		04 04.28	-21 02.6					
1989 11 10		03 56.36	-22 02.8	2.572	3.378	138.5	11.2	18.3
1989 11 20		03 47.57	-22 38.0					
1989 11 30		03 38.68	-22 44.9	2.586	3.352	134.5	12.1	18.3
1989 12 10		03 30.49	-22 23.1					
1989 12 20		03 23.69	-21 35.1	2.686	3.323	122.7	14.4	18.5
1989 12 30		03 18.72	-20 25.0					
1990 01 09		03 15.88	-18 57.8	2.851	3.291	108.0	16.5	18.6

1967 UT		a,e,i = 2.39, 0.05, 3				Elements MPC 9031		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 21		04 17.51	+17 26.6	1.532	2.391	141.3	15.1	17.2
1989 10 31		04 11.19	+17 11.3					
1989 11 10		04 02.33	+16 52.2	1.434	2.403	164.7	6.3	16.7
1989 11 20		03 51.96	+16 31.6					
1989 11 30		03 41.41	+16 12.5	1.439	2.415	169.1	4.4	16.6
1989 12 10		03 32.07	+15 59.0					
1989 12 20		03 25.00	+15 54.0	1.552	2.426	145.3	13.3	17.2
1989 12 30		03 20.84	+15 59.6					
1990 01 09		03 19.82	+16 16.3	1.748	2.437	123.9	19.6	17.6

1979 QK6		a,e,i = 2.18, 0.20, 4				Elements MPC 10037		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 21		04 23.46	+15 00.8	1.226	2.089	140.0	17.8	17.4
1989 10 31		04 16.38	+14 34.1					
1989 11 10		04 06.39	+14 06.3	1.168	2.135	163.3	7.6	17.0
1989 11 20		03 54.82	+13 41.2					
1989 11 30		03 43.31	+13 22.8	1.207	2.181	167.8	5.5	17.0
1989 12 10		03 33.46	+13 15.0					
1989 12 20		03 26.38	+13 19.9	1.349	2.226	144.8	14.8	17.6
1989 12 30		03 22.61	+13 38.0					
1990 01 09		03 22.24	+14 07.9	1.570	2.270	123.8	21.1	18.2

1981 EZ14		a,e,i = 2.92, 0.21, 5				Elements MPC 10539		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 21		04 15.96	+28 07.5	1.495	2.343	139.5	16.0	18.0
1989 10 31		04 11.86	+28 05.4					
1989 11 10		04 04.99	+27 48.9	1.369	2.329	161.1	7.9	17.5
1989 11 20		03 56.31	+27 17.7					
1989 11 30		03 47.14	+26 33.9	1.340	2.318	170.7	4.0	17.3
1989 12 10		03 38.98	+25 43.1					
1989 12 20		03 33.06	+24 52.2	1.413	2.313	149.0	12.7	17.7
1989 12 30		03 30.12	+24 07.5					
1990 01 09		03 30.47	+23 33.3	1.572	2.312	128.0	19.6	18.2

1981 ES8		a,e,i = 3.02, 0.10, 10				Elements MPC 14187		
Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1989 10 21		04 16.59	+15 14.9	1.925	2.775	141.6	12.9	16.8
1989 10 31		04 11.58	+14 18.3					
1989 11 10		04 04.65	+13 19.3	1.826	2.790	163.6	5.8	16.4
1989 11 20		03 56.60	+12 21.8					
1989 11 30		03 48.36	+11 30.4	1.836	2.806	167.2	4.5	16.4
1989 12 10		03 40.95	+10 49.5					
1989 12 20		03 35.18	+10 21.8	1.957	2.823	145.5	11.4	16.8
1989 12 30		03 31.56	+10 08.4					
1990 01 09		03 30.37	+10 09.1	2.166	2.841	124.4	16.6	17.2

7618 P-L $a, e, i = 3.18, 0.09, 6$ Elements MPC 12584
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 21 04 17.30 +12 50.2 2.076 2.922 141.5 12.2 17.1
 1989 10 31 04 12.48 +12 21.5
 1989 11 10 04 05.77 +11 53.2 1.951 2.912 162.9 5.7 16.7
 1989 11 20 03 57.87 +11 28.0
 1989 11 30 03 49.63 +11 09.0 1.933 2.903 167.1 4.3 16.6
 1989 12 10 03 42.03 +10 58.9
 1989 12 20 03 35.89 +10 59.4 2.028 2.896 145.9 11.0 16.9
 1989 12 30 03 31.79 +11 11.2
 1990 01 09 03 30.06 +11 33.8 2.213 2.889 124.8 16.2 17.3

1973 EK $a, e, i = 2.70, 0.07, 2$ Elements MPC 13696
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 21 04 20.44 +20 03.9 1.897 2.738 140.3 13.4 17.4
 1989 10 31 04 15.06 +19 42.7
 1989 11 10 04 07.43 +19 15.5 1.760 2.724 163.4 6.0 16.9
 1989 11 20 03 58.35 +18 44.0
 1989 11 30 03 48.83 +18 11.0 1.730 2.710 171.6 3.0 16.7
 1989 12 10 03 40.05 +17 40.4
 1989 12 20 03 33.00 +17 16.1 1.813 2.696 147.6 11.3 17.2
 1989 12 30 03 28.34 +17 00.9
 1990 01 09 03 26.44 +16 56.4 1.987 2.681 125.6 17.3 17.5

(3863) 1978 SJ3 $a, e, i = 2.33, 0.15, 10$ Elements MPC 13445
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 21 04 23.61 +08 49.9 1.411 2.264 139.7 16.5 16.5
 1989 10 31 04 17.71 +07 33.6
 1989 11 10 04 09.28 +06 22.1 1.343 2.298 159.7 8.6 16.2
 1989 11 20 03 59.38 +05 22.2
 1989 11 30 03 49.34 +04 40.0 1.375 2.332 161.4 7.7 16.2
 1989 12 10 03 40.51 +04 19.5
 1989 12 20 03 33.89 +04 21.2 1.509 2.365 142.2 14.8 16.7
 1989 12 30 03 30.05 +04 43.1
 1990 01 09 03 29.19 +05 21.5 1.721 2.397 122.4 20.3 17.2

9511 P-L $a, e, i = 3.16, 0.13, 1$ Elements MPC 14630
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 21 04 19.05 +20 19.9 2.711 3.537 140.6 10.3 18.5
 1989 10 31 04 13.55 +20 03.9
 1989 11 10 04 06.52 +19 43.6 2.586 3.547 163.6 4.5 18.2
 1989 11 20 03 58.56 +19 20.2
 1989 11 30 03 50.37 +18 55.6 2.576 3.556 172.2 2.1 18.0
 1989 12 10 03 42.74 +18 32.1
 1989 12 20 03 36.31 +18 12.1 2.687 3.564 148.6 8.3 18.4
 1989 12 30 03 31.58 +17 57.8
 1990 01 09 03 28.84 +17 50.6 2.897 3.570 126.4 12.8 18.7

(3933) 1986 EN4 $a, e, i = 3.24, 0.11, 2$ Elements MPC 13849
 Date ET R. A. (1950) Decl. Delta r Elong. Phase V
 1989 10 21 04 20.00 +21 57.0 2.665 3.488 140.1 10.6 18.0
 1989 10 31 04 14.55 +21 48.1
 1989 11 10 04 07.50 +21 34.2 2.541 3.500 163.0 4.7 17.7
 1989 11 20 03 59.49 +21 16.0
 1989 11 30 03 51.22 +20 55.0 2.531 3.512 172.9 2.0 17.6
 1989 12 10 03 43.52 +20 33.7
 1989 12 20 03 37.05 +20 14.5 2.641 3.523 149.2 8.2 17.9
 1989 12 30 03 32.31 +19 59.7
 1990 01 09 03 29.61 +19 51.2 2.852 3.533 127.1 12.8 18.3