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#### ERRATA.

MPC	Line	
19257	28	For 1991 read 1990
22019	12	The observers should read T. J. Balonek, C. A. Tremonti, M. Stockmaster
22127	-11	For T. Oja read S. Mottola
22127	-10	For A. Erikson read S. Mottola, G. Hahn
22127	- 9	For AGK3 read GSC

\* \* \* \* \*

#### CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object	Date	UT	R. A. (2000)	Decl.	Reference	Mag.	N	Obs.
1951 CF	1951 02	10.17433	09 43 49.88	+13 23 16.3	MPC 5887		1	760
1983 AW	1988 10	07.25938	23 00 45.79	-04 22 28.7	MPC 18046	18.8	2	675
1983 AW	1988 10	07.28715	23 00 44.68	-04 22 41.4	MPC 18046		2	675
1988 QC	1988 09	10.35330	23 26 30.21	-11 16 50.5	MPC 13984	18.0		675
1988 QC	1988 09	12.38177	23 26 58.50	-11 50 37.8	MPC 13984			675
1988 RT	* 1988 09	11.28420	23 09 00.26	+03 19 11.4	MPC 13666		4	675
1988 RT	1988 09	16.37413	23 06 31.04	+03 04 27.5	MPC 13666		3	675
1988 RU	1988 09	16.37413	23 16 59.35	+03 33 52.4	MPC 13666		5	675
1988 RW	1988 09	16.37413	23 16 17.83	-02 44 53.4	MPC 13667			675
1988 RX	* 1988 09	13.34149	23 03 18.25	-12 56 55.0	MPC 13667	17.2		675
1988 RX	1988 09	16.32256	23 01 53.84	-13 09 42.5	MPC 13667			675
1988 RF1	* 1988 09	10.31666	23 32 24.84	-10 25 38.2	MPC 13667	18.0	1	675
1988 RF1	1988 09	12.38177	23 31 05.20	-10 27 04.1	MPC 13667			675
1988 RG1	* 1988 09	10.31666	23 37 46.82	-08 51 48.1	MPC 13667	17.8	1	675
1988 RG1	1988 09	12.38177	23 36 50.88	-09 03 56.2	MPC 13667			675
1988 RO1	* 1988 09	13.41736	00 17 50.72	+08 02 30.9	MPC 13667	17.2		675
1988 RO1	1988 09	14.33506	00 18 58.49	+07 33 33.5	MPC 13667		1	675
1988 RO1	1988 09	14.36909	00 19 00.65	+07 32 28.7	MPC 13667		1	675
1988 TZ2	1988 09	14.28490	23 01 38.45	-18 12 20.8	MPC 13984		7	675
1988 TZ2	1988 09	14.31771	23 01 37.38	-18 12 25.2	MPC 13984		7	675
1992 AR	1992 01	30.15451	06 39 00.00	+28 57 18.9	MPC 19769			675

Note 1: time originally slightly different. 2: 1983 AW = (5460). 3: 1988 RT = (4708). 4 = 1 + 3. 5: 1988 RU = (4348). 6: 1988 TZ2 = (4722).

7 = 1 + 6.

## IDENTIFICATION CHANGES.

Continuation to MPC 22091.

Object	Date	UT	R. A. (2000)	Decl.	Old desig.	Mag.	Obs.
A917 XE	* 1917	12 11.950	06 12.5	+21 19	268	12.5	008
1930 UJ1	* 1930	10 16.00322	00 52 04.89	+09 44 44.0	1930 SJ		008
1930 UJ1	1930	10 17.00050	00 51 08.64	+09 41 30.3	1930 SJ		008
1932 YU	* 1932	12 24.89198	05 11 22.46	+08 33 57.3	1932 YS		012
1980 UA2	* 1980	10 17.96876	03 19 29.97	+22 27 10.1	1980 TB15	17.5	095
1980 UB2	* 1980	10 17.96876	03 20 02.81	+22 05 18.9	1980 TA15	17.5	095
1990 SP29	* 1990	09 20.21181	22 01 28.18	-06 16 35.1	1990 SG16	18.0	675
1990 SP29	1990	09 20.24184	22 01 27.04	-06 16 36.8	1990 SG16		675
1992 CF4	* 1992	02 13.82101	10 13 19.89	+16 38 05.9	1992 CP	18	372
1992 CF4	1992	02 13.83299	10 13 19.33	+16 38 12.8	1992 CP		372

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## IDENTIFICATION.

The following identification with a numbered minor planet, by G. V. Williams, continues the list on MPC 22091:

A917 XE = (461)

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## OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

- 010 Caussols. 0.9-m Schmidt. Observers E. W. Elst, D. Albanese and J. B. Emond. Measured by Elst.
- 046 Klet. 0.57-m f/5 reflector. Observer Z. Moravec.
- 056 Skalnaté Pleso. 0.3-m f/5 astrograph. Observers J. Svoren, G. Cervak and P. Rychtarcik.
- 107 Cavezzo. 0.40-m f/2.23 reflector + CCD. Observers R. Calanca, R. Bonomi and M. Nicolini.
- 108 Montelupo. Observer M. Tombelli. Measured by Tombelli, A. Boattini, and S. Bartolini.
- 360 Kuma Kogen. 0.60-m f/6.0 Ritchey-Chretien + CCD. Observer A. Nakamura. Long. and Parallax 132.9442, 0.83314, +0.55138 (see MPC 19348).
- 361 Sumoto. 0.20-m f/6.3 reflector + CCD. Observer S. Nakano.
- 372 Geisei. 0.60-m f/3.5 reflector. Observer T. Seki.
- 376 Uenohara. 0.30-m reflector + CCD. Observer N. Kawasato.
- 413 Siding Spring. 1.0-m reflector + CCD. Observers R. H. McNaught and G. J. Garradd. Measured by R. H. McNaught.
- 540 Linz. 0.3-m f/5.2 Schmidt-Cassegrain + CCD. Observers E. Meyer, E. Obermair and H. Raab.
- 552 Osservatorio San Vittore. Observers G. Sassi and C. Vacchi. Measured by A. Boattini, V. Goretti and M. Tombelli.
- 587 Sormano. 0.5-m reflector + CCD. Observers M. Cavagna, C. Gualdoni and E. Galliani.
- 670 Camarillo. 0.25-m Schmidt-Cassegrain + CCD. Observer J. E. Rogers.

- 675 Palomar. 0.46-m Schmidt telescope. Observers B. M. Cudnik, E. Helin, H. E. Holt, W. Johnson, K. Lawrence, D. H. Levy, M. Nassir, C. M. Olmstead, C. S. Shoemaker, E. M. Shoemaker and D. Williams. Measured by K. Lawrence and C. S. Shoemaker.
- 691 Kitt Peak. 0.91-m Spacewatch telescope. Observer J. V. Scotti.
- 711 McDonald Observatory. 2.1-m reflector. Observers P. J. Shelus and A. L. Whipple. Measured by L. Eakins and R. Whited.
- 801 Oak Ridge. 1.5-m reflector + CCD. Observers R. E. McCrosky and C.-Y. Shao.
- 894 Kiyosato. 0.25-m f/3.4 reflector. Observer S. Otomo.

Object	Date	UT	R. A. (2000)	Decl.	Mag.	N Obs.
Periodic Comet Smirnova-Chernykh						
/1984 V	1993 02	19.75984	14 04 25.80	-05 17 17.4	16.0 T	360
/1984 V	1993 02	19.76337	14 04 25.83	-05 17 17.1		360
/1984 V	1993 02	25.78229	14 04 28.01	-05 10 36.8	16.0 T	360
/1984 V	1993 03	22.61875	13 57 54.51	-04 15 41.2	15.9 T	360
/1984 V	1993 03	22.62153	13 57 54.42	-04 15 40.9		360
/1984 V	1993 04	01.78634	13 52 37.03	-03 45 22.3	15.6 T	360
/1984 V	1993 04	01.78889	13 52 36.94	-03 45 22.4		360
/1984 V	1993 04	14.61157	13 44 47.00	-03 07 28.0	15.5 T	360
/1984 V	1993 04	14.61377	13 44 46.92	-03 07 27.7		360
/1984 V	1993 04	17.59358	13 42 53.18	-02 59 22.3	15.7 T	360
/1984 V	1993 04	17.59583	13 42 53.09	-02 59 21.7		360
/1984 V	1993 05	15.63142	13 27 17.38	-02 13 59.7	15.9 T	360
/1984 V	1993 05	15.63438	13 27 17.32	-02 14 00.3		360
/1984 V	1993 05	20.61701	13 25 23.77	-02 13 35.8	16.1 T	360
/1984 V	1993 05	20.61979	13 25 23.69	-02 13 35.7		360
/1984 V	1993 05	24.63429	13 24 08.16	-02 15 12.3	15.9 T	361
/1984 V	1993 05	24.63676	13 24 08.10	-02 15 09.1	15.8 T	361
/1984 V	1993 05	24.66097	13 24 07.65	-02 15 12.4	15.8 T	361
Comet Sorrells (1987 II)						
/1987 II	1986 11	28.84201	03 07 24.07	+28 03 51.0		056
/1987 II	1986 11	28.86771	03 07 13.47	+28 03 30.8		056
/1987 II	1986 11	29.90556	03 00 05.54	+27 48 40.9		056
/1987 II	1986 12	03.76476	02 34 13.00	+26 41 41.4		056
/1987 II	1986 12	03.80457	02 33 57.42	+26 40 55.6		056
/1987 II	1986 12	05.78993	02 21 14.71	+26 00 18.5		056
/1987 II	1986 12	05.85984	02 20 48.37	+25 58 48.9		056
/1987 II	1986 12	07.89306	02 08 21.30	+25 13 57.1		056
/1987 II	1986 12	07.93021	02 08 07.95	+25 13 05.1		056
Comet Wilson (1987 VII)						
/1987 VII	1986 08	26.81736	21 42 41.57	+22 06 51.5		056
/1987 VII	1986 08	26.84583	21 42 37.78	+22 06 27.6		056
/1987 VII	1986 09	03.84097	21 25 26.84	+20 01 52.6		056
/1987 VII	1986 09	03.88437	21 25 21.27	+20 01 04.7		056
/1987 VII	1986 09	05.79514	21 21 15.40	+19 27 29.0		056
/1987 VII	1986 09	05.82431	21 21 11.70	+19 26 59.2		056
/1987 VII	1986 09	08.79456	21 14 52.62	+18 32 04.4		056
/1987 VII	1986 09	08.85660	21 14 44.77	+18 30 54.4		056
/1987 VII	1986 09	25.74468	20 41 44.16	+12 35 37.9		056
/1987 VII	1986 09	25.77685	20 41 40.81	+12 34 55.2		056
/1987 VII	1986 09	28.93437	20 36 18.69	+11 24 11.6		056
/1987 VII	1986 09	28.96528	20 36 15.58	+11 23 32.1		056
/1987 VII	1986 10	01.77222	20 31 45.22	+10 20 32.8		056
/1987 VII	1986 10	01.81736	20 31 40.98	+10 19 31.8		056

/1987 VII	1986 10 02.80729	20 30 09.37	+09 57 21.5		056
/1987 VII	1986 10 02.84861	20 30 05.48	+09 56 24.9		056
/1987 VII	1986 10 04.77326	20 27 13.15	+09 13 27.0		056
/1987 VII	1986 10 04.81007	20 27 09.95	+09 12 38.4		056
/1987 VII	1986 10 28.76042	20 01 43.41	+00 59 15.9		056
/1987 VII	1986 10 28.79907	20 01 41.78	+00 58 34.6		056
/1987 VII	1986 10 29.78334	20 01 02.44	+00 40 35.3		056
/1987 VII	1986 10 29.81400	20 01 01.28	+00 40 04.4		056
/1987 VII	1986 10 31.71933	19 59 49.97	+00 05 50.0		056
/1987 VII	1986 11 03.71493	19 58 10.29	-00 46 19.9		056
/1987 VII	1986 11 03.78142	19 58 08.28	-00 47 28.7		056
/1987 VII	1986 11 04.72847	19 57 39.96	-01 03 38.4		056
/1987 VII	1986 11 04.78437	19 57 38.37	-01 04 27.8		056
/1987 VII	1986 11 26.69167	19 52 40.53	-06 26 16.4		056
/1987 VII	1986 11 26.73194	19 52 40.59	-06 26 46.5		056
/1987 VII	1986 11 28.69514	19 52 42.64	-06 51 23.5		056
/1987 VII	1986 11 28.72917	19 52 42.71	-06 51 47.4		056
/1987 VII	1986 11 29.69097	19 52 45.16	-07 03 40.0		056
/1987 VII	1986 11 29.72569	19 52 45.21	-07 04 03.8		056

## Periodic Comet Schwassmann-Wachmann 1

/1989 XV	1992 09 25.76910	05 52 41.25	+31 16 07.6		360
/1989 XV	1992 09 25.77205	05 52 41.27	+31 16 07.7		360
/1989 XV	1992 11 30.71238	05 41 14.70	+31 53 40.6	13.9 T	360
/1989 XV	1992 11 30.72836	05 41 14.17	+31 53 40.3		360
/1989 XV	1992 12 02.69514	05 40 12.08	+31 53 04.7	13.8 T	360
/1989 XV	1992 12 02.69757	05 40 12.01	+31 53 04.7		360
/1989 XV	1992 12 17.60313	05 31 57.94	+31 43 28.1	14.1 T	360
/1989 XV	1992 12 25.52031	05 27 36.21	+31 34 49.0		360
/1989 XV	1992 12 25.52500	05 27 36.03	+31 34 48.5	14.1 T	360
/1989 XV	1993 02 14.54201	05 11 57.70	+30 09 50.8	12.7 T	360
/1989 XV	1993 02 25.52604	05 12 46.06	+29 52 32.9	12.7 T	360
/1989 XV	1993 03 21.46991	05 19 38.94	+29 22 06.4	12.9 T	360
/1989 XV	1993 03 22.45197	05 20 04.03	+29 21 03.6	13.2 T	360
/1989 XV	1993 04 14.47326	05 32 23.67	+29 00 07.4	12.7 T	360
/1989 XV	1993 04 14.47755	05 32 23.81	+29 00 07.1		360
/1989 XV	1993 04 19.46493	05 35 37.55	+28 56 12.9	12.8 T	360
/1989 XV	1993 04 19.46719	05 35 37.64	+28 56 13.2		360
/1989 XV	1993 04 25.44896	05 39 42.90	+28 51 41.2	13.3 T	360
/1989 XV	1993 04 25.45174	05 39 43.01	+28 51 41.4		360

## Periodic Comet Arend-Rigaux

/1991 XVII	1993 05 29.28717	15 53 38.55	+00 37 35.3	20.8 T	691
/1991 XVII	1993 05 29.29816	15 53 38.10	+00 37 35.7		691
/1991 XVII	1993 05 29.32197	15 53 37.08	+00 37 35.8		691
/1991 XVII	1993 05 29.34006	15 53 36.35	+00 37 36.3	20.9 T	691
/1991 XVII	1993 05 29.36181	15 53 35.41	+00 37 36.6	21.0 T	691
/1991 XVII	1993 06 27.27341	15 37 00.34	+00 04 38.4	21.7 T	691
/1991 XVII	1993 06 27.28309	15 37 00.04	+00 04 36.6	21.3 T	691
/1991 XVII	1993 06 27.29217	15 36 59.83	+00 04 35.3	21.4 T	691

## Periodic Comet Faye

/1991 XXI	1993 05 27.20421	11 13 32.43	+01 40 47.9	21.7 N 1	691
/1991 XXI	1993 05 27.21608	11 13 32.56	+01 40 47.3	22.0 N	691
/1991 XXI	1993 05 27.23104	11 13 32.60	+01 40 48.9		691

## Comet Shoemaker-Levy (1991 XXIV)

/1991 XXIV	1992 10 19.45979	19 57 23.49	+06 04 21.4	14.8 T	360
/1991 XXIV	1992 10 19.46310	19 57 23.65	+06 04 18.2		360

## Periodic Comet Shoemaker-Levy 8

/1992f	1993 05 30.43280	22 00 59.18	-05 06 44.0	19.4 T	691
/1992f	1993 05 30.44055	22 00 59.42	-05 06 41.6	19.6 T	691
/1992f	1993 05 30.44806	22 00 59.52	-05 06 39.9	21.8 N 2	691

## Comet Spacewatch (1992h)

/1992h	1993 02 19.70081	13 50 03.73	+28 59 00.2	15.4 T	360
/1992h	1993 02 19.70590	13 50 03.41	+28 59 09.6		360
/1992h	1993 03 22.60712	13 05 57.72	+43 59 23.1	15.4 T	360
/1992h	1993 03 22.60990	13 05 57.37	+43 59 27.3		360
/1992h	1993 04 01.77222	12 42 43.14	+48 06 13.6	15.6 T	360
/1992h	1993 04 01.77731	12 42 42.42	+48 06 20.2		360
/1992h	1993 04 14.55747	12 09 53.91	+51 56 03.8	15.5 T	360
/1992h	1993 04 14.56146	12 09 53.25	+51 56 07.1		360
/1992h	1993 05 20.58079	10 51 24.36	+55 11 33.4	15.9 T	360
/1992h	1993 05 20.58455	10 51 23.98	+55 11 33.1		360
/1992h	1993 05 23.58214	10 47 11.46	+55 08 56.1	16.0 T	361
/1992h	1993 05 24.61389	10 45 49.56	+55 07 44.6	15.6 T	361
/1992h	1993 05 24.62294	10 45 49.24	+55 07 44.2	15.9 T	361
/1992h	1993 05 25.61168	10 44 33.85	+55 06 23.9	15.6 T	361
/1992h	1993 05 31.88294	10 37 32.97	+54 55 27.4	15.4 T	540
/1992h	1993 05 31.88734	10 37 32.68	+54 55 26.9	15.4 T	540
/1992h	1993 05 31.89156	10 37 32.39	+54 55 25.9	15.8 T	540
/1992h	1993 05 31.89576	10 37 32.26	+54 55 25.3	15.2 T	540
/1992h	1993 06 09.89635	10 30 10.18	+54 34 40.2	15.4 T	540
/1992h	1993 06 09.90050	10 30 10.13	+54 34 39.6	15.4 T	540
/1992h	1993 06 09.90466	10 30 09.93	+54 34 38.9	15.3 T	540
/1992h	1993 06 09.90969	10 30 09.71	+54 34 38.9	15.4 T	540
/1992h	1993 06 11.53350	10 29 08.55	+54 30 38.3	15.3 T	361
/1992h	1993 06 11.53881	10 29 08.31	+54 30 33.7	15.5 T	361
/1992h	1993 06 11.54122	10 29 08.21	+54 30 34.4	15.8 T	361
/1992h	1993 06 11.54394	10 29 08.17	+54 30 33.2	16.0 T	361
/1992h	1993 06 28.88642	10 23 18.17	+53 48 35.7	15.0 T	540
/1992h	1993 06 28.88987	10 23 18.10	+53 48 36.5	14.7 T	540
/1992h	1993 06 28.89685	10 23 18.05	+53 48 34.5	15.0 T	540
/1992h	1993 06 28.90029	10 23 17.96	+53 48 34.4	15.0 T	540
/1992h	1993 07 03.87992	10 23 04.04	+53 38 41.4	15.3 T	540
/1992h	1993 07 03.88652	10 23 04.32	+53 38 42.0		540

## Periodic Comet Ashbrook-Jackson

/1992j	1993 06 25.45488	00 48 03.57	+00 56 07.7	17.9 N 3	691
/1992j	1993 06 25.46237	00 48 04.12	+00 56 12.8	14.0 T 3	691
/1992j	1993 07 01.77517	00 55 45.63	+02 06 59.2		4 413
/1992j	1993 07 01.77748	00 55 45.77	+02 07 00.9		4 413

## Periodic Comet Giclas

/1992l	1992 09 25.75278	04 15 01.22	+09 31 52.5	15.9 T 5	360
/1992l	1992 09 25.75556	04 15 01.36	+09 31 52.5		5 360
/1992l	1992 11 02.68519	04 25 27.38	+09 04 36.9	15.7 T	360
/1992l	1992 11 02.68785	04 25 27.30	+09 04 36.7		360
/1992l	1992 11 24.75150	04 11 37.33	+09 42 45.1	15.2 T	360
/1992l	1992 11 24.75660	04 11 37.09	+09 42 46.1		360
/1992l	1992 11 30.67280	04 07 21.36	+10 05 16.5	15.5 T	360
/1992l	1992 11 30.67552	04 07 21.23	+10 05 17.0		360
/1992l	1992 12 17.59497	03 58 08.97	+11 35 44.4	15.5 T	360
/1992l	1992 12 25.61354	03 56 18.35	+12 29 02.7	14.1 T	360
/1992l	1992 12 25.61667	03 56 18.31	+12 29 03.6		360
/1992l	1993 01 21.56458	04 04 21.23	+15 49 48.0	16.2 T	360
/1992l	1993 01 21.56701	04 04 21.31	+15 49 49.9		360

/1992l	1993 03 20.44375	05 14 37.33	+21 49 56.0	17.6 T	6	360
/1992l	1993 03 20.44722	05 14 37.81	+21 49 59.8		6	360
Periodic Comet Wolf						
/1992m	1992 11 02.61829	01 06 49.59	+05 01 37.7	17.5 T		360
/1992m	1992 11 02.62118	01 06 49.56	+05 01 34.9			360
Periodic Comet Schuster						
/1992n	1992 09 25.78530	06 37 37.55	+26 35 36.6	16.1 T		360
/1992n	1992 09 25.78958	06 37 38.17	+26 35 40.1			360
/1992n	1992 10 25.76111	07 52 00.04	+33 53 57.3	16.6 T		360
/1992n	1992 10 25.76563	07 52 00.69	+33 54 01.1			360
/1992n	1992 11 24.80851	08 42 32.81	+42 11 03.6	17.2 T		360
/1992n	1992 11 24.81267	08 42 33.01	+42 11 07.2			360
/1992n	1992 11 30.76979	08 47 52.15	+43 58 59.6	17.3 T		360
/1992n	1992 11 30.77234	08 47 52.24	+43 59 02.7			360
Periodic Comet Daniel						
/1992o	1992 10 25.81887	09 57 01.78	+26 06 53.7	16.0 T		360
/1992o	1992 10 25.82396	09 57 02.58	+26 06 54.4			360
/1992o	1992 10 25.82882	09 57 03.35	+26 06 54.2			360
/1992o	1992 11 30.79115	11 18 58.62	+26 21 12.8	16.4 T		360
/1992o	1992 11 30.79896	11 18 59.51	+26 21 13.6			360
/1992o	1993 01 21.78420	12 15 26.24	+32 25 04.0	16.9 T		360
/1992o	1993 01 21.78715	12 15 26.22	+32 25 05.0			360
/1992o	1993 02 19.68530	12 01 53.05	+37 08 44.8	16.8 T		360
/1992o	1993 02 19.69352	12 01 52.72	+37 08 48.1			360
/1992o	1993 05 28.15574	11 23 04.85	+26 15 33.5	20.7 T	7	691
/1992o	1993 05 28.16424	11 23 05.10	+26 15 27.6			691
Comet Helin-Lawrence (1992q)						
/1992q	1992 12 09.52566	23 11 59.83	-52 28 05.1			413
/1992q	1992 12 09.52804	23 11 59.72	-52 28 05.4			413
/1992q	1992 12 10.52949	23 11 13.38	-52 30 32.4		8	413
/1992q	1992 12 10.53160	23 11 13.29	-52 30 32.7		8	413
Periodic Comet Ciffreo						
/1992s	1992 12 09.53146	23 51 41.17	-08 58 31.4			413
/1992s	1992 12 09.53380	23 51 41.31	-08 58 28.7			413
/1992s	1992 12 10.52709	23 52 56.41	-08 38 28.3			413
/1992s	1992 12 10.52709	23 52 56.57	-08 38 25.7			413
/1992s	1992 12 14.43727	23 58 06.49	-07 18 52.0	15.6 T		360
/1992s	1992 12 14.45341	23 58 07.77	-07 18 31.8			360
Periodic Comet Swift-Tuttle						
/1992t	1993 06 30.35888	08 24 23.68	-62 44 38.0			413
/1992t	1993 07 01.34487	08 27 32.87	-62 32 24.2		9	413
/1992t	1993 07 01.34693	08 27 33.30	-62 32 21.7		9	413
Periodic Comet Vaisala 1						
/1992u	1993 01 21.61441	09 58 44.30	+12 26 25.3	15.2 T		360
/1992u	1993 01 21.61701	09 58 44.31	+12 26 26.8			360
/1992u	1993 02 25.54410	09 50 28.14	+19 49 55.6	13.6 T		360
/1992u	1993 03 22.53322	09 49 45.97	+24 04 43.6	13.8 T		360
/1992u	1993 03 22.53594	09 49 46.02	+24 04 44.8			360
/1992u	1993 04 14.50741	10 06 56.26	+24 51 42.8	14.2 T		360
/1992u	1993 04 14.51019	10 06 56.43	+24 51 42.6			360
/1992u	1993 04 19.53819	10 12 59.69	+24 37 43.3	14.2 T		360
/1992u	1993 04 19.54097	10 12 59.89	+24 37 42.6			360

/1992u	1993 04	25.47951	10 21	03.12	+24 11	00.4	14.4	T	360
/1992u	1993 04	25.48264	10 21	03.37	+24 10	59.4			360
/1992u	1993 05	15.58958	10 53	53.32	+21 29	37.3	14.8	T	360
/1992u	1993 05	15.59271	10 53	53.66	+21 29	34.8			360
/1992u	1993 05	16.85606	10 56	10.56	+21 16	16.7			587
/1992u	1993 05	16.86447	10 56	11.59	+21 16	09.8			587
/1992u	1993 05	16.87237	10 56	12.23	+21 16	06.5			587
/1992u	1993 05	20.59340	11 03	01.28	+20 35	04.3	14.5	T	360
/1992u	1993 05	20.59618	11 03	01.57	+20 35	02.2			360
/1992u	1993 05	22.05560	11 05	44.80	+20 18	12.3			801
/1992u	1993 05	22.06347	11 05	45.68	+20 18	06.6			801
/1992u	1993 05	23.54700	11 08	32.48	+20 00	35.3	14.8	T	361
/1992u	1993 05	23.54916	11 08	32.68	+20 00	35.5	14.6	T	361
/1992u	1993 05	23.55262	11 08	32.99	+20 00	31.9	14.1	T	361
/1992u	1993 05	23.83238	11 09	04.94	+19 57	09.9			107
/1992u	1993 05	23.86038	11 09	07.98	+19 56	50.4			587
/1992u	1993 05	23.86591	11 09	08.60	+19 56	46.2			587
/1992u	1993 05	24.86676	11 11	02.06	+19 44	43.2			107
/1992u	1993 05	25.56270	11 12	21.32	+19 36	09.0	14.9	T	361
/1992u	1993 05	25.57970	11 12	23.06	+19 36	00.1	15.1	T	361
/1992u	1993 05	25.85819	11 12	55.29	+19 32	32.7			107
/1992u	1993 05	25.86420	11 12	55.93	+19 32	27.7			107
/1992u	1993 05	27.05216	11 15	11.96	+19 17	45.2			801
/1992u	1993 05	27.05720	11 15	12.45	+19 17	37.7			801
/1992u	1993 05	28.18036	11 17	21.63	+19 03	31.0	19.6	N A	691
/1992u	1993 05	28.18921	11 17	22.60	+19 03	24.1	15.1	T	691
/1992u	1993 06	04.50095	11 31	36.50	+17 26	38.4	14.6	T	361
/1992u	1993 06	04.50328	11 31	36.82	+17 26	35.7	14.5	T	361
/1992u	1993 06	05.87035	11 34	18.54	+17 07	42.8			107
/1992u	1993 06	05.90660	11 34	22.84	+17 07	10.6			107
/1992u	1993 06	08.88580	11 40	16.45	+16 25	20.5			107
/1992u	1993 06	11.56466	11 45	36.48	+15 46	45.5	14.3	T	361
/1992u	1993 06	11.56709	11 45	36.88	+15 46	44.5	13.9	T	361
/1992u	1993 06	14.85759	11 52	12.10	+14 58	29.1			107
/1992u	1993 06	17.07475	11 56	39.06	+14 25	26.5			801
/1992u	1993 06	17.08104	11 56	39.60	+14 25	21.8		B	801

## Periodic Comet Schaumasse

/1992x	1992 11	02.69566	04 38	28.38	+11 48	36.8	17.3	T	360
/1992x	1992 11	02.70069	04 38	28.22	+11 48	37.5			360
/1992x	1992 11	24.77709	04 23	34.95	+13 26	44.9	15.5	T	360
/1992x	1992 11	24.77899	04 23	34.82	+13 26	45.6			360
/1992x	1992 11	30.66262	04 16	37.81	+14 14	15.2	15.4	T	360
/1992x	1992 11	30.66563	04 16	37.54	+14 14	16.8			360
/1992x	1992 12	10.61101	04 03	11.30	+16 00	36.3			413
/1992x	1992 12	10.61332	04 03	11.06	+16 00	38.1			413
/1992x	1993 03	21.50139	06 54	20.42	+47 31	04.8			360
/1992x	1993 05	23.55851	11 27	26.62	+20 22	14.0	15.0	T	361
/1992x	1993 05	23.56243	11 27	27.43	+20 22	09.5	15.3	T	361
/1992x	1993 05	23.56468	11 27	28.14	+20 22	01.5	15.2	T	361
/1992x	1993 05	23.84501	11 28	10.64	+20 13	42.2			107
/1992x	1993 05	24.07924	11 28	45.77	+20 06	45.7			801
/1992x	1993 05	24.08921	11 28	47.28	+20 06	28.5			801
/1992x	1993 05	24.84847	11 30	40.97	+19 44	03.1			107
/1992x	1993 05	25.58519	11 32	30.09	+19 22	28.2	14.2	T	360
/1992x	1993 05	25.58958	11 32	30.74	+19 22	20.6			360
/1992x	1993 05	25.83233	11 33	06.95	+19 15	13.8			107
/1992x	1993 05	25.84828	11 33	09.06	+19 14	49.9			107
/1992x	1993 05	27.06513	11 36	07.04	+18 39	32.1			801

/1992x	1993 05	27.07255	11 36	08.16	+18 39	17.3			801
/1992x	1993 05	27.16345	11 36	21.18	+18 36	42.0	19.7 N		691
/1992x	1993 05	27.17434	11 36	22.75	+18 36	23.0	17.1 T	C	691
/1992x	1993 05	27.18444	11 36	24.17	+18 36	05.4	20.1 N		691
/1992x	1993 06	04.48685	11 55	34.49	+14 46	00.3	15.2 T		361
/1992x	1993 06	04.49325	11 55	35.46	+14 45	52.2	15.1 T		361
/1992x	1993 06	04.49567	11 55	35.74	+14 45	47.1	14.9 T		361
/1992x	1993 06	23.19208	12 33	53.48	+07 12	37.3	21.4 N	D	691
/1992x	1993 06	23.20180	12 33	54.57	+07 12	24.4	17.0 T		691
/1992x	1993 06	23.21163	12 33	55.69	+07 12	11.7	16.7 T		691

## Comet Shoemaker (1992y)

/1992y	1992 11	24.73623	03 26	45.39	+35 52	42.0	14.7 T		360
/1992y	1992 11	24.73872	03 26	45.03	+35 52	44.7			360
/1992y	1992 12	17.61152	02 31	13.81	+41 29	17.2	15.2 T		360
/1992y	1992 12	25.53403	02 14	56.92	+42 47	37.1	15.2 T		360
/1992y	1992 12	25.53646	02 14	56.67	+42 47	38.0			360
/1992y	1993 01	21.51221	01 42	14.07	+46 15	57.1	15.9 T		360
/1992y	1993 01	21.51916	01 42	13.83	+46 16	00.3			360
/1992y	1993 02	14.45961	01 40	54.22	+49 49	14.9	15.9 T		360
/1992y	1993 02	14.46493	01 40	54.34	+49 49	18.2			360
/1992y	1993 03	20.43079	02 13	44.36	+57 00	42.4	15.7 T		360
/1992y	1993 03	20.43368	02 13	44.48	+57 00	45.4			360
/1992y	1993 03	21.45324	02 15	20.44	+57 15	57.0	15.5 T		360
/1992y	1993 03	21.45671	02 15	20.85	+57 16	00.2			360
/1992y	1993 06	06.87365	07 48	32.84	+72 32	33.6	15.4 T		540
/1992y	1993 06	06.88186	07 48	36.81	+72 32	31.7	15.7 T		540
/1992y	1993 06	06.88403	07 48	37.62	+72 32	29.3	15.4 T		540
/1992y	1993 06	06.88576	07 48	38.52	+72 32	28.1	15.3 T		540
/1992y	1993 06	06.88750	07 48	39.25	+72 32	26.5	15.5 T		540
/1992y	1993 06	09.86734	08 09	51.81	+72 14	14.8	15.6 T		540
/1992y	1993 06	09.87112	08 09	53.41	+72 14	12.1	15.6 T		540
/1992y	1993 06	09.87459	08 09	54.53	+72 14	12.0	15.6 T		540
/1992y	1993 06	09.87807	08 09	56.53	+72 14	10.5	15.6 T		540
/1992y	1993 06	19.86718	09 15	49.12	+70 25	56.6	15.5 T		540
/1992y	1993 06	19.87149	09 15	50.18	+70 25	50.2	16.1 T		540
/1992y	1993 06	19.87584	09 15	51.77	+70 25	47.4	16.1 T		540
/1992y	1993 06	19.88001	09 15	53.52	+70 25	45.5	15.9 T		540
/1992y	1993 06	28.91331	10 06	02.34	+67 56	44.7	16.1 T		540
/1992y	1993 06	28.91751	10 06	03.97	+67 56	40.0	16.1 T		540
/1992y	1993 06	28.92164	10 06	05.21	+67 56	35.5	16.0 T		540
/1992y	1993 06	28.92567	10 06	06.19	+67 56	29.2	15.9 T		540

## Comet Mueller (1993a)

/1993a	1993 01	21.58310	09 17	56.72	+52 03	08.7	14.0 T		360
/1993a	1993 01	21.58588	09 17	56.39	+52 03	11.1			360
/1993a	1993 03	22.46308	07 09	24.20	+57 38	10.2	13.9 T		360
/1993a	1993 04	14.48802	06 46	26.76	+56 28	30.1	13.7 T		360
/1993a	1993 04	14.49063	06 46	26.67	+56 28	30.0			360
/1993a	1993 04	25.45972	06 42	13.22	+55 55	06.2	14.0 T		360
/1993a	1993 04	25.46215	06 42	13.14	+55 55	05.7			360
/1993a	1993 05	11.46806	06 42	00.89	+55 18	12.0	14.0 T		360
/1993a	1993 05	11.47014	06 42	00.89	+55 18	11.8			360
/1993a	1993 05	17.94236	06 43	34.53	+55 08	30.1			046
/1993a	1993 05	17.95671	06 43	34.33	+55 08	29.4			046
/1993a	1993 05	31.85196	06 49	28.13	+54 59	50.6	13.5 T		540
/1993a	1993 05	31.85353	06 49	27.94	+54 59	51.9	13.5 T		540
/1993a	1993 05	31.85491	06 49	28.14	+54 59	52.0	13.4 T		540
/1993a	1993 05	31.85677	06 49	28.28	+54 59	52.1	13.5 T		540



## Comet Mueller (1993d)

/1993d	1993 05 24.88836	12 28 42.32	+59 23 25.0	17.5 T	540
/1993d	1993 05 24.89487	12 28 42.34	+59 23 21.2	17.9 T	540
/1993d	1993 05 24.92656	12 28 42.14	+59 23 04.4	17.1 T	540
/1993d	1993 05 24.93265	12 28 42.23	+59 23 01.4	17.3 T	540
/1993d	1993 05 26.52818	12 28 40.89	+59 09 14.2		376
/1993d	1993 05 26.57130	12 28 40.68	+59 08 53.9		376
/1993d	1993 06 09.92048	12 30 13.15	+56 58 23.4	17.7 T	540
/1993d	1993 06 09.92661	12 30 13.09	+56 58 21.2	17.4 T	540
/1993d	1993 06 09.93359	12 30 13.30	+56 58 17.0		540
/1993d	1993 06 09.94072	12 30 13.33	+56 58 13.2		540
/1993d	1993 07 09.89988	12 42 01.80	+52 03 21.1	17.9 T	540
/1993d	1993 07 09.90727	12 42 01.84	+52 03 18.3		540
/1993d	1993 07 09.91391	12 42 02.36	+52 03 15.4		540
/1993d	1993 07 09.91980	12 42 02.39	+52 03 13.4		540

## Periodic Comet Shoemaker-Levy 9

/1993e	1993 04 01.70984	12 22 33.74	-03 39 06.8	14.1 T	360
/1993e	1993 04 01.71476	12 22 33.60	-03 39 05.6		360
/1993e	1993 04 14.57309	12 16 35.51	-03 02 31.3	14.3 T	360
/1993e	1993 04 14.57581	12 16 35.45	-03 02 30.4		360
/1993e	1993 04 14.58333	12 16 35.24	-03 02 29.3		360
/1993e	1993 04 16.18392	12 15 54.15	-02 58 12.0		711
/1993e	1993 04 17.26246	12 15 26.71	-02 55 21.7		711
/1993e	1993 04 17.57350	12 15 18.85	-02 54 32.3	14.7 T	360
/1993e	1993 04 17.57604	12 15 18.72	-02 54 32.2		360
/1993e	1993 04 17.57986	12 15 18.59	-02 54 31.3		360
/1993e	1993 04 18.24771	12 15 02.20	-02 52 48.1		711
/1993e	1993 04 18.93819	12 14 44.63	-02 51 02.5		552
/1993e	1993 04 19.32203	12 14 35.97	-02 50 03.1		711
/1993e	1993 04 23.96313	12 12 47.78	-02 38 43.3		108
/1993e	1993 05 18.31840	12 06 36.80	-01 58 20.8		675
/1993e	1993 05 20.18733	12 06 24.44	-01 56 46.7		675
/1993e	1993 05 20.21128	12 06 24.35	-01 56 46.4		675
/1993e	1993 05 20.60451	12 06 21.60	-01 56 28.7	15.0 T	360
/1993e	1993 05 20.60747	12 06 21.62	-01 56 28.1		360
/1993e	1993 05 21.15734	12 06 18.77	-01 56 04.5		711
/1993e	1993 05 21.21180	12 06 18.16	-01 56 04.1	13.6 T	675
/1993e	1993 05 23.18055	12 06 08.65	-01 54 51.7		675
/1993e	1993 05 23.22204	12 06 08.35	-01 54 50.0		675
/1993e	1993 05 23.52046	12 06 07.14	-01 54 40.2		361
/1993e	1993 05 23.52811	12 06 06.82	-01 54 41.4		361
/1993e	1993 05 23.58659	12 06 06.85	-01 54 34.2		361
/1993e	1993 05 24.17916	12 06 04.66	-01 54 20.4		675
/1993e	1993 05 24.59650	12 06 02.99	-01 54 09.1		361
/1993e	1993 05 24.60116	12 06 03.05	-01 54 07.9		361
/1993e	1993 05 24.85999	12 06 02.21	-01 54 00.1	14.8 T	540
/1993e	1993 05 24.86155	12 06 02.16	-01 54 00.0	14.7 T	540
/1993e	1993 05 24.86294	12 06 02.02	-01 54 00.2	14.7 T	540
/1993e	1993 05 24.86432	12 06 02.11	-01 54 00.5	14.6 T	540
/1993e	1993 05 25.59931	12 06 00.22	-01 53 42.4	14.5 T	360
/1993e	1993 05 25.60148	12 06 00.28	-01 53 43.5		361
/1993e	1993 05 25.60231	12 06 00.09	-01 53 42.6		360
/1993e	1993 05 25.60396	12 06 00.03	-01 53 44.0		361
/1993e	1993 05 26.23177	12 05 58.67	-01 53 30.2		675
/1993e	1993 05 27.26684	12 05 56.60	-01 53 11.7		675
/1993e	1993 05 27.28446	12 05 56.84	-01 53 12.1	14.8 T	691
/1993e	1993 06 04.86467	12 06 07.82	-01 53 35.9		107

/1993e	1993 06 05.83949	12 06 12.30	-01 54 03.0					107
/1993e	1993 06 06.85751	12 06 18.35	-01 54 24.6	15.2	T			540
/1993e	1993 06 06.85929	12 06 18.53	-01 54 24.9	14.9	T			540
/1993e	1993 06 06.86103	12 06 18.47	-01 54 25.6	14.9	T			540
/1993e	1993 06 06.86277	12 06 18.20	-01 54 26.0	15.0	T			540
/1993e	1993 06 08.86840	12 06 29.95	-01 55 39.6					107
/1993e	1993 06 11.57068	12 06 52.00	-01 57 24.2					361
/1993e	1993 06 11.57990	12 06 51.73	-01 57 28.4					361
/1993e	1993 06 14.19670	12 07 17.04	-01 59 48.9	14	T			675
/1993e	1993 06 17.18854	12 07 50.59	-02 03 03.9					675
/1993e	1993 06 17.22691	12 07 50.89	-02 03 08.0					675
/1993e	1993 06 19.90258	12 08 25.64	-02 06 31.4	14.9	T			540
/1993e	1993 06 19.90588	12 08 25.69	-02 06 30.9	15.1	T			540
/1993e	1993 06 19.90933	12 08 25.41	-02 06 33.4	15.1	T			540
/1993e	1993 06 19.91282	12 08 25.52	-02 06 33.7	15.1	T			540
/1993e	1993 06 20.17690	12 08 29.85	-02 06 54.7					675
/1993e	1993 06 26.87462	12 10 16.73	-02 17 36.7					587
/1993e	1993 06 26.88215	12 10 16.74	-02 17 37.7					587
/1993e	1993 06 26.89787	12 10 16.80	-02 17 40.2					587
/1993e	1993 07 09.86599	12 14 55.98	-02 45 59.4	15.0	T	E		540
/1993e	1993 07 09.87344	12 14 56.47	-02 46 00.1	15.1	T	E		540
/1993e	1993 07 11.85670	12 15 46.51	-02 51 06.3					587
/1993e	1993 07 11.85977	12 15 46.55	-02 51 09.2					587
/1993e	1993 07 11.87770	12 15 47.01	-02 51 11.0					587
/1993e	1993 07 11.87940	12 15 47.16	-02 51 12.2					587

## Periodic Comet Forbes

/1993f	1993 05 27.75516	00 21 01.61	+02 06 37.0	14.4	T			361
/1993f	1993 05 27.75935	00 21 02.21	+02 06 43.3	14.5	T			361
/1993f	1993 07 01.80531	01 21 58.48	+10 49 13.0					413
/1993f	1993 07 01.80883	01 21 58.74	+10 49 16.5					413

## Periodic Comet Reinmuth 2

/1993g	1993 05 29.25472	14 21 46.65	-23 30 29.0	21.4	T			691
/1993g	1993 05 29.26307	14 21 46.25	-23 30 26.8	22.2	T			691
/1993g	1993 05 29.27112	14 21 45.92	-23 30 24.9	21.3	T			691

## Comet Shoemaker-Levy (1993h)

/1993h	1993 05 23.20885	13 24 50.49	-33 58 19.7			F		675
/1993h	1993 05 23.24809	13 24 48.61	-33 58 22.2			G		675
/1993h	1993 05 24.20572	13 24 01.91	-33 59 22.2			5		675
/1993h	1993 05 24.23836	13 24 00.19	-33 59 23.0					675
/1993h	1993 05 25.18776	13 23 14.45	-34 00 21.3	16.7	T	H		691
/1993h	1993 05 25.20008	13 23 13.82	-34 00 21.8	20.8	N	H		691
/1993h	1993 05 25.21155	13 23 13.27	-34 00 22.0	16.4	T			691
/1993h	1993 05 25.39850	13 23 04.61	-34 00 31.0					413
/1993h	1993 05 26.20329	13 22 26.46	-34 01 18.4					675
/1993h	1993 05 26.25729	13 22 23.84	-34 01 21.2					675
/1993h	1993 06 04.55910	13 15 43.39	-34 08 29.0					413
/1993h	1993 06 11.51319	13 11 34.82	-34 13 00.1	17.0	T			372
/1993h	1993 06 15.19340	13 09 42.17	-34 15 27.2	17	T			675
/1993h	1993 06 15.23247	13 09 40.72	-34 15 27.2					675
/1993h	1993 06 18.19878	13 08 20.03	-34 17 32.3					675
/1993h	1993 06 18.23906	13 08 18.75	-34 17 34.8					675

## Periodic Comet Holmes

/1993i	1993 05 24.77222	01 12 09.20	+17 34 18.7	18	T	I		372
/1993i	1993 05 25.77639	01 13 59.40	+17 51 18.8	18	T	I		372

## Periodic Comet Neujmin 3

/1993j		1993 05 25.34975	15 03 29.83	-10 32 37.9	21.0 T	J	691
/1993j		1993 05 25.38166	15 03 28.38	-10 32 33.5	21.2 T	J	691
/1993j		1993 05 26.24980	15 02 52.45	-10 30 10.3	22.1 T	J	691
/1993j		1993 05 26.29348	15 02 50.59	-10 30 01.9	21.7 T	J	691
/1993j		1993 05 26.31215	15 02 49.77	-10 29 59.2	21.9 T	J	691
/1993j		1993 06 23.22640	14 50 34.49	-10 06 23.5	20.7 T	K	691
/1993j		1993 06 23.24526	14 50 34.22	-10 06 24.4	20.7 T	K	691
/1993j		1993 06 23.26975	14 50 33.95	-10 06 26.3	21.3 T	K	691

## Periodic Comet Shajn-Schaldach

/1993k		1993 05 27.43324	23 33 53.03	-01 10 35.0	22.4 N		691
/1993k		1993 05 27.44212	23 33 53.67	-01 10 31.4	19.8 T		691
/1993k	L	1993 05 27.45291	23 33 54.57	-01 10 26.3	20.0 T		691
/1993k		1993 05 28.43489	23 35 14.00	-01 03 06.9			691
/1993k		1993 05 28.44249	23 35 14.74	-01 03 03.7	19.6 T		691
/1993k		1993 05 28.45151	23 35 15.41	-01 02 58.9	19.5 T		691

## Periodic Comet Helin-Lawrence

/1993l	M	1993 04 21.48906	16 55 53.10	-15 47 10.3	17.0 T		675
/1993l	M	1993 04 22.48906	16 55 42.75	-15 47 40.0			675
/1993l		1993 05 17.43611	16 45 15.43	-16 05 43.1	16.5 T		675
/1993l		1993 05 17.46510	16 45 14.30	-16 05 44.6			675
/1993l		1993 05 17.47778	16 45 13.75	-16 05 43.6			675
/1993l		1993 05 19.35365	16 44 03.21	-16 07 39.7			675
/1993l		1993 05 19.38368	16 44 02.24	-16 07 44.5			675
/1993l	N	1993 05 27.37795	16 38 41.38	-16 17 16.9	16.5 T		675
/1993l	N	1993 05 27.40191	16 38 40.36	-16 17 18.6			675
/1993l		1993 05 27.64063	16 38 30.50	-16 17 37.7	17.0 T		894
/1993l		1993 05 27.65382	16 38 29.89	-16 17 39.0			894
/1993l	N	1993 05 27.97917	16 38 16.68	-16 18 04.6	17.5 T		010
/1993l	N	1993 05 27.98958	16 38 16.23	-16 18 05.5			010
/1993l	N	1993 05 28.00000	16 38 15.74	-16 18 05.8			010
/1993l	N	1993 05 29.02917	16 37 32.88	-16 19 29.4			010
/1993l	N	1993 05 29.03958	16 37 32.35	-16 19 30.8			010
/1993l	N	1993 05 29.05000	16 37 31.91	-16 19 32.1			010
/1993l		1993 06 04.51684	16 33 00.60	-16 29 15.0	16.6 T		361
/1993l		1993 06 04.53016	16 32 59.95	-16 29 15.6	16.2 T		361
/1993l		1993 06 04.54489	16 32 59.18	-16 29 13.8	16 T		413
/1993l		1993 06 08.23221	16 30 26.44	-16 35 30.8			670
/1993l		1993 06 08.24407	16 30 25.97	-16 35 33.2			670
/1993l		1993 06 08.25661	16 30 25.45	-16 35 34.0			670
/1993l		1993 06 11.62495	16 28 09.53	-16 41 45.9	17.2 T		361
/1993l		1993 06 11.62721	16 28 09.38	-16 41 45.9	16.9 T		361
/1993l		1993 06 11.62928	16 28 09.36	-16 41 46.5	15.8 T		360
/1993l		1993 06 11.62950	16 28 09.41	-16 41 47.8	16.6 T		361
/1993l		1993 06 11.63176	16 28 09.25	-16 41 45.9	16.6 T		361
/1993l		1993 06 11.63299	16 28 09.22	-16 41 46.6			360
/1993l		1993 06 11.66912	16 28 07.73	-16 41 51.6	16.5 T		361
/1993l		1993 06 17.28038	16 24 34.31	-16 53 15.0	16.5 T		675
/1993l		1993 06 18.10940	16 24 04.44	-16 54 59.3			801
/1993l		1993 06 18.13906	16 24 03.36	-16 55 03.7			801
/1993l		1993 06 19.22188	16 23 25.30	-16 57 28.7			675
/1993l		1993 06 20.24583	16 22 49.80	-16 59 46.2			675
/1993l		1993 06 21.27535	16 22 15.30	-17 02 07.5	15.5 T		675
/1993l		1993 06 21.29965	16 22 14.46	-17 02 11.9			675
/1993l		1993 06 26.29948	16 19 40.22	-17 14 18.2			675
/1993l		1993 06 26.31806	16 19 39.56	-17 14 22.0			675
/1993l		1993 06 27.00236	16 19 20.26	-17 16 05.1	16.7 T		587

/19931	1993 06 27.00716	16 19 20.18	-17 16 06.5	587
/19931	1993 06 27.01642	16 19 19.84	-17 16 07.2	587
/19931	1993 07 01.57456	16 17 24.64	-17 28 15.0	413
/19931	1993 07 01.57612	16 17 24.59	-17 28 15.2	413

## Periodic Comet Hartley 3

/1993m	1993 06 23.43707	01 40 51.19	+21 40 45.4	22.1 N	691
/1993m	1993 06 23.44496	01 40 51.79	+21 40 49.2	19.5 T	691
/1993m	1993 06 23.45118	01 40 52.21	+21 40 52.2	19.7 T	O 691
/1993m	1993 06 24.44795	01 42 02.95	+21 49 40.3		P 691
/1993m	1993 06 24.45394	01 42 03.37	+21 49 42.9	22.0 N	P 691
/1993m	1993 06 24.45990	01 42 03.89	+21 49 46.1		P 691

## Periodic Comet Whipple

/1993n	1993 06 25.38638	19 51 43.55	-08 25 59.9		J 691
/1993n	1993 06 25.39787	19 51 43.11	-08 26 00.3	21.5 T	J 691
/1993n	1993 06 25.41126	19 51 42.63	-08 25 59.9	21.0 T	J 691
/1993n	1993 06 26.34800	19 51 13.58	-08 26 25.8	21.2 T	J 691
/1993n	1993 06 26.35657	19 51 13.28	-08 26 25.9	20.7 T	J 691
/1993n	1993 06 26.36824	19 51 12.87	-08 26 26.9		J 691

Note 1: faint, narrow tail extending 2'.1 in p.a. 282 . 2: coma diameter 8", tail extending 0'.23 in p.a. 247 . 3: coma diameter 24"; broad tail extending from p.a. 245 to p.a. 301 near the nucleus, curving sharply and extending 16'.9 in p.a. 241 with a width of 1'.3; sharp tailward spike extending 0'.67 in p.a. 250 . 4: outside three-star reduction; comet has 'spring onion' appearance. 5: comet involved with star. 6: comet very faint. 7: coma diameter 16", image diffuse and uncondensed. 8: weak solution. 9: bad seeing. A: coma diameter 28", tail extending 2'.34 in p.a. 121 . B: faint, diffuse image. C: coma diameter 2'.6. D: asymmetric coma 2'.0 3'.7 with long axis in p.a. 107 -287 . E: low altitude and twilight. F: right ascension uncertain. G: declination uncertain. H: coma diameter 16", narrow tail extending 2'.14 in p.a. 5 . I: little condensation, coma diameter 20". J: essentially stellar. K: very slightly diffuse. L: coma diameter 10", tail extending 0'.55 in p.a. 257 . M: pre-discovery image. N: independent discovery. O: coma diameter 10", tail extending 0'.54 in p.a. 255 . P: close to mag 14 star.

\* \* \* \* \*

## OBSERVATIONS OF MINOR PLANETS.

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

A earlier approximate position inferior  
a sense of motion ambiguous  
B black or dark plate  
b bad seeing  
C correction to earlier position  
c crowded star field  
D declination uncertain  
d diffuse image  
E at or near edge of plate  
F faint image  
f involved with emulsion or plate flaw  
G poor guiding

g no guiding  
 I involved with star  
 i inkdot measured  
 M measurement difficult  
 N near edge of plate, measurement uncertain  
 O image out of focus  
 o plate measured in one direction only  
 P position uncertain  
 p poor image  
 R right ascension uncertain  
 r poor distribution of reference stars  
 S poor sky  
 s streaked image  
 T time uncertain  
 t trailed image  
 U uncertain image  
 u unconfirmed image  
 V very faint image  
 W weak image  
 w weak solution

Object	Date	UT	R. A. (2000)	Decl.	Mag.	N	Obs.
033 Tautenburg							
F. Borngen, Thuringer Landessternwarte, Dorfstrasse 73,							
O-6901 Tautenburg, Federal Republic of Germany							
1.3-m Schmidt telescope							
PPM							
1951 WH	1993 04	23.91319	13 04 10.30	-02 49 51.3	18.5		033
1951 WH	1993 04	23.95625	13 04 07.84	-02 49 42.1			033
1951 WH	1993 04	24.97917	13 03 11.20	-02 46 18.9			033
1951 WH	1993 04	27.95069	13 00 32.64	-02 37 11.8			033
1989 GF8	1993 04	21.88889	10 50 46.53	+14 42 13.3			033
1989 GF8	1993 04	23.84583	10 51 04.72	+14 33 21.4	18.4		033
1989 GF8	1993 04	23.89167	10 51 05.11	+14 33 08.1			033
1991 RP7	1993 04	16.86111	09 11 30.07	+12 06 35.3			033
1991 RP7	1993 04	16.90069	09 11 30.84	+12 06 33.1			033
1991 RP7	1993 04	20.86250	09 13 09.74	+12 02 25.2	18.5		033
1991 RP7	1993 04	20.90139	09 13 10.77	+12 02 22.4		V	033
1991 RP7	1993 04	21.86736	09 13 38.01	+12 01 07.3			033
1991 UL2	1993 04	23.84583	10 52 08.17	+12 59 07.0	18.7		033
1991 UL2	1993 04	23.89167	10 52 07.87	+12 59 04.6			033
1991 UH4	1993 04	26.86736	11 16 36.71	-03 16 15.2	19.6	V	033
1991 UH4	1993 04	26.90833	11 16 36.03	-03 16 02.7		V	033
1991 XG1	1992 01	02.98264	06 03 11.18	+25 53 44.3	18.1		033
1991 XG1	1992 01	03.02292	06 03 09.65	+25 53 50.2			033
1991 XH1	1992 01	02.98264	06 01 35.05	+26 10 33.9	17.7		033
1991 XH1	1992 01	03.02292	06 01 32.56	+26 10 34.7			033
1991 XJ1	1992 01	02.98264	06 02 44.45	+25 11 55.3	18.6		033
1991 XJ1	1992 01	03.02292	06 02 41.81	+25 12 00.4			033
1991 XO1	1993 04	23.91319	12 58 27.90	-01 41 11.1	18.7	V	033
1991 XO1	1993 04	23.95625	12 58 25.60	-01 40 59.9		V	033
1991 XO1	1993 04	24.97917	12 57 35.46	-01 36 51.1		V	033
1991 XF3	1992 01	02.98264	06 07 19.04	+24 44 07.1	17.9	I	033
1991 XF3	1992 01	03.02292	06 07 16.83	+24 44 06.8			033
1993 FR2	1993 04	23.91319	12 59 56.66	-01 42 06.6	17.1		033
1993 FR2	1993 04	23.95625	12 59 54.68	-01 41 52.6			033
1993 FR2	1993 04	24.97917	12 59 10.18	-01 35 51.2			033
1993 FR2	1993 04	27.95069	12 57 09.25	-01 19 40.4			033

1993 HA6	*	1993 04 23.91319	12 58 36.44	-02 00 47.6	17.9	033
1993 HA6		1993 04 23.95625	12 58 34.24	-02 00 46.6		033
1993 HA6		1993 04 24.97917	12 57 44.41	-02 00 25.2		033
1993 HA6		1993 04 27.95069	12 55 27.39	-02 00 18.3		033
3137 T-2		1993 04 23.91319	12 58 37.55	-00 26 55.1	17.6	033
3137 T-2		1993 04 23.95625	12 58 35.92	-00 26 43.5		033
3137 T-2		1993 04 24.97917	12 57 58.36	-00 22 05.1		033
3137 T-2		1993 04 27.95069	12 56 14.12	-00 09 23.2		033
(901)		1993 04 16.86111	09 05 03.52	+12 34 08.8		033
(901)		1993 04 16.90069	09 05 04.20	+12 34 08.0		033
(901)		1993 04 20.86250	09 06 32.08	+12 32 06.2	17.0	033
(901)		1993 04 20.90139	09 06 33.00	+12 32 04.8		033
(901)		1993 04 21.86736	09 06 57.69	+12 31 19.4		033
(1087)		1993 04 23.91319	12 56 19.02	-03 09 12.1	15.5	033
(1087)		1993 04 23.95625	12 56 17.09	-03 09 07.6		033
(1087)		1993 04 24.97917	12 55 32.27	-03 07 31.2		033
(1302)		1993 04 23.91319	12 59 41.57	-02 37 14.3	16.4	033
(1302)		1993 04 23.95625	12 59 39.84	-02 37 05.4		033
(1302)		1993 04 24.97917	12 58 59.78	-02 33 39.5		033
(1302)		1993 04 27.95069	12 57 07.97	-02 24 17.0		033
(2029)		1993 04 26.86736	11 11 55.69	-03 33 38.3	18.8	033
(2029)		1993 04 26.90833	11 11 55.08	-03 33 27.8		033
(2162)		1993 04 23.91319	13 00 46.23	-01 14 38.4	17.3	033
(2162)		1993 04 23.95625	13 00 44.00	-01 14 26.1		033
(2162)		1993 04 24.97917	12 59 52.70	-01 09 38.5		033
(2162)		1993 04 27.95069	12 57 30.51	-00 56 43.4		033
(2685)		1993 04 26.86736	11 19 26.87	-04 31 25.7	16.9	033
(2685)		1993 04 26.90833	11 19 26.91	-04 31 05.6		033
(2685)		1993 04 27.91042	11 19 30.31	-04 23 02.4		033
(3411)		1993 04 21.88889	10 49 28.68	+15 57 50.9		033
(3411)		1993 04 23.84583	10 49 47.71	+15 46 53.3	18.1	033
(3411)		1993 04 23.89167	10 49 48.12	+15 46 36.9		033
(3421)		1993 04 20.86250	09 12 00.62	+12 52 01.5	18.3	033
(3421)		1993 04 20.90139	09 12 02.46	+12 51 56.7		V 033
(3421)		1993 04 21.86736	09 12 53.23	+12 49 34.2		033
(3859)		1993 04 23.91319	12 57 09.24	-01 44 53.7	17.6	033
(3859)		1993 04 23.95625	12 57 07.56	-01 44 45.0		033
(3859)		1993 04 24.97917	12 56 29.50	-01 41 09.2		033
(3859)		1993 04 27.95069	12 54 44.00	-01 31 23.6		033
(4101)		1993 04 26.86736	11 21 16.80	-01 47 08.9	18.2	033
(4101)		1993 04 26.90833	11 21 15.91	-01 47 04.6		033
(4101)		1993 04 27.91042	11 20 56.27	-01 45 45.2		033
(5107)		1993 04 23.91319	13 01 52.83	-01 21 33.2	18.0	033
(5107)		1993 04 23.95625	13 01 51.27	-01 21 19.1		033
(5107)		1993 04 24.97917	13 01 14.17	-01 15 45.7		033
(5107)		1993 04 27.95069	12 59 31.06	-01 00 19.2		033
(5505)		1993 04 20.86250	09 07 56.89	+12 28 45.3	18.1	033
(5505)		1993 04 20.90139	09 07 57.60	+12 28 39.2		033
(5505)		1993 04 21.86736	09 08 16.58	+12 26 19.5		033
(5567)		1993 04 21.88889	10 47 43.33	+14 36 06.0		033
(5567)		1993 04 23.84583	10 47 07.60	+14 30 19.2	17.9	033
(5567)		1993 04 23.89167	10 47 06.76	+14 30 11.0		033

046 Klet

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Measurers Z. Vavrova, M. Tichy

0.63-m Maksutov reflector, 0.57-m reflector

PPM

1988 BC		1993 04	21.93830	14 47	44.56	+00 29	59.1	15.1		046
1988 BC		1993 04	21.95253	14 47	44.06	+00 30	00.2			046
1988 BC		1993 04	23.93627	14 45	48.66	+00 31	54.0			046
1988 BC		1993 04	23.95034	14 45	47.72	+00 31	55.3			046
1992 DD5	*	1992 02	26.93043	10 59	11.26	-02 34	09.1		E	046
1992 DD5		1992 02	28.90734	10 57	59.73	-02 07	41.1			046
1993 KG2	*	1993 05	17.94456	16 06	33.05	-04 43	16.0	15.9	U	046
1993 KG2		1993 05	17.95880	16 06	32.39	-04 43	12.4			046
1993 KG2		1993 05	20.03663	16 05	02.16	-04 37	41.5		I	046
1993 KH2	*	1993 05	17.97986	16 04	12.26	-10 51	03.6	15.9	I	046
1993 KH2		1993 05	17.99410	16 04	11.58	-10 51	01.4			046
1993 KH2		1993 05	19.97986	16 02	46.83	-10 46	36.4			046
1993 KH2		1993 05	19.99132	16 02	45.97	-10 46	34.9			046
1993 KJ2	*	1993 05	17.97986	16 07	03.93	-08 55	17.1	16.0		046
1993 KJ2		1993 05	17.99410	16 07	03.15	-08 55	14.3			046
1993 KJ2		1993 05	19.97986	16 05	22.28	-08 49	38.7			046
1993 KJ2		1993 05	19.99132	16 05	21.53	-08 49	36.3			046
1993 KK2	*	1993 05	17.97986	16 10	49.18	-10 07	18.9	15.6		046
1993 KK2		1993 05	17.99410	16 10	48.10	-10 07	13.4			046
1993 KK2		1993 05	19.99132	16 09	01.97	-09 58	50.9			046
1993 MF		1993 06	29.97465	20 36	23.30	+10 24	40.6			046
1993 MF		1993 07	01.03333	20 39	49.91	+11 28	45.9		I	046
1993 MF		1993 07	01.03785	20 39	50.89	+11 29	02.3			046
1993 MF		1993 07	01.04184	20 39	51.48	+11 29	17.0			046
1993 MF		1993 07	01.04410	20 39	52.09	+11 29	27.3			046
1993 MF		1993 07	01.04549	20 39	52.34	+11 29	30.0			046
1993 MF		1993 07	01.04722	20 39	52.75	+11 29	37.5		I	046
1993 MF		1993 07	01.05069	20 39	53.24	+11 29	48.6		I	046
1993 MF		1993 07	01.05226	20 39	53.66	+11 29	57.3			046
1993 MF		1993 07	01.05417	20 39	53.94	+11 30	01.7			046
(20)		1993 05	20.06146	17 19	36.81	-22 19	40.9		E	046
(20)		1993 05	20.06505	17 19	36.54	-22 19	39.3		E	046
(20)		1993 05	20.06863	17 19	36.38	-22 19	38.9		E	046
(20)		1993 05	20.07222	17 19	36.19	-22 19	39.0		E	046
(40)		1993 05	20.06146	17 23	33.71	-20 21	15.7			046
(40)		1993 05	20.06505	17 23	33.50	-20 21	15.1			046
(40)		1993 05	20.06863	17 23	33.31	-20 21	16.0			046
(40)		1993 05	20.07222	17 23	33.15	-20 21	16.1			046
(487)		1993 05	17.97986	16 10	25.07	-07 57	46.4		E	046
(487)		1993 05	17.99410	16 10	24.24	-07 57	45.7		E	046
(487)		1993 05	19.97986	16 08	37.59	-07 55	26.2		E	046
(487)		1993 05	19.99132	16 08	36.97	-07 55	23.1		E	046
(986)		1993 05	17.97986	16 05	29.21	-08 57	10.5			046
(986)		1993 05	17.99410	16 05	28.43	-08 57	10.1			046
(986)		1993 05	19.97986	16 03	50.10	-08 57	07.3			046
(986)		1993 05	19.99132	16 03	49.52	-08 57	08.3			046
(1051)		1993 05	17.89983	16 08	06.76	+08 09	35.5			046
(1051)		1993 05	17.91450	16 08	06.03	+08 09	40.0			046
(1051)		1993 05	20.00851	16 06	36.74	+08 22	00.0			046
(1051)		1993 05	20.01991	16 06	36.25	+08 22	04.0			046
(1588)		1993 05	17.97986	16 08	53.30	-10 11	23.7			046
(1588)		1993 05	17.99410	16 08	52.65	-10 11	21.8			046
(1588)		1993 05	19.97986	16 07	12.69	-10 11	04.2			046
(1588)		1993 05	19.99132	16 07	11.95	-10 11	03.3			046

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Observers C. Dinev, V. I. Umlenski

1993 KB2	1993 06 22.84898	16 28 02.00	+06 02 42.1	071
1993 KB2	1993 06 22.87657	16 28 00.90	+06 02 38.4	071
1993 KB2	1993 06 23.90017	16 28 00.12	+06 02 33.6	071
1993 KB2	1993 06 23.91075	16 27 26.63	+06 00 14.2	071
1993 KB2	1993 06 23.93249	16 27 25.90	+06 00 10.6	071
(50)	1993 03 23.91303	11 08 17.88	+05 19 55.7	071
(50)	1993 03 23.95434	11 08 16.11	+05 20 09.9	071
(50)	1993 03 25.03663	11 07 28.49	+05 25 50.6	071
(58)	1993 03 23.91303	11 04 35.10	+07 27 31.2	071
(58)	1993 03 23.95434	11 04 33.44	+07 27 46.6	071
(58)	1993 03 25.03663	11 03 48.93	+07 34 27.8	071
(91)	1993 03 23.91303	10 57 51.96	+07 54 19.0	071
(91)	1993 03 23.95434	10 57 50.05	+07 54 27.8	071
(91)	1993 03 25.03663	10 57 02.19	+07 58 08.8	071
(222)	1993 02 23.97838	10 30 01.53	+12 39 44.9	071
(222)	1993 02 24.01935	10 29 59.47	+12 39 57.2	071
(254)	1993 02 24.01935	10 36 19.45	+15 48 32.9	071
(289)	1993 04 22.87950	12 28 24.64	-01 01 14.6	071
(289)	1993 04 22.91906	12 28 22.90	-01 01 00.3	071
(289)	1993 04 23.96248	12 27 46.55	-00 55 58.8	071
(289)	1993 04 24.85108	12 27 16.38	-00 51 44.2	071
(289)	1993 04 24.87470	12 27 15.51	-00 51 38.0	071
(366)	1993 03 23.91303	11 03 47.80	+05 03 26.0	071
(366)	1993 03 23.95434	11 03 46.04	+05 03 31.2	071
(366)	1993 03 25.03663	11 02 58.36	+05 05 38.0	071
(413)	1993 03 24.06392	14 02 56.68	+15 07 10.4	071
(413)	1993 03 24.10106	14 02 55.18	+15 07 27.5	071
(551)	1993 04 21.90343	12 16 40.94	-01 52 41.8	071
(551)	1993 04 21.93536	12 16 39.79	-01 52 35.0	071
(551)	1993 04 22.84689	12 16 09.54	-01 49 23.7	071
(551)	1993 04 22.87950	12 16 08.51	-01 49 19.8	071
(551)	1993 04 22.89617	12 16 08.00	-01 49 14.0	071
(551)	1993 04 22.91906	12 16 07.01	-01 49 09.1	071
(551)	1993 04 23.88334	12 15 36.02	-01 45 53.4	071
(551)	1993 04 23.91042	12 15 35.01	-01 45 48.3	071
(551)	1993 04 23.93679	12 15 34.27	-01 45 42.6	071
(551)	1993 04 23.96248	12 15 33.26	-01 45 38.3	071
(551)	1993 04 24.85108	12 15 05.71	-01 42 41.7	071
(551)	1993 04 24.87470	12 15 04.91	-01 42 38.8	071
(767)	1993 02 23.97838	10 27 46.40	+13 03 25.1	071
(767)	1993 02 24.01935	10 27 44.41	+13 03 36.0	071
(904)	1993 04 21.90343	12 11 54.88	-03 33 22.4	071
(904)	1993 04 21.93536	12 11 53.91	-03 33 07.3	071
(904)	1993 04 22.84689	12 11 29.48	-03 25 52.5	071
(904)	1993 04 22.87950	12 11 28.88	-03 25 40.6	071
(904)	1993 04 22.89617	12 11 28.04	-03 25 30.9	071
(904)	1993 04 22.91906	12 11 27.66	-03 25 18.9	071
(904)	1993 04 23.88334	12 11 02.53	-03 17 49.2	071
(904)	1993 04 23.91042	12 11 01.86	-03 17 36.3	071
(904)	1993 04 23.93679	12 11 01.11	-03 17 23.6	071
(904)	1993 04 23.96248	12 11 00.59	-03 17 10.8	071
(904)	1993 04 24.85108	12 10 38.70	-03 10 20.7	071
(904)	1993 04 24.87470	12 10 37.93	-03 10 14.0	071
(1049)	1993 02 23.97838	10 21 31.87	+14 34 34.4	071
(1049)	1993 02 24.01935	10 21 29.54	+14 34 36.8	071
(1711)	1993 02 23.97838	10 36 32.37	+14 43 42.1	071
(1711)	1993 02 24.01935	10 36 30.61	+14 43 59.7	071
(2248)	1993 03 23.91303	11 11 43.75	+07 01 08.9	071
(2248)	1993 03 23.95434	11 11 42.13	+07 01 18.7	071



(3332)	1993 03	23.97587	12 43	24.39	+13 40	24.8	071
(3332)	1993 03	24.01995	12 43	22.28	+13 40	51.8	071
(5036)	1993 02	24.01935	10 23	21.71	+13 52	49.7	071

## 073 Bucharest

G. Bocsa, Center for Astronomy and Space Sciences, Cutitul de Argint 5,  
R-75212 Bucharest, Romania

0.36-m f/16 astrograph

SAOC

(3)	1991 09	09.76072	19 03	17.31	-10 23	24.2	073
(3)	1991 09	09.77457	19 03	17.36	-10 23	29.1	073
(3)	1991 09	12.77408	19 03	38.73	-10 41	54.9	073
(3)	1991 09	12.78784	19 03	38.84	-10 41	59.8	073
(6)	1991 09	09.84659	22 24	05.69	-20 33	23.9	073
(6)	1991 09	09.85490	22 24	05.37	-20 33	31.0	073
(6)	1991 09	10.81858	22 23	28.34	-20 46	08.4	073
(6)	1991 09	10.82689	22 23	28.01	-20 46	14.6	073
(7)	1991 09	10.83866	22 49	21.72	+04 19	32.0	073
(7)	1991 09	10.84420	22 49	21.42	+04 19	30.1	073
(7)	1991 09	26.76346	22 36	28.68	+02 45	10.3	073
(7)	1991 09	26.76970	22 36	28.41	+02 45	07.9	073
(7)	1991 09	27.78740	22 35	49.18	+02 38	41.7	073
(7)	1991 09	27.79294	22 35	48.95	+02 38	40.3	073
(7)	1991 09	30.81141	22 34	02.63	+02 19	43.5	073
(7)	1991 09	30.81834	22 34	02.36	+02 19	41.1	073
(7)	1991 10	07.82727	22 31	00.18	+01 37	39.2	073
(7)	1991 10	07.83628	22 30	59.99	+01 37	35.8	073
(39)	1991 09	09.73786	18 27	18.19	-15 00	38.4	073
(39)	1991 09	09.74894	18 27	18.47	-15 00	41.7	073
(39)	1991 09	10.74205	18 27	47.69	-15 05	36.6	073
(39)	1991 09	10.75314	18 27	48.01	-15 05	40.1	073

## 107 Cavezzo

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

Observers R. Calanca, R. Bonomi, M. Nicolini

0.40-m f/2.23 reflector + CCD

GSC

(59)	1993 05	25.98076	16 09	04.14	-08 13	19.3	107
(59)	1993 05	25.98906	16 09	03.67	-08 13	17.4	107
(5577)	1993 05	23.85472	15 22	34.74	+14 42	19.1	107
(5577)	1993 05	23.86222	15 22	34.14	+14 42	13.0	107
(5586)	1993 05	23.87854	15 05	41.06	-10 09	13.7	107
(5586)	1993 05	23.92768	15 05	38.58	-10 09	04.2	107

## 293 Burlington remote site

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

0.26-m f/3.9 Wright-Schmidt camera

1989 EL	1993 04	19.17674	14 16	20.06	-18 41	46.5	293
1989 EL	1993 04	19.18785	14 16	19.45	-18 41	40.3	293
1991 VF5	1993 04	19.11181	14 24	43.66	-02 13	04.8	293
1991 VF5	1993 04	19.12222	14 24	43.24	-02 12	59.9	293
(90)	1993 04	19.14201	14 09	56.20	-10 56	46.2	293
(90)	1993 04	19.15729	14 09	55.68	-10 56	43.0	293
(5177)	1993 04	19.17674	14 13	29.77	-18 59	30.8	293
(5177)	1993 04	19.18785	14 13	29.13	-18 59	26.0	293
(5219)	1993 04	19.14201	14 00	54.77	-10 53	42.2	293
(5219)	1993 04	19.15729	14 00	53.98	-10 53	36.8	293
(5603)	1993 04	19.14201	14 03	17.28	-10 55	24.6	293
(5603)	1993 04	19.15729	14 03	16.89	-10 55	21.4	293

## 303 Merida

O. A. Naranjo, Dept. de Fisica, Universidad de los Andes,  
Merida 5101, Venezuela

Observer O. A. Naranjo

1.0-m Schmidt

1981 EQ42                    1992 02 12.25000    10 10 00.30    +10 42 22.4    17                    303

## 360 Kuma Kogen Astronomical Observatory

A. Nakamura, Shimo-Hatanokawa, Kuma-cho, Ehime-Ken, 791-12 Japan

Observer A. Nakamura

0.60-m f/6.0 Ritchey-Chretien + CCD

GSC

(4015)                    1992 10 25.77303    08 05 57.84    +22 01 13.6    18.2                    360  
(4015)                    1992 10 25.77813    08 05 58.14    +22 01 12.1                    360  
(4015)                    1992 10 25.80868    08 05 59.96    +22 01 01.9                    360

## 361 Sumoto

S. Nakano, 3-19, 1 chome, Takenokuchi, Sumoto, Hyogo-ken 656, Japan

Observer S. Nakano

0.20-m f/6.3 reflector + CCD

GSC

1988 FF	1993 05 24.68970	15 34 39.29	-12 23 25.9		I	361
1988 FF	1993 05 24.72284	15 34 37.50	-12 23 27.5			361
1988 FF	1993 05 24.72478	15 34 37.40	-12 23 27.7			361
1993 JC	1993 05 23.65998	14 36 44.07	-10 32 53.2	16.9		361
1993 JC	1993 05 24.64519	14 36 10.85	-10 24 48.6	16.4		361
1993 JC	1993 05 24.64959	14 36 10.80	-10 24 46.4			361
1993 JC	1993 05 24.67292	14 36 09.93	-10 24 35.3			361
1993 JD	1993 05 24.68237	15 13 19.21	-13 11 24.7			361
1993 JD	1993 05 24.71360	15 13 17.71	-13 11 04.6			361
1993 JD	1993 05 24.71550	15 13 17.69	-13 11 04.2			361
1993 JD	1993 05 27.68515	15 11 10.14	-12 44 37.8	16.9		361
1993 JE	1993 05 24.68508	15 29 11.36	-14 24 37.1			361
1993 JE	1993 05 24.71821	15 29 09.22	-14 24 35.8			361
1993 JE	1993 05 24.72016	15 29 09.05	-14 24 37.5			361
1993 JE	1993 05 27.71578	15 26 12.77	-14 24 21.7	16.1		361
1993 JH	1993 05 24.69646	15 43 33.48	-22 07 53.7	16.4		361
1993 JH	1993 05 24.69844	15 43 33.53	-22 07 52.9			361
1993 JH	1993 05 24.73190	15 43 31.27	-22 07 53.5	16.8		361
1993 JH	1993 05 24.73384	15 43 31.13	-22 07 55.3			361
1993 JH	1993 05 25.62839	15 42 39.45	-22 08 32.0	16.5		361
1993 JH	1993 05 25.63052	15 42 39.37	-22 08 31.7			361
1993 JH	1993 05 25.63472	15 42 38.88	-22 08 34.3	16.4		361
1993 JK	1993 05 27.67975	15 01 36.64	-11 33 17.6	16.3		361
1993 JK	1993 05 27.70341	15 01 35.53	-11 33 13.5			361
1993 JL	1993 05 27.67709	14 57 22.20	-05 10 03.4	14.9		361
1993 JL	1993 05 27.69894	14 57 21.09	-05 10 15.0			361
1993 JL	1993 05 27.70090	14 57 20.90	-05 10 13.0			361
1993 KO	1993 05 25.63742	15 55 31.91	-12 08 07.0	16.6		361
1993 KO	1993 05 25.63954	15 55 31.94	-12 08 04.0			361
1993 KO	1993 05 25.65883	15 55 30.84	-12 07 58.3			361
1993 KO	1993 05 27.72532	15 53 37.66	-11 56 20.1	16.7		361
1993 KO	1993 05 27.72749	15 53 37.64	-11 56 19.4			361
1993 KO	1993 05 27.73723	15 53 36.99	-11 56 15.4			361
1993 KO	1993 05 27.73948	15 53 36.80	-11 56 14.4			361
1993 KP	1993 05 25.64251	15 54 09.85	-13 54 25.7	16.6		361
1993 KP	1993 05 25.64552	15 54 09.72	-13 54 25.0	16.7		361
1993 KP	1993 05 25.66547	15 54 08.41	-13 54 16.6	16.9		361
1993 KP	1993 05 27.71866	15 52 22.19	-13 45 44.7			361

1993 KP	1993 05	27.72098	15 52	22.03	-13 45	42.6	15.9	361
1993 KP	1993 05	27.73035	15 52	21.54	-13 45	42.8		361
1993 KQ	1993 06	11.61870	16 08	18.08	-12 03	32.8	16.5	361
1993 KQ	1993 06	11.64362	16 08	16.83	-12 03	44.5	16.5	361
1993 KQ	1993 06	11.64588	16 08	16.72	-12 03	45.6	16.2	361
1993 KR	1993 06	11.65505	16 13	10.10	-05 37	00.2	17.3	361
1993 KR	1993 06	11.65738	16 13	09.97	-05 37	01.6	17.2	361
1993 KY1	1993 06	11.63574	16 28	42.42	-13 46	04.3		361
1993 KY1	1993 06	11.63855	16 28	42.13	-13 46	05.0		361
1993 KY1	1993 06	19.69262	16 22	06.67	-13 57	40.0		361

## 372 Geisei

T. Seki, Kamimachi 2-9-35, Kochi, Japan

0.60-m f/3.5 reflector

## ACRS

1981 ET22	1992 02	04.75485	10 41	39.94	+12 45	22.6	17.5	372
1981 ET22	1992 02	04.76667	10 41	39.32	+12 45	25.3		372
1990 SM9	1992 01	23.45295	06 58	18.26	+22 53	45.5	17	372
1990 SM9	1992 01	23.46214	06 58	17.77	+22 53	47.8		372
1992 CQ	1992 02	01.77951	10 22	16.61	+14 37	08.8	17	372
1992 CQ	1992 02	01.79097	10 22	16.03	+14 37	16.2		372
1992 DH1	1992 02	01.75485	10 13	26.74	+15 12	34.4	17	372
1992 DH1	1992 02	01.76667	10 13	25.31	+15 12	27.0		372
(2462)	1992 02	04.75485	10 39	15.79	+12 49	53.7	17	372
(2462)	1992 02	04.76667	10 39	15.19	+12 49	58.4		372

## 376 Uenohara

N. Kawasato, 3-11-10, Hana-Koganei, Kodaira, Tokyo 187, Japan

0.30-m reflector + CCD

## GSC

1990 TK3	1992 02	27.79826	12 19	00.47	+16 46	23.9		376
1990 TK3	1992 02	27.82188	12 18	59.35	+16 46	29.2		376
1993 MF	1993 07	03.56441	20 48	17.89	+14 02	49.4		376
1993 MF	1993 07	03.58328	20 48	21.53	+14 03	59.1		376
1993 MF	1993 07	03.59369	20 48	23.51	+14 04	37.1		376

## 385 Nihondaira Observatory Oohira station

T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan

0.25-m f/3.4 hyperboloid astrocamera + CCD

## GSC

1991 VB3	1993 04	25.65590	16 08	45.47	-23 51	11.6		385
1991 VB3	1993 04	25.66262	16 08	45.11	-23 51	11.2		385
1991 VB3	1993 04	25.66910	16 08	44.85	-23 51	08.1		385
1993 JH	1993 05	27.59825	15 40	46.01	-22 09	49.9		385
1993 JH	1993 05	27.60219	15 40	45.73	-22 09	50.2		385
1993 JH	1993 05	27.60596	15 40	45.49	-22 09	50.1		385
1993 KF2	1993 05	27.56682	14 18	45.94	-10 57	01.0		385
1993 KF2	1993 05	27.58248	14 18	45.34	-10 56	57.5		385
1993 KF2	1993 05	27.59005	14 18	45.10	-10 56	56.9		385
1993 MF	1993 06	26.65521	20 25	52.27	+07 06	53.7	13.7 V	385
1993 MF	1993 06	26.65694	20 25	52.60	+07 07	00.1		385
1993 MF	1993 06	26.66868	20 25	54.63	+07 07	41.1		385
1993 MF	1993 06	26.67031	20 25	54.93	+07 07	47.1		385

## 399 Kushiro

H. Kaneda, Taiyo MS 2-H, 2 chome 2-15, Kawazoe 8 jo, Minami-ku,

Sapporo 005, Japan

Observer S. Ueda

Measurer H. Kaneda

0.25-m f/3.4 hyperboloid astrocamera, 0.16-m f/3.8 Wright-Schmidt camera  
GSC

1987 RG6	1992 09	28.66683	01 12	23.18	+01 53	49.8	17	399
1987 RG6	1992 09	28.68270	01 12	22.37	+01 53	43.9		399
1987 RG6	1992 10	22.55486	00 53	52.02	+00 00	37.6	17	399
1987 RG6	1992 10	22.56944	00 53	51.47	+00 00	35.1		399
1987 RG6	1992 10	28.48194	00 49	51.72	-00 19	18.8	17.2	399
1987 RG6	1992 10	28.49653	00 49	50.98	-00 19	23.1		399
1987 ST10	1989 03	26.47465	11 17	26.08	+10 31	41.3	16.7	399
1987 ST10	1989 03	26.49063	11 17	25.34	+10 31	43.2		399
1987 ST10	1989 03	26.50729	11 17	24.78	+10 31	45.8		399
1987 ST10	1989 03	26.52326	11 17	23.87	+10 31	49.1		399
1987 ST10	1989 04	06.51944	11 10	46.70	+10 56	44.1	17	399
1987 ST10	1989 04	06.53403	11 10	46.29	+10 56	46.0		399
1987 ST10	1989 04	06.54965	11 10	45.82	+10 56	46.1		399
1989 CH4	1989 02	27.52726	09 26	51.28	+15 03	10.4	16.8	399
1989 CH4	1989 02	27.54253	09 26	50.47	+15 03	11.2		399
1989 CH4	1989 02	27.56505	09 26	49.31	+15 03	17.4		399
1989 WS2	1990 01	02.54306	03 44	10.94	+13 18	46.0	16.8	399
1989 WS2	1990 01	02.56944	03 44	10.47	+13 18	53.3		399
1990 DW	1990 02	28.70694	10 55	00.20	+04 50	56.8	16.5	399
1990 DW	1990 02	28.72378	10 54	59.01	+04 50	58.5		399
1990 TF	1992 02	05.48333	09 03	01.31	+24 05	04.1	17	399
1990 TF	1992 02	05.49826	09 03	00.38	+24 05	04.0		399
1990 TF	1992 02	08.59410	08 59	38.99	+24 05	21.4	17	399
1990 TF	1992 02	08.60938	08 59	38.12	+24 05	21.6		399
1991 VX3	1993 05	16.66400	15 24	18.95	-18 42	24.6	16.8	399
1991 VX3	1993 05	16.68090	15 24	17.87	-18 42	20.2		399
1992 BN	1993 05	16.54826	13 44	50.42	+05 48	59.1	17.2	399
1992 BN	1993 05	16.56632	13 44	49.66	+05 48	58.6		399
1992 UF6	1990 01	21.53837	08 58	11.06	+14 02	11.8	16	399
1992 UF6	1990 01	21.55347	08 58	09.96	+14 02	12.2		399
1992 UF6	1990 01	21.57083	08 58	08.78	+14 02	13.5		399
1992 WS2	1992 11	29.52990	03 57	49.06	+21 31	04.6	17.2	399
1992 WS2	1992 11	29.54444	03 57	48.25	+21 31	01.5		399
1992 XB	1988 01	10.46192	07 33	00.38	+12 38	00.9	16.5	399
1992 XB	1988 01	10.47743	07 32	59.62	+12 37	59.4		399
1992 XB	1988 01	11.45833	07 32	02.83	+12 36	58.3	16.5	399
1992 XB	1988 01	11.47443	07 32	01.81	+12 36	56.4		399
1993 EW	1993 02	15.68611	11 15	39.03	+04 11	46.8	17.2	399
1993 EW	1993 02	15.70069	11 15	38.32	+04 11	50.4		399
1993 EW	1993 02	21.53785	11 11	45.72	+04 36	39.4	17.2	399
1993 EW	1993 02	21.55347	11 11	45.05	+04 36	42.7		399
1993 EW	* 1993 03	12.54167	10 57	19.75	+06 09	00.6	16.8	399
1993 EW	1993 03	12.55625	10 57	19.02	+06 09	05.6		399
1993 EX	* 1993 03	12.54167	11 00	45.94	+06 27	05.1	17	399
1993 EX	1993 03	12.55625	11 00	45.22	+06 27	07.7		399
1993 GR	1993 05	16.47778	13 26	45.12	-08 36	24.7	16.7	399
1993 GR	1993 05	16.49271	13 26	44.65	-08 36	24.0		399
1993 HZ	1992 01	24.47986	08 12	09.98	+18 55	45.0	17.2	399
1993 HZ	1992 01	24.49479	08 12	09.22	+18 55	47.3		399
1993 HZ	1992 01	25.48171	08 11	12.25	+18 58	07.3	17.2	399
1993 HZ	1992 01	25.49688	08 11	11.39	+18 58	10.0		399
1993 HZ	1992 02	08.55833	07 58	29.14	+19 28	01.3	17.2	399
1993 HZ	1992 02	08.57332	07 58	28.48	+19 28	03.9		399
1993 JL	1993 04	19.65778	15 33	40.19	-03 11	28.1	16	399
1993 JL	1993 04	19.67135	15 33	39.47	-03 11	28.1		399
1218 T-2	1992 11	16.49306	03 23	33.51	+16 50	36.9	17.2	399
1218 T-2	1992 11	16.50764	03 23	32.60	+16 50	34.9		399

1218 T-2	1992 11 18.50150	03 21 31.11	+16 42 55.2	17.3	399
1218 T-2	1992 11 18.51597	03 21 30.12	+16 42 49.6		399

## 400 Kitami

K. Watanabe, 3-8 Mason Hashimoto B-203, atsubetsu cyuo 3 jo 4 chome,  
Atsubetsu-ku, Sapporo 004, Japan

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

Measurers K. Watanabe, H. Kaneda

0.25-m f/2.6 Schmidt camera, 0.25-m f/3.4 hyperboloid astrocamera

GSC

1990 DW	1990 03 02.57222	10 53 04.12	+04 56 44.1	16.5	400
1990 DW	1990 03 02.59028	10 53 03.21	+04 56 48.1		400
1993 EW	1993 03 15.50694	10 55 05.97	+06 23 16.2	17	400
1993 EW	1993 03 15.52292	10 55 05.17	+06 23 21.4		400
1993 EX	1993 03 15.50694	10 58 22.87	+06 39 17.2	17	400
1993 EX	1993 03 15.52292	10 58 21.96	+06 39 20.5		400
1993 FN1	1993 03 15.53958	12 20 37.50	+05 57 30.0	17	400
1993 FN1	1993 03 15.55556	12 20 36.85	+05 57 39.0		400
1993 FS1	1993 03 15.53958	12 26 48.90	+06 29 00.3	16.8	400
1993 FS1	1993 03 15.55556	12 26 48.22	+06 29 05.8		400
1993 FP2	1993 03 20.64931	12 30 21.37	-05 06 45.8	17	400
1993 FP2	1993 03 20.66458	12 30 20.42	-05 06 43.1		400
1993 GS	1993 04 20.54028	13 46 05.10	-08 26 11.4	17	400
1993 GS	1993 04 20.55764	13 46 04.13	-08 26 08.7		400
1993 GT	1993 04 20.54028	13 47 18.43	-07 45 50.4	16.8	400
1993 GT	1993 04 20.55764	13 47 17.60	-07 45 46.3		400
1993 HH	1993 05 21.49236	13 02 24.69	-02 54 51.9	16.5	400
1993 HH	1993 05 21.51806	13 02 24.13	-02 54 55.2		400
1993 HJ	1993 05 08.47014	13 11 10.74	-03 50 50.4	16.8	400
1993 HJ	1993 05 08.49097	13 11 10.04	-03 50 45.9		400
1993 HL	1993 05 08.47014	13 18 12.52	-02 18 02.6	17.2	400
1993 HL	1993 05 08.49097	13 18 11.53	-02 18 00.8		400
1993 HZ	1990 10 17.57361	01 50 21.66	+15 23 20.9	16.5	400
1993 HZ	1990 10 17.59653	01 50 20.55	+15 23 14.4		400
1993 HT1	1993 05 21.53681	13 55 20.47	-07 26 43.5	16.2	400
1993 HT1	1993 05 21.55833	13 55 19.63	-07 26 38.2		400
1993 JE	1993 05 21.57708	15 32 20.86	-14 25 28.4	17	400
1993 JE	1993 05 21.59583	15 32 19.60	-14 25 30.6		400

## 402 Dynic Astronomical Observatory

A. Sugie, Dynic Astronomical Observatory, Taga 270, Taga-Cho, Inukami-Gun,  
Shiga-Ken, 522-03, Japan

0.25-m f/3.4 Schmidt

GSC

1992 GE	1992 03 07.68681	13 12 56.38	+07 20 55.5	16.5	402
1992 GE	1992 03 07.70278	13 12 55.99	+07 21 02.8		402

## 413 Siding Spring

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

A. Zytchow, Institute of Astronomy, The Observatories, Madingley Road,  
Cambridge CB3 0HA, England (1)

Observers R. D. Cannon, C. P. Cass, M. J. Drinkwater, G. Garradd, M. Hartley,  
T. G. Hawarden, A. J. Longmore, R. H. McNaught, A. Savage, M. E. Sims,  
P. R. Standen, D. I. Steel, S. B. Tritton

Measurer R. H. McNaught

Uppsala Southern Schmidt, U.K. Schmidt, 1.0-m reflector + CCD

1948 AG	1992 12 10.57823	02 00 23.34	-22 39 51.8		413
1948 AG	1992 12 10.58047	02 00 23.31	-22 39 49.0		413

1948 AG		1992 12 11.46898	02 00 11.99	-22 22 16.6					413
1948 AG		1992 12 11.47135	02 00 11.96	-22 22 13.9					413
1977 OW	*	1977 07 22.73909	00 03 06.30	-22 23 32.0	17	V			413
1977 OW		1977 07 22.79117	00 03 08.21	-22 23 56.8					413
1977 OX	*	1977 07 22.73909	00 04 34.79	-23 42 53.2	17	V			413
1977 OX		1977 07 22.79117	00 04 40.79	-23 43 40.7					413
1977 OY	*	1977 07 22.73909	23 52 24.94	-24 04 03.9	15.5	V			413
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1990 RJ18	*	1990 09 09.41665	18 50 08.95	-20 26 51.6		1	413
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1993 LC1		1993 06	18.48877	13 57	12.94	-28 43	33.6			413
1993 LC1		1993 06	18.53044	13 57	11.94	-28 43	46.5			413
1993 LD1	*	1993 06	13.47958	14 03	47.70	-28 31	25.9	19	V	413
1993 LD1		1993 06	13.52125	14 03	47.11	-28 31	15.2			413
1993 LD1		1993 06	14.47551	14 03	34.35	-28 27	07.6			413
1993 LD1		1993 06	15.45486	14 03	22.90	-28 23	00.5			413
1993 LD1		1993 06	18.50961	14 02	56.22	-28 10	30.2			413
1993 LE1	*	1993 06	13.47958	13 59	22.70	-31 01	14.2	19	V	413
1993 LE1		1993 06	13.52125	13 59	22.17	-31 01	03.1			413
1993 LE1		1993 06	14.47551	13 59	12.91	-30 56	37.0		F	413
1993 LE1		1993 06	15.40069	13 59	05.66	-30 52	23.4			413
1993 LE1		1993 06	15.45486	13 59	05.18	-30 52	11.4			413
1993 LE1		1993 06	18.50961	13 58	51.68	-30 38	41.9			413
1993 LF1	*	1993 06	13.47958	14 00	39.18	-33 11	17.8	19	V	413
1993 LF1		1993 06	13.52125	14 00	39.07	-33 11	03.4			413
1993 LF1		1993 06	14.47551	14 00	40.75	-33 05	04.8		b	413
1993 LF1		1993 06	15.40069	14 00	44.39	-32 59	22.2			413
1993 LF1		1993 06	15.44583	14 00	44.45	-32 59	06.9			413
1993 LF1		1993 06	15.45486	14 00	44.44	-32 59	03.4			413
1993 LF1		1993 06	18.48877	14 01	09.21	-32 40	52.2			413
1993 LF1		1993 06	18.53044	14 01	09.52	-32 40	37.0			413
1993 LG1	*	1993 06	13.47958	14 03	15.17	-32 07	58.0	17.5	V	413
1993 LG1		1993 06	13.52125	14 03	15.72	-32 07	12.0			413

1993 LG1		1993 06 14.45468	14 03 31.85	-31 48 49.2				b	413
1993 LG1		1993 06 14.49634	14 03 32.46	-31 47 59.4				b	413
1993 LG1		1993 06 15.40069	14 03 50.03	-31 30 23.4					413
1993 LG1		1993 06 15.44583	14 03 50.82	-31 29 33.7					413
1993 LG1		1993 06 15.45486	14 03 50.97	-31 29 22.5					413
1993 LG1		1993 06 18.48877	14 05 02.02	-30 31 38.0					413
1993 LG1		1993 06 18.53044	14 05 02.98	-30 30 49.8					413
1993 LG1		1993 07 01.39370	14 13 28.78	-26 51 50.6					413
1993 LG1		1993 07 01.39573	14 13 28.88	-26 51 48.5					413
1993 LH1	*	1993 06 13.52125	13 49 49.27	-32 09 51.9	19	V			413
1993 LH1		1993 06 14.47551	13 49 42.11	-32 02 57.0				b	413
1993 LH1		1993 06 15.45486	13 49 36.21	-31 55 56.6					413
1993 LH1		1993 06 18.48877	13 49 28.13	-31 34 49.0					413
1993 LH1		1993 06 18.53044	13 49 28.02	-31 34 33.8					413
1993 LJ1	*	1993 06 13.52125	13 52 25.08	-32 19 04.8	18.5	V			413
1993 LJ1		1993 06 14.47551	13 52 33.15	-32 12 44.4				b	413
1993 LJ1		1993 06 15.45486	13 52 43.20	-32 06 18.4					413
1993 LJ1		1993 06 18.48877	13 53 25.50	-31 47 08.6					413
1993 LJ1		1993 06 18.53044	13 53 26.06	-31 46 53.6					413
1993 LO1	*	1993 06 13.47958	13 39 12.35	-29 35 59.6	18	V			413
1993 LO1		1993 06 13.52125	13 39 13.50	-29 35 45.0					413
1993 LO1		1993 06 14.45468	13 39 44.85	-29 29 55.0					413
1993 LO1		1993 06 14.49634	13 39 46.00	-29 29 39.7					413
1993 LO1		1993 06 15.40069	13 40 18.34	-29 24 07.7					413
1993 LO1		1993 06 15.44583	13 40 19.77	-29 23 51.2					413
1993 LO1		1993 06 15.45486	13 40 20.10	-29 23 47.7					413
1993 LO1		1993 06 18.48877	13 42 20.24	-29 06 08.6					413
1993 LO1		1993 06 18.53044	13 42 21.82	-29 05 53.6					413
1993 LP1		1993 06 13.47958	13 44 32.95	-28 19 05.0	18.5	V			413
1993 LP1		1993 06 13.52125	13 44 33.37	-28 18 43.4					413
1993 LP1	*	1993 06 14.45468	13 44 46.02	-28 09 34.5				F	413
1993 LP1		1993 06 14.49634	13 44 46.55	-28 09 08.6				F	413
1993 LP1		1993 06 15.40069	13 45 00.61	-28 00 29.2				F	413
1993 LP1		1993 06 15.45486	13 45 01.20	-28 00 02.1				F	413
1993 LP1		1993 06 18.48877	13 45 59.06	-27 31 48.8					413
1993 LP1		1993 06 18.53044	13 45 59.82	-27 31 25.7					413
1993 LQ1		1993 06 13.50042	13 42 23.21	-28 32 17.9	18.5	V			413
1993 LQ1		1993 06 14.47551	13 42 16.97	-28 29 11.5					413
1993 LQ1	*	1993 06 15.40069	13 42 12.79	-28 26 18.3					413
1993 LQ1		1993 06 15.44583	13 42 12.49	-28 26 10.6					413
1993 LQ1		1993 06 15.45486	13 42 12.42	-28 26 08.4					413
1993 LR1		1993 06 13.47958	13 42 58.14	-28 21 16.1	18	V			413
1993 LR1		1993 06 13.52125	13 42 58.48	-28 20 59.6					413
1993 LR1		1993 06 14.45468	13 43 11.53	-28 14 31.2					413
1993 LR1		1993 06 14.49634	13 43 12.02	-28 14 13.9					413
1993 LR1	*	1993 06 15.40069	13 43 26.20	-28 08 05.0					413
1993 LR1		1993 06 15.44583	13 43 26.83	-28 07 46.9					413
1993 LR1		1993 06 15.45486	13 43 26.92	-28 07 42.8					413
1993 LR1		1993 06 18.48877	13 44 23.79	-27 47 59.2					413
1993 LR1		1993 06 18.53044	13 44 24.61	-27 47 42.0				p	413
1993 LS1		1993 06 13.47958	13 43 38.71	-29 32 20.7	18.5	V			413
1993 LS1		1993 06 13.52125	13 43 38.48	-29 32 03.2					413
1993 LS1		1993 06 14.45468	13 43 36.91	-29 24 52.0					413
1993 LS1		1993 06 14.49634	13 43 36.81	-29 24 34.4					413
1993 LS1	*	1993 06 15.40069	13 43 36.98	-29 17 44.4					413
1993 LS1		1993 06 15.44583	13 43 36.85	-29 17 25.5					413
1993 LS1		1993 06 15.45486	13 43 36.85	-29 17 20.9					413
1993 LS1		1993 06 18.48877	13 43 48.10	-28 55 11.7					413
1993 LS1		1993 06 18.53044	13 43 48.29	-28 54 54.5					413

1993 MF	1993 06	25.58553	20 22	35.17	+06 04	59.4			413
1993 MF	1993 06	30.53082	20 38	12.74	+10 59	03.2			413
1993 MF	1993 06	30.53250	20 38	13.04	+10 59	08.8			413
1993 MF	1993 06	30.77255	20 38	57.27	+11 13	42.2			413
1993 MF	1993 06	30.77407	20 38	57.55	+11 13	47.6			413
1993 MF	1993 07	01.66014	20 41	53.90	+12 07	34.2			413
1993 MF	1993 07	01.75346	20 42	11.24	+12 13	13.8			413
1993 MF	1993 07	01.75554	20 42	11.63	+12 13	21.2			413
1993 MO	1993 06	25.45521	17 08	41.54	+14 35	01.3			413
1993 MO	1993 06	25.46192	17 08	41.18	+14 34	39.2			413
1993 MO	1993 06	26.55359	17 07	34.11	+13 25	23.4			413
1993 MO	1993 06	30.49843	17 03	53.49	+08 58	19.9			413
1993 MO	1993 06	30.49997	17 03	53.39	+08 58	13.3			413
1993 MO	1993 06	30.50374	17 03	53.17	+08 57	57.4			413
1993 MO	1993 06	30.70725	17 03	40.94	+08 43	28.8			413
1993 MO	1993 06	30.70887	17 03	40.85	+08 43	21.2			413
1993 MO	1993 07	01.43036	17 03	06.67	+07 51	44.6			413
1993 MO	1993 07	01.43213	17 03	06.56	+07 51	36.9			413
1993 MV	1993 06	30.67059	19 48	15.15	-04 55	31.3			413
1993 MV	1993 06	30.67263	19 48	15.05	-04 55	30.2			413
1993 MX	1993 06	13.47958	13 44	49.09	-33 06	15.2	19	V	413
1993 MX	1993 06	15.45486	13 44	04.34	-33 07	10.0			413
1993 MX	* 1993 06	18.48877	13 43	12.16	-33 08	46.4			413
1993 MY	1993 06	13.47958	14 00	55.77	-31 08	42.7	18.5	V	413
1993 MY	1993 06	13.52125	14 00	55.16	-31 08	24.8			413
1993 MY	1993 06	14.45468	14 00	44.53	-31 01	20.9			b 413
1993 MY	1993 06	14.49634	14 00	43.96	-31 01	02.3			b 413
1993 MY	1993 06	15.40069	14 00	35.40	-30 54	14.4			413
1993 MY	* 1993 06	18.48877	14 00	16.43	-30 31	40.2			413
1993 MY	1993 06	18.53044	14 00	16.14	-30 31	21.4			413
1993 MZ	1993 06	13.47958	14 02	43.83	-31 03	40.2	18.5	V	413
1993 MZ	1993 06	13.52125	14 02	42.98	-31 03	29.6			413
1993 MZ	1993 06	14.47551	14 02	24.95	-30 58	53.8			b 413
1993 MZ	1993 06	15.40069	14 02	09.13	-30 54	29.0			413
1993 MZ	1993 06	15.44583	14 02	08.35	-30 54	17.4			413
1993 MZ	* 1993 06	18.48877	14 01	26.99	-30 40	13.7			413
1993 MZ	1993 06	18.53044	14 01	26.40	-30 40	02.2			413
1993 ME1	1993 07	01.55953	16 29	16.51	+02 03	16.2			413
1993 ME1	1993 07	01.56168	16 29	16.65	+02 03	20.6			413
1993 ME1	1993 07	01.56714	16 29	17.03	+02 03	31.8			413
1993 ME1	1993 07	01.56873	16 29	17.12	+02 03	34.9			413
1993 ME1	1993 07	01.66832	16 29	23.33	+02 06	57.6			413
1993 ME1	1993 07	01.67054	16 29	23.44	+02 07	02.1			413
1993 MF1	1993 06	14.47551	13 44	24.06	-27 50	35.6	18	V	413
1993 MF1	1993 06	15.40069	13 44	18.96	-27 44	57.9			413
1993 MF1	1993 06	15.44583	13 44	18.59	-27 44	40.8			413
1993 MF1	1993 06	15.45486	13 44	18.49	-27 44	36.4			413
1993 MF1	* 1993 06	18.48877	13 44	10.12	-27 26	43.8			413
1993 MF1	1993 06	18.53044	13 44	10.01	-27 26	29.6			413
(171)	1990 09	09.41665	18 57	08.19	-23 43	27.7			1 413
(171)	1990 09	10.39937	18 57	16.17	-23 43	28.6			1 413
(171)	1990 09	11.39803	18 57	25.26	-23 43	29.5			1 413
(402)	1990 09	09.41665	18 45	33.79	-20 24	47.1			1 413
(402)	1990 09	11.39803	18 46	11.53	-20 31	45.2			1 413
(1135)	1993 05	26.50070	13 57	06.66	-17 41	24.2			E 413
(1211)	1990 09	09.41665	18 54	31.97	-20 52	24.4			1 413
(1211)	1990 09	11.39803	18 55	22.19	-21 01	31.6			1 413
(1484)	1979 06	26.53576	16 16	51.36	-23 47	49.2	15.5	V	413
(1484)	1979 06	26.57743	16 16	49.52	-23 48	05.9			413

(1484)	1979 06	29.52552	16 14	49.77	-24 05	41.5			r	413
(1484)	1979 06	29.56719	16 14	48.15	-24 05	56.4			r	413
(2226)	1979 06	26.55660	16 23	05.19	-23 39	34.0	17	V		413
(2226)	1979 06	29.54636	16 21	07.74	-23 35	48.0				413
(2318)	1990 09	11.39803	18 45	12.09	-20 44	13.6			l	413
(2668)	1979 06	26.55660	16 21	11.82	-24 56	31.8	17	V		413
(2668)	1979 06	29.54636	16 19	03.67	-24 45	38.6				413
(2700)	1993 03	29.59987	13 30	29.55	-07 42	36.6				413
(2700)	1993 03	29.64501	13 30	27.51	-07 42	23.5				413
(2959)	1990 09	09.41665	18 49	43.81	-22 11	44.4			l	413
(2959)	1990 09	10.39937	18 49	46.02	-22 12	33.6			l	413
(2959)	1990 09	11.39803	18 49	49.23	-22 13	21.0			l	413
(2978)	1993 05	24.50889	14 18	05.71	-15 17	58.6				413
(2978)	1993 05	24.54708	14 18	04.22	-15 17	50.9				413
(3055)	1993 06	18.48877	14 05	07.71	-30 10	27.3				413
(3055)	1993 06	18.53044	14 05	07.09	-30 10	18.4				413
(3466)	1990 09	11.39803	18 57	46.05	-23 44	22.4			l	413
(3473)	1990 09	09.41665	18 49	57.62	-22 47	58.3			l	413
(3473)	1990 09	11.39803	18 50	54.87	-22 47	34.9			l	413
(3534)	1993 05	26.50070	14 00	07.11	-16 54	19.1				413
(4300)	1979 03	08.76361	15 29	56.60	-18 35	31.5	17.5	V		413
(4660)	1993 05	11.69872	15 48	21.81	-23 52	14.4				413
(4660)	1993 05	11.70097	15 48	21.53	-23 52	13.8				413
(4687)	1993 05	24.50889	14 09	39.99	-17 02	32.9				413
(4687)	1993 05	24.54708	14 09	38.57	-17 02	22.8			b	413
(4687)	1993 05	26.50070	14 08	36.41	-16 54	31.7				413
(4891)	1979 06	26.55660	16 19	06.50	-24 47	19.7	17	V		413
(4891)	1979 06	29.54636	16 17	25.54	-24 41	13.8				413
(5031)	1979 06	26.55660	16 25	12.31	-22 47	27.3	17.5	V		413
(5031)	1979 06	29.54636	16 23	28.19	-22 46	42.1				413
(5066)	1993 07	01.74642	01 16	45.62	-49 11	50.7				413
(5066)	1993 07	01.74819	01 16	45.96	-49 11	52.6				413
(5131)	1992 12	10.59366	03 49	18.83	-26 34	48.9			w	413
(5131)	1992 12	10.59750	03 49	18.46	-26 34	45.9			w	413
(5131)	1992 12	11.52370	03 47	52.34	-26 22	16.9				413
(5131)	1992 12	11.52610	03 47	52.10	-26 22	14.1				413
(5163)	1993 03	29.59987	13 38	56.70	-06 52	00.7				413
(5163)	1993 03	29.64501	13 38	54.53	-06 51	41.2				413
(5324)	1992 12	10.49010	23 13	28.04	+13 08	49.1				413
(5324)	1992 12	10.49270	23 13	28.34	+13 08	52.2				413
(5429)	1990 09	09.41665	18 52	25.93	-22 04	13.1			l	413
(5429)	1990 09	10.39937	18 52	31.27	-22 04	22.1			l	413
(5429)	1990 09	11.39803	18 52	37.57	-22 04	29.4			l	413
(5575)	1990 09	09.41665	18 53	27.24	-22 37	07.3			l	413
(5575)	1990 09	11.39803	18 54	01.63	-22 36	51.1			l	413

474 Mount John

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

Observer A. C. Gilmore

Measurer P. M. Kilmartin

0.6-m f/14 Cassegrain reflector

AGK3, SAOC, CPZ, field plates from Carter Observatory

1993 MF	1993 06	26.62917	20 25	46.73	+07 06	04.1				474
1993 MF	1993 06	26.63611	20 25	47.97	+07 06	29.6				474
1993 MF	1993 06	26.64028	20 25	48.75	+07 06	43.9				474
1993 MF	1993 06	26.66597	20 25	53.21	+07 08	13.9				474
1993 MF	1993 06	26.66840	20 25	53.67	+07 08	22.5				474
1993 MF	1993 06	26.67049	20 25	53.98	+07 08	29.6				474
1993 MF	1993 06	26.67326	20 25	54.51	+07 08	39.8				474

## 478 Lamalou-les-Bains

J.-M. Azema, 5 avenue Charcot, F-34240 Lamalou-les-Bains, France

1993 MF	1993 06 26.09473	20 24 07.77	+06 34 03.5	478
1993 MF	1993 06 27.10619	20 27 15.69	+07 33 24.2	478

## 504 Le Creusot

J.-C. Merlin, 17 rue P. Mendes-France, F-71200 Le Creusot, France

Observer J.-C. Merlin

Measurer J.-M. Azema

0.40-m f/5.1 reflector + RTC XX 1390 image intensifier

GSC (4179)	1993 01 14.84472	08 03 23.73	+19 58 53.2	504
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## 552 San Vittore

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

Observers C. Vacchi, G. Sassi, R. di Luca

Measurers C. Vacchi, V. Goretti, E. Colombini

AGK3, SAOC

0.45-m f/5 reflector

(551)	1993 04 18.93819	12 18 25.43	-02 03 37.9	552
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## 557 Ondrejov

P. Pravec, Astronomical Institute, Czech Academy of Sciences,

CS-25165 Ondrejov, Czech Republic

0.18-m f/5.6 Maksutov + CCD

1993 MO	1993 06 29.95463	17 04 21.45	+09 35 57.3	557
1993 MO	1993 06 29.96274	17 04 20.90	+09 35 23.7	557
1993 MO	1993 06 29.96824	17 04 20.61	+09 35 00.6	557
1993 MO	1993 06 29.97098	17 04 20.48	+09 34 48.5	557
1993 MO	1993 06 29.97631	17 04 20.13	+09 34 26.8	557

## 565 Bassano Bresciano

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

I-25020 Bassano Bresciano (Brescia), Italy

Observers U. Quadri, L. Strabla

0.3-0.4-m f/3.3 Schmidt

AGK3, SAOC

1991 YE	1993 05 21.92249	17 04 42.41	-18 13 19.8	565
5182 T-3	1993 05 23.87229	13 49 17.15	+05 58 23.2	565
5182 T-3	1993 05 23.89528	13 49 16.57	+05 58 24.9	565

## 568 Mauna Kea Observatory

D. J. Tholen, Institute for Astronomy, 2680 Woodlawn Drive,

Honolulu, HI 96822, U.S.A.

Observers W. F. Golisch, D. M. Griep

IRTF encoders

SAOC, Ida93 catalogue

1993 MF	1993 06 26.56389	20 25 34.13	+07 01 41.0	568
(243)	1993 05 29.25103	11 42 44.18	+00 43 40.6	568
(243)	1993 06 20.29288	11 54 56.32	-00 31 54.5	568
(243)	1993 06 20.29757	11 54 56.55	-00 31 55.8	568
(243)	1993 06 25.35208	11 58 46.32	-00 56 02.1	568
(243)	1993 06 25.35417	11 58 46.44	-00 56 02.0	568
(243)	1993 06 29.24670	12 01 56.92	-01 16 04.0	568

## 571 Cavriana

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

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

0.40-m f/5 reflector + CCD

5182 T-3	1993 05 23.88731	13 49 16.97	+05 58 25.0	571
5182 T-3	1993 05 23.89403	13 49 16.80	+05 58 25.9	571
5182 T-3	1993 05 23.90056	13 49 16.66	+05 58 27.6	571

## 587 Sormano

P. Sicoli, Via Valli 9, I-22040 Garbagnate Monastero (Como), Italy

Observers E. Colzani, P. Sicoli, G. Ventre, M. Cavagna, E. Galliani

0.5-m f/5.9 reflector

GSC

1993 KG	1993 05 25.86889	11 43 39.20	+00 37 21.2	17.1 V	587
1993 KG	1993 05 25.88149	11 43 39.55	+00 37 16.2		587
1993 KG	1993 05 25.90054	11 43 40.14	+00 37 10.3		587
1993 KG	1993 05 25.91591	11 43 40.60	+00 37 02.0		587
1993 MF	1993 06 26.95302	20 26 48.25	+07 24 19.7	13.3 V	587
1993 MF	1993 06 26.95699	20 26 48.95	+07 24 33.8		587
1993 MF	1993 06 26.97156	20 26 51.56	+07 25 25.5		587
1993 MF	1993 07 06.94193	20 59 57.69	+17 27 50.4		587
1993 MF	1993 07 06.94583	20 59 58.47	+17 28 04.4		587
1993 MF	1993 07 06.95160	20 59 59.64	+17 28 25.6		587
1993 MF	1993 07 06.95540	21 00 00.41	+17 28 39.5		587
5182 T-3	1993 05 23.88071	13 49 17.12	+05 58 24.0	16.9 V	587
5182 T-3	1993 05 23.89389	13 49 16.80	+05 58 26.4		587
5182 T-3	1993 05 23.90039	13 49 16.64	+05 58 26.7		587
5182 T-3	1993 05 25.93771	13 48 28.81	+06 01 35.0		587
5182 T-3	1993 05 25.94773	13 48 28.58	+06 01 35.5		587
5182 T-3	1993 05 25.95806	13 48 28.35	+06 01 36.6		587
5182 T-3	1993 05 25.96824	13 48 28.14	+06 01 36.8		587
(2302)	1993 06 27.04081	21 20 49.78	-17 57 47.8		587
(2302)	1993 06 27.05537	21 20 49.48	-17 57 44.2		587
(2302)	1993 06 27.07777	21 20 49.05	-17 57 40.5		587

## 589 Santa Lucia Stroncone

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

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

0.50-m f/2.8 Ritchey-Chretien + CCD

GSC

1991 YE	1993 06 16.88288	16 40 27.58	-18 13 52.2		589
1991 YE	1993 06 16.89575	16 40 26.89	-18 13 52.3		589
1991 YE	1993 06 16.90892	16 40 26.14	-18 13 53.0		589
1991 YE	1993 06 16.92830	16 40 25.10	-18 13 54.0		589
1991 YE	1993 06 17.94572	16 39 32.77	-18 14 17.9		589
1991 YE	1993 06 17.97315	16 39 31.39	-18 14 18.6		589
1991 YE	1993 06 18.95304	16 38 41.98	-18 14 43.3		589
1991 YE	1993 06 18.96439	16 38 41.41	-18 14 43.9		589
1991 YE	1993 06 18.97812	16 38 40.65	-18 14 45.0		589
1991 YE	1993 06 20.92042	16 37 05.45	-18 15 44.7		589
1993 KD	1993 05 24.90587	16 43 22.18	-04 54 03.7		589
1993 KD	1993 05 24.91448	16 43 21.81	-04 54 00.4		589
1993 KD	1993 05 24.92171	16 43 21.32	-04 53 56.4		589
1993 KD	1993 05 25.90055	16 42 29.92	-04 46 26.2		589
1993 KD	1993 05 25.91205	16 42 29.30	-04 46 21.1		589
1993 KD	1993 05 30.01796	16 38 51.15	-04 17 26.9		589
1993 KD	1993 05 30.02482	16 38 50.79	-04 17 24.1		589
1993 KD	1993 05 30.03169	16 38 50.42	-04 17 21.8		589
1993 KD	1993 05 30.03855	16 38 50.03	-04 17 18.9		589
1993 KG	* 1993 05 20.84082	11 41 27.44	+01 08 24.1		589
1993 KG	1993 05 20.85596	11 41 27.76	+01 08 18.9		589
1993 KG	1993 05 20.87147	11 41 28.10	+01 08 13.3		589
1993 KG	1993 05 20.88278	11 41 28.34	+01 08 09.1		589

1993 KG		1993 05 24.82885	11 43 09.22	+00 43 58.7	589
1993 KG		1993 05 24.85424	11 43 09.83	+00 43 48.4	589
1993 KG		1993 05 24.86803	11 43 10.29	+00 43 44.0	589
1993 KG		1993 05 25.84745	11 43 38.60	+00 37 29.4	589
1993 KG		1993 05 25.85773	11 43 38.91	+00 37 25.6	589
1993 KG		1993 05 26.87695	11 44 09.66	+00 30 50.4	589
1993 KG		1993 05 26.88103	11 44 09.90	+00 30 48.0	589
1993 KG		1993 06 05.89973	11 50 20.31	-00 38 42.8	589
1993 KG		1993 06 05.90663	11 50 20.60	-00 38 46.8	589
1993 KG		1993 06 05.91125	11 50 20.79	-00 38 47.8	589
1993 KG		1993 06 06.90900	11 51 04.05	-00 46 08.4	589
1993 KG		1993 06 07.84349	11 51 45.32	-00 53 07.6	589
1993 KG		1993 06 07.85584	11 51 45.85	-00 53 12.8	589
1993 KG		1993 06 10.83415	11 54 03.64	-01 15 50.5	589
1993 KG		1993 06 10.84486	11 54 04.14	-01 15 55.3	589
1993 KG		1993 06 10.85326	11 54 04.52	-01 15 59.0	589
1993 KG		1993 06 10.86354	11 54 04.98	-01 16 04.2	589
1993 KG		1993 06 12.83785	11 55 41.29	-01 31 24.7	589
1993 KG		1993 06 12.84942	11 55 41.81	-01 31 30.7	589
1993 MA	*	1993 06 16.94618	16 39 43.80	-18 14 27.1	589
1993 MA		1993 06 16.98177	16 39 41.54	-18 14 21.4	589
1993 MA		1993 06 17.94572	16 38 42.84	-18 12 18.0	589
1993 MA		1993 06 17.97315	16 38 41.29	-18 12 15.6	589
1993 MA		1993 06 18.91514	16 37 44.74	-18 10 17.2	589
1993 MA		1993 06 18.92813	16 37 43.94	-18 10 16.2	589
1993 MA		1993 06 18.94292	16 37 42.99	-18 10 14.4	589
1993 MA		1993 06 20.88733	16 35 49.09	-18 06 20.5	589
1993 MA		1993 06 20.89687	16 35 48.26	-18 06 20.3	589
1993 MA		1993 06 21.87632	16 34 52.47	-18 04 28.1	589
1993 MA		1993 06 21.88649	16 34 51.85	-18 04 26.9	589
1993 MA		1993 06 21.89686	16 34 51.20	-18 04 26.3	589
1993 MA		1993 07 07.91547	16 22 48.20	-17 44 16.9	589
1993 MA		1993 07 08.88715	16 22 18.39	-17 43 49.5	589
1993 MA		1993 07 08.90110	16 22 17.94	-17 43 47.0	589
1993 MA		1993 07 09.89191	16 21 49.27	-17 43 24.7	589
1993 MR		1993 06 28.90941	16 37 15.53	-11 51 34.5	589
1993 MR		1993 06 28.91910	16 37 15.28	-11 51 34.0	589
1993 MR		1993 06 28.92632	16 37 15.06	-11 51 33.8	589
1993 MR		1993 06 28.94791	16 37 14.47	-11 51 32.3	589
1993 NA	*	1993 07 09.92613	20 22 12.66	-09 56 04.5	589
1993 NA		1993 07 09.93978	20 22 12.08	-09 56 05.9	589
1993 NA		1993 07 09.95646	20 22 11.29	-09 56 07.1	589
1993 NA		1993 07 09.96967	20 22 10.59	-09 56 09.7	589
1993 NA		1993 07 11.90622	20 20 42.50	-10 00 21.0	589
1993 NA		1993 07 11.91774	20 20 41.87	-10 00 22.4	589
1993 NA		1993 07 11.93792	20 20 40.92	-10 00 24.5	589
1993 NA		1993 07 13.93971	20 19 05.51	-10 05 32.3	589
1993 NA		1993 07 13.95122	20 19 04.94	-10 05 33.9	589
5182 T-3		1993 05 23.92266	13 49 16.04	+05 58 29.7	589
5182 T-3		1993 05 23.93167	13 49 15.83	+05 58 29.7	589
5182 T-3		1993 05 23.94062	13 49 15.64	+05 58 30.1	589
5182 T-3		1993 05 23.94626	13 49 15.44	+05 58 31.5	589
5182 T-3		1993 05 24.88219	13 48 53.09	+06 00 01.9	589
5182 T-3		1993 05 24.89594	13 48 52.77	+06 00 03.2	589
5182 T-3		1993 05 25.87135	13 48 30.34	+06 01 29.0	589
5182 T-3		1993 05 25.88444	13 48 30.04	+06 01 30.0	589
5182 T-3		1993 05 27.82929	13 47 47.87	+06 03 51.3	589
5182 T-3		1993 05 27.85054	13 47 47.49	+06 03 54.0	589
5182 T-3		1993 05 29.98745	13 47 05.25	+06 05 47.8	589



5182 T-3	1993 05 29.99431	13 47 05.12	+06 05 47.8	589
5182 T-3	1993 05 30.00118	13 47 05.03	+06 05 49.1	589
5182 T-3	1993 05 31.92715	13 46 30.83	+06 06 53.3	589
5182 T-3	1993 05 31.94849	13 46 30.46	+06 06 53.7	589
5182 T-3	1993 06 05.91988	13 45 19.25	+06 07 02.2	589
5182 T-3	1993 06 05.94767	13 45 18.93	+06 07 02.4	589
5182 T-3	1993 06 06.85007	13 45 08.73	+06 06 38.2	589
5182 T-3	1993 06 06.87126	13 45 08.52	+06 06 38.0	589
5182 T-3	1993 06 07.86976	13 44 58.11	+06 06 03.8	589
5182 T-3	1993 06 07.89613	13 44 57.80	+06 06 03.9	589
5182 T-3	1993 06 10.87722	13 44 33.11	+06 03 30.2	589
5182 T-3	1993 06 10.89539	13 44 32.94	+06 03 28.8	589
5182 T-3	1993 06 10.91292	13 44 32.78	+06 03 27.5	589
(3138)	1993 06 10.83415	11 54 22.14	-01 16 49.4	589
(3138)	1993 06 10.84486	11 54 22.79	-01 16 52.1	589
(3138)	1993 06 10.85326	11 54 23.39	-01 16 54.5	589
(3138)	1993 06 10.86354	11 54 24.06	-01 16 57.1	589

## 595 Farra d'Isonzo

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

Observers F. Piani, L. Bittesini, G. Lombardi, E. Pettarin, A. Toso

Measurers E. Pettarin, A. Toso

0.4-m f/4.5 reflector

GSC

1981 ET25	1993 07 13.03977	19 29 31.05	-10 49 05.8	595
1981 ET25	1993 07 13.05021	19 29 30.44	-10 49 08.6	G 595
1981 ET25	1993 07 13.89311	19 28 44.56	-10 51 53.9	595
1981 ET25	1993 07 13.91101	19 28 43.44	-10 51 57.2	595
1981 ET25	1993 07 13.92372	19 28 42.79	-10 51 59.9	595
1983 WF1	1993 06 25.93200	16 38 14.95	-11 54 05.0	595
1983 WF1	1993 06 25.94403	16 38 14.41	-11 54 07.3	595
1983 WF1	1993 06 25.95630	16 38 13.83	-11 54 11.0	595
1983 WF1	1993 06 26.91028	16 37 29.05	-11 58 04.5	595
1983 WF1	1993 06 26.92074	16 37 28.53	-11 58 07.3	595
1983 WF1	1993 06 26.93609	16 37 27.83	-11 58 11.1	595
1991 YE	1993 06 18.92054	16 38 43.55	-18 14 42.7	595
1991 YE	1993 06 18.93294	16 38 42.80	-18 14 42.7	595
1991 YE	1993 06 18.94735	16 38 42.10	-18 14 42.8	595
1993 KD	1993 05 23.85699	16 44 16.88	-05 02 19.9	595
1993 KD	1993 05 23.88383	16 44 15.42	-05 02 07.3	595
1993 KD	1993 05 24.91639	16 43 21.58	-04 53 58.8	595
1993 KD	1993 05 24.93222	16 43 20.71	-04 53 51.5	595
1993 KD	1993 05 24.94771	16 43 19.87	-04 53 44.1	595
1993 KD	1993 05 25.86542	16 42 31.90	-04 46 42.9	595
1993 KD	1993 05 25.89139	16 42 30.54	-04 46 29.2	595
1993 KD	1993 05 25.92164	16 42 28.76	-04 46 16.3	595
1993 KD	1993 05 28.88569	16 39 51.74	-04 25 00.9	595
1993 KD	1993 05 28.89472	16 39 51.30	-04 24 57.1	595
1993 KD	1993 05 31.87576	16 37 12.76	-04 05 46.4	595
1993 KD	1993 05 31.88439	16 37 12.29	-04 05 43.5	595
1993 KD	1993 05 31.89462	16 37 11.69	-04 05 40.0	595
1993 KD	1993 06 01.91510	16 36 17.75	-03 59 39.1	595
1993 KD	1993 06 01.92763	16 36 17.00	-03 59 34.5	595
1993 KD	1993 06 01.93828	16 36 16.47	-03 59 31.6	595
1993 KD	1993 06 10.89955	16 28 44.46	-03 19 07.7	595
1993 KD	1993 06 15.87161	16 25 02.98	-03 06 34.6	595
1993 KD	1993 06 15.88347	16 25 02.47	-03 06 32.9	595
1993 KD	1993 06 17.90382	16 23 40.71	-03 03 27.6	595
1993 KD	1993 06 17.91097	16 23 40.41	-03 03 27.0	595

1993 KD	1993 06	17.92299	16 23	39.95	-03 03	26.4		595
1993 KD	1993 06	18.84939	16 23	04.47	-03 02	24.9		595
1993 KD	1993 06	18.86444	16 23	03.98	-03 02	24.4		595
1993 KD	1993 06	18.87675	16 23	03.47	-03 02	23.6		595
1993 KD	1993 06	21.86637	16 21	17.22	-03 00	42.6		595
1993 KD	1993 06	21.90348	16 21	15.99	-03 00	42.1		595
1993 KD	1993 06	22.01469	16 21	12.06	-03 00	41.4		595
1993 KD	1993 07	08.92115	16 15	55.16	-03 32	38.8		595
1993 KD	1993 07	08.97753	16 15	54.78	-03 32	51.0		595
1993 KD	1993 07	09.01922	16 15	54.49	-03 33	03.6		595
1993 KD	1993 07	09.89933	16 15	52.17	-03 36	19.4		595
1993 KD	1993 07	11.89831	16 15	51.40	-03 44	16.4		595
1993 KD	1993 07	11.91398	16 15	51.33	-03 44	19.9		595
1993 KD	1993 07	11.92876	16 15	51.30	-03 44	23.8		595
1993 MA	1993 06	18.92054	16 37	44.36	-18 10	17.1	19 V	595
1993 MA	1993 06	18.93294	16 37	43.63	-18 10	14.6		595
1993 MA	1993 06	18.94735	16 37	42.81	-18 10	13.8		595
1993 MR	* 1993 06	26.91028	16 38	12.06	-11 53	20.3	18.5 V	595
1993 MR	1993 06	26.92074	16 38	11.60	-11 53	19.3		595
1993 MR	1993 06	26.93609	16 38	11.23	-11 53	18.9		595
1993 MR	1993 06	28.92295	16 37	15.18	-11 51	33.4		595
1993 MR	1993 06	29.00277	16 37	13.01	-11 51	29.3		595
1993 MR	1993 06	29.01588	16 37	12.74	-11 51	29.1		595
1993 MR	1993 07	07.85346	16 34	28.15	-11 52	18.9		595
1993 MR	1993 07	07.89284	16 34	27.67	-11 52	21.0		595
1993 MR	1993 07	07.91917	16 34	27.34	-11 52	22.3		595
1993 MR	1993 07	08.86054	16 34	18.59	-11 53	14.1		595
1993 MR	1993 07	09.92534	16 34	10.29	-11 54	27.0		595
1993 MR	1993 07	12.91241	16 33	59.65	-11 58	40.5		595
1993 MR	1993 07	12.95345	16 33	59.52	-11 58	44.1		595
5182 T-3	1993 05	23.91586	13 49	16.19	+05 58	28.1		595
5182 T-3	1993 05	23.93007	13 49	15.83	+05 58	29.9		595

## 596 Colleverde di Guidonia

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

0.31-m f/2.8 Baker-Schmidt + CCD

(2205)	1993 06	28.93931	19 42	43.06	-06 49	06.0	17 V	596
(2205)	1993 06	28.95180	19 42	42.47	-06 49	03.5		596
(2205)	1993 06	29.92810	19 42	00.48	-06 47	01.6		596
(2205)	1993 06	29.93746	19 42	00.12	-06 46	59.5		596
(2205)	1993 06	29.94601	19 41	59.75	-06 46	59.2		596
(2205)	1993 06	29.95932	19 41	59.12	-06 46	57.0		596
(3940)	1993 05	31.84837	17 47	01.61	+14 42	22.3		596
(3940)	1993 05	31.85261	17 47	01.24	+14 42	26.8		596
(3940)	1993 05	31.86701	17 47	00.56	+14 42	34.8		596
(3940)	1993 05	31.89382	17 46	59.06	+14 42	50.4		596
(5586)	1993 05	15.87042	15 12	21.04	-10 36	47.9		596
(5586)	1993 05	15.88431	15 12	20.24	-10 36	43.5		596
(5586)	1993 05	16.87330	15 11	28.60	-10 32	49.2		596
(5586)	1993 05	16.88517	15 11	28.04	-10 32	48.3		596

## 597 Springe

N. Ehring, Detmoldstrasse 8, W-3000 Hannover 1, Federal Republic of Germany

(51)	1993 05	17.89222	15 31	38.44	-03 32	20.5		597
(51)	1993 05	17.90700	15 31	37.69	-03 32	14.7		597
(51)	1993 05	24.90785	15 25	30.36	-02 58	55.2		597
(51)	1993 05	24.92375	15 25	29.56	-02 58	51.8		597
(59)	1993 05	24.93249	16 09	58.40	-08 16	39.9		597
(59)	1993 05	24.94543	16 09	57.73	-08 16	37.8		597

(221)	1993 05 24.90785	15 27 28.92	-02 18 32.9	597
(221)	1993 05 24.92375	15 27 28.22	-02 18 31.3	597
(287)	1993 05 10.95252	15 39 37.10	-01 23 07.8	597
(287)	1993 05 10.95845	15 39 36.77	-01 23 06.3	597
(306)	1993 05 17.93671	15 48 21.41	-06 22 52.9	597
(306)	1993 05 17.95181	15 48 20.55	-06 22 50.6	597
(451)	1993 05 10.93293	15 21 03.50	-03 33 55.4	597
(451)	1993 05 10.94667	15 21 02.81	-03 33 55.2	597
(451)	1993 05 16.89502	15 16 07.08	-03 33 19.9	597
(451)	1993 05 16.90738	15 16 06.50	-03 33 20.0	597

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, P. M. Krol

0.25-m Schmidt, 0.5-m reflector + CCD

1981 EX4	1993 06 10.37925	17 31 21.49	+01 33 19.8	657
1981 EX4	1993 06 10.38272	17 31 21.36	+01 33 20.9	657
1981 EX4	1993 06 10.38602	17 31 21.19	+01 33 21.9	657
1981 EX4	1993 06 16.31991	17 26 42.38	+02 01 11.0	17.2 657
1981 EX4	1993 06 16.32353	17 26 42.26	+02 01 12.0	657
1981 EX4	1993 06 16.32692	17 26 42.11	+02 01 12.9	17.2 657
1990 TZ	1993 07 07.38851	20 06 57.63	+07 52 51.0	657
1990 TZ	1993 07 07.39112	20 06 57.45	+07 52 52.3	657
1990 TZ	1993 07 07.39378	20 06 57.38	+07 52 52.3	657
1990 TZ	1993 07 08.30440	20 06 09.08	+07 55 55.3	657
1990 TZ	1993 07 08.30656	20 06 08.92	+07 55 55.5	657
1990 TZ	1993 07 08.30865	20 06 08.80	+07 55 55.6	657
1991 CA2	1993 06 10.36661	17 15 08.49	-04 31 22.9	657
1991 CA2	1993 06 10.36987	17 15 08.32	-04 31 23.2	657
1991 CA2	1993 06 10.37361	17 15 08.17	-04 31 23.3	657
1993 MF	1993 06 26.31858	20 24 50.28	+06 47 02.7	657
1993 MF	1993 06 26.36806	20 24 58.94	+06 49 55.4	657
1993 MF	1993 07 07.34341	21 01 22.35	+17 52 01.3	657
1993 MF	1993 07 07.34480	21 01 22.64	+17 52 06.5	657
1993 MF	1993 07 07.34622	21 01 22.92	+17 52 11.7	657
1993 MO	1993 07 01.25112	17 03 14.97	+08 04 01.7	657
1993 MO	1993 07 01.25324	17 03 14.85	+08 03 52.7	15.0 657
1993 MO	1993 07 01.25535	17 03 14.73	+08 03 44.0	15.1 657
1993 MO	1993 07 06.24179	16 59 35.47	+01 51 14.7	657
1993 MO	1993 07 06.24542	16 59 35.32	+01 50 57.9	657
1993 ME1	1993 07 07.28433	16 35 55.30	+04 54 10.8	657
1993 ME1	1993 07 07.28775	16 35 55.57	+04 54 16.6	657
1993 ME1	1993 07 07.29347	16 35 55.80	+04 54 25.9	657
1993 ME1	1993 07 08.24914	16 37 05.43	+05 18 42.5	657
1993 ME1	1993 07 08.25245	16 37 05.63	+05 18 48.0	657
1993 ME1	1993 07 08.25705	16 37 05.98	+05 18 54.3	657
5166 T-3	1993 06 10.39251	17 52 01.89	-00 17 50.0	16.7 657
5166 T-3	1993 06 10.39469	17 52 01.79	-00 17 50.0	657
5166 T-3	1993 06 10.39683	17 52 01.68	-00 17 49.8	16.7 657
5166 T-3	1993 07 06.27855	17 31 26.93	-01 23 20.6	657
5166 T-3	1993 07 06.28149	17 31 26.84	-01 23 22.0	657
5166 T-3	1993 07 06.28862	17 31 26.53	-01 23 24.4	657
(24)	1993 07 01.35894	18 05 25.61	-24 21 25.1	657
(24)	1993 07 01.36186	18 05 25.46	-24 21 25.1	657
(24)	1993 07 01.36527	18 05 25.29	-24 21 24.9	657
(5230)	1993 07 08.36667	18 48 55.25	+06 32 17.4	657
(5230)	1993 07 08.37098	18 48 54.96	+06 32 17.0	657
(5230)	1993 07 08.37390	18 48 54.75	+06 32 16.5	657

658 Dominion Astrophysical Observatory, Victoria  
 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, G. C. L. Aikman  
 1.85-m reflector + CCD

GSC												
2799	P-L	1993	06	13.34822	18	16	04.17	+20	05	43.3		658
2799	P-L	1993	06	13.35380	18	16	03.90	+20	05	44.8	19.8	658
2799	P-L	1993	06	13.35943	18	16	03.63	+20	05	46.2	20.0	658
(3752)		1993	05	27.45683	18	54	52.08	+64	12	39.5	19.5	658
(3752)		1993	05	27.46034	18	54	51.63	+64	12	40.4	19.6	658
(3752)		1993	05	27.46381	18	54	51.18	+64	12	41.4	19.6	658
(5230)		1993	06	13.36735	19	10	33.89	+06	08	56.7	19.2	658
(5230)		1993	06	13.37277	19	10	33.63	+06	08	57.8		658
(5230)		1993	06	13.37825	19	10	33.38	+06	08	58.9	19.3	658

670 Camarillo

J. E. Rogers, 441 Rowland Avenue, Camarillo, CA 93010

0.25-m Schmidt-Cassegrain + CCD

GSC													
1993	FZ	1993	06	15.18525	12	08	04.09	+01	03	23.9		V	670
1993	FZ	1993	06	15.20612	12	08	05.66	+01	03	16.3		V	670
1993	FZ	1993	06	16.21701	12	09	15.23	+00	56	17.5		V	670
1993	FZ	1993	06	16.22743	12	09	16.14	+00	56	15.8		V	670
1993	FZ	1993	06	16.24826	12	09	17.46	+00	56	06.2		V	670
1993	KL	1993	06	03.20496	13	18	23.42	-09	56	21.8	17.7	V	670
1993	KL	1993	06	03.21607	13	18	23.24	-09	56	32.6			670
1993	KL	1993	06	03.22784	13	18	22.82	-09	56	45.7			670
1993	KL	1993	06	08.18466	13	17	30.44	-11	23	29.3	17.3	V	670
1993	KL	1993	06	08.19544	13	17	30.48	-11	23	41.6			670
1993	KL	1993	06	08.21001	13	17	30.29	-11	23	57.1			670
1993	KM	1993	06	23.22748	16	57	52.70	+14	33	21.2	16.5	V	670
1993	KM	1993	06	23.23785	16	57	52.28	+14	33	18.8			670
1993	KM	1993	06	23.24826	16	57	51.97	+14	33	16.1			670
1993	KM	1993	06	23.25868	16	57	51.60	+14	33	13.9			670
1993	MF	1993	06	25.33785	20	21	49.75	+05	50	01.8	13.7	V	670
1993	MF	1993	06	25.34618	20	21	51.15	+05	50	30.5			670
1993	MF	1993	06	25.36363	20	21	54.14	+05	51	29.8			670
1993	MF	1993	06	25.36814	20	21	55.00	+05	51	47.6			670
1993	MF	1993	06	25.37439	20	21	55.99	+05	52	07.4			670
1993	MF	1993	06	25.39663	20	21	59.85	+05	53	26.1			670
1993	MF	1993	06	30.32969	20	37	32.89	+10	46	17.5	13.4	V	670
1993	MF	1993	06	30.33542	20	37	33.94	+10	46	37.8			670
1993	MF	1993	06	30.35313	20	37	37.23	+10	47	42.4			670
1993	MF	1993	06	30.38647	20	37	43.31	+10	49	43.9			670
1993	MO	1993	06	25.22674	17	08	55.43	+14	48	46.1	15.7	V	670
1993	MO	1993	06	25.23750	17	08	54.68	+14	48	06.9			670
1993	MO	1993	06	25.24479	17	08	54.12	+14	47	39.1			670
1993	MO	1993	06	25.26389	17	08	52.78	+14	46	27.6			670
1993	MO	1993	06	25.28056	17	08	51.61	+14	45	25.9			670
1993	MO	1993	06	25.29618	17	08	50.55	+14	44	27.2			670
1993	MO	1993	06	25.31389	17	08	49.23	+14	43	20.8			670
1993	MO	1993	06	26.18681	17	07	57.20	+13	48	22.7	16.0	V	670
1993	MO	1993	06	26.19722	17	07	56.48	+13	47	44.7			670
1993	MO	1993	06	26.20764	17	07	55.81	+13	47	04.1			670
1993	MO	1993	06	29.19236	17	05	03.76	+10	28	58.0			670
1993	MO	1993	06	29.20069	17	05	03.27	+10	28	23.4			670
1993	MO	1993	06	29.20833	17	05	02.73	+10	27	51.4			670
1993	MV	1993	06	30.27467	19	48	33.56	-04	59	01.6			670

1993 MV	1993 06 30.29057	19 48 32.85	-04 58 56.8		670
1993 MV	1993 06 30.30448	19 48 32.29	-04 58 46.5		670
(1036)	1993 04 20.21795	13 43 32.58	-15 26 41.2	14.3 V	670
(1036)	1993 04 20.23367	13 43 31.66	-15 26 31.4		670
(1036)	1993 04 20.24756	13 43 30.89	-15 26 22.5		670

## 674 Ford Observatory, Wrightwood

J. B. Child, World Space Foundation, P.O. Box Y, South Pasadena,  
CA 91031, U.S.A.

Observers J. B. Child, G. Fisch

1988 MF	1993 05 22.38721	17 00 59.81	+13 55 09.1	17.0 V	674
1988 MF	1993 05 22.39936	17 00 58.88	+13 55 04.9		674
1988 MF	1993 05 22.42627	17 00 56.72	+13 54 55.7		674
1993 FZ	1993 06 13.21823	12 05 51.71	+01 16 30.4	18.3	674
1993 FZ	1993 06 13.22639	12 05 52.25	+01 16 26.9		674
1993 FZ	1993 06 13.23628	12 05 52.92	+01 16 24.4		674
1993 KL	1993 06 13.26973	13 17 37.19	-12 50 04.0	16.5	674
1993 KL	1993 06 13.28027	13 17 37.26	-12 50 14.7		674

## 675 Palomar

E. Helin, MS 183-501, Jet Propulsion Laboratory, Pasadena,  
CA 91109, U.S.A. (2)

C. Shoemaker, P.O. Box 984, Flagstaff, AZ 86002, U.S.A. (3)

C. J. van Houten, Sterrewacht Leiden, Postbus 9513, NL-2300 RA Leiden,  
The Netherlands (4)

E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,  
Flagstaff, AZ 86001, U.S.A. (6)

J. Mueller, Palomar Observatory, Palomar Mountain, CA 92060, U.S.A. (7)  
9 = 3 + 6

Observers B. M. Cudnik (3, S), T. Gehrels (4, L), E. Helin (2, S), H. E.  
Holt (3, S), W. Johnson (2, S), K. Lawrence (2, S), D. H. Levy (3, S),  
J. Mueller (7, L), M. Nassir (2, S), C. M. Olmstead (3, S), C. S.  
Shoemaker (3, S), E. M. Shoemaker (3, S), D. Williams (3, S)

Measurers J. Alu (2), B. M. Cudnik (3), K. Lawrence (2), J. Mueller (7),  
M. Nassir (2), C. S. Shoemaker (3), B. A. Skiff (9), C. J. van Houten  
(4), I. van Houten-Groeneveld (4), G. V. Williams (7), A. Wisse (4)

1.2-m (L) and 0.46-m (S) Schmidt telescopes

1943 DF	1988 09 14.28490	22 43 14.69	-20 44 34.7	19.0	9	675
1943 DF	1988 09 14.31771	22 43 12.35	-20 44 33.1		9	675
1955 SF	1988 09 12.34566	23 56 18.86	+03 21 32.0		9	675
1955 SF	1988 09 12.38733	23 56 16.38	+03 21 29.6		9	675
1955 SF	1988 09 15.39097	23 53 25.51	+03 18 36.4		9	675
1955 SF	1988 09 15.42500	23 53 23.47	+03 18 34.6		9	675
1955 SF	1988 09 16.39757	23 52 27.22	+03 17 24.7	15.8	9	675
1955 SF	1988 09 16.43194	23 52 25.14	+03 17 22.3		9	675
1971 SN2	1988 09 11.36233	00 34 53.03	-00 16 16.3		9	675
1971 SN2	1988 09 11.39635	00 34 51.67	-00 16 22.6		9	675
1976 GD2	1993 05 17.37396	15 25 52.32	-09 25 06.4	16.0	2	675
1976 GD2	1993 05 17.40000	15 25 50.91	-09 24 51.8		2	675
1976 GD2	1993 05 19.29115	15 24 16.10	-09 08 16.6		2	675
1976 GD2	1993 05 19.31667	15 24 14.79	-09 08 03.9		2	675
1977 QN2	1988 09 13.39340	00 08 17.22	+04 45 22.6		9	675
1977 QN2	1988 09 13.41736	00 08 15.89	+04 45 17.6	17.0	9	675
1977 QN2	1988 09 14.33507	00 07 30.01	+04 42 16.8	17.5	9	675
1977 QN2	1988 09 14.36910	00 07 28.18	+04 42 09.9		9	675
1978 QG2	1988 09 11.28420	23 17 17.23	-01 48 41.6		9	675
1978 QG2	1988 09 11.31940	23 17 15.26	-01 48 59.7		9	675
1978 QG2	1988 09 11.33697	23 17 14.38	-01 49 07.8	17.0	9	675
1978 QG2	1988 09 11.37100	23 17 12.36	-01 49 26.8		9	675

1978 QG2	1988 09	16.34097	23 12	51.66	-02 32	01.5	16.8	9	675
1978 QG2	1988 09	16.37413	23 12	49.86	-02 32	19.4		9	675
1978 QG2	1988 10	07.25938	22 59	16.43	-05 02	28.6	17.5	9	675
1978 QG2	1988 10	07.28715	22 59	15.74	-05 02	37.0		9	675
1978 QG2	1988 10	09.23435	22 58	34.57	-05 12	40.3		9	675
1978 QG2	1988 10	09.26317	22 58	33.91	-05 12	49.7		9	675
1978 RX1	1988 09	10.31667	23 41	14.20	-07 19	52.1	16.5	9	675
1978 RX1	1988 09	10.35330	23 41	12.54	-07 20	11.6		9	675
1978 RX1	1988 09	12.33993	23 39	48.97	-07 37	31.1	16.5	9	675
1978 RX1	1988 09	12.38177	23 39	47.06	-07 37	53.1		9	675
1978 SP4	1988 09	10.31667	23 34	47.73	-11 30	44.5	17.2	9	675
1978 SP4	1988 09	10.35330	23 34	45.80	-11 30	50.4		9	675
1978 SP4	1988 09	12.33993	23 33	03.80	-11 36	02.4		9	675
1978 SP4	1988 09	12.38177	23 33	01.60	-11 36	09.6		9	675
1978 SP4	1988 09	15.36736	23 30	27.58	-11 43	25.5	17.0	9	675
1978 SP4	1988 09	15.40938	23 30	25.35	-11 43	31.2		9	675
1978 VD5	1988 09	15.39097	23 52	49.29	-00 31	16.2	19.5	9	675
1978 VD5	1988 09	15.42500	23 52	47.66	-00 31	24.4		9	675
1978 VG5	1988 09	15.39097	23 52	17.51	-00 21	22.6	19.0	9	675
1978 VG5	1988 09	15.42500	23 52	15.93	-00 21	31.7		9	675
1978 VT6	1993 06	23.44444	20 33	20.01	-15 42	00.6	17.0	2	675
1978 VT6	1993 06	23.46615	20 33	19.26	-15 41	58.4		2	675
1978 VT6	1993 06	26.41910	20 31	54.34	-15 37	29.0		2	675
1978 VT6	1993 06	26.46163	20 31	52.78	-15 37	26.0		2	675
1978 VJ8	1988 09	12.34566	00 06	58.74	+00 57	19.1		9	675
1978 VJ8	1988 09	12.38733	00 06	57.13	+00 57	08.1		9	675
1978 VJ8	1988 09	15.39097	00 04	49.11	+00 42	36.4	18.5	9	675
1978 VJ8	1988 09	15.42500	00 04	47.60	+00 42	26.9		9	675
1979 FD2	1988 09	11.36233	00 17	41.75	-00 46	00.5		9	675
1979 FD2	1988 09	11.39635	00 17	40.07	-00 46	14.0		9	675
1979 FD2	1988 09	15.39097	00 14	21.76	-01 11	41.4	18.0	9	675
1979 FD2	1988 09	15.42500	00 14	19.99	-01 11	54.0		9	675
1980 FU	1988 09	12.34566	23 58	07.90	+02 23	25.1		9	675
1980 FU	1988 09	12.38733	23 58	05.27	+02 23	15.4		9	675
1980 FU	1988 09	15.39097	23 54	59.98	+02 13	08.0	18.0	9	675
1980 FU	1988 09	15.42500	23 54	57.76	+02 13	01.7		9	675
1980 FU	1988 09	16.39757	23 53	57.10	+02 09	38.2	18.5	9	675
1980 FU	1988 09	16.43194	23 53	54.88	+02 09	31.2		9	675
1980 FJ1	1988 09	10.31667	23 21	47.81	-06 28	24.4	16.2	9	675
1980 FJ1	1988 09	10.35330	23 21	45.68	-06 28	23.5		9	675
1980 FJ1	1988 09	12.33993	23 19	53.56	-06 27	09.3		9	675
1980 FJ1	1988 09	12.38177	23 19	51.16	-06 27	09.0		9	675
1980 FJ1	1988 10	07.25938	22 59	22.40	-05 54	56.0	16.8	9	675
1980 FJ1	1988 10	07.28715	22 59	21.34	-05 54	53.1		9	675
1980 FJ1	1988 10	09.23435	22 58	10.96	-05 50	31.5		9	675
1980 FJ1	1988 10	09.26317	22 58	09.89	-05 50	27.5		9	675
1980 FN1	1988 09	11.33697	23 36	47.35	-03 34	46.4		9	675
1980 FN1	1988 09	11.37100	23 36	45.31	-03 34	59.1		9	675
1980 FN1	1988 09	16.35597	23 32	01.68	-04 05	22.8		9	675
1980 FN1	1988 09	16.38872	23 31	59.81	-04 05	36.1		9	675
1980 FN1	1988 10	07.25938	23 14	33.64	-05 52	51.6	18.0	9	675
1980 FN1	1988 10	07.28715	23 14	32.60	-05 53	00.8		9	675
1980 FN1	1988 10	09.23435	23 13	20.87	-05 59	54.5		9	675
1980 FN1	1988 10	09.26317	23 13	19.85	-06 00	02.0		9	675
1981 EU18	1988 10	07.25938	22 58	09.44	-06 55	46.4	18.5	9	675
1981 EU18	1988 10	07.28715	22 58	08.73	-06 55	51.0		9	675
1981 EU18	1988 10	09.23435	22 57	20.02	-07 00	40.9		9	675
1981 EU18	1988 10	09.26317	22 57	19.34	-07 00	47.1		9	675
1981 EV18	1988 09	16.34097	23 18	12.23	-00 31	29.5	18.8	9	675

1981 EV18	1988 09 16.37413	23 18 10.70	-00 31 41.2		9 675
1981 EH24	1988 09 15.39097	00 01 31.15	-01 53 31.8	19.5	9 675
1981 EH24	1988 09 15.42500	00 01 29.41	-01 53 41.2		9 675
1981 EL24	1988 09 11.33697	23 32 01.64	-01 51 37.4	18.0	9 675
1981 EL24	1988 09 11.37100	23 31 59.96	-01 51 48.1		9 675
1981 EL24	1988 09 16.35597	23 28 04.37	-02 15 18.8		9 675
1981 EL24	1988 09 16.38872	23 28 02.74	-02 15 28.4		9 675
1981 EL24	1988 10 07.25938	23 13 19.35	-03 45 27.1	18.2	9 675
1981 EL24	1988 10 07.28715	23 13 18.39	-03 45 33.3		9 675
1981 EL24	1988 10 09.23435	23 12 14.38	-03 52 13.2		9 675
1981 EL24	1988 10 09.26317	23 12 13.46	-03 52 19.4		9 675
1981 EH34	1988 09 16.35597	23 37 46.51	-02 16 40.6		9 675
1981 EH34	1988 09 16.38872	23 37 44.89	-02 16 50.4		9 675
1981 EH34	1988 10 07.25938	23 22 28.10	-03 42 59.0		9 675
1981 EH34	1988 10 07.28715	23 22 26.95	-03 43 04.7		9 675
1981 EH34	1988 10 09.23435	23 21 17.32	-03 49 28.8		9 675
1981 EH34	1988 10 09.26317	23 21 16.13	-03 49 34.1		9 675
1981 EJ40	1988 09 16.34097	23 08 35.60	+00 32 00.1	16.5	9 675
1981 EJ40	1988 09 16.37413	23 08 31.97	+00 32 26.0		9 675
1981 ER43	1988 09 11.28420	23 26 05.99	-02 08 16.3	18.0	9 675
1981 ER43	1988 09 11.31940	23 26 04.18	-02 08 27.4		9 675
1981 ER43	1988 09 16.34097	23 22 08.78	-02 32 59.8	18.0	9 675
1981 ER43	1988 09 16.37413	23 22 07.15	-02 33 09.6		9 675
1981 ER43	1988 10 07.25938	23 07 56.89	-04 04 56.8	18.8	9 675
1981 ER43	1988 10 07.28715	23 07 56.02	-04 05 04.2		9 675
1981 ER43	1988 10 09.23435	23 06 57.42	-04 11 41.7		9 675
1981 QE2	1988 09 14.32604	23 50 48.04	-07 34 16.7	16.5	9 675
1981 QE2	1988 09 14.36024	23 50 46.56	-07 34 40.9		9 675
1981 QQ2	1988 09 13.34149	22 54 47.07	-11 57 01.7	18.0	9 675
1981 QQ2	1988 09 13.37535	22 54 45.34	-11 57 17.0		9 675
1981 QQ2	1988 09 16.28872	22 52 31.03	-12 19 53.4	17.5	9 675
1981 QQ2	1988 09 16.32257	22 52 29.50	-12 20 08.4		9 675
1981 UM11	1988 09 12.34566	00 07 21.59	+01 44 07.3		9 675
1981 UM11	1988 09 15.39097	00 05 03.76	+01 22 21.9	17.0	9 675
1981 UM11	1988 09 15.42500	00 05 02.03	+01 22 07.6		9 675
1981 YS1	1988 09 11.33697	23 49 10.35	-04 07 29.1	17.0	9 675
1981 YS1	1988 09 11.37100	23 49 08.39	-04 07 48.0		9 675
1981 YS1	1988 09 14.32604	23 46 32.57	-04 33 55.8	16.5	9 675
1981 YS1	1988 09 14.36024	23 46 30.65	-04 34 14.5		9 675
1981 YS1	1988 09 16.35597	23 44 42.01	-04 52 04.0		9 675
1981 YS1	1988 09 16.38872	23 44 40.18	-04 52 22.1		9 675
1981 YS1	1988 10 07.25938	23 26 09.32	-07 45 14.3	16.8	9 675
1981 YS1	1988 10 07.28715	23 26 08.02	-07 45 25.3		9 675
1981 YS1	1988 10 09.23435	23 24 41.86	-07 58 23.2		9 675
1981 YS1	1988 10 09.26317	23 24 40.56	-07 58 34.5		9 675
1983 RX3	1988 09 11.33697	23 20 48.95	-03 09 01.9		9 675
1983 RX3	1988 09 11.37100	23 20 47.66	-03 09 32.4		9 675
1983 RX3	1988 09 16.35597	23 17 59.61	-04 21 33.8		9 675
1983 RX3	1988 09 16.38872	23 17 58.42	-04 22 02.0		9 675
1983 RX3	1988 10 07.25938	23 09 47.14	-08 34 00.6	17.0	9 675
1983 RX3	1988 10 07.28715	23 09 46.77	-08 34 16.3		9 675
1983 RX3	1988 10 09.23435	23 09 28.33	-08 51 51.3		9 675
1983 RX3	1988 10 09.26317	23 09 28.01	-08 52 06.6		9 675
1983 VN7	1988 10 11.16319	22 35 21.42	-10 00 20.0	17.5	9 675
1983 VN7	1988 10 11.19861	22 35 20.93	-10 00 22.8		9 675
1983 XG	1988 09 16.39757	23 33 46.32	+01 57 28.3	16.8	9 675
1983 XG	1988 09 16.43194	23 33 44.83	+01 57 16.0		9 675
1983 XW	1988 09 11.33697	23 28 49.84	-03 51 37.0	17.2	9 675
1983 XW	1988 09 16.35597	23 25 04.65	-04 15 07.2		9 675

1983 XW	1988 09	16.38872	23 25	03.13	-04 15	16.9		9	675
1983 XW	1988 10	07.25938	23 11	06.86	-05 40	07.8	17.0	9	675
1983 XW	1988 10	07.28715	23 11	05.93	-05 40	14.1		9	675
1983 XW	1988 10	09.23435	23 10	06.38	-05 46	04.0		9	675
1983 XW	1988 10	09.26317	23 10	05.45	-05 46	09.3		9	675
1984 HS1	1988 09	11.33697	23 36	56.73	-00 04	18.5	16.2	9	675
1984 HS1	1988 09	11.37100	23 36	54.72	-00 04	31.5		9	675
1984 HS1	1988 09	16.35597	23 32	14.78	-00 38	49.9		9	675
1984 HS1	1988 09	16.38872	23 32	12.87	-00 39	04.1		9	675
1984 HS1	1988 10	07.25938	23 15	44.32	-02 49	32.5	17.0	9	675
1984 HS1	1988 10	07.28715	23 15	43.41	-02 49	40.4		9	675
1984 HS1	1988 10	09.23435	23 14	40.49	-02 59	02.4		9	675
1984 HS1	1988 10	09.26317	23 14	39.55	-02 59	11.2		9	675
1984 SC1	1988 09	10.31667	23 37	15.08	-08 09	36.0	16.2	9	675
1984 SC1	1988 09	10.35330	23 37	12.52	-08 09	30.0		9	675
1984 SC1	1988 09	12.33993	23 34	57.57	-08 03	37.5		9	675
1984 SC1	1988 09	12.38177	23 34	54.60	-08 03	30.4		9	675
1984 SC1	1988 10	07.25938	23 10	01.88	-06 20	54.5	17.0	9	675
1984 SC1	1988 10	07.28715	23 10	00.64	-06 20	46.4		9	675
1984 SC1	1988 10	09.23435	23 08	39.14	-06 10	11.6		9	675
1984 SC1	1988 10	09.26317	23 08	37.88	-06 10	02.0		9	675
1984 SZ1	1988 09	13.39340	00 01	06.75	+04 45	17.7		9	675
1984 SZ1	1988 09	13.41736	00 01	05.52	+04 45	13.1		9	675
1984 SZ1	1988 09	14.33507	00 00	20.14	+04 42	08.8	16.8	9	675
1984 SZ1	1988 09	14.36910	00 00	18.36	+04 42	01.6		9	675
1985 BL2	* 1985 01	19.18194	06 21	00.68	+39 28	58.1	15.5	2	675
1985 BL2	1985 01	19.23056	06 20	57.97	+39 28	36.8		2	675
1986 CS1	1988 09	11.36233	00 21	38.43	+01 29	38.8		9	675
1986 CS1	1988 09	11.39635	00 21	36.85	+01 29	25.6		9	675
1986 GF	1993 05	18.18368	11 45	53.08	-01 00	05.1	17.0	2	675
1986 GF	1993 05	18.20677	11 45	54.40	-00 59	48.2		2	675
1986 GF	1993 05	20.18194	11 47	38.34	-00 38	58.7		2	675
1986 GF	1993 05	20.20556	11 47	39.50	-00 38	45.7		2	675
1986 JC	1993 05	18.16736	13 07	40.65	+07 19	35.2	16.5	2	675
1986 JC	1993 05	18.19531	13 07	39.82	+07 19	25.7		2	675
1986 JC	1993 05	19.20885	13 07	17.35	+07 14	44.6		2	675
1987 EV	1988 09	11.28420	23 18	36.49	+00 35	02.5		9	675
1987 EV	1988 09	11.31940	23 18	34.34	+00 34	51.3		9	675
1987 EV	1988 09	16.34097	23 13	35.92	+00 09	23.3	16.8	9	675
1987 EV	1988 09	16.37413	23 13	33.92	+00 09	13.6		9	675
1988 MF	1993 05	17.44410	17 07	00.31	+14 17	49.0	16.0	2	675
1988 MF	1993 05	17.47031	17 06	58.37	+14 17	43.2		2	675
1988 MF	1993 05	19.39635	17 04	42.44	+14 10	20.5		2	675
1988 MF	1993 05	19.41979	17 04	40.63	+14 10	15.4		2	675
1988 MF	1993 06	21.28108	16 21	50.73	+07 15	19.7	17.0	2	675
1988 MF	1993 06	21.30556	16 21	49.08	+07 14	50.3		2	675
1988 MF	1993 06	23.26128	16 19	45.26	+06 35	47.4		2	675
1988 MF	1993 06	23.28663	16 19	43.67	+06 35	15.9		2	675
1988 PX1	1988 09	10.31667	23 27	22.79	-05 56	31.1	16.2	9	675
1988 PX1	1988 09	10.35330	23 27	20.98	-05 56	53.8		9	675
1988 PX1	1988 09	11.33697	23 26	35.84	-06 07	08.7	16.2	9	675
1988 PX1	1988 09	11.37100	23 26	34.14	-06 07	29.8		9	675
1988 PX1	1988 09	12.33993	23 25	49.56	-06 17	35.2	16.2	9	675
1988 PX1	1988 09	12.38177	23 25	47.50	-06 18	01.7		9	675
1988 PX1	1988 10	07.25938	23 10	02.53	-09 50	44.7	17.2	9	675
1988 PX1	1988 10	07.28715	23 10	01.85	-09 50	54.0		9	675
1988 PX1	1988 10	09.23435	23 09	20.33	-10 01	45.0		9	675
1988 PX1	1988 10	09.26317	23 09	19.67	-10 01	54.5		9	675
1988 PZ1	1988 10	09.23435	23 15	20.51	-05 10	03.0		9	675



1988	PZ1	1988	10	09.26317	23	15	19.65	-05	10	08.0	9	675	
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1988	PG2	1988	10	09.26317	23	16	44.98	-09	34	26.5	9	675	
1988	PL2	1988	09	11.28420	23	31	24.19	+00	42	08.9	9	675	
1988	PL2	1988	09	11.31940	23	31	21.91	+00	42	13.6	9	675	
1988	PL2	1988	09	11.33697	23	31	20.79	+00	42	14.5	16.2	9	675
1988	PL2	1988	09	11.37100	23	31	18.55	+00	42	20.0	9	675	
1988	PL2	1988	09	16.34097	23	26	15.18	+00	53	15.9	16.5	9	675
1988	PL2	1988	09	16.35597	23	26	14.24	+00	53	16.6	9	675	
1988	PL2	1988	09	16.37413	23	26	13.05	+00	53	20.3	9	675	
1988	PL2	1988	09	16.38872	23	26	12.16	+00	53	20.3	9	675	
1988	PM2	1988	09	10.31667	23	38	46.50	-06	39	20.7	17.5	9	675
1988	PM2	1988	09	10.35330	23	38	44.76	-06	39	36.7	9	675	
1988	PM2	1988	09	11.33697	23	38	00.13	-06	46	26.8	9	675	
1988	PM2	1988	09	11.37100	23	37	58.76	-06	46	42.0	9	675	
1988	PM2	1988	09	12.33993	23	37	14.45	-06	53	26.4	9	675	
1988	PM2	1988	09	12.38177	23	37	12.51	-06	53	44.2	9	675	
1988	PM2	1988	09	16.35597	23	34	09.63	-07	20	59.6	9	675	
1988	PM2	1988	09	16.38872	23	34	08.09	-07	21	12.7	9	675	
1988	PM2	1988	10	07.25938	23	19	43.14	-09	19	32.9	18.5	9	675
1988	PM2	1988	10	07.28715	23	19	42.20	-09	19	37.8	9	675	
1988	PM2	1988	10	09.23435	23	18	40.12	-09	27	28.7	9	675	
1988	PM2	1988	10	09.26317	23	18	39.22	-09	27	33.9	9	675	
1988	PO2	1988	09	11.33697	23	44	37.24	-05	59	08.1	9	675	
1988	PO2	1988	09	11.37100	23	44	35.56	-05	59	28.1	9	675	
1988	PO2	1988	09	14.32604	23	42	18.43	-06	27	11.4	17.2	9	675
1988	PO2	1988	09	14.36024	23	42	16.76	-06	27	30.5	9	675	
1988	PO2	1988	09	16.35597	23	40	42.76	-06	45	52.8	9	675	
1988	PO2	1988	09	16.38872	23	40	41.15	-06	46	11.5	9	675	
1988	PP2	1988	09	11.33697	23	42	19.08	-02	08	36.9	17.5	9	675
1988	PP2	1988	09	11.37100	23	42	17.14	-02	08	43.3	9	675	
1988	PP2	1988	09	16.35597	23	37	50.32	-02	26	37.4	9	675	
1988	PP2	1988	09	16.38872	23	37	48.41	-02	26	45.0	9	675	
1988	PP2	1988	10	07.25938	23	21	16.33	-03	29	18.5	18.0	9	675
1988	PP2	1988	10	07.28715	23	21	15.43	-03	29	21.6	9	675	
1988	PP2	1988	10	09.23435	23	20	10.07	-03	32	40.7	9	675	
1988	PP2	1988	10	09.26317	23	20	09.10	-03	32	44.0	9	675	
1988	PQ2	1988	09	14.32604	23	45	32.73	-05	41	47.4	17.2	9	675
1988	PQ2	1988	09	14.36024	23	45	30.96	-05	41	58.5	17.8	9	675
1988	PQ2	1988	09	16.35597	23	43	56.19	-05	52	15.3	9	675	
1988	PQ2	1988	09	16.38872	23	43	54.57	-05	52	25.8	9	675	
1988	PE4	1988	09	11.33697	23	40	33.09	-06	09	58.0	18.5	9	675
1988	PE4	1988	09	11.37100	23	40	31.42	-06	10	12.9	9	675	
1988	PE4	1988	09	12.33993	23	39	45.88	-06	17	02.6	18.2	9	675
1988	PE4	1988	09	12.38177	23	39	43.83	-06	17	19.1	9	675	
1988	PE4	1988	09	16.35597	23	36	35.57	-06	44	30.5	9	675	
1988	PE4	1988	09	16.38872	23	36	34.03	-06	44	45.0	9	675	
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1988	PE4	1988	10	09.26317	23	22	09.23	-08	33	23.7	9	675	
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1988	QC	1988	09	12.33993	23	26	58.18	-11	49	56.3	18.0	9	675
1988	QC	1988	09	15.36736	23	27	40.48	-12	39	10.9	17.8	9	675
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1988	QC1	1988	09	11.31940	23	11	46.61	-01	18	18.8	9	675	
1988	QC1	1988	09	16.34097	23	08	31.46	-02	01	33.2	17.5	9	675
1988	QC1	1988	09	16.37413	23	08	30.09	-02	01	49.9	9	675	

1988 QC1	1988 10 07.25938	23 00 34.37	-04 28 37.6	18.2	9 675
1988 QC1	1988 10 07.28715	23 00 34.09	-04 28 47.9		9 675
1988 RJ	1988 09 10.31667	23 34 20.31	-05 31 24.4	16.5	9 675
1988 RJ	1988 09 10.35330	23 34 19.08	-05 32 10.0		9 675
1988 RJ	1988 09 11.33697	23 33 50.76	-05 52 16.5	16.2	9 675
1988 RJ	1988 09 11.37100	23 33 49.62	-05 52 58.3		9 675
1988 RJ	1988 09 12.33993	23 33 21.66	-06 12 40.2	16.5	9 675
1988 RJ	1988 09 12.38177	23 33 20.30	-06 13 31.2		9 675
1988 RK	1988 09 11.33697	23 36 12.50	-00 08 25.3	17.5	9 675
1988 RK	1988 09 11.37100	23 36 11.13	-00 08 55.5		9 675
1988 RK	1988 09 16.35597	23 33 04.00	-01 23 47.6	17.0	9 675
1988 RK	1988 09 16.38872	23 33 02.67	-01 24 17.9		9 675
1988 RK	1988 10 07.25938	23 22 05.34	-06 19 54.4	17.0	9 675
1988 RK	1988 10 07.28715	23 22 04.75	-06 20 14.2		9 675
1988 RK	1988 10 09.23435	23 21 28.43	-06 43 16.3		9 675
1988 RK	1988 10 09.26317	23 21 27.87	-06 43 37.0		9 675
1988 RD1	1988 09 10.32687	23 31 03.21	+06 19 53.2		9 675
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1988 RE1	1988 09 10.32687	23 32 46.33	+07 43 43.4		9 675
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1988 RG1	1988 09 10.35330	23 37 45.79	-08 52 01.0		9 675
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1988 RU1	1988 09 12.33993	23 32 13.38	-05 16 17.7	18.8	9 675
1988 RU1	1988 09 12.38177	23 32 11.42	-05 16 26.9	18.2	9 675
1988 RV1	1988 09 10.31667	23 36 44.78	-05 33 50.3	18.0	9 675
1988 RV1	1988 09 10.35330	23 36 42.55	-05 34 00.3		9 675
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1988 RY1	1988 09 16.38872	23 36 41.75	-07 07 01.0		9 675
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1988 RE2	1988 09 13.37535	22 53 57.60	-09 30 18.8		9 675
1988 RE2	1988 09 16.28872	22 51 50.86	-09 44 16.5	17.5	9 675
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1988 RR2	1988 09 16.28872	22 55 42.08	-08 25 42.8		9 675
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1988 RH3	1988 09 11.39635	00 14 53.53	+01 36 48.9		9 675
1988 RH3	1988 09 12.34566	00 14 05.29	+01 35 57.5		9 675
1988 RH3	1988 09 12.38733	00 14 03.04	+01 35 57.9		9 675
1988 RJ3	1988 09 11.36233	00 15 22.81	+01 39 05.3		9 675
1988 RJ3	1988 09 11.39635	00 15 20.90	+01 38 56.4		9 675
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1988 RE4	1988 09 12.34566	00 00 33.23	+01 49 21.8	17.0	9 675
1988 RE4	1988 09 12.38733	00 00 31.09	+01 49 16.9		9 675
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1988 RV4	1988 09 11.37100	23 16 43.56	-02 19 49.0		9 675
1988 RV4	1988 09 16.34097	23 12 40.09	-02 42 32.2	17.2	9 675
1988 RV4	1988 09 16.37413	23 12 38.39	-02 42 42.0		9 675
1988 RV4	1988 10 07.25938	22 59 21.82	-04 02 21.5	17.5	9 675
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1988 RB6	1988 09 10.31667	23 20 26.89	-06 48 33.5	16.2	9 675
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1988 RJ6	1988 09 11.28420	23 07 50.36	-02 08 23.4		9 675
1988 RJ6	1988 09 11.31940	23 07 48.28	-02 08 27.6	16.8	9 675
1988 RK6	1988 10 07.25938	22 54 41.30	-06 22 10.2	17.8	9 675
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1988 RL6	1988 09 12.33993	23 20 23.60	-06 42 39.8	17.0	9 675
1988 RL6	1988 09 12.38177	23 20 21.66	-06 43 07.0		9 675

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1988 RL6	1988 10 07.28715	23 05 42.00	-10 15 18.5		9 675
1988 RC7	1988 09 11.28420	23 12 27.39	-01 21 42.2	14.8	9 675
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1988 RJ8	1988 09 11.28420	23 24 57.13	-01 12 48.7	17.0	9 675
1988 RJ8	1988 09 11.31940	23 24 55.39	-01 13 08.8		9 675
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1988 RJ8	1988 09 16.34097	23 20 55.79	-02 01 58.3	16.8	9 675
1988 RJ8	1988 09 16.35597	23 20 55.06	-02 02 07.0		9 675
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1988 RJ8	1988 10 07.25938	23 07 27.91	-05 06 52.9	17.2	9 675
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1988 RJ8	1988 10 09.26317	23 06 40.77	-05 20 54.8		9 675
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1988 RM8	1988 09 12.34566	00 14 38.22	-00 59 27.2		9 675
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1988 RL12	1988 09 15.39097	23 44 17.07	-01 22 38.3	19.2	9 675
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1988 RM12	1988 09 11.33697	23 48 16.81	-03 49 13.7	17.8	9 675
1988 RM12	1988 09 11.37100	23 48 15.46	-03 49 43.9		9 675
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1988 RM12	1988 09 16.38872	23 44 59.26	-05 01 49.5		9 675
1988 RN12	1988 09 14.32604	23 48 37.31	-04 32 17.9	17.8	9 675
1988 RN12	1988 09 14.36024	23 48 34.77	-04 32 09.0		9 675
1988 RN12	1988 09 16.35597	23 46 11.90	-04 23 59.9		9 675
1988 RN12	1988 09 16.38872	23 46 09.57	-04 23 52.0		9 675
1988 RR12	1988 09 12.34566	23 54 31.04	-02 15 27.8		9 675
1988 RR12	1988 09 14.32604	23 53 14.89	-02 41 24.1	16.0	9 675
1988 RR12	1988 09 14.36024	23 53 13.49	-02 41 50.7		9 675
1988 RR12	1988 09 15.39097	23 52 33.15	-02 55 22.5	15.8	9 675
1988 RR12	1988 09 15.42500	23 52 31.74	-02 55 50.6		9 675
1988 RT12	1988 09 11.31940	23 02 22.41	-01 27 55.2		9 675
1988 RV12	1988 09 11.28420	23 11 05.97	+01 37 04.8		9 675
1988 RV12	1988 09 16.34097	23 08 22.52	+01 08 32.2	18.8	9 675
1988 RV12	1988 09 16.37413	23 08 21.52	+01 08 19.7		9 675
1988 RW12	1988 09 11.28420	23 13 00.02	+01 05 08.4	17.8	9 675
1988 RW12	1988 09 11.31940	23 12 58.17	+01 04 58.3		9 675
1988 RW12	1988 09 16.34097	23 08 49.89	+00 40 33.2	18.0	9 675
1988 RW12	1988 09 16.37413	23 08 48.20	+00 40 23.5		9 675
1988 RX12	1988 09 11.28420	23 14 03.11	+02 16 28.5		9 675
1988 RX12	1988 09 11.31940	23 14 01.65	+02 16 11.5		9 675
1988 RX12	1988 09 16.34097	23 10 36.76	+01 35 02.7	17.2	9 675
1988 RX12	1988 09 16.37413	23 10 35.41	+01 34 46.4		9 675
1988 RY12	1988 09 11.31940	23 17 52.04	+00 00 20.0		9 675
1988 RY12	1988 09 16.34097	23 13 53.56	-00 23 38.8	18.5	9 675
1988 RY12	1988 09 16.37413	23 13 51.99	-00 23 47.3		9 675
1988 RZ12	1988 09 11.28420	23 18 24.50	+00 38 33.6		9 675
1988 RZ12	1988 09 11.31940	23 18 22.98	+00 38 17.9		9 675
1988 RZ12	1988 09 16.34097	23 14 54.31	-00 02 31.6	17.8	9 675
1988 RZ12	1988 09 16.37413	23 14 52.87	-00 02 47.2		9 675
1988 RZ12	1988 10 07.25938	23 03 40.49	-02 44 19.7	18.5	9 675
1988 RZ12	1988 10 07.28715	23 03 40.01	-02 44 32.2		9 675
1988 RZ12	1988 10 09.23435	23 03 05.50	-02 56 59.9		9 675
1988 RZ12	1988 10 09.26317	23 03 05.03	-02 57 11.5		9 675
1988 RA13	1988 09 11.28420	23 19 32.81	-00 15 40.9		9 675
1988 RA13	1988 09 11.31940	23 19 30.86	-00 16 00.2		9 675
1988 RA13	1988 09 16.34097	23 15 01.96	-01 02 17.6	18.0	9 675
1988 RA13	1988 09 16.37413	23 15 00.12	-01 02 35.4		9 675
1988 RA13	1988 10 07.25938	23 00 53.86	-03 51 41.4	18.8	9 675
1988 RA13	1988 10 07.28715	23 00 53.12	-03 51 54.1		9 675
1988 RA13	1988 10 09.23435	23 00 08.64	-04 03 54.0		9 675
1988 RA13	1988 10 09.26317	23 00 07.96	-04 04 04.6		9 675
1988 SA	1988 09 10.31667	23 32 27.27	-07 36 13.6	16.5	9 675
1988 SA	1988 09 10.35330	23 32 24.98	-07 36 16.4		9 675
1988 SA	1988 09 12.33993	23 30 26.76	-07 37 56.6	17.0	9 675
1988 SA	1988 09 12.38177	23 30 24.20	-07 37 59.6	16.8	9 675
1988 SC	1988 09 10.31667	23 36 06.28	-07 08 58.9	16.8	9 675

1988 SC	1988 09 10.35330	23 36 03.87	-07 09 00.9		9 675
1988 SC	1988 09 11.33697	23 35 01.16	-07 09 35.7	17.2	9 675
1988 SC	1988 09 11.37100	23 34 58.86	-07 09 37.0		9 675
1988 SC	1988 09 12.33993	23 33 56.92	-07 10 12.4	17.0	9 675
1988 SC	1988 09 12.38177	23 33 54.17	-07 10 14.3		9 675
1988 SC	1988 09 16.35597	23 29 37.43	-07 12 01.0		9 675
1988 SC	1988 09 16.38872	23 29 35.21	-07 12 02.1		9 675
1988 SC	1988 10 07.25938	23 09 06.23	-06 59 23.8	17.2	9 675
1988 SC	1988 10 07.28715	23 09 04.83	-06 59 21.9		9 675
1988 SC	1988 10 09.23435	23 07 34.05	-06 55 40.4		9 675
1988 SC	1988 10 09.26317	23 07 32.65	-06 55 37.1		9 675
1988 SD	1988 09 10.31667	23 36 05.58	-07 11 08.1	16.5	9 675
1988 SD	1988 09 10.35330	23 36 03.29	-07 11 13.8		9 675
1988 SD	1988 09 11.33697	23 35 04.76	-07 13 31.6	17.0	9 675
1988 SD	1988 09 11.37100	23 35 02.57	-07 13 37.1		9 675
1988 SD	1988 09 12.33993	23 34 05.02	-07 15 52.9	16.8	9 675
1988 SD	1988 09 12.38177	23 34 02.39	-07 15 59.2		9 675
1988 SD	1988 09 16.38872	23 30 04.19	-07 24 30.6		9 675
1988 SD	1988 10 07.25938	23 12 57.80	-07 38 20.7	17.5	9 675
1988 SD	1988 10 07.28715	23 12 56.77	-07 38 19.6		9 675
1988 SD	1988 10 09.23435	23 11 53.02	-07 36 15.9		9 675
1988 SD	1988 10 09.26317	23 11 52.04	-07 36 13.0		9 675
1988 SP	1988 09 13.34149	22 56 51.96	-10 15 43.9	16.8	9 675
1988 SP	1988 09 16.28872	22 54 11.63	-10 31 29.7	17.5	9 675
1988 SP	1988 09 16.32257	22 54 09.70	-10 31 40.2		9 675
1988 SQ	1988 09 13.34149	22 56 17.85	-10 36 17.0	16.8	9 675
1988 SQ	1988 09 13.37535	22 56 16.30	-10 36 18.9		9 675
1988 SQ	1988 09 16.28872	22 54 12.31	-10 38 40.3	17.2	9 675
1988 SQ	1988 09 16.32257	22 54 10.81	-10 38 41.2		9 675
1988 SN1	1988 09 15.36736	23 28 35.08	-16 53 01.9	17.5	9 675
1988 SN1	1988 09 15.40938	23 28 32.94	-16 53 19.5		9 675
1988 SU1	1988 09 15.36736	23 33 22.51	-17 39 46.8	18.2	9 675
1988 SU1	1988 09 15.40938	23 33 20.29	-17 39 53.6		9 675
1988 SV1	1988 09 15.36736	23 34 45.12	-14 38 31.3	18.8	9 675
1988 SV1	1988 09 15.40938	23 34 43.03	-14 38 51.9		9 675
1988 SW1	1988 09 15.36736	23 35 08.95	-18 48 22.0	19.8	9 675
1988 SW1	1988 09 15.40938	23 35 07.48	-18 48 26.4		9 675
1988 SX1	1988 09 15.36736	23 36 11.03	-15 34 29.3	18.8	9 675
1988 SX1	1988 09 15.40938	23 36 09.12	-15 34 46.7		9 675
1988 SY1	1988 09 15.36736	23 36 29.11	-14 46 59.7	17.8	9 675
1988 SY1	1988 09 15.40938	23 36 26.45	-14 47 09.4		9 675
1988 SA2	1988 09 15.36736	23 38 33.03	-17 21 50.6	18.8	9 675
1988 SA2	1988 09 15.40938	23 38 30.70	-17 22 00.7		9 675
1988 SB2	1988 09 15.36736	23 38 38.05	-15 07 04.7	16.8	9 675
1988 SB2	1988 09 15.40938	23 38 35.78	-15 07 23.6		9 675
1988 SD2	1988 09 15.36736	23 40 32.13	-17 16 22.1	19.0	9 675
1988 SD2	1988 09 15.40938	23 40 29.25	-17 16 24.5		9 675
1988 SE2	1988 09 15.36736	23 43 56.23	-15 40 06.9	18.0	9 675
1988 SE2	1988 09 15.38320	23 43 55.36	-15 40 08.2		9 675
1988 SE2	1988 09 15.40938	23 43 53.62	-15 40 13.0		9 675
1988 SE2	1988 09 15.41732	23 43 53.26	-15 40 13.1		9 675
1988 SG2	1988 09 15.36736	23 45 10.28	-14 50 36.6	18.2	9 675
1988 SG2	1988 09 15.38320	23 45 09.57	-14 50 41.9		9 675
1988 SG2	1988 09 15.41732	23 45 07.78	-14 50 58.6		9 675
1988 SM2	1988 09 15.39097	00 02 13.04	-01 40 08.5	19.5	9 675
1988 SM2	1988 09 15.42500	00 02 11.61	-01 40 17.8		9 675
1988 SQ2	1988 09 15.39097	00 04 47.15	+00 06 49.2	19.2	9 675
1988 SQ2	1988 09 15.42500	00 04 45.92	+00 06 37.6		9 675
1988 SS2	1988 09 12.34566	00 13 25.06	-00 28 01.0		9 675

1988 SS2	1988 09 12.38733	00 13 23.09	-00 28 18.0		9	675
1988 SS2	1988 09 15.39097	00 11 01.95	-00 49 33.0	18.8	9	675
1988 SS2	1988 09 15.42500	00 11 00.15	-00 49 47.0		9	675
1988 ST2	1988 09 12.34566	00 14 00.81	-02 11 14.5		9	675
1988 ST2	1988 09 12.38733	00 13 58.88	-02 11 27.9		9	675
1988 ST2	1988 09 15.39097	00 11 51.03	-02 25 39.1	17.8	9	675
1988 ST2	1988 09 15.42500	00 11 49.52	-02 25 48.1		9	675
1988 SU2	1988 09 12.34566	00 15 05.64	-02 18 59.3		9	675
1988 SU2	1988 09 12.38733	00 15 03.61	-02 19 17.9		9	675
1988 SU2	1988 09 15.39097	00 12 40.33	-02 37 34.3	18.8	9	675
1988 SU2	1988 09 15.42500	00 12 38.53	-02 37 44.1		9	675
1988 SW2	1988 09 12.34566	00 15 05.12	-01 34 07.5		9	675
1988 SW2	1988 09 12.38733	00 15 03.32	-01 34 19.4		9	675
1988 SW2	1988 09 15.39097	00 12 56.22	-01 47 15.2	17.0	9	675
1988 SW2	1988 09 15.42500	00 12 54.67	-01 47 23.5		9	675
1988 SY2	1988 09 11.36233	00 14 48.81	+02 00 43.3		9	675
1988 SY2	1988 09 11.39635	00 14 47.94	+02 00 12.8		9	675
1988 SY2	1988 09 15.39097	00 13 10.75	+00 59 13.0	16.5	9	675
1988 SY2	1988 09 15.42500	00 13 09.69	+00 58 41.1		9	675
1988 SZ2	1988 09 15.39097	00 13 22.16	-02 05 38.3	19.2	9	675
1988 SZ2	1988 09 15.42500	00 13 20.89	-02 05 45.8		9	675
1988 SP3	1988 09 12.34566	00 01 44.28	-02 59 12.2	16.5	9	675
1988 SP3	1988 09 12.38733	00 01 42.44	-02 59 40.5		9	675
1988 SP3	1988 09 14.32604	00 00 21.11	-03 21 09.4	16.5	9	675
1988 SP3	1988 09 14.36024	00 00 19.55	-03 21 32.3		9	675
1988 SP3	1988 09 15.39097	23 59 35.41	-03 32 58.6	16.8	9	675
1988 SP3	1988 09 15.42500	23 59 33.87	-03 33 21.5		9	675
1989 EL	1993 05 18.22014	13 52 38.00	-15 09 18.9	16.5	2	675
1989 EL	1993 05 18.25069	13 52 36.95	-15 09 05.8		2	675
1989 EL	1993 05 20.23003	13 51 33.11	-14 56 22.6		2	675
1989 EL	1993 05 20.25469	13 51 32.29	-14 56 12.1		2	675
1989 EH1	1971 04 16.21476	12 32 26.80	-00 06 41.6	18.0	4	675
1989 EH1	1971 04 16.27708	12 32 24.25	-00 06 21.4		4	675
1989 TU5	1988 09 10.31667	23 17 50.22	-06 46 27.6	18.0	9	675
1989 TU5	1988 09 10.35330	23 17 48.90	-06 46 35.2		9	675
1989 TU5	1988 09 12.33993	23 16 51.51	-06 52 47.8	18.2	9	675
1989 TU5	1988 09 12.38177	23 16 50.33	-06 52 57.3		9	675
1989 TU5	1988 10 07.25938	23 05 56.57	-08 00 17.4	18.8	9	675
1989 TU5	1988 10 07.28715	23 05 56.05	-08 00 21.7		9	675
1989 TU5	1988 10 09.23435	23 05 14.73	-08 04 22.1		9	675
1989 TU5	1988 10 09.26317	23 05 13.93	-08 04 23.6		9	675
1989 UX5	1988 09 14.32604	23 45 36.01	-07 20 08.4	19.0	9	675
1989 UX5	1988 09 14.36024	23 45 34.96	-07 20 16.0		9	675
1989 VW	1988 09 14.32604	00 13 02.08	-05 40 10.9	18.0	9	675
1989 VW	1988 09 14.36024	00 13 00.65	-05 40 20.8		9	675
1989 YH1	1988 09 12.34566	00 07 49.81	+02 23 28.4		9	675
1989 YH1	1988 09 12.38733	00 07 47.75	+02 23 18.3		9	675
1989 YH1	1988 09 15.39097	00 05 08.40	+02 07 53.0	18.5	9	675
1989 YH1	1988 09 15.42500	00 05 06.51	+02 07 44.1		9	675
1990 EA	1988 09 10.31667	23 23 51.55	-09 34 23.8	18.0	9	675
1990 EA	1988 09 10.35330	23 23 49.38	-09 34 41.0		9	675
1990 EA	1988 09 12.33993	23 21 59.81	-09 52 18.7	18.0	9	675
1990 EA	1988 09 12.38177	23 21 57.38	-09 52 40.7		9	675
1990 EA	1988 09 13.34149	23 21 04.28	-10 01 05.0	17.2	9	675
1990 EA	1988 09 13.37535	23 21 02.42	-10 01 22.2		9	675
1990 EA	1988 09 16.28872	23 18 21.97	-10 26 19.3	18.0	9	675
1990 EA	1988 09 16.32257	23 18 20.06	-10 26 36.2		9	675
1990 EL7	1988 09 16.34097	23 16 47.17	-00 33 54.4	17.2	9	675
1990 EL7	1988 09 16.37413	23 16 44.99	-00 34 03.3		9	675

1990 OE2	1993 04	18.23108	12 58	39.43	+16 40	07.2	17.4	3	675
1990 OE2	1993 04	18.26076	12 58	38.01	+16 40	13.5		3	675
1990 SG4	1993 03	19.30503	10 55	10.62	-03 05	53.0	16.5	2	675
1990 SG4	1993 03	19.32726	10 55	09.00	-03 05	45.1		2	675
1990 SG4	1993 03	22.24757	10 51	55.53	-02 46	37.6		2	675
1990 SG4	1993 03	22.27101	10 51	53.85	-02 46	29.2		2	675
1990 TL4	1993 03	19.38819	11 50	27.03	-11 40	38.1	16.0	2	675
1990 TL4	1993 03	19.41389	11 50	25.98	-11 40	31.8		2	675
1990 TL4	1993 03	21.36250	11 48	49.46	-11 31	16.9	16.0	2	675
1990 TL4	1993 03	21.39653	11 48	48.01	-11 31	08.5		2	675
1991 AY1	1993 05	17.33750	15 18	25.79	-02 39	06.5	16.5	2	675
1991 AY1	1993 05	17.36042	15 18	24.70	-02 39	03.2		2	675
1991 AY1	1993 05	19.28490	15 16	57.82	-02 33	22.5		2	675
1991 AY1	1993 05	19.31042	15 16	56.69	-02 33	18.8		2	675
1991 CS1	1988 09	10.31667	23 24	03.46	-05 27	20.4	19.0	9	675
1991 CS1	1988 09	10.35330	23 24	02.01	-05 27	29.9		9	675
1991 CS1	1988 09	12.33993	23 22	36.64	-05 37	20.1	18.0	9	675
1991 CS1	1988 09	12.38177	23 22	34.84	-05 37	33.0		9	675
1991 CS1	1988 10	07.25938	23 06	24.29	-07 25	07.9	19.5	9	675
1991 CS1	1988 10	07.28715	23 06	23.61	-07 25	17.0		9	675
1991 CS1	1988 10	09.23435	23 05	24.05	-07 31	33.4		9	675
1991 CS1	1988 10	09.26317	23 05	23.02	-07 31	40.8		9	675
1991 DT	1988 09	10.31667	23 35	31.87	-06 15	35.7	17.8	9	675
1991 DT	1988 09	10.35330	23 35	30.21	-06 15	48.1		9	675
1991 DT	1988 09	12.33993	23 34	05.04	-06 25	28.2	18.5	9	675
1991 DT	1988 09	12.38177	23 34	03.18	-06 25	40.8	18.0	9	675
1991 DT	1988 10	07.25938	23 17	21.44	-08 09	59.4	19.0	9	675
1991 DT	1988 10	07.28715	23 17	20.36	-08 10	06.4		9	675
1991 DT	1988 10	09.23435	23 16	16.53	-08 16	02.1		9	675
1991 DT	1988 10	09.26317	23 16	15.62	-08 16	06.7		9	675
1991 EA1	1988 09	15.38320	00 06	54.23	-10 26	56.2		9	675
1991 EA1	1988 09	15.41732	00 06	52.40	-10 27	05.5		9	675
1991 GE9	1988 09	10.31667	23 31	16.86	-05 46	14.4	17.8	9	675
1991 GE9	1988 09	10.35330	23 31	15.22	-05 46	26.6		9	675
1991 GE9	1988 09	11.33697	23 30	31.96	-05 51	32.0	18.0	9	675
1991 GE9	1988 09	11.37100	23 30	30.36	-05 51	41.5		9	675
1991 GE9	1988 09	12.38177	23 29	45.85	-05 56	56.6	18.0	9	675
1991 GE9	1988 10	07.25938	23 12	42.89	-07 49	02.7	18.8	9	675
1991 GE9	1988 10	07.28715	23 12	41.90	-07 49	09.6		9	675
1991 GE9	1988 10	09.23435	23 11	38.60	-07 55	31.3		9	675
1991 GE9	1988 10	09.26317	23 11	37.56	-07 55	36.9		9	675
1991 GP10	1988 09	10.31667	23 23	40.40	-09 11	47.2	17.8	9	675
1991 GP10	1988 09	10.35330	23 23	38.42	-09 12	00.7		9	675
1991 GP10	1988 09	12.33993	23 22	00.44	-09 24	16.4	18.0	9	675
1991 GP10	1988 09	12.38177	23 21	58.29	-09 24	30.3		9	675
1991 GP10	1988 09	13.34149	23 21	10.99	-09 30	21.7		9	675
1991 GP10	1988 09	13.37535	23 21	09.20	-09 30	34.3		9	675
1991 GP10	1988 09	16.28872	23 18	46.67	-09 47	44.8	18.2	9	675
1991 GP10	1988 09	16.32257	23 18	44.97	-09 47	56.4		9	675
1991 JH1	1988 09	10.31667	23 15	01.96	-06 27	37.9	17.5	9	675
1991 JH1	1988 09	10.35330	23 14	59.87	-06 27	54.5		9	675
1991 TG4	1993 06	22.31736	17 09	18.80	+01 45	30.1	16.0	2	675
1991 TG4	1993 06	22.34184	17 09	17.36	+01 45	36.3		2	675
1991 TG4	1993 06	23.30729	17 08	17.54	+01 51	15.7		2	675
1991 TG4	1993 06	23.33628	17 08	15.68	+01 51	24.8		2	675
1992 AO	1993 05	18.40191	15 52	48.14	+14 36	34.8	16.5	2	675
1992 AO	1993 05	18.42865	15 52	46.52	+14 36	34.9		2	675
1992 AO	1993 05	20.38993	15 50	49.89	+14 36	22.2		2	675
1992 CG2	1992 02	08.42743	10 02	20.31	+15 49	42.3	17.5	3	675



1992 CG2	1992 02 08.46232	10 02 17.75	+15 49 34.8		3 675
1992 HH5	1992 04 05.36823	13 21 01.53	-12 26 35.8	17.5	9 675
1992 HH5	1992 04 05.39948	13 20 59.55	-12 26 30.9		9 675
1992 RM2	1988 09 13.39340	23 56 05.30	+07 14 51.0		9 675
1992 RM2	1988 09 13.41736	23 56 03.61	+07 14 54.8		9 675
1992 RM2	1988 09 14.33507	23 55 03.36	+07 17 07.6	17.5	9 675
1992 RM2	1988 09 14.36910	23 55 01.02	+07 17 12.2		9 675
1992 RM2	1988 09 16.43194	23 52 43.84	+07 21 42.4		9 675
1992 WU3	1988 09 11.36233	00 27 36.07	+04 28 50.1		9 675
1992 WU3	1988 09 11.39635	00 27 34.60	+04 28 43.6		9 675
1992 WV3	1988 09 10.31667	23 34 17.00	-06 55 59.3	17.0	9 675
1992 WV3	1988 09 10.35330	23 34 14.69	-06 56 07.5		9 675
1992 WV3	1988 09 11.33697	23 33 15.14	-06 59 38.3		9 675
1992 WV3	1988 09 11.37100	23 33 12.94	-06 59 45.6		9 675
1992 WV3	1988 09 12.33993	23 32 14.10	-07 03 14.5	17.2	9 675
1992 WV3	1988 09 12.38177	23 32 11.49	-07 03 24.2		9 675
1992 WV3	1988 09 16.35597	23 28 08.11	-07 17 02.4		9 675
1992 WV3	1988 09 16.38872	23 28 05.95	-07 17 08.1		9 675
1992 WV3	1988 10 07.25938	23 09 13.96	-08 01 43.2	17.5	9 675
1992 WV3	1988 10 07.28715	23 09 12.68	-08 01 44.3		9 675
1992 WV3	1988 10 09.23435	23 07 53.94	-08 02 37.1		9 675
1992 WV3	1988 10 09.26317	23 07 52.73	-08 02 37.7		9 675
1993 FZ	1987 08 23.33715	22 33 26.67	-06 16 37.1	16	2 675
1993 FZ	1987 08 23.36458	22 33 25.01	-06 16 48.4		2 675
1993 FZ	1987 09 19.20174	22 10 38.49	-09 19 19.8	16	2 675
1993 FZ	1987 09 19.26111	22 10 36.30	-09 19 41.4		2 675
1993 FZ	1991 11 02.42674	03 53 28.44	+16 41 17.1		2 675
1993 FZ	1991 11 02.45035	03 53 27.05	+16 41 12.0		2 675
1993 FZ	1991 11 04.43785	03 51 33.23	+16 32 46.1		2 675
1993 FZ	1991 11 04.45747	03 51 32.04	+16 32 42.2		2 675
1993 FZ	1991 12 08.23108	03 17 11.46	+14 15 01.3		2 675
1993 FZ	1991 12 08.25990	03 17 09.81	+14 14 54.6		2 675
1993 FQ2	1993 05 18.18368	11 56 54.44	+01 46 52.1	16.5	2 675
1993 FQ2	1993 05 18.20677	11 56 54.76	+01 46 44.7		2 675
1993 FQ2	1993 05 20.18194	11 57 19.25	+01 33 50.7		2 675
1993 FQ2	1993 05 20.20556	11 57 19.71	+01 33 40.5		2 675
1993 GG	1988 02 18.46944	12 03 16.52	+28 50 37.9	16.6	3 675
1993 GG	1988 02 18.50000	12 03 15.46	+28 50 55.7		3 675
1993 GG	1988 03 20.29635	11 37 38.69	+32 17 59.6	16.6	3 675
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1993 GG	1993 05 23.26336	14 14 42.04	+06 08 44.3	15.7	3 675
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1993 GG	1993 05 24.25225	14 13 59.86	+06 02 45.9		3 675
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1993 GG	1993 06 14.24878	14 04 26.05	+03 15 27.2		3 675
1993 GG	1993 06 17.19601	14 03 58.46	+02 47 00.1		3 675
1993 GG	1993 06 17.23403	14 03 58.07	+02 46 37.1		3 675
1993 HE	1993 05 23.20121	13 52 17.26	+09 32 10.1	16.5	3 675
1993 HE	1993 05 24.19913	13 51 49.80	+09 23 38.4		3 675
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1993 HN1		1993 05	24.21875	13 14	21.25	+09 52	41.8		3	675
1993 HW1		1993 05	19.17951	13 52	59.09	+03 12	24.9	16.0	2	675
1993 HW1		1993 05	20.23663	13 52	14.69	+03 02	12.2		2	675
1993 HW1		1993 05	20.26059	13 52	13.66	+03 01	57.7		2	675
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1993 HY5		1993 04	19.37569	14 32	47.02	+17 52	14.4		3	675
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1993 HZ5	*	1993 04	19.43663	15 44	36.18	+09 20	45.7	17.5	3	675
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1993 KC		1993 05	18.30122	14 31	15.67	-10 39	05.8	16.5	2	675
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1993 KK	*	1993 05	17.37396	15 27	29.92	-13 23	22.1	17.0	2	675
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1993 KL	*	1993 05	19.22118	13 27	29.65	-05 21	31.5		2	675
1993 KL		1993 05	20.22430	13 26	34.43	-05 40	24.6		2	675
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1993 KM		1993 05	23.43020	17 14	59.60	+13 20	05.3	17	3	675
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1993 KM		1993 05	24.39322	17 14	32.40	+13 28	47.0		3	675
1993 KM		1993 05	24.42378	17 14	31.51	+13 29	02.5		3	675
1993 KN	*	1993 05	18.40851	16 04	03.85	-21 25	55.5	16.5	2	675
1993 KN		1993 05	18.43524	16 04	02.29	-21 25	35.9		2	675
1993 KN		1993 05	20.45747	16 02	04.63	-21 02	12.1		2	675
1993 KR		1993 05	17.45903	16 37	20.71	-11 53	46.8	16.5	2	675
1993 KR		1993 05	19.34531	16 35	28.02	-11 20	16.3		2	675
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1993 KT1		1993 05 19.37656	16 39 58.56	-08 19 22.6		2	675
1993 KT1	*	1993 05 23.37534	16 33 51.66	-09 20 55.0	16.3	3	675
1993 KT1		1993 05 23.40347	16 33 48.89	-09 21 22.5		3	675
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1993 KT1		1993 06 20.23315	15 50 51.21	-17 33 36.6		3	675
1993 KV1	*	1993 05 17.32656	14 47 13.10	-09 33 17.9	16.5	2	675
1993 KV1		1993 05 17.34965	14 47 10.86	-09 33 49.2		2	675
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1993 KW1		1993 05 23.41006	16 42 24.65	+03 30 53.9	17.8	3	675
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1993 KC2		1993 05 19.29757	15 21 53.21	-21 46 40.4		2	675
1993 KC2		1993 05 19.32361	15 21 51.61	-21 46 33.7		2	675
1993 KE2	*	1993 05 18.37049	16 12 30.29	-11 56 40.8	17.0	2	675
1993 KE2		1993 05 18.39462	16 12 28.74	-11 56 37.2		2	675
1993 KE2		1993 05 19.40833	16 11 28.97	-11 54 21.1		2	675
1993 LA	*	1993 06 14.32465	17 30 11.14	-09 34 39.5	16.5	3	675
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1993 LG		1993 06	19.45017	19 19	43.41	-11 51	13.6		3	675
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1993 LK1		1993 06	18.29514	17 23	53.51	-12 27	20.4		3	675
1993 LK1		1993 06	20.28090	17 22	18.59	-12 21	28.3	17.0	3	675
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1993 MM	*	1993 06 18.38889	20 00 50.45	-12 58 29.4	17.6	3	675
1993 MM		1993 06 20.41189	19 59 30.23	-12 49 24.0		3	675
1993 MN	*	1993 06 18.38889	20 08 54.27	-11 08 09.0	17.8	3	675
1993 MN		1993 06 20.41189	20 07 42.84	-10 59 22.7		3	675
1993 MO	*	1993 06 22.26181	17 12 03.60	+17 44 16.2	16.5	7	675
1993 MO		1993 06 22.32778	17 11 58.82	+17 40 40.1		7	675
1993 MO		1993 06 24.18403	17 10 01.02	+15 52 23.2		7	675
1993 MO		1993 06 24.19931	17 09 59.91	+15 51 32.8		7	675
1993 MO		1993 06 25.30764	17 08 49.44	+14 43 44.8	16.0	2	675
1993 MO		1993 06 25.33281	17 08 47.79	+14 42 10.1		2	675
1993 MO		1993 06 26.28073	17 07 50.44	+13 42 24.0		2	675
1993 MP	*	1993 06 17.39670	19 45 14.41	-23 28 07.9	17.8	3	675
1993 MP		1993 06 17.44757	19 45 12.25	-23 28 36.2		3	675

1993 MP		1993 06	20.39271	19 43	16.94	-23 53	54.8		3	675
1993 MQ	*	1993 06	18.38889	19 55	03.08	-15 37	32.8	17.0	3	675
1993 MQ		1993 06	20.41189	19 53	46.76	-15 24	20.4		3	675
1993 MU	*	1993 06	22.31736	17 04	25.13	+04 40	34.1	16.0	2	675
1993 MU		1993 06	22.34184	17 04	23.10	+04 40	00.3		2	675
1993 MU		1993 06	23.30729	17 03	09.46	+04 20	32.5		2	675
1993 MU		1993 06	23.33628	17 03	07.13	+04 19	56.3		2	675
1993 MV	*	1993 06	22.43993	19 53	44.16	-06 10	42.7	17.0	2	675
1993 MV		1993 06	22.47153	19 53	43.09	-06 10	23.9		2	675
1993 MV		1993 06	25.40556	19 51	57.23	-05 42	34.7		2	675
1993 MV		1993 06	25.42969	19 51	56.32	-05 42	23.3		2	675
1993 MW	*	1993 06	23.26823	16 25	39.54	-05 43	32.3	16.0	2	675
1993 MW		1993 06	23.29306	16 25	38.38	-05 43	44.8		2	675
1993 MW		1993 06	25.23976	16 24	15.62	-06 00	04.6		2	675
1993 MW		1993 06	25.26337	16 24	14.69	-06 00	18.3		2	675
1993 MA1		1993 06	16.20260	15 33	53.05	-22 42	08.0	17.0	3	675
1993 MA1		1993 06	16.24913	15 33	51.02	-22 42	11.4		3	675
1993 MA1	*	1993 06	18.20694	15 32	36.35	-22 44	47.2	17.0	3	675
1993 MA1		1993 06	18.24722	15 32	34.63	-22 44	50.5		3	675
1993 MB1	*	1993 06	17.29688	17 35	09.98	-04 57	14.8	17.0	3	675
1993 MB1		1993 06	17.34444	17 35	07.28	-04 57	30.0		3	675
1993 MB1		1993 06	19.34670	17 33	18.92	-05 08	41.7		3	675
1993 MB1		1993 06	19.38663	17 33	16.56	-05 08	55.6		3	675
1993 MB1		1993 06	21.33420	17 31	32.35	-05 20	39.9	15.5	2	675
1993 MB1		1993 06	21.36042	17 31	30.74	-05 20	48.3		2	675
1993 MB1		1993 06	23.31389	17 29	48.17	-05 33	25.7		2	675
1993 MB1		1993 06	23.34306	17 29	46.34	-05 33	36.5		2	675
1993 MC1	*	1993 06	18.27708	16 50	29.68	-15 26	57.1	18.0	3	675
1993 MC1		1993 06	20.20747	16 48	34.25	-15 26	40.3		3	675
1993 MC1		1993 06	20.24861	16 48	31.78	-15 26	40.2		3	675
1993 MD1	*	1993 06	17.28038	16 35	10.67	-18 23	04.7	17.2	3	675
1993 MD1		1993 06	17.32830	16 35	07.54	-18 23	14.9		3	675
1993 MD1		1993 06	20.20747	16 32	14.51	-18 34	26.7		3	675
1993 MD1		1993 06	20.24861	16 32	12.01	-18 34	36.6		3	675
1993 ME1	*	1993 06	23.26823	16 20	32.84	-03 32	41.2	16.5	2	675
1993 ME1		1993 06	23.29306	16 20	34.05	-03 31	33.5		2	675
1993 ME1		1993 06	25.23976	16 22	31.89	-02 02	54.3		2	675
1993 ME1		1993 06	25.26337	16 22	32.90	-02 01	51.2		2	675
1993 MG1	*	1993 06	23.44444	20 34	56.16	-13 09	31.8	16.0	2	675
1993 MG1		1993 06	23.46615	20 34	55.82	-13 09	06.1		2	675
1993 MG1		1993 06	26.41910	20 34	21.58	-12 07	31.0		2	675
1993 MG1		1993 06	26.46163	20 34	20.74	-12 06	37.8		2	675
1993 MH1	*	1993 06	22.33611	18 34	29.11	-07 58	25.5	15.5	2	675
1993 MH1		1993 06	22.36128	18 34	27.97	-07 58	28.2		2	675
1993 MH1		1993 06	26.33993	18 31	20.27	-08 12	40.4		2	675
1993 MH1		1993 06	26.37031	18 31	18.70	-08 12	46.5		2	675
1993 MJ1	*	1993 06	22.19566	15 17	20.33	-24 05	03.6	17.0	2	675
1993 MJ1		1993 06	22.22083	15 17	19.50	-24 04	57.1		2	675
1993 MJ1		1993 06	24.22170	15 16	21.73	-23 59	47.9		2	675
1993 MJ1		1993 06	24.25017	15 16	20.84	-23 59	42.6		2	675
1993 MK1	*	1993 06	21.35365	18 36	05.66	-27 30	29.5	16.5	2	675
1993 MK1		1993 06	21.37951	18 36	03.95	-27 30	38.0		2	675
1993 MK1		1993 06	22.38559	18 35	01.02	-27 36	16.9		2	675
1993 MK1		1993 06	22.40972	18 34	59.38	-27 36	20.8		2	675
1993 ML1	*	1993 06	21.35365	18 43	56.29	-30 39	44.6	17.0	2	675
1993 ML1		1993 06	21.37951	18 43	54.87	-30 40	01.6		2	675
1993 ML1		1993 06	22.38559	18 43	03.43	-30 51	18.3		2	675
1993 ML1		1993 06	22.40972	18 43	02.10	-30 51	32.6		2	675
1993 MM1	*	1993 06	23.38194	19 36	30.43	-11 39	19.9	16.5	2	675

1993 MM1	1993 06	23.41285	19 36	28.11	-11 38	41.7		2	675
1993 MM1	1993 06	26.38958	19 32	57.01	-10 38	53.0		2	675
1993 MM1	1993 06	26.40729	19 32	55.52	-10 38	32.0		2	675
2099 P-L	1993 05	19.22118	13 26	55.22	-05 26	26.5		2	675
4127 P-L	1988 09	12.34566	23 46	21.26	-01 02	11.7		9	675
4127 P-L	1988 09	12.38733	23 46	19.50	-01 02	24.0		9	675
4127 P-L	1988 09	15.39097	23 44	08.98	-01 16	38.3	19.0	9	675
4127 P-L	1988 09	15.42500	23 44	07.56	-01 16	49.4	18.5	9	675
4582 P-L	1993 05	17.38021	15 22	10.68	-21 28	53.9	16.0	2	675
4582 P-L	1993 05	17.40608	15 22	09.27	-21 28	49.7		2	675
4582 P-L	1993 05	19.32361	15 20	32.77	-21 24	39.4		2	675
9508 P-L	1988 09	16.28872	22 56	18.94	-10 05	41.8	18.8	9	675
9508 P-L	1988 09	16.32257	22 56	17.54	-10 05	48.5		9	675
9511 P-L	1988 09	12.34566	23 49	04.59	-01 30	03.4		9	675
9511 P-L	1988 09	12.38733	23 49	02.84	-01 30	16.7		9	675
9511 P-L	1988 09	15.39097	23 46	51.55	-01 45	13.2	18.2	9	675
9511 P-L	1988 09	15.42500	23 46	50.06	-01 45	23.5		9	675
9511 P-L	1988 09	16.35597	23 46	09.09	-01 50	01.7		9	675
9511 P-L	1988 09	16.38872	23 46	07.63	-01 50	12.1		9	675
2040 T-2	1988 09	10.32687	23 50	11.84	+01 48	19.2	19.0	9	675
2040 T-2	1988 09	10.36298	23 50	10.35	+01 48	03.7		9	675
2040 T-2	1988 09	15.39097	23 46	36.87	+01 13	14.5	19.5	9	675
2040 T-2	1988 09	16.39757	23 45	53.42	+01 06	09.6	19.5	9	675
2040 T-2	1988 09	16.43194	23 45	51.87	+01 05	55.4		9	675
2168 T-2	1988 09	12.34566	23 44	21.30	-00 29	36.0		9	675
2168 T-2	1988 09	12.38733	23 44	19.38	-00 29	49.7		9	675
2168 T-2	1988 09	15.39097	23 42	03.71	-00 46	20.7	18.8	9	675
2168 T-2	1988 09	15.42500	23 42	02.27	-00 46	30.9		9	675
2168 T-2	1988 09	16.35597	23 41	19.95	-00 51	43.3		9	675
2168 T-2	1988 09	16.38872	23 41	18.39	-00 51	53.9		9	675
2224 T-2	1988 09	10.31667	23 22	56.54	-07 20	19.4	17.8	9	675
2224 T-2	1988 09	10.35330	23 22	54.71	-07 20	28.8		9	675
2224 T-2	1988 09	12.33993	23 21	20.22	-07 29	16.0	18.0	9	675
2224 T-2	1988 09	12.38177	23 21	18.14	-07 29	28.2		9	675
2224 T-2	1988 10	07.25938	23 04	04.18	-08 52	21.9	18.5	9	675
2224 T-2	1988 10	07.28715	23 04	03.34	-08 52	24.6		9	675
2224 T-2	1988 10	09.23435	23 03	06.09	-08 55	47.9		9	675
2224 T-2	1988 10	09.26317	23 03	05.22	-08 55	51.1		9	675
2908 T-2	1988 09	11.28420	23 03	16.38	-01 11	31.8		9	675
2908 T-2	1988 09	11.31940	23 03	14.61	-01 11	47.8		9	675
4224 T-2	1973 09	20.30278	00 44	08.72	-01 09	05.4		4	675
4224 T-2	1973 09	24.38750	00 41	02.62	-01 43	33.7		4	675
4224 T-2	1973 09	24.45434	00 40	59.44	-01 44	05.9		4	675
4224 T-2	1973 09	25.28125	00 40	20.77	-01 51	01.2		4	675
4224 T-2	1973 09	25.34601	00 40	17.50	-01 51	34.8		4	675
4224 T-2	* 1973 09	29.29219	00 37	06.81	-02 24	03.0	19.8	4	675
4224 T-2	1973 09	29.35694	00 37	03.31	-02 24	35.8		4	675
4224 T-2	1973 09	30.24826	00 36	20.06	-02 31	42.9		4	675
4224 T-2	1973 09	30.31476	00 36	16.83	-02 32	13.0		4	675
4224 T-2	1973 10	04.32708	00 33	00.99	-03 03	07.9		4	675
4224 T-2	1973 10	04.38889	00 32	57.85	-03 03	36.0		4	675
4224 T-2	1973 10	05.35382	00 32	11.53	-03 10	38.5		4	675
4224 T-2	1973 10	05.41597	00 32	08.25	-03 11	05.3		4	675
4314 T-2	1988 09	13.34149	23 09	15.04	-12 10	28.1	17.8	9	675
4314 T-2	1988 09	13.37535	23 09	13.10	-12 10	39.8		9	675
4314 T-2	1988 09	16.28872	23 06	36.21	-12 27	46.0	18.2	9	675
4314 T-2	1988 09	16.32257	23 06	34.38	-12 27	57.3		9	675
1128 T-3	1988 09	12.34566	23 46	21.95	+00 36	46.8		9	675
1128 T-3	1988 09	12.38733	23 46	19.61	+00 36	45.0		9	675

1128 T-3	1988 09 15.39097	23 43 38.16	+00 35 20.0	18.0	9 675
1128 T-3	1988 09 15.42500	23 43 36.17	+00 35 16.8		9 675
1128 T-3	1988 09 16.39757	23 42 43.71	+00 34 48.9	17.5	9 675
1128 T-3	1988 09 16.43194	23 42 41.84	+00 34 47.8		9 675
2035 T-3	1988 09 11.33697	23 19 01.18	-02 32 36.1		9 675
2035 T-3	1988 09 11.37100	23 18 59.89	-02 32 40.8		9 675
2035 T-3	1988 09 16.34097	23 16 18.83	-02 44 48.0	18.5	9 675
2035 T-3	1988 09 16.35597	23 16 18.47	-02 44 50.4		9 675
2035 T-3	1988 09 16.38872	23 16 17.35	-02 44 54.9		9 675
2035 T-3	1988 10 07.25938	23 06 14.85	-03 30 53.3	19.2	9 675
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2035 T-3	1988 10 09.23435	23 05 28.86	-03 34 23.3		9 675
2035 T-3	1988 10 09.26317	23 05 28.20	-03 34 27.7		9 675
3104 T-3	1988 09 10.32687	23 41 05.48	+06 35 11.5		9 675
3104 T-3	1988 09 10.36298	23 41 04.55	+06 35 01.7	18.0	9 675
3104 T-3	1988 09 16.39757	23 38 22.44	+06 06 25.3	18.0	9 675
3104 T-3	1988 09 16.43194	23 38 21.42	+06 06 15.8		9 675
3105 T-3	1988 09 15.39097	00 04 21.15	-00 08 19.8	17.2	9 675
3105 T-3	1988 09 15.42500	00 04 19.51	-00 08 34.6		9 675
3108 T-3	1988 09 10.31667	23 25 12.55	-05 26 34.8	19.0	9 675
3108 T-3	1988 09 10.35330	23 25 11.50	-05 26 39.3		9 675
3108 T-3	1988 09 12.33993	23 24 12.67	-05 32 36.9	19.2	9 675
3108 T-3	1988 09 12.38177	23 24 11.31	-05 32 44.1		9 675
4179 T-3	1988 09 14.32604	23 56 47.19	-07 12 30.0	19.5	9 675
4179 T-3	1988 09 14.36024	23 56 46.28	-07 12 36.0		9 675
5191 T-3	1988 09 13.37535	23 03 17.25	-12 57 02.7		9 675
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(37)	1988 10 11.16319	22 38 34.89	-09 53 15.8		9 675
(37)	1988 10 11.19861	22 38 33.99	-09 53 17.2		9 675
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(200)	1988 09 11.31940	23 26 23.15	+01 57 31.7		9 675
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16.5

(929)	1988 09 11.28420	23 05 47.95	+01 05 48.3	9	675
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(940)	1988 09 13.37535	23 07 11.45	-16 08 19.5	9	675
(940)	1988 09 14.28490	23 06 32.34	-16 11 21.5	9	675
(940)	1988 09 14.31771	23 06 30.87	-16 11 27.8	9	675
(940)	1988 09 16.28872	23 05 07.00	-16 17 31.9	9	675
(940)	1988 09 16.32257	23 05 05.51	-16 17 38.1	9	675
(950)	1988 09 10.32687	23 43 04.34	+03 59 46.9	9	675
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(954)	1988 09 11.36233	00 14 02.69	+01 02 57.7	9	675
(954)	1988 09 11.39635	00 14 01.24	+01 02 46.9	9	675
(954)	1988 09 12.34566	00 13 22.04	+00 58 01.7	9	675
(954)	1988 09 12.38733	00 13 20.26	+00 57 51.3	9	675
(954)	1988 09 15.39097	00 11 13.74	+00 42 44.9	9	675
(954)	1988 09 15.42500	00 11 12.22	+00 42 34.5	9	675
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(955)	1988 09 13.39340	00 10 09.04	+03 13 04.3	9	675
(955)	1988 09 13.41736	00 10 07.39	+03 13 02.7	9	675
(955)	1988 09 14.33507	00 09 07.70	+03 12 09.8	9	675
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(1013)	1988 09 15.40938	23 42 56.73	-13 29 55.7	9	675
(1013)	1988 09 15.41732	23 42 56.39	-13 29 57.2	9	675
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(1079)	1988 10 11.19861	22 25 40.81	-09 16 40.7	9	675
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(1091)	1988 09 11.37100	23 34 40.67	-04 30 55.2	9	675
(1091)	1988 09 16.35597	23 31 17.09	-04 52 42.6	9	675
(1091)	1988 09 16.38872	23 31 15.72	-04 52 51.8	9	675
(1091)	1988 10 07.25938	23 18 11.77	-06 12 42.6	9	675
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(1124)	1988 09 14.32604	00 09 13.76	-04 37 08.0	9	675
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(1233)	1988 09 14.36910	23 49 17.20	+07 57 13.5	9	675
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(1295)	1988 09 11.37100	23 45 35.31	-00 42 15.6	9	675
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(1376)	1988 10 07.25938	23 12 43.88	-07 26 43.2	9	675
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(1380)	1988 09 15.39097	23 47 01.01	-03 04 27.1	9	675
(1380)	1988 09 15.42500	23 46 59.27	-03 04 34.1	9	675
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(1412)	1988 09 10.31667	23 25 10.93	-13 02 07.4	15.5	9 675
(1412)	1988 09 10.35330	23 25 08.65	-13 02 20.3	9	675
(1412)	1988 09 12.33993	23 23 08.02	-13 13 44.8	9	675
(1412)	1988 09 12.38177	23 23 05.36	-13 13 59.6	9	675
(1412)	1988 09 13.34149	23 22 06.98	-13 19 19.9	9	675
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(1412)	1988 09 16.28872	23 19 08.05	-13 34 49.1	9	675
(1412)	1988 09 16.32257	23 19 05.90	-13 34 59.2	9	675
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(1419)	1988 09 14.33507	00 08 56.97	+07 23 08.0	15.2	9 675
(1419)	1988 09 14.36910	00 08 55.20	+07 22 53.5	9	675
(1451)	1988 09 11.33697	23 26 44.81	-02 41 04.9	9	675
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(1451)	1988 09 16.35597	23 22 05.13	-03 24 47.6	9	675
(1451)	1988 09 16.38872	23 22 03.24	-03 25 04.9	9	675
(1451)	1988 10 07.25938	23 05 53.63	-06 02 35.6	9	675
(1451)	1988 10 07.28715	23 05 52.66	-06 02 46.4	9	675
(1451)	1988 10 09.23435	23 04 49.99	-06 14 00.6	17.5	9 675
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(1578)	1988 10 11.16319	22 47 23.97	-08 49 21.2	9 675
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(1731)	1988 09 10.35330	23 28 13.64	-06 12 43.4	9 675
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(1731)	1988 09 12.33993	23 26 51.65	-06 25 46.9	9 675
(1731)	1988 09 12.38177	23 26 49.83	-06 26 03.3	9 675
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(1742)	1988 09 12.38733	00 09 27.37	-00 47 59.1	9 675
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(1871)	1988 09 13.34149	22 59 11.01	-10 04 22.7	18.8	9 675
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(1968)	1988 09 13.37535	22 55 11.02	-14 35 48.9	9	675
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(3684)	1988 09 15.38320	23 46 30.90	-13 08 23.2		9 675
(3684)	1988 09 15.41732	23 46 29.04	-13 08 35.7		9 675
(3910)	1988 09 11.33697	23 39 30.13	-05 22 44.0		9 675
(3910)	1988 09 11.37100	23 39 28.18	-05 22 49.1		9 675
(3910)	1988 09 16.35597	23 34 53.02	-05 34 26.1		9 675
(3910)	1988 09 16.38872	23 34 51.20	-05 34 30.8		9 675
(3910)	1988 10 07.25938	23 17 44.66	-06 05 44.3	16.5	9 675
(3910)	1988 10 07.28715	23 17 43.52	-06 05 46.4		9 675
(3910)	1988 10 09.23435	23 16 28.84	-06 06 31.4	16.5	9 675
(3910)	1988 10 09.26317	23 16 27.71	-06 06 32.8		9 675
(3912)	1988 09 11.33697	23 42 06.11	-04 30 38.6		9 675
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(3912)	1988 09 16.35597	23 37 22.74	-04 56 00.5		9 675
(3912)	1988 09 16.38872	23 37 20.82	-04 56 11.0		9 675
(3912)	1988 10 07.25938	23 19 26.89	-06 22 10.8		9 675
(3912)	1988 10 07.28715	23 19 25.66	-06 22 16.4		9 675
(3912)	1988 10 09.23435	23 18 07.66	-06 27 28.8		9 675
(3912)	1988 10 09.26317	23 18 06.47	-06 27 33.1		9 675
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(3917)	1988 09 11.37100	23 36 10.94	-05 08 01.6		9 675
(3917)	1988 09 12.33993	23 35 19.05	-05 14 45.3	17.2	9 675
(3917)	1988 09 12.38177	23 35 16.78	-05 15 00.9		9 675
(3917)	1988 09 16.35597	23 31 42.79	-05 42 09.5		9 675
(3917)	1988 09 16.38872	23 31 40.98	-05 42 22.1		9 675
(3917)	1988 10 07.25938	23 15 06.23	-07 40 37.5		9 675
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(3917)	1988 10 09.23435	23 13 55.90	-07 48 26.3		9 675
(3917)	1988 10 09.26317	23 13 54.82	-07 48 31.7		9 675
(3918)	1988 09 11.33697	23 41 11.92	-05 19 10.6		9 675
(3918)	1988 09 11.37100	23 41 10.55	-05 19 37.6		9 675
(3918)	1988 09 16.35597	23 38 05.33	-06 23 26.4		9 675
(3918)	1988 09 16.38872	23 38 04.01	-06 23 51.6		9 675
(3925)	1988 10 11.16319	22 43 31.90	-11 41 04.9		9 675
(3925)	1988 10 11.19861	22 43 31.48	-11 41 19.3		9 675
(3933)	1988 09 11.33697	23 38 51.91	-04 28 43.6		9 675
(3933)	1988 09 11.37100	23 38 50.38	-04 28 52.8		9 675
(3933)	1988 09 16.35597	23 35 11.47	-04 50 43.7		9 675
(3933)	1988 09 16.38872	23 35 10.05	-04 50 52.0		9 675
(3933)	1988 10 07.25938	23 21 18.13	-06 08 10.8		9 675
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(3933)	1988 10 09.23435	23 20 14.81	-06 13 31.7		9 675
(3933)	1988 10 09.26317	23 20 13.91	-06 13 36.3		9 675

(3937)	1988 09 13.34149	22 56 07.30	-10 13 06.2	16.8	9 675
(3937)	1988 09 13.37535	22 56 05.60	-10 13 10.4		9 675
(3937)	1988 09 16.28872	22 53 46.45	-10 19 14.1		9 675
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(3942)	1988 09 15.39097	00 04 26.27	-03 16 48.2		9 675
(3942)	1988 09 15.42500	00 04 24.21	-03 16 54.6		9 675
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(3949)	1988 09 11.31940	23 05 38.96	+01 26 45.5		9 675
(3949)	1988 09 16.34097	23 00 54.09	+00 53 03.8		9 675
(3949)	1988 09 16.37413	23 00 52.10	+00 52 50.6		9 675
(4032)	1988 09 11.33697	23 35 42.06	-02 55 56.4	16.8	9 675
(4032)	1988 09 11.37100	23 35 40.20	-02 56 11.6		9 675
(4032)	1988 09 16.35597	23 31 24.84	-03 34 02.2		9 675
(4032)	1988 09 16.38872	23 31 23.12	-03 34 14.6		9 675
(4032)	1988 10 07.25938	23 16 15.44	-05 50 04.3	17.0	9 675
(4032)	1988 10 07.28715	23 16 14.53	-05 50 12.8		9 675
(4032)	1988 10 09.23435	23 15 20.42	-05 58 59.3		9 675
(4032)	1988 10 09.26317	23 15 19.53	-05 59 07.2		9 675
(4054)	1988 09 13.34149	22 59 58.58	-10 17 37.0	16.8	9 675
(4054)	1988 09 13.37535	22 59 56.88	-10 17 42.1		9 675
(4054)	1988 09 16.28872	22 57 36.34	-10 25 51.8		9 675
(4054)	1988 09 16.32257	22 57 34.65	-10 25 57.3		9 675
(4054)	1988 10 11.16319	22 42 25.56	-10 55 58.7	17.8	9 675
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(4183)	1988 09 16.39757	23 39 54.33	+07 11 39.2	19.2	9 675
(4183)	1988 09 16.43194	23 39 52.18	+07 11 27.7		9 675
(4227)	1988 09 13.34149	22 59 10.54	-08 56 57.0	17.8	9 675
(4227)	1988 09 13.37535	22 59 08.61	-08 57 10.1		9 675
(4227)	1988 09 16.28872	22 56 35.89	-09 14 33.3		9 675
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(4233)	1988 09 11.37100	23 33 40.18	-00 55 22.5		9 675
(4233)	1988 09 16.35597	23 29 32.02	-01 36 14.9		9 675
(4233)	1988 09 16.38872	23 29 30.34	-01 36 31.5		9 675
(4233)	1988 10 07.25938	23 15 21.62	-04 07 12.1	17.0	9 675
(4233)	1988 10 07.28715	23 15 20.79	-04 07 22.8		9 675
(4233)	1988 10 09.23435	23 14 30.15	-04 18 01.8		9 675
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(4235)	1988 09 12.34566	00 04 50.66	+01 22 48.9		9 675
(4235)	1988 09 12.38733	00 04 48.78	+01 22 39.0		9 675
(4235)	1988 09 15.39097	00 02 33.96	+01 09 19.3		9 675
(4235)	1988 09 15.42500	00 02 32.28	+01 09 09.8		9 675
(4236)	1988 09 11.33697	23 39 07.99	-01 35 56.2	17.0	9 675
(4236)	1988 09 11.37100	23 39 06.48	-01 36 02.1		9 675
(4236)	1988 09 16.35597	23 35 31.58	-01 50 43.0		9 675
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(4243)	1988 09 16.38872	23 16 55.04	-03 16 13.3		9	675
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(4245)	1988 10 11.16319	22 49 43.11	-07 31 22.9	17.0	9	675
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(4294)	1988 09 11.33697	23 23 49.72	-02 28 49.8	17.0	9	675
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(4294)	1988 09 16.34097	23 19 34.46	-02 46 42.1		9	675
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(4294)	1988 09 16.37413	23 19 32.76	-02 46 49.5		9	675
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(4294)	1988 10 07.25938	23 04 09.14	-03 51 34.7	17.5	9	675
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(4325)	1988 09 12.38177	23 22 47.07	-13 00 40.5		9	675
(4325)	1988 09 13.34149	23 21 58.81	-13 04 56.6	17.2	9	675
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(4348)	1988 09 11.31940	23 19 25.22	+03 53 20.6		9	675
(4348)	1988 09 16.34097	23 17 00.32	+03 33 59.9		9	675
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(4356)	1988 09 13.34149	23 16 01.91	-08 03 33.3		9	675
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(4356)	1988 09 16.28872	23 13 22.70	-08 10 18.0		9	675
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(4364)	1988 09 15.39097	00 13 36.27	-00 26 47.7		9	675

(4364)	1988 09 15.42500	00 13 34.39	-00 27 00.8		9	675
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(4380)	1988 09 12.34566	23 50 51.48	+01 38 50.1		9	675
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(4491)	1988 09 16.39757	23 30 19.23	+01 40 36.1	16.8	9	675
(4491)	1988 09 16.43194	23 30 17.06	+01 40 26.5		9	675
(4492)	1988 09 11.36233	00 26 13.18	+05 20 05.2		9	675
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(4515)	1988 09 11.36233	00 10 44.77	+02 22 00.8		9	675
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(4515)	1988 09 12.34566	00 09 54.52	+02 17 45.7		9	675
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(4515)	1988 09 15.42500	00 07 12.68	+02 04 01.9		9	675
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(4524)	1988 09 11.33697	23 17 00.07	-02 19 10.0	16.0	9	675
(4524)	1988 09 11.37100	23 16 58.32	-02 19 32.9		9	675
(4524)	1988 10 07.25938	23 01 25.32	-06 26 59.4	16.5	9	675
(4524)	1988 10 07.28715	23 01 24.75	-06 27 11.7		9	675
(4524)	1988 10 09.23435	23 00 51.09	-06 40 46.9		9	675
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(4533)	1988 09 12.34566	23 56 32.30	+01 48 42.2		9	675
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(4533)	1988 09 15.39097	23 54 06.84	+01 03 01.1		9	675
(4533)	1988 09 15.42500	23 54 05.09	+01 02 30.3		9	675
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(4575)	1988 09 14.36024	23 57 09.77	-07 53 10.6		9	675
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(4586)	1988 09 14.33507	00 07 42.05	+04 21 04.2	17.8	9	675
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(4708)	1988 09 16.34097	23 06 32.02	+03 04 32.5		9	675
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(4794)	1988 09 12.34566	00 06 30.14	+00 15 09.1		9	675
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(5265)	1988	09	11.36233	00	21	30.20	+01	46	03.1		9	675
(5265)	1988	09	11.39635	00	21	28.85	+01	45	51.9		9	675
(5281)	1988	09	15.36736	23	29	33.22	-17	17	29.2		9	675
(5281)	1988	09	15.40938	23	29	31.32	-17	17	46.6		9	675
(5295)	1988	09	10.31667	23	43	48.71	-11	24	52.0	17.5	9	675
(5295)	1988	09	10.35330	23	43	47.24	-11	25	01.4		9	675
(5295)	1988	09	12.38177	23	42	19.51	-11	34	46.3	17.2	9	675
(5295)	1988	09	15.38320	23	40	08.75	-11	48	43.1		9	675
(5295)	1988	09	15.41732	23	40	07.21	-11	48	52.2		9	675
(5387)	1988	09	11.28420	23	10	38.09	-02	21	47.0		9	675
(5387)	1988	09	11.31940	23	10	36.14	-02	21	59.5	16.5	9	675
(5389)	1988	09	15.36736	23	32	59.37	-17	33	07.5	16.2	9	675
(5389)	1988	09	15.40938	23	32	56.76	-17	33	10.9		9	675
(5396)	1988	09	11.28420	23	10	33.04	+00	09	08.3		9	675
(5396)	1988	09	11.31940	23	10	31.16	+00	08	52.6		9	675
(5396)	1988	09	16.34097	23	06	10.66	-00	30	39.9	17.0	9	675
(5396)	1988	09	16.37413	23	06	08.91	-00	30	55.7		9	675
(5450)	1988	09	13.34149	23	01	04.82	-09	14	02.1	16.8	9	675
(5450)	1988	09	13.37535	23	01	03.20	-09	14	14.3		9	675
(5450)	1988	09	16.28872	22	58	50.42	-09	31	55.5	17.0	9	675
(5450)	1988	09	16.32257	22	58	48.88	-09	32	08.3		9	675
(5451)	1988	10	11.16319	22	36	22.97	-09	43	58.2	18.2	9	675
(5451)	1988	10	11.19861	22	36	22.31	-09	44	00.5		9	675
(5455)	1988	09	12.34566	23	57	58.41	-01	18	05.5		9	675
(5455)	1988	09	12.38733	23	57	55.96	-01	18	14.3		9	675
(5455)	1988	09	15.39097	23	55	04.03	-01	28	29.6		9	675

(5455)	1988 09 15.42500	23 55 01.96	-01 28 36.8		9	675
(5460)	1988 09 11.28420	23 23 00.28	-01 11 43.6		9	675
(5460)	1988 09 11.31940	23 22 58.21	-01 11 59.0		9	675
(5460)	1988 09 16.34097	23 18 11.03	-01 50 49.1	17.8	9	675
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(5460)	1988 10 09.23435	22 59 32.77	-04 34 21.1		9	675
(5460)	1988 10 09.26317	22 59 31.67	-04 34 32.3		9	675
(5472)	1988 09 12.34566	23 52 29.41	-02 16 26.3		9	675
(5472)	1988 09 12.38733	23 52 27.04	-02 16 38.7		9	675
(5472)	1988 09 14.32604	23 50 40.32	-02 26 10.8	16.8	9	675
(5472)	1988 09 14.36024	23 50 38.32	-02 26 20.9		9	675
(5472)	1988 09 15.39097	23 49 40.69	-02 31 26.3	16.8	9	675
(5472)	1988 09 15.42500	23 49 38.64	-02 31 36.6		9	675
(5472)	1988 09 16.35597	23 48 46.46	-02 36 13.8		9	675
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(5543)	1988 09 11.36233	00 19 24.26	+00 13 52.9		9	675
(5543)	1988 09 11.39635	00 19 22.56	+00 13 37.2		9	675
(5543)	1988 09 15.39097	00 15 59.86	-00 14 20.7	18.2	9	675
(5543)	1988 09 15.42500	00 15 57.95	-00 14 35.5		9	675
(5551)	1993 06 21.24097	15 35 03.28	+12 02 59.6	16.0	2	675
(5551)	1993 06 21.26858	15 35 02.37	+12 02 34.4		2	675
(5551)	1993 06 24.27222	15 33 42.97	+11 14 05.0		2	675
(5551)	1993 06 24.30313	15 33 42.23	+11 13 35.4		2	675
(5560)	1993 03 19.44878	13 04 25.63	+03 26 34.9	15.5	2	675
(5560)	1993 03 19.47378	13 04 24.31	+03 26 44.5		2	675
(5560)	1993 03 21.47604	13 02 43.99	+03 38 07.7		2	675
(5560)	1993 03 21.51111	13 02 42.05	+03 38 18.6		2	675
(5580)	1988 09 12.34566	00 12 14.82	-03 16 14.5		9	675
(5580)	1988 09 12.38733	00 12 12.29	-03 16 23.9		9	675
(5580)	1988 09 14.32604	00 10 20.93	-03 21 25.0	16.8	9	675
(5580)	1988 09 14.36024	00 10 18.83	-03 21 29.7		9	675
(5580)	1988 09 15.39097	00 09 17.81	-03 24 09.2	16.5	9	675
(5580)	1988 09 15.42500	00 09 15.74	-03 24 15.3		9	675
(5581)	1993 05 19.22118	13 27 40.86	-05 17 42.7		2	675
(5598)	1993 04 18.15538	11 27 46.94	-05 56 17.4	16.8	3	675
(5598)	1993 04 18.18507	11 27 46.24	-05 56 08.8		3	675

689 U.S. Naval Observatory, Flagstaff Station

D. K. Yeomans, Jet Propulsion Laboratory, 4800 Oak Grove Drive,  
Pasadena, CA 91109

Observers C. Dahn, H. Harris, S. Leggett, A. Monet, D. Monet,  
J. Pier, R. Stone, R. Walker, F. Vrba

0.2-m transit + CCD

(243)	1993 05 09.165464	11 39 26.865	+01 01 57.44	14.8 V	689
(243)	1993 05 11.159965	11 39 23.546	+01 02 34.04	14.5 V	689
(243)	1993 05 15.149146	11 39 32.491	+01 02 08.76	15.0 V	689
(243)	1993 05 16.146478	11 39 37.934	+01 01 42.20	15.8 V	689

691 Kitt Peak, Steward Observatory

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

Observers T. Gehrels, D. L. Rabinowitz, J. V. Scotti, W. Wisniewski  
0.91-m SPACEWATCH telescope, 2.3-m reflector + CCD

GSC

1932 CP	1993 04 25.23362	13 40 46.36	-13 06 20.9	16.3 V	691
1932 CP	1993 04 25.26621	13 40 44.06	-13 06 15.9		691
1932 CP	1993 04 25.29883	13 40 41.91	-13 06 15.5		691
1952 QW	1993 05 20.23189	15 06 01.58	-08 58 40.1	17.7 V	691
1952 QW	1993 05 20.26392	15 05 59.74	-08 58 35.0		691



1968 OA1	1993 06	16.37634	22 00	31.14	-02 45	10.4		691
1968 OA1	1993 06	16.40815	22 00	32.11	-02 44	58.2	19.2 V	691
1968 OA1	1993 06	16.43980	22 00	33.02	-02 44	45.8		691
1979 YN	1993 06	22.40858	20 53	37.81	-17 08	23.3	18.0 V	691
1979 YN	1993 06	22.43100	20 53	37.33	-17 08	28.7		691
1979 YN	1993 06	22.45348	20 53	36.80	-17 08	33.6		691
1981 EV19	1993 05	24.20672	14 18	21.25	-10 17	40.6		691
1981 EV19	1993 05	24.23885	14 18	20.15	-10 17	34.2	19.8 V	691
1981 EV19	1993 05	24.27155	14 18	18.99	-10 17	28.1		691
1981 EQ31	1993 05	20.19512	14 59	00.40	-08 58	35.2	19.9 V	691
1981 EQ31	1993 05	20.22701	14 58	59.03	-08 58	29.5		691
1981 EQ31	1993 05	20.25905	14 58	57.70	-08 58	23.5		691
1981 EG36	1993 05	21.22522	15 00	38.16	-10 25	22.0	17.9 V	691
1981 EG36	1993 05	21.23303	15 00	37.81	-10 25	20.3		691
1981 EG36	1993 05	21.24111	15 00	37.47	-10 25	19.1		691
1984 SH	1993 05	24.22616	14 46	25.77	-10 44	23.6	15.6 V	691
1984 SH	1993 05	24.25829	14 46	23.97	-10 44	19.8		691
1984 SH	1993 05	24.29098	14 46	22.12	-10 44	16.0		691
1988 BB4	1993 05	29.43259	22 58	32.86	-01 06	53.3	19.0 V	691
1988 BB4	1993 05	29.44017	22 58	33.23	-01 06	50.1		691
1988 BB4	1993 05	29.44813	22 58	33.67	-01 06	44.9		691
1988 CP1	1993 01	23.34558	08 17	46.17	+18 37	14.0	17.2 V	691
1988 CP1	1993 01	23.37389	08 17	44.64	+18 37	21.3		691
1988 CP1	1993 01	23.40197	08 17	43.03	+18 37	27.9		691
1988 QW	1993 01	26.16090	08 09	49.14	+20 21	57.2		691
1988 QW	1993 01	26.18326	08 09	47.55	+20 22	00.3	16.3 V	691
1988 QW	1993 01	26.20542	08 09	45.95	+20 22	02.9		691
1989 BV1	1993 04	15.21292	12 03	28.16	-02 35	58.9	17.1 V	691
1989 BV1	1993 04	15.24347	12 03	26.92	-02 35	52.5		691
1989 BV1	1993 04	15.27044	12 03	25.82	-02 35	46.8		691
1989 UR3	1993 06	12.40614	21 48	04.87	-09 43	36.8	16.9 V	691
1989 UR3	1993 06	12.43130	21 48	06.06	-09 43	30.0		691
1989 UR3	1993 06	12.45477	21 48	07.17	-09 43	24.0		691
1990 MN	1993 06	23.19374	12 36	17.22	+07 19	43.3		691
1990 MN	1993 06	23.20345	12 36	17.56	+07 19	39.5	18.6 V	691
1990 MN	1993 06	23.21327	12 36	17.88	+07 19	35.4		691
1990 UY	1993 06	24.20800	12 56	55.24	+02 43	38.0		691
1990 UY	1993 06	24.22663	12 56	55.66	+02 43	33.9	17.9 V	691
1990 UY	1993 06	24.24889	12 56	56.15	+02 43	29.6		691
1990 UW3	1993 06	22.40158	20 43	31.36	-16 42	27.4		691
1990 UW3	1993 06	22.42400	20 43	30.67	-16 42	29.1	19.5 V	691
1990 UW3	1993 06	22.44647	20 43	30.05	-16 42	33.5		691
1990 WE2	1993 04	24.42779	15 27	53.59	-09 53	01.9	16.6 V	691
1990 WE2	1993 04	24.44793	15 27	52.78	-09 52	48.8		691
1991 AY1	1993 05	14.28520	15 20	44.99	-02 49	07.1		691
1991 AY1	1993 05	14.32942	15 20	42.89	-02 48	57.3	17.1 V	691
1991 VJ16	* 1991 11	09.09214	02 06	06.57	+19 00	45.3		691
1991 VJ16	1991 11	09.11339	02 06	05.32	+19 00	42.3	16.6 V	691
1991 VJ16	1991 11	09.14321	02 06	03.59	+19 00	37.8		691
1992 AT1	1993 05	24.15202	14 30	09.69	-05 53	14.4		691
1992 AT1	1993 05	24.15834	14 30	09.37	-05 53	13.7	17.7 V	691
1992 AT1	1993 05	24.16540	14 30	09.02	-05 53	12.9		691
1992 AT1	1993 05	24.17613	14 30	08.50	-05 53	11.8	17.5 V	691
1992 AT1	1993 05	24.18188	14 30	08.20	-05 53	11.3		691
1992 AT1	1993 05	24.18827	14 30	07.89	-05 53	10.8		691
1992 CQ	1992 02	24.32780	10 04	30.63	+18 22	39.5	17.1 V	691
1992 CQ	1992 02	24.34947	10 04	29.50	+18 22	51.9		691
1992 CQ	1992 02	24.37076	10 04	28.41	+18 23	04.0		691
1992 VQ	1992 11	20.33991	02 58	28.75	+14 15	22.0	17.0 V	691

1992 VQ	1992 11	20.35693	02 58	27.93	+14 15	19.1		691
1992 VQ	1992 11	20.37392	02 58	27.13	+14 15	16.0		691
1993 EA	1993 05	26.16543	11 08	04.31	+12 39	19.8	20.9 V	691
1993 EA	1993 05	26.17546	11 08	04.47	+12 39	16.5	20.6 V	691
1993 EA	1993 05	26.18525	11 08	04.64	+12 39	12.6	21.0 V	691
1993 EA	1993 06	17.17254	11 21	14.90	+10 00	31.1	20.6 V	691
1993 EA	1993 06	17.19383	11 21	15.96	+10 00	19.7	21.1 V	691
1993 EA	1993 06	17.19922	11 21	16.22	+10 00	17.2	21.0 V	691
1993 FS	1993 05	26.19972	14 27	48.66	+14 33	34.7	19.4 V	691
1993 FS	1993 05	26.20976	14 27	49.49	+14 33	26.3	20.4 V	691
1993 FS	1993 05	26.22045	14 27	50.25	+14 33	19.4	20.8 V	691
1993 FE1	1991 12	08.22821	04 22	05.26	+23 22	02.7	17.6 V	691
1993 FE1	1991 12	08.25041	04 22	03.71	+23 21	59.6		691
1993 FE1	1991 12	08.27276	04 22	02.01	+23 21	54.8		691
1993 HA	1993 04	25.33350	15 14	15.17	-01 40	37.2		691
1993 HA	1993 04	25.33961	15 14	14.56	-01 40	29.3	19.2 V	691
1993 HA	1993 04	25.34693	15 14	13.80	-01 40	19.7		691
1993 HA	1993 05	26.23010	14 30	47.88	+04 42	11.5	20.7 V	691
1993 HA	1993 05	26.26866	14 30	45.65	+04 42	16.3	20.9 V	691
1993 HA	1993 06	17.18677	14 24	53.24	+03 25	46.3	21.7 V	691
1993 HA	1993 06	17.20780	14 24	53.47	+03 25	36.3	21.4 V	691
1993 HA	1993 06	17.21277	14 24	53.52	+03 25	34.5	21.9 V	691
1993 HC	1993 05	27.29629	14 04	44.37	+02 55	00.9	22.0 V	691
1993 HC	1993 05	27.30645	14 04	44.98	+02 54	56.9	21.5 V	691
1993 HC	1993 05	27.31599	14 04	45.61	+02 54	53.2	21.8 V	691
1993 HV	1992 03	26.19105	11 31	09.37	+00 30	20.1	18.0 V	691
1993 HV	1992 03	26.21115	11 31	08.62	+00 30	27.9		691
1993 HV	1992 03	26.23205	11 31	07.87	+00 30	36.1		691
1993 HV	1993 05	14.28007	15 13	21.01	-02 59	30.3		691
1993 HV	1993 05	14.32430	15 13	19.10	-02 59	16.8	16.6 V	691
1993 HV	1993 05	14.36756	15 13	17.22	-02 59	04.9		691
1993 HV	1993 06	14.18298	14 55	16.63	-01 27	04.5	17.0 V	691
1993 HV	1993 06	14.21459	14 55	15.88	-01 27	03.5		691
1993 HV	1993 06	14.24660	14 55	15.10	-01 27	02.2		691
1993 HY	1991 12	28.31861	07 50	05.43	+22 23	07.3	18.7 V	691
1993 HY	1991 12	28.34244	07 50	04.17	+22 23	12.6		691
1993 HY	1991 12	28.36478	07 50	02.90	+22 23	17.7		691
1993 HZ	1992 02	09.24551	07 57	55.72	+19 29	18.3		691
1993 HZ	1992 02	09.27194	07 57	54.39	+19 29	21.2	17.1 V	691
1993 HZ	1992 02	09.29759	07 57	53.09	+19 29	24.1		691
1993 HA2	1993 05	25.24392	14 02	32.37	-13 54	06.4	20.5 V	691
1993 HA2	1993 05	25.28627	14 02	31.86	-13 54	04.6	20.5 V	691
1993 HA2	1993 05	25.32528	14 02	31.44	-13 54	03.6	20.6 V	691
1993 HA2	1993 05	30.22886	14 01	39.21	-13 51	44.4	20.3 V	691
1993 HA2	1993 05	30.24707	14 01	38.97	-13 51	44.3	20.8 V	691
1993 HA2	1993 05	30.26433	14 01	38.81	-13 51	43.5	20.0 V	691
1993 HA2	1993 06	17.18014	13 59	17.02	-13 47	00.3	19.7 V	691
1993 HA2	1993 06	17.21988	13 59	16.69	-13 46	59.7	20.5 V	691
1993 HA2	1993 06	17.24648	13 59	16.58	-13 46	59.3	20.5 V	691
1993 HA6	1993 03	26.36425	13 24	26.99	-02 51	24.3		691
1993 HA6	1993 03	26.38228	13 24	26.06	-02 51	22.0	17.0 V	691
1993 HA6	1993 03	26.40041	13 24	25.14	-02 51	19.6		691
1993 HA6	1993 04	14.25657	13 07	12.26	-02 10	54.3		691
1993 HA6	1993 04	14.28850	13 07	10.37	-02 10	51.1	16.6 V	691
1993 HA6	1993 04	14.32070	13 07	08.47	-02 10	48.1		691
1993 JA	1993 04	21.42082	14 53	52.06	-04 52	08.1	18.3 V	691
1993 JA	1993 04	21.43900	14 53	49.82	-04 52	31.9		691
1993 JA	1993 04	21.45706	14 53	47.56	-04 52	55.7		691
1993 JA	1993 05	30.18987	13 31	24.53	-20 42	42.3		691

1993 JA	1993 05	30.19918	13	31	23.65	-20	42	54.9		691
1993 JA	1993 05	30.20761	13	31	22.86	-20	43	06.0		691
1993 JF	1991 12	07.41541	07	24	03.74	+18	22	17.9		691
1993 JF	1991 12	07.43978	07	24	02.60	+18	22	17.0		691
1993 JF	1991 12	07.46695	07	24	01.39	+18	22	15.4	18.4 V	691
1993 JJ	1993 05	21.29849	14	59	29.36	-11	06	43.5	16.1 V	691
1993 JJ	1993 05	21.30631	14	59	28.90	-11	06	42.7		691
1993 JJ	1993 05	21.31453	14	59	28.39	-11	06	42.0		691
1993 JK	1993 05	21.36302	15	06	27.39	-12	09	04.0	16.0 V	691
1993 JK	1993 05	21.37058	15	06	27.00	-12	09	01.6		691
1993 JK	1993 05	21.37847	15	06	26.59	-12	08	58.5		691
1993 JK	1993 05	21.39103	15	06	25.92	-12	08	53.9	15.9 V	691
1993 JK	1993 05	21.39862	15	06	25.52	-12	08	50.9		691
1993 JK	1993 05	21.40692	15	06	25.09	-12	08	47.9		691
1993 JK	1993 05	21.41541	15	06	24.64	-12	08	44.2	16.1 V	691
1993 JK	1993 05	21.42231	15	06	24.28	-12	08	41.6		691
1993 KA	1993 05	22.37664	16	52	56.18	+26	12	26.7		691
1993 KA	1993 05	22.38545	16	53	07.21	+26	12	46.5		691
1993 KA	1993 05	22.39423	16	53	18.26	+26	13	10.8		691
1993 KA	1993 05	26.36420	17	53	13.19	+27	20	28.1	20.6 V	691
1993 KA	1993 05	26.38188	17	53	19.79	+27	20	28.4	19.6 V	691
1993 KA	1993 05	26.38525	17	53	21.08	+27	20	28.1	19.7 V	691
1993 KA	1993 05	29.37195	18	12	57.84	+27	11	16.1	20.3 V	691
1993 KA	1993 05	29.37663	18	12	58.71	+27	11	15.4	21.0 V	691
1993 KA	1993 05	29.39321	18	13	01.64	+27	11	09.0	20.8 V	691
1993 KA	1993 05	29.39668	18	13	02.25	+27	11	08.1	21.2 V	691
1993 KC	1993 05	24.17666	14	30	54.49	-05	46	34.6	16.7 V	691
1993 KC	1993 05	24.18242	14	30	54.45	-05	46	17.7	16.6 V	691
1993 KC	1993 05	24.18881	14	30	54.43	-05	45	59.3	16.7 V	691
1993 KC	1993 05	28.24442	14	31	18.99	-02	35	53.6	16.6 V	691
1993 KC	1993 05	28.25206	14	31	19.02	-02	35	33.0	16.6 V	691
1993 KC	1993 05	28.26435	14	31	19.08	-02	34	59.7	16.7 V	691
1993 KC	1993 06	17.22779	14	42	08.31	+09	13	02.4	16.9 V	691
1993 KC	1993 06	17.23417	14	42	08.63	+09	13	12.3	16.9 V	691
1993 KC	1993 06	17.23914	14	42	08.88	+09	13	19.8	16.9 V	691
1993 KF	1993 05	23.27996	15	27	13.90	-11	09	13.9		691
1993 KF	1993 05	23.31238	15	27	12.25	-11	09	14.3	17.3 V	691
1993 KF	1993 05	23.34505	15	27	10.55	-11	09	13.9		691
1993 KH	1993 05	28.20034	13	54	27.42	-18	44	39.0		691
1993 KH	1993 05	28.21053	13	54	24.60	-18	44	53.7	17.7 V	691
1993 KH	1993 05	28.22106	13	54	21.67	-18	45	09.2	17.8 V	691
1993 KH	1993 05	30.21635	13	45	36.17	-19	34	45.3		691
1993 KH	1993 05	30.23779	13	45	30.29	-19	35	17.0		691
1993 KH	1993 05	30.25580	13	45	25.32	-19	35	43.6		691
1993 KJ	1993 05	20.28288	15	13	55.87	-08	08	03.2		691
1993 KJ	1993 05	20.31467	15	13	54.46	-08	07	16.7		691
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1993 KS	* 1993 05	19.31950	15	41	52.17	-10	13	39.6		691
1993 KS	1993 05	19.34180	15	41	50.89	-10	13	40.1	19.5 V	691
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1993 KS	1993 05	23.38239	15	38	07.95	-10	18	03.0		691
1993 KS	1993 05	23.39389	15	38	07.17	-10	18	03.9	19.5 V	691
1993 KS	1993 05	23.40627	15	38	06.61	-10	18	04.8		691
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1993 KT	1993 05	23.38389	15	40	17.65	-10	16	32.0	20.1 V	691
1993 KT	1993 05	23.39538	15	40	16.95	-10	16	29.3		691
1993 KT	1993 05	23.40776	15	40	16.21	-10	16	27.0		691

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1993 KU		1993 05 19.34379	15 44 43.03	-10 44 56.9	19.0 V		691
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1993 KU		1993 05 23.38386	15 40 14.80	-10 43 24.3			691
1993 KU		1993 05 23.39535	15 40 13.97	-10 43 24.4	19.4 V		691
1993 KU		1993 05 23.40773	15 40 13.15	-10 43 24.4			691
1993 KV	*	1993 05 19.32479	15 49 29.80	-10 25 47.2	17.5 V		691
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1993 KV		1993 05 19.36940	15 49 26.73	-10 25 47.4			691
1993 KV		1993 05 23.38714	15 44 59.31	-10 26 56.1	17.8 V		691
1993 KV		1993 05 23.39864	15 44 58.54	-10 26 56.3			691
1993 KV		1993 05 23.41101	15 44 57.68	-10 26 56.6			691
1993 KW	*	1993 05 19.32535	15 50 18.70	-10 41 08.6	20.0 V		691
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1993 KW		1993 05 23.38820	15 46 30.88	-10 39 09.4			691
1993 KW		1993 05 23.39969	15 46 30.25	-10 39 09.1	20.4 V		691
1993 KW		1993 05 23.41207	15 46 29.51	-10 39 08.9			691
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1993 KX		1993 05 19.34938	15 52 46.75	-10 40 27.4			691
1993 KX		1993 05 19.37169	15 52 45.54	-10 40 29.4	20.3 V		691
1993 KX		1993 05 23.29523	15 49 17.04	-10 47 37.8	20.7 V		691
1993 KX		1993 05 23.32765	15 49 15.23	-10 47 41.6			691
1993 KX		1993 05 23.36032	15 49 13.42	-10 47 46.0			691
1993 KY	*	1993 05 21.22168	14 55 27.89	-10 49 33.6			691
1993 KY		1993 05 21.22949	14 55 27.45	-10 49 32.7	19.8 V		691
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1993 KY		1993 05 24.29552	14 52 55.65	-10 40 02.8			691
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1993 KZ		1993 05 25.30446	14 54 07.99	-10 18 16.8			691
1993 KZ		1993 05 25.34325	14 54 06.23	-10 18 03.7	20.7 V		691
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1993 KB1		1993 05 21.24010	14 59 10.35	-10 42 07.3			691
1993 KB1		1993 05 24.23317	14 56 32.88	-10 39 18.7	20.5 V		691
1993 KB1		1993 05 24.26530	14 56 31.12	-10 39 18.6			691
1993 KB1		1993 05 24.29799	14 56 29.26	-10 39 18.7			691
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1993 KC1		1993 05 21.23256	14 59 57.63	-10 40 11.1			691
1993 KC1		1993 05 21.24064	14 59 57.24	-10 40 08.8	19.6 V		691
1993 KC1		1993 05 24.23378	14 57 25.57	-10 25 38.1			691
1993 KC1		1993 05 24.26591	14 57 24.00	-10 25 29.5			691
1993 KC1		1993 05 24.29860	14 57 22.25	-10 25 20.6	19.3 V		691
1993 KD1	*	1993 05 21.22501	15 00 20.33	-10 49 14.9	19.3 V		691
1993 KD1		1993 05 21.23282	15 00 19.99	-10 49 12.1			691

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1993	KD1		1993	05	25.34528	14	57	02.44	-10	42	24.2		691
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1993	KE1		1993	05	21.23411	15	02	11.24	-10	55	13.3		691
1993	KE1		1993	05	21.24218	15	02	10.73	-10	55	10.7		691
1993	KE1		1993	05	25.34630	14	58	31.24	-10	37	03.5		691
1993	KE1		1993	05	25.37821	14	58	29.52	-10	36	55.9	20.6 V	691
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1993	KF1		1993	05	21.23427	15	02	25.27	-10	40	53.6		691
1993	KF1		1993	05	21.24235	15	02	24.91	-10	40	51.1		691
1993	KF1		1993	05	25.30820	14	59	32.12	-10	18	37.2	19.5 V	691
1993	KF1		1993	05	25.34699	14	59	30.47	-10	18	25.1		691
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1993	KG1		1993	05	21.25758	15	06	02.87	-10	56	34.5	20.1 V	691
1993	KG1		1993	05	21.26531	15	06	02.49	-10	56	31.5		691
1993	KG1		1993	05	26.24912	15	01	53.32	-10	29	00.9		691
1993	KG1		1993	05	26.29280	15	01	51.17	-10	28	46.3	20.9 V	691
1993	KG1		1993	05	26.31146	15	01	50.20	-10	28	40.9		691
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1993	KH1		1993	05	23.33760	15	16	17.89	-10	49	57.8		691
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1993	KH1		1993	05	26.31979	15	13	51.88	-10	41	24.0		691
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1993	KJ1		1993	05	24.26335	14	53	42.37	-10	29	03.2		691
1993	KJ1		1993	05	24.29605	14	53	40.83	-10	28	55.3		691
1993	KJ1		1993	05	25.30362	14	52	55.61	-10	24	58.8		691
1993	KJ1		1993	05	25.34241	14	52	53.80	-10	24	49.4	20.3 V	691
1993	KJ1		1993	05	25.37432	14	52	52.21	-10	24	42.9		691
1993	KK1	*	1993	05	24.23380	14	57	26.99	-10	19	11.8		691
1993	KK1		1993	05	24.26592	14	57	25.53	-10	19	09.5		691
1993	KK1		1993	05	24.29862	14	57	24.00	-10	19	06.4	19.2 V	691
1993	KK1		1993	05	25.30621	14	56	39.88	-10	17	33.9	19.5 V	691
1993	KK1		1993	05	25.34500	14	56	38.13	-10	17	29.8		691
1993	KK1		1993	05	25.37691	14	56	36.71	-10	17	27.1		691
1993	KL1	*	1993	05	25.24496	14	04	02.00	-13	49	39.5		691
1993	KL1		1993	05	25.28729	14	04	00.38	-13	49	34.6	18.1 V	691
1993	KL1		1993	05	25.32629	14	03	58.93	-13	49	30.6		691
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1993	KL1		1993	05	30.24696	14	01	29.55	-13	42	43.5	19.1 V	691
1993	KL1		1993	05	30.26422	14	01	29.08	-13	42	42.6		691
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1993	KM1		1993	05	25.38115	15	02	43.70	-10	18	17.9		691
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1993	KM1		1993	05	26.31165	15	02	06.34	-10	15	35.4		691
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1993	KN1		1993	05	25.35029	15	04	16.06	-10	23	37.6		691
1993	KN1		1993	05	25.38219	15	04	14.55	-10	23	34.4		691
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1993	KN1		1993	05	26.29397	15	03	32.90	-10	22	14.0		691
1993	KN1		1993	05	26.31264	15	03	31.99	-10	22	12.8	20.7 V	691
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1993	KO1		1993	05	25.35316	15	08	25.00	-10	41	43.6	20.4 V	691
1993	KO1		1993	05	25.38506	15	08	22.92	-10	41	40.5		691

1993 KO1		1993 05 26.25305	15 07 33.65	-10 40 19.1		691
1993 KO1		1993 05 26.29672	15 07 31.05	-10 40 14.1	21.0 V	691
1993 KO1		1993 05 26.31539	15 07 29.97	-10 40 12.8		691
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1993 KP1		1993 05 25.35372	15 09 13.91	-10 22 00.5	17.7 V	691
1993 KP1		1993 05 25.38563	15 09 12.03	-10 22 02.2		691
1993 KP1		1993 05 26.25362	15 08 22.70	-10 22 49.4	18.0 V	691
1993 KP1		1993 05 26.29729	15 08 20.08	-10 22 51.7		691
1993 KP1		1993 05 26.31595	15 08 18.97	-10 22 52.6		691
1993 KQ1	*	1993 05 25.31558	15 10 11.29	-10 28 23.4		691
1993 KQ1		1993 05 25.35436	15 10 09.30	-10 28 08.3	20.6 V	691
1993 KQ1		1993 05 25.38627	15 10 07.62	-10 27 54.9		691
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1993 KQ1		1993 05 26.29803	15 09 24.22	-10 22 01.9		691
1993 KQ1		1993 05 26.31669	15 09 23.27	-10 21 55.0		691
1993 KR1	*	1993 05 25.31712	15 12 24.66	-10 19 53.5	19.9 V	691
1993 KR1		1993 05 25.35590	15 12 22.56	-10 19 47.3		691
1993 KR1		1993 05 25.38781	15 12 20.79	-10 19 42.1		691
1993 KR1		1993 05 26.25586	15 11 37.02	-10 17 22.8	20.3 V	691
1993 KR1		1993 05 26.29953	15 11 34.67	-10 17 15.9		691
1993 KR1		1993 05 26.31820	15 11 33.69	-10 17 12.9		691
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1993 KS1		1993 05 25.38883	15 13 49.80	-10 23 03.8		691
1993 KS1		1993 05 26.25681	15 12 59.74	-10 20 21.0	21.2 V	691
1993 KS1		1993 05 26.30049	15 12 57.15	-10 20 13.2		691
1993 KS1		1993 05 26.31915	15 12 56.03	-10 20 09.3		691
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1993 KA2		1993 05 21.23127	14 58 05.26	-10 38 11.8	18.4 V	691
1993 KA2		1993 05 21.27497	15 01 40.73	-11 10 06.4		691
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1993 KA2		1993 05 21.41766	15 09 42.80	-12 17 48.3		691
1993 KA2		1993 05 21.42479	15 10 01.66	-12 20 14.2		691
1993 KA2		1993 05 22.24230	15 26 30.01	-14 17 30.9	20.0 V	691
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1993 LJ	*	1993 06 11.29184	15 24 13.83	-03 34 17.7	17.9 V	691
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1993 LJ		1993 06 11.33374	15 24 12.10	-03 34 36.0		691
1993 LJ		1993 06 16.17684	15 21 21.25	-04 12 25.5		691
1993 LJ		1993 06 16.21025	15 21 20.11	-04 12 42.1	18.2 V	691
1993 LJ		1993 06 16.24234	15 21 19.05	-04 12 57.9		691
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1993 LK		1993 06 11.32166	15 36 52.59	-03 19 52.6		691
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1993 LK		1993 06	16.25118	15 34	04.61	-04 03	11.4		691
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1993 LL		1993 06	11.32647	15 43	49.26	-03 34	16.4	19.7 V	691
1993 LL		1993 06	11.34732	15 43	48.31	-03 34	21.8		691
1993 LL		1993 06	16.19007	15 40	27.21	-03 56	52.2		691
1993 LL		1993 06	16.22348	15 40	25.83	-03 57	02.9	20.3 V	691
1993 LL		1993 06	16.25557	15 40	24.56	-03 57	12.3		691
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1993 LM		1993 06	13.24245	15 03	04.57	-09 51	05.8		691
1993 LM		1993 06	13.26785	15 03	03.85	-09 51	08.1		691
1993 LM		1993 06	23.23267	14 59	38.17	-10 12	09.1	21.0 V	691
1993 LM		1993 06	23.25153	14 59	37.92	-10 12	12.3		691
1993 LM		1993 06	23.27603	14 59	37.54	-10 12	15.8		691
1993 LN	*	1993 06	13.22109	15 08	57.50	-09 47	19.3		691
1993 LN		1993 06	13.24652	15 08	56.63	-09 47	19.2		691
1993 LN		1993 06	13.27191	15 08	55.83	-09 47	20.2	20.0 V	691
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1993 LO		1993 06	13.27207	15 09	09.25	-10 13	53.3	19.9 V	691
1993 LO		1993 06	23.23657	15 05	16.13	-10 14	18.4	19.6 V	691
1993 LO		1993 06	23.25544	15 05	15.79	-10 14	19.3		691
1993 LO		1993 06	23.27993	15 05	15.35	-10 14	19.9		691
1993 LP	*	1993 06	13.28187	15 33	28.21	-02 19	01.6		691
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1993 LP		1993 06	13.34003	15 33	26.16	-02 19	00.1	20.4 V	691
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1993 LP		1993 06	16.30685	15 31	51.56	-02 18	28.0		691
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1993 LQ		1993 06	16.27567	15 33	01.85	-02 20	55.3		691
1993 LQ		1993 06	16.30765	15 33	00.72	-02 20	50.6	20.7 V	691
1993 LQ		1993 06	16.34010	15 32	59.51	-02 20	45.5		691
1993 LR	*	1993 06	13.28816	15 43	03.22	-02 17	14.4	18.9 V	691
1993 LR		1993 06	13.31747	15 43	02.22	-02 17	11.9		691
1993 LR		1993 06	13.34631	15 43	01.20	-02 17	08.6		691
1993 LR		1993 06	16.28149	15 41	26.10	-02 13	00.1		691
1993 LR		1993 06	16.31347	15 41	25.10	-02 12	57.7	19.4 V	691
1993 LR		1993 06	16.34593	15 41	24.04	-02 12	55.1		691
1993 LS	*	1993 06	13.29568	15 53	54.88	-02 26	38.7		691
1993 LS		1993 06	13.32499	15 53	53.70	-02 26	33.5	20.2 V	691
1993 LS		1993 06	13.35383	15 53	52.52	-02 26	29.8		691
1993 LS		1993 06	16.28882	15 52	00.80	-02 19	25.3		691
1993 LS		1993 06	16.32079	15 51	59.64	-02 19	21.6	21.3 V	691
1993 LS		1993 06	16.35325	15 51	58.36	-02 19	16.9		691
1993 LT	*	1993 06	13.30038	16 00	41.78	-02 05	40.5		691
1993 LT		1993 06	13.32969	16 00	40.51	-02 05	39.9	19.6 V	691
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1993 LT		1993 06	16.35785	15 58	36.38	-02 05	58.2		691
1993 LU	*	1993 06	13.30143	16 02	13.01	-02 00	43.7	19.0 V	691
1993 LU		1993 06	13.33074	16 02	11.69	-02 00	51.7		691

1993 LU		1993 06	13.35958	16 02	10.44	-02 00	59.0		691
1993 LU		1993 06	16.29444	16 00	07.70	-02 14	53.8		691
1993 LU		1993 06	16.32641	16 00	06.44	-02 15	03.2		691
1993 LU		1993 06	16.35887	16 00	04.98	-02 15	12.5	19.8 V	691
1993 LV	*	1993 06	13.30146	16 02	15.35	-02 26	08.2		691
1993 LV		1993 06	13.33077	16 02	14.19	-02 26	05.5	19.4 V	691
1993 LV		1993 06	13.35961	16 02	13.03	-02 26	03.2		691
1993 LV		1993 06	16.29462	16 00	23.50	-02 22	33.6	19.8 V	691
1993 LV		1993 06	16.32660	16 00	22.35	-02 22	32.2		691
1993 LV		1993 06	16.35906	16 00	21.09	-02 22	30.1		691
1993 LW	*	1993 06	13.30174	16 02	39.42	-02 19	23.7	20.6 V	691
1993 LW		1993 06	13.33105	16 02	38.10	-02 19	21.2		691
1993 LW		1993 06	13.35988	16 02	36.76	-02 19	18.6		691
1993 LW		1993 06	16.29471	16 00	30.80	-02 15	54.4		691
1993 LW		1993 06	16.32668	16 00	29.42	-02 15	52.8		691
1993 LW		1993 06	16.35914	16 00	27.98	-02 15	50.4	21.3 V	691
1993 MJ	*	1993 06	16.39420	22 26	18.38	-02 55	29.9	21.6 V	691
1993 MJ		1993 06	16.42603	22 26	20.39	-02 55	09.2	20.7 V	691
1993 MJ		1993 06	16.45768	22 26	22.32	-02 54	48.2	21.1 V	691
1993 MJ		1993 06	26.37982	22 35	52.37	-01 07	35.0	21.3 V	691
1993 MJ		1993 06	26.38928	22 35	52.87	-01 07	29.2	20.9 V	691
1993 MJ		1993 06	26.39848	22 35	53.31	-01 07	23.7	20.6 V	691
1993 MS	*	1993 06	21.32921	16 46	18.60	+04 48	09.2		691
1993 MS		1993 06	21.36788	16 46	17.03	+04 48	02.7	19.9 V	691
1993 MS		1993 06	21.39084	16 46	16.11	+04 47	58.3		691
1993 MS		1993 06	22.25881	16 45	42.19	+04 45	20.4		691
1993 MS		1993 06	22.28830	16 45	41.03	+04 45	14.2	20.0 V	691
1993 MS		1993 06	22.30999	16 45	40.17	+04 45	10.2		691
1993 MT	*	1993 06	21.41588	20 10	49.15	-17 41	37.1	20.2 V	691
1993 MT		1993 06	21.43381	20 10	48.52	-17 41	39.2		691
1993 MT		1993 06	21.44911	20 10	48.04	-17 41	41.5		691
1993 MT		1993 06	22.34123	20 10	18.86	-17 43	18.6		691
1993 MT		1993 06	22.35924	20 10	18.22	-17 43	21.6		691
1993 MT		1993 06	22.37481	20 10	17.63	-17 43	23.3	20.0 V	691
4577 P-L		1993 05	14.30682	15 49	35.96	-02 49	59.9	17.6 V	691
4577 P-L		1993 05	14.34995	15 49	33.73	-02 49	47.1		691
4577 P-L		1993 05	14.39352	15 49	31.49	-02 49	34.0		691
4577 P-L		1993 06	14.20440	15 26	12.22	-01 31	57.8		691
4577 P-L		1993 06	14.23601	15 26	11.08	-01 31	57.7		691
4577 P-L		1993 06	14.26801	15 26	09.97	-01 31	57.9	17.8 V	691
4600 P-L		1993 06	22.40695	20 51	16.79	-16 55	16.9	18.8 V	691
4600 P-L		1993 06	22.42937	20 51	16.19	-16 55	19.5		691
4600 P-L		1993 06	22.45185	20 51	15.65	-16 55	21.7		691
1050 T-2		1993 06	11.16550	15 47	41.36	-06 26	25.3	19.7 V	691
1050 T-2		1993 06	11.18008	15 47	40.84	-06 26	24.5		691
1050 T-2		1993 06	11.19463	15 47	40.27	-06 26	23.7		691
4314 T-2		1992 10	01.45528	01 53	04.19	+04 31	08.5	17.0 V	691
4314 T-2		1992 10	01.49906	01 53	02.32	+04 30	55.6		691
2157 T-3		1993 05	30.22764	13 59	26.20	-13 50	11.2		691
2157 T-3		1993 05	30.24584	13 59	25.66	-13 50	06.6		691
2157 T-3		1993 05	30.26311	13 59	25.14	-13 50	01.6	20.6 V	691
(243)		1993 03	28.19027	11 59	23.89	-01 06	07.8		691
(243)		1993 03	28.21811	11 59	22.54	-01 05	59.5		691
(243)		1993 03	28.33391	11 59	16.87	-01 05	24.5		691
(243)		1993 03	28.33526	11 59	16.78	-01 05	25.8		691
(655)		1993 05	23.29879	15 54	25.89	-11 14	13.8	14.6 V	691
(655)		1993 05	23.33122	15 54	24.28	-11 14	09.9		691
(655)		1993 05	23.36389	15 54	22.63	-11 14	06.2		691
(933)		1993 06	12.23631	14 45	17.06	-06 37	53.5		691



(933)	1993 06 12.26217	14 45 16.54	-06 37 56.9		691
(933)	1993 06 12.28854	14 45 16.04	-06 38 00.3	16.1 V	691
(986)	1993 05 18.27972	16 05 14.40	-08 57 07.6	14.3 V	691
(986)	1993 05 18.32483	16 05 12.10	-08 57 07.2		691
(986)	1993 05 18.38519	16 05 09.05	-08 57 06.9		691
(1127)	1993 06 12.31318	15 36 23.82	+00 14 51.0		691
(1127)	1993 06 12.33780	15 36 22.76	+00 14 47.6	15.7 V	691
(1127)	1993 06 12.36248	15 36 21.75	+00 14 44.9		691
(1167)	1993 06 13.39627	21 39 37.50	-06 33 27.8		691
(1167)	1993 06 13.45376	21 39 37.94	-06 33 20.4	14.4 V	691
(1203)	1993 06 22.17407	14 34 12.94	-13 59 11.3		691
(1203)	1993 06 22.19670	14 34 12.57	-13 59 07.9	17.5 V	691
(1203)	1993 06 22.21888	14 34 12.24	-13 59 05.1		691
(1414)	1993 05 14.16474	11 07 59.16	+13 47 21.9		691
(1414)	1993 05 14.19672	11 08 00.22	+13 47 14.5	17.9 V	691
(1414)	1993 05 14.21939	11 08 01.01	+13 47 08.6		691
(1629)	1993 06 12.39390	21 30 11.75	-10 02 18.0	16.1 V	691
(1629)	1993 06 12.41905	21 30 12.30	-10 02 20.2		691
(1868)	1993 06 26.25374	17 16 55.41	-04 30 36.3	16.8 V	691
(1868)	1993 06 26.29101	17 16 54.36	-04 30 35.9		691
(1868)	1993 06 26.32936	17 16 53.23	-04 30 35.3		691
(2041)	1993 06 22.40107	20 42 46.82	-17 00 13.1	17.4 V	691
(2041)	1993 06 22.42348	20 42 46.24	-17 00 15.4		691
(2041)	1993 06 22.44596	20 42 45.71	-17 00 17.1		691
(2161)	1993 06 24.21053	13 00 33.98	+02 21 55.4		691
(2161)	1993 06 24.22916	13 00 34.34	+02 21 50.1	18.3 V	691
(2161)	1993 06 24.25142	13 00 34.78	+02 21 44.0		691
(2195)	1993 05 21.22143	14 54 44.83	-10 30 30.9		691
(2195)	1993 05 21.22924	14 54 44.36	-10 30 30.4	16.0 V	691
(2195)	1993 05 21.23732	14 54 43.86	-10 30 28.8		691
(2195)	1993 05 24.22995	14 51 53.75	-10 24 20.7	15.7 V	691
(2195)	1993 05 24.26207	14 51 51.94	-10 24 17.7		691
(2195)	1993 05 24.29477	14 51 50.03	-10 24 13.9		691
(2195)	1993 05 25.30271	14 50 54.80	-10 22 24.4		691
(2195)	1993 05 25.34151	14 50 52.64	-10 22 19.8	16.2 V	691
(2195)	1993 05 25.37342	14 50 50.76	-10 22 16.4		691
(2195)	1993 06 13.19959	14 37 54.93	-10 13 13.7		691
(2195)	1993 06 13.22501	14 37 54.19	-10 13 15.1		691
(2195)	1993 06 13.25041	14 37 53.48	-10 13 16.6	16.4 V	691
(2214)	1993 06 14.19778	15 16 38.75	-01 44 56.0		691
(2214)	1993 06 14.22939	15 16 37.76	-01 44 53.2	16.4 V	691
(2214)	1993 06 14.26140	15 16 36.77	-01 44 50.3		691
(2427)	1993 06 20.35291	20 02 41.25	-14 56 21.8	17.5 V	691
(2427)	1993 06 20.36877	20 02 40.67	-14 56 21.6		691
(2427)	1993 06 20.38502	20 02 40.09	-14 56 21.3		691
(2530)	1993 05 19.32034	15 43 04.16	-10 22 01.1	16.9 V	691
(2530)	1993 05 19.34264	15 43 03.09	-10 21 54.8		691
(2530)	1993 05 19.36496	15 43 02.00	-10 21 48.0		691
(3260)	1993 05 18.18818	13 51 50.42	-15 55 37.6	15.9 V	691
(3260)	1993 05 18.21061	13 51 49.56	-15 55 26.3		691
(3260)	1993 05 18.23295	13 51 48.73	-15 55 16.5		691
(3498)	1993 06 13.41385	21 23 32.63	-06 24 28.6	18.0 V	691
(3498)	1993 06 13.44262	21 23 32.82	-06 24 20.7		691
(3537)	1993 05 25.16710	12 40 58.44	+02 36 58.8		691
(3537)	1993 05 25.22472	12 40 57.49	+02 36 40.8	16.9 V	691
(3537)	1993 05 25.26454	12 40 56.82	+02 36 28.4		691
(3743)	1993 05 20.17890	14 35 34.92	-08 45 49.1		691
(3743)	1993 05 20.21079	14 35 33.42	-08 45 42.9	15.7 V	691
(3743)	1993 05 20.24282	14 35 32.00	-08 45 34.9		691

(3835)	1993 05 14.28988	15 25 08.46	-02 46 37.0		691
(3835)	1993 05 14.33301	15 25 06.27	-02 46 23.6	17.0 V	691
(3835)	1993 05 14.37658	15 25 04.15	-02 46 10.9		691
(3837)	1993 06 16.39448	22 26 42.24	-03 07 31.4	17.2 V	691
(3837)	1993 06 16.42629	22 26 43.26	-03 07 19.9		691
(3837)	1993 06 16.45794	22 26 44.29	-03 07 08.0		691
(4134)	1993 05 26.26351	15 22 39.50	-10 30 24.5	16.8 V	691
(4134)	1993 05 26.30718	15 22 37.08	-10 30 20.7		691
(4134)	1993 05 26.32584	15 22 36.05	-10 30 19.2		691
(4188)	1993 06 24.20083	12 46 33.99	+02 21 24.8	16.4 V	691
(4188)	1993 06 24.21946	12 46 34.43	+02 21 19.0		691
(4962)	1993 05 23.15513	14 31 10.31	-06 43 38.2		691
(4962)	1993 05 23.18734	14 31 08.91	-06 43 24.0	16.1 V	691
(4962)	1993 05 23.20879	14 31 08.10	-06 43 13.9		691
(4968)	1993 05 23.15564	14 31 54.65	-06 18 42.2	16.9 V	691
(4968)	1993 05 23.18785	14 31 53.16	-06 18 37.5		691
(4968)	1993 05 23.20930	14 31 52.20	-06 18 34.6		691
(5100)	1993 05 23.38470	15 41 27.57	-10 24 25.5	17.0 V	691
(5100)	1993 05 23.39619	15 41 26.87	-10 24 25.5		691
(5100)	1993 05 23.40857	15 41 26.13	-10 24 25.0		691
(5141)	1993 06 22.34661	20 18 04.60	-17 42 29.9		691
(5141)	1993 06 22.36462	20 18 04.04	-17 42 32.5	17.1 V	691
(5141)	1993 06 22.38019	20 18 03.55	-17 42 34.5		691
(5188)	1993 06 26.23071	17 12 29.42	-05 11 17.2	17.7 V	691
(5188)	1993 06 26.26948	17 12 27.42	-05 11 24.0		691
(5188)	1993 06 26.30627	17 12 25.52	-05 11 30.4		691
(5311)	1993 06 20.40626	20 07 22.54	-15 53 33.6	19.3 V	691
(5311)	1993 06 20.42151	20 07 21.98	-15 53 34.4		691
(5311)	1993 06 20.43686	20 07 21.48	-15 53 34.5		691
(5586)	1993 06 13.21141	14 54 58.62	-09 49 31.7		691
(5586)	1993 06 13.23684	14 54 58.20	-09 49 33.1	16.0 V	691
(5586)	1993 06 13.26224	14 54 57.78	-09 49 34.5		691
(5591)	1993 05 24.21100	14 24 31.86	-10 22 58.0	17.5 V	691
(5591)	1993 05 24.24313	14 24 30.58	-10 22 51.1		691
(5591)	1993 05 24.27583	14 24 29.29	-10 22 44.0		691
(5608)	1993 04 24.16872	11 54 09.37	+03 02 56.9	18.1 V	691
(5608)	1993 04 24.17884	11 54 09.04	+03 02 58.1		691
(5608)	1993 04 24.18880	11 54 08.75	+03 02 58.9		691

693 University of Arizona, Catalina Station

T. Spahr, Lunar and Planetary Laboratory, University of Arizona,  
Tucson, AZ 85721, U.S.A.

Observers T. Spahr, C. Hergenrother

Measurers T. Spahr, C. Hergenrother

0.4-m f/3 Schmidt

1990 WE2	1993 06 17.20538	14 53 11.10	-02 33 02.4	17.0	693
1990 WE2	1993 06 17.24358	14 53 10.52	-02 32 55.6		693
1990 WE2	1993 06 18.20152	14 53 00.55	-02 30 53.2	17.0	693
1992 AO	1993 05 14.34667	15 56 47.74	+14 32 56.5	17.0	693
1992 AO	1993 05 14.38023	15 56 45.69	+14 33 01.2		693
1992 AO	1993 05 17.30139	15 53 53.75	+14 36 10.5	17.0	693
1992 AO	1993 05 17.33221	15 53 51.77	+14 36 09.8		693
1993 FC1	1993 04 17.28076	13 22 00.58	-11 16 11.6	16.0	693
1993 FC1	1993 04 17.30362	13 21 59.68	-11 15 56.7		693
1993 FC1	1993 04 18.25013	13 21 18.25	-11 04 33.7		693
1993 GE	1993 06 17.19523	12 12 34.84	+17 47 26.1	16.0	693
1993 GE	1993 06 17.21534	12 12 35.65	+17 47 01.5		693
1993 GE	1993 06 18.19078	12 13 18.57	+17 29 11.6		693

1993 GE	1993 06 18.21058	12 13 19.43	+17 28 49.1			693
1993 HM1	1993 05 18.21907	14 29 42.17	+13 07 44.3	17.2		693
1993 HM1	1993 05 18.24884	14 29 41.06	+13 07 41.0			693
1993 JF	1993 04 17.28076	13 15 27.50	-14 11 19.5	16.0		693
1993 JF	1993 04 17.30362	13 15 26.13	-14 11 08.2			693
1993 JF	1993 04 18.25001	13 14 30.95	-14 03 50.7	16.0		693
1993 KM	1993 06 16.40071	17 01 24.15	+14 54 48.7			693
1993 KM	1993 06 16.41498	17 01 23.62	+14 54 49.0			693
1993 KM	1993 06 17.33943	17 00 52.90	+14 53 07.3	16.0		693
1993 KM	1993 06 17.35978	17 00 52.29	+14 53 04.5			693
1993 MB	* 1993 06 16.38821	19 28 20.21	+00 48 32.9	16.0		693
1993 MB	1993 06 16.42602	19 28 18.84	+00 48 46.8			693
1993 MB	1993 06 17.39538	19 27 47.19	+00 54 09.5			693
1993 MB	1993 06 17.40553	19 27 46.76	+00 54 16.0			693
1993 MB	1993 06 18.35868	19 27 14.20	+00 59 18.6	15.5		693
1993 MB	1993 06 18.38884	19 27 13.07	+00 59 24.9			693
1993 MC	* 1993 06 16.38821	19 35 58.60	-00 17 28.0	15.5		693
1993 MC	1993 06 16.42602	19 35 57.36	-00 17 06.3			693
1993 MC	1993 06 17.39538	19 35 27.28	-00 08 35.0			693
1993 MC	1993 06 17.40553	19 35 26.90	-00 08 30.0		D	693
1993 MC	1993 06 18.35868	19 34 55.92	-00 00 22.6			693
1993 MC	1993 06 18.38884	19 34 54.74	-00 00 06.8			693
1993 MD	* 1993 06 17.32520	17 50 33.48	-09 51 58.9	17.5	F	693
1993 MD	1993 06 17.34997	17 50 32.38	-09 52 03.0		F	693
1993 MD	1993 06 18.31958	17 49 44.06	-09 54 27.5		F	693
1993 MD	1993 06 18.34797	17 49 42.61	-09 54 28.6		F	693
(5175)	1993 06 16.38821	19 42 03.22	+02 12 38.5			693
(5175)	1993 06 16.42602	19 42 01.42	+02 13 05.5	16.5		693
(5175)	1993 06 17.38589	19 41 17.39	+02 25 14.6			693
(5175)	1993 06 17.40553	19 41 16.58	+02 25 29.3			693

## 695 Kitt Peak

T. J. Balonek, Dept. of Physics and Astronomy, Colgate University,  
Hamilton, NY 13346, U.S.A.

Observers T. J. Balonek, N. Silvestri

Burrell Schmidt + CCD

GSC

(2503)	1993 05 09.16837	12 27 40.84	-05 04 28.0	18.5 R		695
(2503)	1993 05 09.17363	12 27 40.69	-05 04 27.9			695
(2503)	1993 05 09.20240	12 27 39.75	-05 04 25.2			695
(2503)	1993 05 09.20821	12 27 39.56	-05 04 24.8			695
(2503)	1993 05 09.35015	12 27 34.99	-05 04 11.5			695

## 697 Kitt Peak, McGraw-Hill Observatory

E. Schulman, Astronomy Dept., University of Michigan, Ann Arbor,  
MI 48109-1090, U.S.A.

J. Tonry, Room 6-204, Massachusetts Institute of Technology, Cambridge,  
MA 02139, U.S.A.

Observers J. Blakeslee, J. Tonry

Measurers G. V. Williams, E. Schulman, J. Tonry

1.3-m f/7.5 reflector + CCD, 2.4-m reflector + CCD

1993 GZ	1993 05 27.32792	14 05 15.79	+04 50 40.1			697
1993 GZ	1993 05 27.33192	14 05 15.70	+04 50 39.1			697
1993 HV1	1993 05 22.20042	12 09 20.85	+11 52 11.1	20	V	697
1993 HV1	1993 05 22.20307	12 09 20.76	+11 52 08.0	20	V	697
1993 HV1	1993 05 22.21031	12 09 20.67	+11 52 04.4	20	V	697
1993 HV1	1993 05 26.21701	12 08 44.45	+11 19 39.1	20	V	697
1993 HV1	1993 05 26.22234	12 08 44.40	+11 19 36.7	20	V	697

711 McDonald Observatory

D. K. Yeomans, Jet Propulsion Laboratory, 4800 Oak Grove Drive,  
Pasadena, CA 91109Observers P. D. Hemenway, P. J. Shelus, A. L. Whipple, M. E. Cornell  
Measurers L. Eakins, R. Whited, M. E. Cornell

2.1-m Struve reflector

Ida 93 Catalogue

1991 FE	1992 07 07.26418	15 12 30.59	-12 58 32.6	711
1992 AC	1992 07 07.21131	14 03 54.25	+08 13 06.7	711
(243)	1993 05 21.11732	11 40 23.89	+00 57 29.1	711
(243)	1993 05 21.12053	11 40 23.93	+00 57 29.2	711
(243)	1993 05 22.11963	11 40 36.90	+00 56 14.6	711
(637)	1991 01 25.36523	08 49 03.33	+18 08 08.4	711
(887)	1992 07 09.34555	21 07 08.85	-20 00 50.1	711
(1036)	1993 02 13.49357	14 14 21.30	-21 25 30.5	711
(1864)	1993 02 13.08806	02 58 00.53	+49 37 04.6	711
(1864)	1993 02 14.09697	03 02 24.26	+49 33 24.0	711
(1864)	1993 03 27.10856	05 23 16.33	+44 52 25.8	711
(1864)	1993 03 29.10600	05 28 49.88	+44 35 54.5	711
(1866)	1992 06 11.23483	12 17 11.99	+38 25 46.7	711
(1872)	1991 01 25.14795	05 16 17.43	+06 25 53.2	711
(1873)	1991 02 05.10285	02 58 08.42	+03 08 24.8	711
(1981)	1992 10 17.31308	02 02 27.93	+65 15 55.0	711
(1981)	1992 10 19.19548	01 54 16.94	+65 20 02.4	711
(2062)	1993 01 20.08901	02 05 05.72	-00 37 51.3	711
(2102)	1992 06 10.24254	17 02 54.78	+73 15 56.9	711
(2102)	1992 07 08.18393	15 01 00.20	+20 40 25.7	711
(2201)	1992 10 18.49470	09 03 43.12	+16 49 42.4	711
(2212)	1992 01 01.08849	01 04 44.01	+08 59 03.1	711
(2594)	1990 12 23.09338	01 20 06.02	+12 16 59.7	711
(3199)	1993 01 20.36390	11 38 44.38	+63 08 18.9	711
(3199)	1993 02 13.17393	09 15 59.95	+53 46 22.2	711
(3199)	1993 02 14.15155	09 11 58.49	+53 05 32.5	711
(3199)	1993 03 26.09274	08 20 46.92	+26 47 12.6	711
(3199)	1993 03 28.09387	08 21 30.70	+25 49 06.0	711
(3200)	1992 01 01.15206	01 54 35.70	+24 45 30.7	711
(3200)	1992 10 16.31070	03 14 39.39	+43 36 50.5	711
(3200)	1992 10 17.40538	03 11 49.70	+43 32 58.3	711
(3288)	1992 10 18.42775	03 50 59.18	+18 42 18.3	711
(3352)	1992 07 09.26417	19 47 32.11	-21 45 15.7	711
(3362)	1992 10 19.27094	02 16 29.57	-12 31 34.6	711
(3552)	1992 10 16.28538	03 14 59.52	+58 25 07.0	711
(3552)	1992 10 19.31664	03 09 00.74	+58 46 03.9	711
(3691)	1992 10 16.25921	01 00 23.21	+30 04 36.6	711
(3691)	1992 10 19.14372	00 55 31.90	+29 56 57.9	711
(3752)	1993 04 18.43967	19 21 05.13	+56 15 18.1	711
(3973)	1992 10 18.42775	03 50 24.69	+18 43 29.5	711
(3973)	1992 10 19.37422	03 49 44.67	+18 41 54.3	711
(4015)	1992 06 11.42466	22 29 17.85	-07 33 58.0	711
(4015)	1992 10 17.49332	07 55 22.58	+22 54 38.1	711
(4015)	1993 01 20.22997	06 50 08.33	+21 09 32.2	711
(4179)	1992 12 30.26560	08 26 43.87	+17 38 49.1	711
(4179)	1993 01 20.25644	07 58 41.21	+20 24 03.0	711
(4179)	1993 01 21.30194	07 57 56.10	+20 27 59.9	711
(4179)	1993 02 13.13537	07 53 36.44	+21 02 54.0	711
(4179)	1993 02 13.21343	07 53 37.16	+21 02 54.1	711
(4179)	1993 02 14.13319	07 53 52.08	+21 02 43.2	711
(4179)	1993 02 14.25300	07 53 53.40	+21 02 41.9	711
(4179)	1993 03 26.11442	08 24 25.58	+19 37 45.0	711

p

(4179)	1993 03	27.14430	08 25	34.22	+19 33	52.8		711
(4179)	1993 03	28.12340	08 26	40.30	+19 30	07.7		711
(4179)	1993 03	29.15475	08 27	50.39	+19 26	07.1		711
(4179)	1993 04	16.13730	08 49	40.67	+18 04	58.9		711
(4179)	1993 04	18.19726	08 52	18.69	+17 54	25.2		711
(4660)	1993 04	16.41217	16 34	27.33	-25 38	36.8	p	711
(4660)	1993 04	17.41597	16 33	10.57	-25 37	23.6	p	711
(4660)	1993 04	19.41933	16 30	26.19	-25 34	16.4	p	711
(4957)	1992 07	08.31866	23 20	53.47	+55 11	44.5		711
(4957)	1992 07	29.38502	00 33	54.27	+68 44	09.6		711
(4957)	1992 10	16.38402	06 26	24.79	+71 03	22.1		711
(4957)	1992 12	30.18861	03 43	21.81	+07 19	20.8		711
(4957)	1993 01	20.19991	03 53	17.33	-00 19	15.5		711
(5131)	1992 10	17.45074	05 17	56.85	-26 09	16.7		711
(5131)	1992 10	19.44727	05 16	03.80	-26 32	16.9	p	711
(5189)	1992 11	25.18700	04 15	48.81	+13 08	08.6		711
(5332)	1992 07	30.42231	23 29	48.88	-09 53	33.7		711
(5587)	1992 12	30.31295	08 54	04.44	-05 22	27.3		711
(5587)	1993 01	20.28257	08 36	22.54	-05 06	03.4	F	711

## 786 U.S. Naval Observatory

J. A. DeYoung, U.S. Naval Observatory, 3450 Massachusetts Avenue NW,  
Washington, DC 20392-5420, U.S.A.

Observers J. A. DeYoung, R. E. Schmidt

Measurer J. A. DeYoung

0.61-m reflector + CCD

GSC

1993 HG	1993 06	02.07492	12 19	35.24	-01 34	23.0		786
1993 HG	1993 06	17.06314	12 26	41.25	-02 29	11.5		786
(5592)	1993 05	23.07021	12 54	03.69	-10 36	47.7	17 I	786
(5592)	1993 05	23.08713	12 54	03.48	-10 36	43.5		786
(5592)	1993 05	23.09000	12 54	03.46	-10 36	42.6		786

## 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 + CCD

GSC

1975 QC	1993 06	24.25446	20 50	46.46	-08 02	25.7		801
1975 QC	1993 06	24.30637	20 50	45.84	-08 02	25.1		801
1975 TX2	1993 05	24.10351	13 43	06.02	-07 47	18.3		801
1975 TX2	1993 05	24.14142	13 43	04.74	-07 47	19.9		801
1976 GD2	1993 05	24.16374	15 20	20.55	-08 28	50.5		801
1976 GD2	1993 05	24.18108	15 20	19.70	-08 28	42.6		801
1976 GD2	1993 05	26.15405	15 18	50.19	-08 14	14.3		801
1976 GD2	1993 05	26.17509	15 18	49.20	-08 14	05.2		801
1976 SA	1993 06	24.24574	19 02	07.82	-14 18	33.1		801
1976 SA	1993 06	24.26431	19 02	06.80	-14 18	35.4		801
1978 PW3	1993 06	24.11398	15 55	22.00	-09 17	23.9		801
1978 PW3	1993 06	24.13633	15 55	21.29	-09 17	24.0		801
1978 UL7	1993 05	24.23109	15 25	04.60	-20 27	16.0		801
1978 UL7	1993 05	24.25019	15 25	03.50	-20 27	08.8		801
1978 UL7	1993 05	26.18116	15 23	15.32	-20 16	17.7		801
1978 UL7	1993 05	26.19802	15 23	14.33	-20 16	11.2		801
1979 VN	1993 05	24.21546	16 39	56.84	-15 53	12.8		801
1979 VN	1993 05	24.23416	16 39	55.82	-15 53	06.5		801
1979 VN	1993 05	27.19062	16 37	19.35	-15 38	16.6		801
1979 VN	1993 06	18.11309	16 17	43.78	-14 00	44.3		801

1979 VN	1993 06	18.13447	16 17	42.72	-14 00	40.4		801
1979 VN	1993 06	24.10169	16 13	16.47	-13 41	33.3	W	801
1979 VN	1993 06	24.11966	16 13	15.77	-13 41	29.5		801
1981 DB1	1993 05	24.19245	16 13	09.23	-09 07	27.2		801
1981 DB1	1993 05	24.20595	16 13	08.56	-09 07	20.8		801
1981 DB1	1993 05	27.18797	16 10	45.18	-08 49	12.7		801
1981 DB1	1993 05	27.20287	16 10	44.45	-08 49	08.5		801
1981 DB1	1993 06	18.10525	15 54	34.44	-07 06	12.0		801
1981 DB1	1993 06	18.12660	15 54	33.63	-07 06	07.6		801
1981 EH1	1993 06	18.18856	16 42	46.19	-12 26	32.8	V	801
1981 EH1	1993 06	18.20556	16 42	45.42	-12 26	32.7		801
1981 EX4	1993 05	23.25672	17 44	05.86	-00 31	01.7		801
1981 EX4	1993 05	23.27626	17 44	05.07	-00 30	53.1		801
1981 EX4	1993 05	27.23414	17 41	37.76	+00 00	32.1		801
1981 EX4	1993 05	27.26777	17 41	36.33	+00 00	47.1		801
1981 EX4	1993 06	18.20171	17 25	14.08	+02 08	28.4		801
1981 EX4	1993 06	18.21532	17 25	13.40	+02 08	30.9		801
1981 EX4	1993 06	24.16838	17 20	40.40	+02 26	25.4		801
1981 EX4	1993 06	24.18425	17 20	39.55	+02 26	27.0	W	801
1981 ER5	1993 06	24.31521	23 00	24.54	+01 01	43.8		801
1981 ER5	1993 06	24.32279	23 00	25.12	+01 01	51.1		801
1981 ES8	1993 06	24.26074	19 25	31.61	-07 44	19.2		801
1981 ES8	1993 06	24.27685	19 25	30.85	-07 44	17.5		801
1981 EJ22	1993 06	18.24105	18 15	46.52	-11 13	01.5		801
1981 EJ22	1993 06	18.25641	18 15	45.75	-11 13	00.0		801
1983 PZ	1993 05	24.22022	17 04	20.09	-16 58	00.0		801
1983 PZ	1993 05	24.23838	17 04	19.09	-16 57	55.2		801
1983 PZ	1993 05	27.19693	17 01	35.76	-16 43	54.5		801
1983 PZ	1993 05	27.21377	17 01	34.89	-16 43	49.3		801
1983 PZ	1993 06	18.16470	16 39	28.93	-15 11	45.9		801
1983 PZ	1993 06	18.18439	16 39	27.76	-15 11	41.8		801
1983 PZ	1993 06	24.14109	16 34	11.61	-14 54	20.1	I	801
1983 PZ	1993 06	24.15852	16 34	10.69	-14 54	17.0	I	801
1983 QH1	1993 05	27.21001	16 53	18.17	-14 45	17.0		801
1983 QH1	1993 06	18.15152	16 31	03.62	-14 09	11.6		801
1983 QH1	1993 06	18.16834	16 31	02.64	-14 09	10.8		801
1983 QH1	1993 06	24.11041	16 25	54.01	-14 08	37.1	V	801
1983 QH1	1993 06	24.12786	16 25	53.13	-14 08	37.0	V	801
1985 BH	1993 06	18.19677	17 23	01.05	-18 26	24.0		801
1985 BH	1993 06	18.21194	17 22	59.99	-18 26	25.5		801
1985 CT	1993 05	26.20932	16 00	28.86	+14 44	01.2		801
1985 CT	1993 05	26.22392	16 00	28.02	+14 44	02.1		801
1986 RH12	1993 05	24.14850	14 23	42.69	-07 06	56.9		801
1986 RH12	1993 05	24.16659	14 23	41.92	-07 06	49.5		801
1986 RH12	1993 05	26.12954	14 22	24.42	-06 53	54.4		801
1986 RH12	1993 05	26.14683	14 22	23.75	-06 53	47.5		801
1986 SC2	1993 05	24.09811	13 04	42.87	-11 33	55.1	V	801
1986 SC2	1993 05	24.12189	13 04	42.63	-11 33	44.3		801
1988 MF	1993 05	23.22387	16 59	55.57	+13 50	03.1		801
1988 MF	1993 05	23.23534	16 59	54.63	+13 49	58.8		801
1988 MF	1993 05	26.25727	16 55	55.88	+13 28	31.5		801
1988 MF	1993 05	26.26742	16 55	55.05	+13 28	26.8		801
1989 AF1	1993 05	22.07720	13 37	07.39	-02 07	45.4		801
1989 AF1	1993 05	22.10579	13 37	06.40	-02 07	43.3		801
1989 EL	1993 05	24.10679	13 49	45.98	-14 33	04.4		801
1989 EL	1993 05	24.14589	13 49	44.96	-14 32	50.2		801
1989 GP4	1993 06	18.23007	18 14	37.89	-12 15	21.3		801
1989 GP4	1993 06	18.24444	18 14	37.01	-12 15	19.2		801
1989 SU3	1993 06	18.25340	18 29	57.23	-08 39	08.3	I	801

1989 SU3	1993 06 18.26958	18 29 56.42	-08 39 06.8		801
1990 QC2	1993 06 24.27368	19 30 20.86	-12 00 12.2	I	801
1990 QC2	1993 06 24.29153	19 30 20.07	-12 00 14.7	I	801
1990 QD2	1993 05 24.10063	13 42 35.62	-07 38 10.5		801
1990 QD2	1993 05 24.13852	13 42 34.22	-07 38 06.7		801
1990 QD2	1993 05 26.10596	13 41 30.81	-07 34 04.6		801
1990 QL2	1993 06 18.27574	18 51 55.73	-14 48 24.7		801
1990 QL2	1993 06 18.29382	18 51 54.81	-14 48 25.5		801
1990 QL2	1993 06 24.21975	18 46 11.05	-14 55 29.1	U	801
1990 QL2	1993 06 24.23551	18 46 10.01	-14 55 30.7	U	801
1990 SL	1993 05 22.08534	12 30 38.43	+27 59 58.6	r	801
1990 SL	1993 05 22.09807	12 30 38.21	+27 59 47.9	r	801
1990 TZ	1993 06 24.28895	20 17 18.11	+06 50 28.2		801
1990 TZ	1993 06 24.30225	20 17 17.54	+06 50 32.9		801
1990 TL1	1993 06 18.22567	18 09 02.81	-14 15 19.9		801
1990 TL1	1993 06 18.23774	18 09 02.00	-14 15 19.0		801
1990 YH	1993 06 18.27866	18 57 30.86	-12 50 46.4		801
1990 YH	1993 06 18.29683	18 57 30.02	-12 50 48.7		801
1990 YH	1993 06 24.22299	18 53 00.74	-13 04 59.5		801
1990 YH	1993 06 24.23909	18 53 00.05	-13 05 01.2		801
1991 AY1	1993 05 24.16061	15 13 23.26	-02 21 15.8		801
1991 AY1	1993 05 24.17896	15 13 22.44	-02 21 13.3		801
1991 AY1	1993 05 26.15030	15 11 58.88	-02 17 18.9		801
1991 AY1	1993 05 26.17171	15 11 57.88	-02 17 16.3		801
1991 AO2	1993 05 24.19634	16 44 03.16	-05 08 33.1		801
1991 AO2	1993 05 24.20968	16 44 02.47	-05 08 30.2		801
1991 AO2	1993 06 24.10591	16 18 49.45	-04 15 38.5		801
1991 AO2	1993 06 24.12378	16 18 48.71	-04 15 39.7		801
1991 CA2	1993 05 24.25801	17 27 52.88	-04 38 34.6		801
1991 CA2	1993 05 24.28082	17 27 51.95	-04 38 32.7		801
1991 CA2	1993 06 17.17877	17 09 47.56	-04 38 47.1		801
1991 CA2	1993 06 17.19461	17 09 46.78	-04 38 48.2		801
1991 CA2	1993 06 24.16300	17 04 30.00	-04 52 40.5		801
1991 CA2	1993 06 24.18037	17 04 29.33	-04 52 44.8		801
1991 TD1	1993 05 22.27314	16 03 11.97	+12 14 56.9		801
1991 TD1	1993 05 22.28718	16 03 11.04	+12 15 06.7		801
1991 TD1	1993 05 26.21811	15 58 57.22	+12 57 13.5		801
1991 TD1	1993 05 26.23885	15 58 55.84	+12 57 25.8		801
1991 VF5	1993 05 22.13738	13 56 53.32	+00 14 22.0		801
1991 VF5	1993 05 22.25884	13 56 49.16	+00 14 26.6		801
1992 AO	1993 06 18.09707	15 26 39.08	+12 14 36.8		801
1992 AO	1993 06 18.11617	15 26 38.37	+12 14 27.1		801
1992 AO	1993 06 24.08395	15 23 35.15	+11 17 39.7		801
1992 AO	1993 06 24.09758	15 23 34.81	+11 17 30.7		801
1992 AS1	1993 05 24.22824	15 23 06.29	-00 46 05.2		801
1992 AS1	1993 05 24.25369	15 23 05.03	-00 46 02.0		801
1992 AS1	1993 05 26.16346	15 21 35.13	-00 42 29.6		801
1992 AS1	1993 05 26.17854	15 21 34.40	-00 42 27.9		801
1992 BH	1993 05 22.26973	15 36 03.43	+08 50 16.9		801
1992 BH	1993 05 22.29043	15 36 02.56	+08 50 17.2		801
1992 BH	1993 05 26.19404	15 33 09.00	+08 49 11.1		801
1992 BH	1993 05 26.21348	15 33 08.19	+08 49 12.1		801
1992 CO	1993 06 18.10083	15 52 58.66	-08 36 55.8		801
1992 CO	1993 06 18.12312	15 52 57.81	-08 36 59.6		801
1992 CO	1993 06 23.09488	15 50 08.88	-08 52 21.4		801
1992 CO	1993 06 23.10773	15 50 08.44	-08 52 23.4		801
1993 CC	1993 05 22.05322	10 34 03.00	+20 58 55.6		801
1993 CC	1993 05 22.06571	10 34 03.71	+20 58 50.3		801
1993 DA1	1993 05 24.07299	10 18 19.77	+15 11 31.0		801

1993 DA1	1993 05 24.09204	10 18 20.64	+15 11 27.1	801
1993 FB1	1993 01 19.43335	13 25 57.00	+01 35 51.2	801
1993 FB1	1993 06 18.07528	13 01 51.87	-01 19 59.5	801
1993 FB1	1993 06 18.08836	13 01 52.33	-01 20 07.4	801
1993 KM	1993 06 17.17237	17 00 58.70	+14 53 26.9	801
1993 KM	1993 06 17.19198	17 00 58.01	+14 53 24.4	801
3051 P-L	1993 05 23.23839	16 59 30.79	-14 37 54.3	801
3051 P-L	1993 05 23.25294	16 59 30.09	-14 37 45.1	801
3051 P-L	1993 05 26.25175	16 57 01.30	-14 12 18.6	801
3051 P-L	1993 05 26.26413	16 57 00.65	-14 12 12.8	801
3051 P-L	1993 06 18.16022	16 37 02.56	-11 19 20.0	801
3051 P-L	1993 06 18.18094	16 37 01.53	-11 19 12.2	801
3051 P-L	1993 06 24.13159	16 32 38.34	-10 45 46.8	801
3051 P-L	1993 06 24.15098	16 32 37.68	-10 45 41.0	801
3036 T-1	1993 05 24.29470	18 59 32.22	-04 17 43.7	F 801
3036 T-1	1993 05 24.31616	18 59 32.00	-04 17 32.1	801
3036 T-1	1993 06 24.21648	18 45 44.33	-00 58 33.9	801
3036 T-1	1993 06 24.23247	18 45 43.59	-00 58 30.5	801
4114 T-1	1993 05 24.15498	14 31 52.74	-11 59 32.0	801
4114 T-1	1993 05 24.17630	14 31 51.86	-11 59 30.5	P 801
4114 T-1	1993 05 26.14361	14 30 37.98	-11 59 14.5	801
4114 T-1	1993 05 26.16698	14 30 37.06	-11 59 14.3	801
1159 T-2	1993 06 18.28181	19 04 41.45	+00 39 50.8	801
1159 T-2	1993 06 18.29988	19 04 40.59	+00 39 53.2	801
1159 T-2	1993 06 24.22689	18 59 57.59	+00 51 45.7	801
1159 T-2	1993 06 24.24209	18 59 56.81	+00 51 46.4	801
4092 T-3	1993 06 18.09257	15 37 17.61	-00 34 25.5	801
4092 T-3	1993 06 18.11956	15 37 16.86	-00 34 26.8	801
4092 T-3	1993 06 23.08995	15 35 15.76	-00 41 31.7	V 801
4092 T-3	1993 06 23.17142	15 35 13.95	-00 41 41.1	V 801
5166 T-3	1993 05 22.27659	18 04 15.70	-01 23 18.0	801
5166 T-3	1993 05 22.29734	18 04 15.14	-01 23 11.1	801
5166 T-3	1993 05 24.26947	18 03 21.30	-01 12 46.8	801
5166 T-3	1993 05 24.29148	18 03 20.62	-01 12 40.0	801
5166 T-3	1993 06 17.20597	17 46 24.36	-00 16 57.6	801
5166 T-3	1993 06 17.21965	17 46 23.61	-00 16 58.4	801
5166 T-3	1993 06 24.19139	17 40 32.70	-00 29 48.9	801
5166 T-3	1993 06 24.20308	17 40 32.09	-00 29 50.2	801
(243)	1993 04 29.04987	11 41 05.06	+00 50 22.7	801
(243)	1993 04 29.06515	11 41 04.78	+00 50 24.4	801
(243)	1993 05 22.04690	11 40 35.91	+00 56 21.5	801
(243)	1993 05 22.07407	11 40 36.24	+00 56 18.7	801
(243)	1993 05 24.06784	11 41 05.64	+00 53 26.4	801
(243)	1993 05 24.09482	11 41 06.04	+00 53 23.9	801
(243)	1993 06 17.07253	11 52 40.92	-00 17 46.5	801
(243)	1993 06 17.08300	11 52 41.40	-00 17 49.0	p 801
(243)	1993 06 18.06785	11 53 21.90	-00 22 02.2	801
(243)	1993 06 18.08332	11 53 22.55	-00 22 06.8	801
(243)	1993 06 24.07497	11 57 46.38	-00 49 44.0	801
(243)	1993 06 24.08824	11 57 46.99	-00 49 47.7	801
(1731)	1993 06 24.25086	19 12 44.18	-15 34 56.6	801
(1731)	1993 06 24.26811	19 12 43.41	-15 34 58.2	801
(4055)	1993 06 18.31235	23 56 01.27	+20 16 58.2	801
(4055)	1993 06 18.31826	23 56 02.50	+20 16 59.2	801
(4055)	1993 06 24.32661	00 17 12.36	+20 24 24.1	801
(4055)	1993 06 24.32936	00 17 12.93	+20 24 24.1	801
(5175)	1993 05 24.29878	19 50 09.96	-03 24 06.7	801
(5175)	1993 05 24.31322	19 50 09.97	-03 23 51.5	801
(5175)	1993 06 18.28866	19 40 34.50	+02 36 25.5	801



(5175)	1993 06 18.30285	19 40 33.78	+02 36 36.0	801
(5175)	1993 06 24.28630	19 35 14.17	+03 45 09.7	801
(5175)	1993 06 24.29985	19 35 13.33	+03 45 18.5	801
(5591)	1993 05 24.15144	14 24 34.15	-10 23 10.4	801
(5591)	1993 05 24.16946	14 24 33.48	-10 23 06.9	801
(5591)	1993 05 26.13958	14 23 19.82	-10 16 21.6	801
(5604)	1993 05 22.06103	12 28 58.72	-22 27 45.2	801
(5604)	1993 05 22.06911	12 28 57.75	-22 27 32.2	801

## 809 European Southern Observatory

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E. W. Elst, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180  
Brussels, Belgium (4)

Observers H. Debehogne, E. W. Elst, G. Pizarro, O. Pizarro, J. A. S. Campos

Measurers H. Debehogne, E. W. Elst, G. Vieira, E. R. Netto

1.0-m Schmidt, GPO 0.4-m astrograph

1990 DW	1990 03 06.27465	10 49 14.89	+05 08 32.0	3	809
1990 DW	1990 03 06.28507	10 49 14.25	+05 08 34.1	3	809
1990 DW	1990 03 06.29549	10 49 13.60	+05 08 36.1	3	809
1992 AM3	1992 02 12.16597	07 40 42.77	+16 33 48.3	18.4	4 809
1992 AM3	1992 02 12.17917	07 40 42.15	+16 33 45.0		4 809
1992 AM3	1992 02 12.19236	07 40 41.51	+16 33 41.9		4 809
1992 BQ2	1992 02 12.16597	07 49 24.12	+14 11 30.6	18.6	4 809
1992 BQ2	1992 02 12.17917	07 49 23.51	+14 11 33.2		4 809
1992 BQ2	1992 02 12.19236	07 49 22.68	+14 11 36.4		4 809
1992 BT2	1992 02 12.20833	07 55 29.58	+13 14 24.0	18.3	4 809
1992 BT2	1992 02 12.22153	07 55 29.04	+13 14 31.9		4 809
1992 BT2	1992 02 12.23472	07 55 28.53	+13 14 39.7		4 809
1992 BZ4	1992 02 02.21458	08 10 07.39	+10 53 46.7	18.6	4 809
1992 BZ4	1992 02 02.22778	08 10 06.61	+10 53 46.6		4 809
1992 BZ4	1992 02 02.24097	08 10 05.94	+10 53 48.0		4 809
1992 BN5	* 1992 01 30.18542	07 47 04.69	+15 34 39.0	18.7	4 809
1992 BN5	1992 01 30.19861	07 47 04.01	+15 34 43.0		4 809
1992 BN5	1992 01 30.21181	07 47 03.27	+15 34 45.0		4 809
1992 BN5	1992 02 12.16597	07 37 37.98	+16 15 47.5	18.7	4 809
1992 BN5	1992 02 12.17917	07 37 37.58	+16 15 49.3		4 809
1992 BN5	1992 02 12.19236	07 37 37.05	+16 15 50.1		4 809
1992 CS2	1992 02 12.16597	07 45 30.66	+16 12 40.8		4 809
1992 CS2	1992 02 12.17917	07 45 29.95	+16 12 40.8		4 809
1992 CS2	1992 02 12.19236	07 45 29.40	+16 12 42.7		4 809
1992 GB2	1992 04 25.08889	13 32 56.19	-09 42 07.5	18.6	4 809
1992 GB2	1992 04 25.10208	13 32 55.46	-09 42 01.5		4 809
1992 GB2	1992 04 25.11528	13 32 54.75	-09 41 56.8		4 809
1992 GO2	1992 04 25.08889	13 40 12.86	-10 36 48.7	19.2	4 809
1992 GO2	1992 04 25.10208	13 40 12.20	-10 36 43.2		4 809
1992 GO2	1992 04 25.11528	13 40 11.39	-10 36 38.4		4 809
1992 GR2	1992 04 25.08889	13 41 49.75	-08 22 46.0	18.4	4 809
1992 GR2	1992 04 25.10208	13 41 48.98	-08 22 41.0		4 809
1992 GR2	1992 04 25.11528	13 41 48.19	-08 22 37.0		4 809
1992 JB2	1992 04 04.27639	14 38 37.48	-17 09 48.5		4 809
1992 JB2	1992 04 04.28958	14 38 36.94	-17 09 44.4		4 809
1992 JB2	1992 04 04.30278	14 38 36.44	-17 09 41.0		4 809
(197)	1984 09 18.21806	22 58 17.98	-22 51 19.1	3	809
(197)	1984 09 23.19931	22 54 48.28	-22 58 03.0	3	809
(279)	1984 09 13.00347	21 10 34.18	-19 07 19.7	3	809
(279)	1984 09 22.01597	21 07 46.38	-19 16 09.5	3	809
(279)	1984 09 23.01111	21 07 32.15	-19 16 46.2	3	809
(334)	1984 09 22.14583	21 57 04.91	-15 05 39.0	3	809

(334)	1984 09 23.18125	21 56 40.47	-15 08 09.5	3	809
(522)	1984 09 18.12222	22 43 51.83	-12 51 05.0	3	809
(522)	1984 09 21.07778	22 42 09.47	-13 01 51.6	3	809
(720)	1984 09 13.00347	21 11 58.63	-19 29 35.5	3	809
(720)	1984 09 22.01597	21 08 44.37	-19 33 47.4	3	809
(720)	1984 09 23.01111	21 08 29.91	-19 33 42.4	3	809
(734)	1984 09 22.14583	21 58 35.56	-16 20 17.5	3	809
(734)	1984 09 23.18125	21 58 03.44	-16 20 47.4	3	809
(820)	1984 09 13.00347	21 08 36.80	-20 21 37.2	3	809
(915)	1984 09 18.12222	22 36 41.57	-13 27 04.8	3	809
(915)	1984 09 21.07778	22 34 01.29	-13 28 57.2	3	809
(1026)	1984 09 22.24722	00 01 26.78	-11 35 07.1	3	809
(1026)	1984 09 23.34583	00 00 28.82	-11 41 25.2	3	809
(1029)	1984 09 21.02361	21 10 25.63	-19 24 00.9	3	809
(1029)	1984 09 22.01597	21 10 09.06	-19 24 02.5	3	809
(1029)	1984 09 23.01111	21 09 53.90	-19 23 58.6	3	809
(1345)	1984 09 23.34583	23 59 51.22	-10 25 23.4	3	809
(1637)	1984 09 18.21806	22 49 47.06	-21 51 21.9	3	809
(1637)	1984 09 21.12153	22 47 28.54	-21 48 57.0	3	809
(1768)	1984 09 22.14583	21 59 38.48	-15 27 07.7	3	809
(1768)	1984 09 23.18125	21 59 05.83	-15 27 09.5	3	809
(1816)	1984 09 22.14583	22 02 44.71	-15 41 37.7	3	809
(1816)	1984 09 23.18125	22 02 07.66	-15 52 11.0	3	809
(1903)	1984 09 21.27292	23 55 42.28	-11 53 29.0	3	809
(1903)	1984 09 23.34583	23 54 12.96	-12 07 14.5	3	809
(2046)	1984 09 13.00347	21 15 25.24	-20 05 17.2	3	809
(2349)	1984 09 21.12153	22 54 17.96	-23 29 51.4	3	809
(2353)	1984 09 18.12222	22 37 07.43	-14 20 56.6	3	809
(2353)	1984 09 21.07778	22 35 03.43	-14 24 44.0	3	809
(2421)	1984 09 18.21806	22 54 42.47	-22 55 35.3	3	809
(2421)	1984 09 21.12153	22 52 43.43	-23 01 21.7	3	809
(2421)	1984 09 23.19931	22 51 21.79	-23 04 30.9	3	809
(2500)	1984 09 21.27292	23 58 32.47	-10 19 26.9	3	809
(2500)	1984 09 22.24722	23 57 31.61	-10 23 25.8	3	809
(2500)	1984 09 23.34583	23 56 23.00	-10 27 46.6	3	809
(3631)	1984 09 18.12222	22 44 07.53	-13 04 31.8	3	809

## 889 Karasuyama

T. Urata, 6-1, Muramatsubara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan  
Observers S. Inoda, T. Urata

Measurer T. Urata

0.31-m f/5.6 reflector

ACRS, GSC

1991 YK2	1992 01 11.56563	07 10 36.95	+12 50 21.1	16.5	889
1991 YK2	1992 01 11.58507	07 10 35.87	+12 50 20.4		889

## 894 Otomo

S. Otomo, Kiyosato 3545-3902, Takane-cho, Kitakoma-gun, Yamanashi-ken,  
407-03, Japan

0.25-m f/3.4 reflector

PPM

1979 VN	1993 05 27.64063	16 36 55.17	-15 36 02.8	17.0	894
1979 VN	1993 05 27.65382	16 36 54.40	-15 35 56.5		894
1993 JC	1993 05 18.60243	14 39 55.80	-11 17 35.7	16.8	894
1993 JC	1993 05 18.61574	14 39 55.17	-11 17 29.6		894
1993 JC	1993 05 20.53264	14 38 39.12	-10 59 58.6	17.0	894
1993 JC	1993 05 20.54514	14 38 38.64	-10 59 53.4		894
1993 JC	1993 05 23.56204	14 36 47.68	-10 33 46.1	17.0	894
1993 JC	1993 05 23.57431	14 36 47.24	-10 33 39.8		894

1993 JC		1993 05 26.56632	14 35 10.31	-10 09 37.3	17.0	894
1993 JC		1993 05 26.57951	14 35 09.85	-10 09 32.5		894
1993 KF		1993 05 23.61458	15 26 57.26	-11 09 12.5	17.5	894
1993 KF		1993 05 23.62708	15 26 56.67	-11 09 10.9		894
1993 KF		1993 05 25.60174	15 25 19.48	-11 09 05.8	17.5	894
1993 KF		1993 05 25.61516	15 25 18.89	-11 09 05.7		894
1993 KO	*	1993 05 20.63194	16 00 11.19	-12 38 42.1	16.5	894
1993 KO		1993 05 20.64444	16 00 10.49	-12 38 37.8		894
1993 KO		1993 05 23.63993	15 57 22.77	-12 19 54.8	16.3	894
1993 KO		1993 05 23.65313	15 57 22.05	-12 19 51.4		894
1993 KP	*	1993 05 20.65700	15 58 30.50	-14 16 52.4	16.5	894
1993 KP		1993 05 20.66944	15 58 29.80	-14 16 48.7		894
1993 KP		1993 05 23.63993	15 55 54.24	-14 03 11.1		894
1993 KP		1993 05 23.65313	15 55 53.53	-14 03 08.3		894
1993 KQ	*	1993 05 26.67257	16 23 12.85	-10 17 02.6	16.5	894
1993 KQ		1993 05 26.68576	16 23 11.93	-10 17 07.1		894
1993 KQ		1993 05 27.61354	16 22 16.59	-10 22 16.6	16.3	894
1993 KQ		1993 05 27.62674	16 22 15.82	-10 22 21.3		894
1993 KR	*	1993 05 26.67257	16 27 58.71	-09 16 04.4	16.5	894
1993 KR		1993 05 26.68576	16 27 57.77	-09 15 51.4		894
1993 KR		1993 05 27.61354	16 27 01.29	-09 00 57.9	16.5	894
1993 KR		1993 05 27.62674	16 27 00.49	-09 00 47.2		894
1993 KU1		1993 05 16.53576	14 40 33.32	-11 26 31.3	18.0	894
1993 KU1		1993 05 16.54896	14 40 32.45	-11 26 25.8		894
1993 KU1	*	1993 05 18.60243	14 38 47.66	-11 10 59.1	17.5	894
1993 KU1		1993 05 18.61574	14 38 47.03	-11 10 51.3		894
1993 KU1		1993 05 23.56204	14 34 53.61	-10 36 12.0	18.0	894
1993 KU1		1993 05 23.57431	14 34 53.13	-10 36 07.7		894
1993 KU1		1993 05 26.56632	14 32 47.65	-10 17 07.1	18.0	894
1993 KU1		1993 05 26.57951	14 32 47.12	-10 17 01.5		894
1993 KY1	*	1993 05 27.69363	16 43 04.33	-13 44 45.6	16.7	894
1993 KY1		1993 05 27.70660	16 43 03.44	-13 44 45.8		894
1993 KY1		1993 05 31.73357	16 39 06.72	-13 42 39.8		894
1993 KY1		1993 05 31.74375	16 39 06.11	-13 42 39.8		894
1993 KY1		1993 06 09.55903	16 30 36.19	-13 44 20.0	16.8	894
1993 KY1		1993 06 09.57014	16 30 35.56	-13 44 20.2		894
1993 KD2		1993 05 16.61532	15 39 12.00	-10 47 52.9	17.0	894
1993 KD2		1993 05 16.62778	15 39 11.20	-10 47 52.7		894
1993 KD2		1993 05 18.65521	15 37 00.61	-10 46 17.6	16.8	894
1993 KD2		1993 05 18.66844	15 36 59.76	-10 46 17.1		894
1993 KD2		1993 05 20.58137	15 34 56.61	-10 45 07.6	17.0	894
1993 KD2		1993 05 20.59375	15 34 55.69	-10 45 06.9		894
1993 KD2	*	1993 05 23.61458	15 31 41.53	-10 43 58.5	17.0	894
1993 KD2		1993 05 23.62708	15 31 40.72	-10 43 58.9		894
1993 KD2		1993 05 25.60174	15 29 35.29	-10 43 43.8	17.0	894
1993 KD2		1993 05 25.61516	15 29 34.51	-10 43 43.7		894
(157)		1993 05 20.53264	14 42 36.58	-10 53 17.3		894
(157)		1993 05 20.54514	14 42 35.81	-10 53 17.8		894
(3739)		1993 05 23.63993	16 00 36.03	-12 52 39.4	15.5	894
(3739)		1993 05 23.65313	16 00 35.17	-12 52 38.6		894
(4563)		1993 05 23.63993	15 58 03.71	-12 30 59.8		894
(4563)		1993 05 23.65313	15 58 02.88	-12 30 58.9		894
(4737)		1993 05 23.63993	15 55 32.76	-12 47 48.1		894
(4737)		1993 05 23.65313	15 55 32.05	-12 47 46.0		894

905 Nachi-Katsuura Observatory

T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan

Observer Y. Shimizu

Measurer T. Urata

## 0.30-m f/3.8 hyperboloid astrocamera

GSC

1993 JF		1993 05 25.47465	12 51 36.74	-09 48 33.2	17	905
1993 JF		1993 05 25.49352	12 51 36.68	-09 48 26.8		905
1993 KF2	*	1993 05 25.50787	14 19 53.02	-11 06 57.5	16.5	905
1993 KF2		1993 05 25.52373	14 19 52.45	-11 06 53.8		905
1993 MF		1993 06 26.60729	20 25 43.96	+07 04 05.0		905
1993 MF		1993 06 26.60920	20 25 44.24	+07 04 10.9		905
1993 MF		1993 06 26.61128	20 25 44.68	+07 04 19.2		905

## 970 Chelmsford

G. M. Hurst, 16 Westminster Close, Kempshott Rise, Basingstoke,  
Hants. RG22 4PP, England

Observer N. James

## 0.30m f/5.25 reflector

GSC

1993 MF		1993 06 28.95683	20 33 07.42	+09 23 27.0		970
1993 MF		1993 07 07.94369	21 03 30.42	+18 27 59.7		970
1993 MF		1993 07 07.94644	21 03 31.07	+18 28 09.8		970

The following discoveries were observed on one night only:

1992 AH4	*	1992 01 02.96181	06 36 33.62	+22 36 21.4	18.2	033
1992 AH4		1992 01 03.00347	06 36 30.74	+22 36 12.2		033
1992 AJ4	*	1992 01 02.98264	05 53 42.31	+26 54 54.7	18.7	033
1992 AJ4		1992 01 03.02292	05 53 39.74	+26 54 57.7		033
1992 AK4	*	1992 01 02.98264	05 55 34.19	+26 51 42.0	19.1	033
1992 AK4		1992 01 03.02292	05 55 31.74	+26 51 43.2		033
1992 AL4	*	1992 01 02.98264	05 56 28.33	+25 17 26.3	18.9	033
1992 AL4		1992 01 03.02292	05 56 25.81	+25 17 31.2		033
1992 AM4	*	1992 01 02.98264	05 59 08.81	+26 21 23.5	19.0	033
1992 AM4		1992 01 03.02292	05 59 06.17	+26 21 20.3		033
1992 AN4	*	1992 01 02.98264	05 59 34.08	+27 33 59.6	18.6	033
1992 AN4		1992 01 03.02292	05 59 31.40	+27 34 03.6		033
1992 AO4	*	1992 01 02.98264	06 01 50.78	+26 26 48.0	19.5	033
1992 AO4		1992 01 03.02292	06 01 48.15	+26 26 41.7		033
1992 AP4	*	1992 01 02.98264	06 02 14.09	+27 19 54.4	18.8	033
1992 AP4		1992 01 03.02292	06 02 11.92	+27 19 54.6		033
1992 AQ4	*	1992 01 02.98264	06 02 37.34	+25 13 00.7	18.4	033
1992 AQ4		1992 01 03.02292	06 02 35.16	+25 13 04.9		033
1992 AR4	*	1992 01 02.98264	06 03 28.85	+25 44 03.1	18.4	033
1992 AR4		1992 01 03.02292	06 03 26.56	+25 44 09.4		033
1992 AS4	*	1992 01 02.98264	06 03 54.11	+25 37 14.1	18.3	033
1992 AS4		1992 01 03.02292	06 03 51.28	+25 37 17.8		I 033
1992 AT4	*	1992 01 02.98264	06 05 27.40	+25 41 17.6	19.2	033
1992 AT4		1992 01 03.02292	06 05 24.94	+25 41 21.2		033
1992 AU4	*	1992 01 02.98264	06 05 28.06	+26 04 00.0	19.3	033
1992 AU4		1992 01 03.02292	06 05 25.83	+26 04 11.8		I 033
1992 AV4	*	1992 01 02.98264	06 05 32.66	+25 46 38.1	18.9	033
1992 AV4		1992 01 03.02292	06 05 30.05	+25 46 43.4		033
1992 AW4	*	1992 01 02.98264	06 05 34.57	+27 34 57.2	18.8	033
1992 AW4		1992 01 03.02292	06 05 31.66	+27 34 57.2		033
1992 AX4	*	1992 01 02.98264	06 05 58.25	+26 30 27.6	18.5	033
1992 AX4		1992 01 03.02292	06 05 55.81	+26 30 29.9		033
1992 AY4	*	1992 01 03.04653	08 03 28.88	+06 33 05.3	18.0	033
1992 AY4		1992 01 03.09306	08 03 25.38	+06 32 46.2		033
1992 AZ4	*	1992 01 03.04653	08 08 35.51	+08 32 13.6	18.2	033
1992 AZ4		1992 01 03.09306	08 08 33.47	+08 32 19.2		033
1992 AA5	*	1992 01 03.04653	08 08 51.00	+07 04 27.5	17.9	033

1992 AA5		1992 01 03.09306	08 08 48.59	+07 04 18.6			033
1992 AB5	*	1992 01 03.07153	10 16 50.80	+19 54 46.0	19.2		033
1992 AB5		1992 01 03.13472	10 16 48.39	+19 54 25.5			033
1992 AC5	*	1992 01 03.07153	10 17 29.14	+20 08 16.0	19.0		033
1992 AC5		1992 01 03.13472	10 17 28.46	+20 08 35.8			033
1992 AD5	*	1992 01 03.07153	10 19 03.93	+19 17 26.2	19.5		033
1992 AD5		1992 01 03.13472	10 19 03.57	+19 17 54.7			033
1992 AE5	*	1992 01 03.07153	10 20 37.80	+19 42 54.7	19.8		033
1992 AE5		1992 01 03.13472	10 20 37.61	+19 43 06.7			033
1992 AF5	*	1992 01 03.07153	10 21 15.74	+20 25 55.1	18.6		033
1992 AF5		1992 01 03.13472	10 21 15.17	+20 26 19.4			033
1992 AG5	*	1992 01 03.76250	04 29 22.12	+17 25 21.4	18.3		033
1992 AG5		1992 01 03.81389	04 29 20.80	+17 25 26.2			033
1992 AH5	*	1992 01 03.76250	04 33 36.43	+16 29 13.7	17.8		033
1992 AH5		1992 01 03.81389	04 33 34.67	+16 29 23.9			033
1992 AJ5	*	1992 01 03.76250	04 34 26.93	+16 55 46.5	18.4		033
1992 AJ5		1992 01 03.81389	04 34 25.25	+16 55 46.0			033
1992 AK5	*	1992 01 03.76250	04 37 30.39	+18 43 28.1	17.9		033
1992 AK5		1992 01 03.81389	04 37 28.58	+18 43 29.3			033
1992 AL5	*	1992 01 03.76250	04 42 07.14	+17 17 48.3	18.1		033
1992 AL5		1992 01 03.81389	04 42 05.20	+17 17 58.7			033
1992 AM5	*	1992 01 03.76250	04 42 18.99	+17 45 30.6	17.4		033
1992 AM5		1992 01 03.81389	04 42 16.94	+17 45 38.7			033
1992 AN5	*	1992 01 11.20197	08 10 17.55	+21 42 30.8	16		303
1992 AO5	*	1992 01 11.24155	08 57 58.51	+15 16 03.6		a	303
1992 AO5		1992 01 11.26238	08 56 54.43	+15 07 57.0	15	a	303
1992 AO5		1992 01 11.28322	08 55 26.51	+14 56 45.0		a	303
1992 AP5	*	1992 01 12.26586	08 09 40.25	+18 00 33.2			303
1992 AQ5	*	1992 01 14.25694	08 53 14.26	-04 17 26.6	19		303
1992 AR5	*	1992 01 14.25694	08 54 38.22	-04 24 57.4	18		303
1992 AS5	*	1992 01 14.25694	08 54 42.93	-01 44 48.7	17		303
1992 AT5	*	1992 01 14.25694	09 00 16.27	-01 31 25.9	17		303
1992 AU5	*	1992 01 14.25694	09 03 43.61	-02 14 23.2	17		303
1992 AV5	*	1992 01 14.25694	09 03 47.25	-03 57 04.7	17		303
1992 AW5	*	1992 01 14.25694	09 04 24.79	-02 16 33.7	17		303
1992 AX5	*	1992 01 05.81910	09 59 11.97	+15 55 17.7	18		372
1992 AX5		1992 01 05.83021	09 59 11.62	+15 55 24.1			372
1992 AY5	*	1992 01 05.81910	10 01 52.06	+16 14 11.4	17		372
1992 AY5		1992 01 05.83021	10 01 51.75	+16 14 13.8			372
1992 AZ5	*	1992 01 05.81910	10 02 00.99	+16 15 06.5	17		372
1992 AZ5		1992 01 05.83021	10 02 00.53	+16 15 06.9			372
1992 AA6	*	1992 01 12.62466	07 12 52.87	+22 28 53.1	17		372
1992 AA6		1992 01 12.63576	07 12 51.90	+22 28 53.6			372
1992 AB6	*	1992 01 12.62466	07 14 19.55	+22 10 22.3	17.5		372
1992 AB6		1992 01 12.63576	07 14 19.08	+22 10 27.5			372
1992 AC6	*	1992 01 14.73118	07 07 57.74	+22 53 08.0	17		372
1992 AC6		1992 01 14.74166	07 07 56.88	+22 53 05.1			372
1992 AC6		1992 01 14.75347	07 07 56.15	+22 53 02.8			372
1992 AD6	*	1992 01 02.54097	07 50 29.45	+28 17 47.4	17.5		399
1992 AD6		1992 01 02.55590	07 50 28.38	+28 17 52.7			399
1992 AE6	*	1992 01 04.52847	08 37 18.52	+20 39 19.4	17.5		399
1992 AE6		1992 01 04.54340	08 37 17.87	+20 39 26.0			399
1992 AF6	*	1992 01 04.56319	08 38 55.76	+17 32 10.7	17		399
1992 AF6		1992 01 04.57847	08 38 55.11	+17 32 13.9			399
1992 AG6	*	1992 01 02.02118	06 56 14.21	+14 21 28.5	18.0		511
1992 AG6		1992 01 02.05521	06 56 12.00	+14 21 19.5			511
1992 AH6	*	1992 01 04.81979	05 45 04.27	+30 45 15.6	18.0		511
1992 AH6		1992 01 04.85868	05 45 01.64	+30 45 07.5			511
1992 AJ6	*	1992 01 01.44306	08 18 16.94	+19 08 34.8	17.5		675

1992	AJ6		1992	01	01.47951	08	18	14.64	+19	09	15.5		675
1992	AK6	*	1992	01	01.71619	08	22	45.20	+08	09	09.8	16.5	877
1992	AK6		1992	01	01.73459	08	22	44.02	+08	09	09.2		877
1992	AL6	*	1992	01	10.50521	05	22	35.84	+29	36	55.3	16.5	889
1992	AL6		1992	01	10.52465	05	22	34.88	+29	36	58.2		889
1992	BC5	*	1992	01	28.50660	09	46	15.93	+20	47	16.7	15.5	364
1992	BC5		1992	01	28.52049	09	46	14.64	+20	47	07.3		364
1992	BD5	*	1992	01	23.45295	06	56	13.64	+22	23	31.3	17	372
1992	BD5		1992	01	23.46214	06	56	13.31	+22	23	34.6		372
1992	BE5	*	1992	01	27.51250	07	57	51.86	+21	58	23.1	18.5	372
1992	BF5	*	1992	01	24.40347	06	47	20.00	+26	04	03.9	16.8	399
1992	BF5		1992	01	24.42049	06	47	19.08	+26	04	06.3		399
1992	BF5		1992	01	24.54757	06	47	11.65	+26	04	26.6		399
1992	BG5	*	1992	01	28.49514	09	03	39.19	+29	08	19.5	17	399
1992	BG5		1992	01	28.51007	09	03	38.10	+29	08	19.9		399
1992	BH5	*	1992	01	28.68686	10	59	34.97	+11	54	30.1	17	399
1992	BH5		1992	01	28.70903	10	59	34.29	+11	54	32.5		399
1992	BJ5	*	1992	01	29.42552	08	58	43.04	+11	11	13.5	16.5	675
1992	BJ5		1992	01	29.45434	08	58	41.22	+11	11	18.0		675
1992	BK5	*	1992	01	31.40278	08	56	12.55	+11	11	38.7		675
1992	BK5		1992	01	31.43090	08	56	10.85	+11	11	44.7		675
1992	BL5	*	1992	01	30.18542	07	30	59.91	+12	35	31.1	19.0	809
1992	BL5		1992	01	30.19861	07	30	59.27	+12	35	36.8		809
1992	BL5		1992	01	30.21181	07	30	58.55	+12	35	41.6		809
1992	BM5	*	1992	01	30.18542	07	37	45.23	+10	30	15.5	18.5	809
1992	BM5		1992	01	30.19861	07	37	44.66	+10	30	17.6		809
1992	BM5		1992	01	30.21181	07	37	44.12	+10	30	19.6		809
1992	BO5	*	1992	01	30.22708	07	51	16.96	+14	39	02.7		809
1992	BO5		1992	01	30.24028	07	51	16.03	+14	39	06.4		809
1992	BO5		1992	01	30.25347	07	51	15.08	+14	39	10.7		809
1992	BP5	*	1992	01	30.22708	07	54	11.22	+12	33	23.6	19.6	809
1992	BP5		1992	01	30.24028	07	54	10.40	+12	33	22.0		809
1992	BP5		1992	01	30.25347	07	54	09.52	+12	33	21.3		809
1992	BQ5	*	1992	01	30.22708	08	04	40.34	+11	38	08.4	19.5	809
1992	BQ5		1992	01	30.24028	08	04	39.25	+11	38	08.3		809
1992	BQ5		1992	01	30.25347	08	04	38.14	+11	38	09.5		809
1992	BR5	*	1992	01	30.22708	08	05	28.01	+12	06	04.3		809
1992	BR5		1992	01	30.24028	08	05	27.44	+12	06	05.5		809
1992	BR5		1992	01	30.25347	08	05	26.70	+12	06	06.7		809
1992	BS5	*	1992	01	30.22708	08	06	00.08	+10	39	50.0	19.0	809
1992	BS5		1992	01	30.24028	08	05	59.19	+10	39	52.2		809
1992	BS5		1992	01	30.25347	08	05	58.08	+10	39	53.8		809
1992	BT5	*	1992	01	30.22708	08	06	16.99	+13	05	28.8	18.8	809
1992	BT5		1992	01	30.24028	08	06	16.12	+13	05	31.6		809
1992	BT5		1992	01	30.25347	08	06	15.18	+13	05	35.4		809
1992	BU5	*	1992	01	30.22708	08	08	03.83	+11	51	05.2	19.1	809
1992	BU5		1992	01	30.24028	08	08	03.03	+11	51	10.0		809
1992	BU5		1992	01	30.25347	08	08	02.14	+11	51	16.0		809
1992	BV5	*	1992	01	24.51875	07	00	20.86	+22	38	13.1	17.5	894
1992	BV5		1992	01	24.53056	07	00	20.28	+22	38	13.3		894
1992	BW5	*	1992	01	25.63351	09	03	42.40	+21	53	28.6	17.0	894
1992	BW5		1992	01	25.65556	09	03	41.01	+21	53	40.2		894
1992	BX5	*	1992	01	26.12113	03	03	32.50	+16	29	13.8	18.2	V 691
1992	CG4	*	1992	02	08.95000	09	58	39.66	+23	03	51.0	18.1	033
1992	CG4		1992	02	08.99583	09	58	37.16	+23	03	59.0		033
1992	CK4	*	1992	02	08.64792	10	23	04.96	+09	37	17.4	17	364
1992	CK4		1992	02	08.66528	10	23	04.62	+09	37	23.3		364
1992	CL4	*	1992	02	01.65729	10	07	13.29	+16	07	56.4	18	372
1992	CL4		1992	02	01.66840	10	07	12.98	+16	07	58.1		372

1992 CM4	*	1992 02 01.65729	10 08 12.77	+16 19 48.5	18	372
1992 CM4		1992 02 01.66840	10 08 12.34	+16 19 53.9		372
1992 CN4	*	1992 02 01.68021	10 00 46.99	+16 36 56.5	18	372
1992 CN4		1992 02 01.69201	10 00 46.27	+16 37 07.0		372
1992 CO4	*	1992 02 01.70417	09 55 24.12	+17 15 33.2	17.5	372
1992 CO4		1992 02 01.71563	09 55 23.47	+17 15 37.3		372
1992 CP4	*	1992 02 01.70417	09 55 48.90	+17 15 01.8	17.5	372
1992 CP4		1992 02 01.71563	09 55 48.66	+17 15 05.1		372
1992 CQ4	*	1992 02 01.72813	09 49 48.98	+17 00 31.4	17	372
1992 CQ4		1992 02 01.74028	09 49 48.49	+17 00 34.9		372
1992 CR4	*	1992 02 01.72813	09 50 27.30	+17 52 02.9	18	372
1992 CR4		1992 02 01.74028	09 50 26.87	+17 52 09.6		372
1992 CS4	*	1992 02 01.75140	10 16 14.25	+15 13 46.1	18	372
1992 CS4		1992 02 01.76667	10 16 13.16	+15 13 56.0		372
1992 CT4	*	1992 02 01.75485	10 14 36.71	+15 44 44.4	17	372
1992 CT4		1992 02 01.76667	10 14 36.42	+15 44 52.9		372
1992 CU4	*	1992 02 04.45972	09 03 24.16	+20 49 35.4	18	372
1992 CU4		1992 02 04.67015	09 03 23.39	+20 49 39.3		372
1992 CV4	*	1992 02 04.63681	08 45 03.68	+21 28 05.6	18	372
1992 CV4		1992 02 04.64791	08 45 02.83	+21 28 12.5		372
1992 CW4	*	1992 02 04.63681	08 46 29.46	+21 29 14.3	18	372
1992 CW4		1992 02 04.64792	08 46 28.59	+21 29 12.5		372
1992 CX4	*	1992 02 04.68472	09 44 57.20	+14 05 00.7	18	372
1992 CX4		1992 02 04.69583	09 44 56.88	+14 05 07.1		372
1992 CY4	*	1992 02 04.68472	09 45 54.26	+13 22 46.9	17.5	372
1992 CY4		1992 02 04.69583	09 45 53.68	+13 22 47.0		372
1992 CZ4	*	1992 02 05.66735	09 26 15.08	+18 50 37.5	17.5	372
1992 CZ4		1992 02 05.67917	09 26 14.49	+18 50 39.8		372
1992 CA5	*	1992 02 05.66735	09 29 08.69	+19 27 12.5	17.5	372
1992 CA5		1992 02 05.67167	09 29 08.34	+19 27 15.0		372
1992 CB5	*	1992 02 05.71771	09 38 58.63	+18 34 33.5	17	372
1992 CB5		1992 02 05.73021	09 38 57.90	+18 34 26.0		372
1992 CC5	*	1992 02 05.71771	09 40 33.83	+18 10 31.1	19	372
1992 CC5		1992 02 05.73021	09 40 33.34	+18 10 33.6		372
1992 CD5	*	1992 02 05.74342	10 35 50.63	+13 34 52.3	17.5	372
1992 CD5		1992 02 05.75521	10 35 50.21	+13 34 58.7		372
1992 CE5	*	1992 02 05.74342	10 36 57.71	+13 41 57.0	18	372
1992 CE5		1992 02 05.75521	10 36 57.68	+13 42 00.2		372
1992 CF5	*	1992 02 08.64340	09 26 06.35	+18 09 43.6	17.5	372
1992 CF5		1992 02 08.65452	09 26 05.62	+18 09 47.5		372
1992 CG5	*	1992 02 08.64340	09 26 57.37	+18 46 15.1	18.5	372
1992 CG5		1992 02 08.65452	09 26 57.02	+18 46 21.5		372
1992 CH5	*	1992 02 08.68750	10 00 25.66	+15 20 15.3	17	372
1992 CH5		1992 02 08.69792	10 00 25.06	+15 20 19.1		372
1992 CJ5	*	1992 02 08.73420	11 05 55.76	-07 12 34.3	18	372
1992 CJ5		1992 02 08.74653	11 05 56.18	-07 12 34.4		372
1992 CK5	*	1992 02 08.75903	09 51 30.60	+16 36 57.1	17	372
1992 CK5		1992 02 08.76944	09 51 30.02	+16 37 00.7		372
1992 CL5	*	1992 02 08.78056	10 10 02.68	+15 58 08.4	17.5	372
1992 CL5		1992 02 08.79098	10 10 02.19	+15 58 10.5		372
1992 CM5	*	1992 02 08.78056	10 10 56.40	+15 44 05.8	17.5	372
1992 CM5		1992 02 08.79098	10 10 56.22	+15 44 05.5		372
1992 CN5	*	1992 02 08.78056	10 12 20.92	+15 49 44.1	17.5	372
1992 CN5		1992 02 08.79098	10 12 20.79	+15 49 44.3		372
1992 CO5	*	1992 02 08.80208	10 20 15.60	+15 15 09.7	18	372
1992 CO5		1992 02 08.81285	10 20 14.89	+15 15 13.7		372
1992 CP5	*	1992 02 08.80208	10 20 44.56	+15 41 59.5	17.5	372
1992 CP5		1992 02 08.81285	10 20 43.93	+15 42 04.8		372
1992 CQ5	*	1992 02 09.59827	09 46 30.49	+16 53 05.2	18	372

1992 CQ5		1992 02 09.611111	09 46 30.09	+16 53 07.6				372
1992 CR5	*	1992 02 10.73438	11 35 56.74	+07 00 06.1	17.5			372
1992 CR5		1992 02 10.74550	11 35 56.32	+07 00 11.0				372
1992 CS5	*	1992 02 12.72333	09 49 50.88	+17 33 19.1	17.5			372
1992 CS5		1992 02 12.73688	09 49 50.24	+17 33 25.5				372
1992 CT5	*	1992 02 13.75857	09 38 00.60	+15 10 50.7	18			372
1992 CT5		1992 02 13.76875	09 38 00.07	+15 10 56.5				372
1992 CU5	*	1992 02 13.80069	10 17 51.95	+15 39 54.3	18			372
1992 CU5		1992 02 13.81110	10 17 51.55	+15 39 59.4				372
1992 CV5	*	1992 02 13.80069	10 21 21.72	+15 56 53.8	18			372
1992 CV5		1992 02 13.81110	10 21 21.39	+15 56 55.6				372
1992 CW5	*	1992 02 13.82101	10 15 18.41	+15 45 24.1	18			372
1992 CW5		1992 02 13.83296	10 15 18.14	+15 45 34.2				372
1992 CX5	*	1992 02 13.82101	10 16 09.79	+16 05 39.5	18			372
1992 CX5		1992 02 13.83296	10 16 08.61	+16 05 41.0				372
1992 CY5	*	1992 02 10.76910	11 04 14.32	-01 10 06.1	16	d		376
1992 CY5		1992 02 10.79219	11 04 14.77	-01 09 51.8				376
1992 CZ5	*	1992 02 02.52500	09 06 28.48	+11 18 19.7	17			385
1992 CZ5		1992 02 02.54444	09 06 27.44	+11 18 20.5				385
1992 CA6	*	1992 02 08.55833	07 58 55.63	+19 41 28.9	16.5			399
1992 CA6		1992 02 08.57332	07 58 54.38	+19 41 14.3				399
1992 CB6	*	1992 02 08.59410	09 00 14.92	+24 00 37.0	17			399
1992 CB6		1992 02 08.60938	09 00 13.99	+24 00 42.3				399
1992 CC6	*	1992 02 08.59410	09 07 17.38	+24 04 10.5	17			399
1992 CC6		1992 02 08.60938	09 07 16.39	+24 04 14.6				399
1992 CD6	*	1992 02 08.63264	09 40 11.00	+21 21 23.1	17.5			399
1992 CD6		1992 02 08.64757	09 40 10.15	+21 21 22.7				399
1992 CE6	*	1992 02 08.63264	09 44 04.48	+18 35 01.7	17.5			399
1992 CE6		1992 02 08.64757	09 44 03.79	+18 35 04.7				399
1992 CF6	*	1992 02 01.50481	06 49 46.95	-28 36 05.8	18	v		413
1992 CF6		1992 02 01.54926	06 49 45.80	-28 35 53.2				413
1992 CG6	*	1992 02 02.13056	07 26 54.85	+12 47 31.2				809
1992 CG6		1992 02 02.14375	07 26 54.16	+12 47 36.6				809
1992 CG6		1992 02 02.15694	07 26 53.51	+12 47 40.2				809
1992 CH6	*	1992 02 02.13056	07 31 11.00	+15 27 33.5				809
1992 CH6		1992 02 02.14375	07 31 10.24	+15 27 38.2				809
1992 CH6		1992 02 02.15694	07 31 09.39	+15 27 41.5				809
1992 CJ6	*	1992 02 02.13056	07 37 58.17	+15 50 32.3				809
1992 CJ6		1992 02 02.14375	07 37 56.97	+15 50 29.4				809
1992 CJ6		1992 02 02.15694	07 37 56.08	+15 50 26.3				809
1992 CK6	*	1992 02 02.13056	07 45 15.81	+11 22 03.7	19.2			809
1992 CK6		1992 02 02.14375	07 45 15.08	+11 22 10.2				809
1992 CK6		1992 02 02.15694	07 45 14.49	+11 22 15.4				809
1992 CL6	*	1992 02 02.17222	08 00 13.27	+11 37 12.0	19.5			809
1992 CL6		1992 02 02.18542	08 00 12.65	+11 37 10.7				809
1992 CL6		1992 02 02.19861	08 00 12.14	+11 37 11.1				809
1992 CM6	*	1992 02 02.17222	08 02 37.70	+12 07 50.4	19.8			809
1992 CM6		1992 02 02.18542	08 02 36.57	+12 07 50.9				809
1992 CM6		1992 02 02.19861	08 02 35.50	+12 07 52.4				809
1992 CN6	*	1992 02 02.17222	08 03 19.39	+11 25 21.8	19.4			809
1992 CN6		1992 02 02.18542	08 03 18.43	+11 25 19.0				809
1992 CN6		1992 02 02.19861	08 03 17.71	+11 25 17.4				809
1992 CO6	*	1992 02 02.21458	08 12 11.78	+12 59 28.6	19.3			809
1992 CO6		1992 02 02.22778	08 12 10.94	+12 59 32.2				809
1992 CO6		1992 02 02.24097	08 12 10.09	+12 59 35.2				809
1992 CP6	*	1992 02 02.21458	08 14 14.81	+15 06 03.8	18.9			809
1992 CP6		1992 02 02.22778	08 14 14.15	+15 06 07.2				809
1992 CP6		1992 02 02.24097	08 14 13.44	+15 06 11.3				809
1992 CQ6	*	1992 02 02.21458	08 20 18.93	+14 27 40.0	19.0			809



1992 CQ6		1992 02 02.22778	08 20 18.19	+14 27 41.6		809
1992 CQ6		1992 02 02.24097	08 20 17.53	+14 27 41.1		809
1992 CR6	*	1992 02 02.21458	08 20 55.86	+13 12 51.4	19.4	809
1992 CR6		1992 02 02.22778	08 20 55.14	+13 12 57.5		809
1992 CR6		1992 02 02.24097	08 20 54.46	+13 13 01.5		809
1992 CS6	*	1992 02 02.21458	08 24 57.54	+14 52 35.9	18.7	809
1992 CS6		1992 02 02.22778	08 24 56.76	+14 52 38.2		809
1992 CS6		1992 02 02.24097	08 24 55.82	+14 52 42.7		809
1992 CT6	*	1992 02 02.21458	08 25 11.51	+11 16 18.6	18.6	809
1992 CT6		1992 02 02.22778	08 25 10.79	+11 16 23.4		809
1992 CT6		1992 02 02.24097	08 25 10.09	+11 16 27.8		809
1992 CU6	*	1992 02 02.21458	08 25 48.80	+12 24 16.0	19.0	809
1992 CU6		1992 02 02.22778	08 25 48.11	+12 24 17.8		809
1992 CU6		1992 02 02.24097	08 25 47.46	+12 24 18.9		809
1992 CV6	*	1992 02 02.21458	08 26 37.61	+12 29 38.3	18.7	809
1992 CV6		1992 02 02.22778	08 26 36.75	+12 29 41.9		809
1992 CV6		1992 02 02.24097	08 26 36.03	+12 29 45.6		809
1992 CW6	*	1992 02 02.21458	08 26 57.72	+14 43 40.4	18.7	809
1992 CW6		1992 02 02.22778	08 26 56.60	+14 43 37.3		809
1992 CW6		1992 02 02.24097	08 26 55.27	+14 43 33.2		809
1992 CX6	*	1992 02 06.13125	07 23 47.05	+13 12 17.8		809
1992 CX6		1992 02 06.14444	07 23 46.30	+13 12 19.2		809
1992 CX6		1992 02 06.15764	07 23 45.69	+13 12 20.8		809
1992 CY6	*	1992 02 06.13125	07 27 25.21	+15 00 15.4	19.0	809
1992 CY6		1992 02 06.14444	07 27 24.52	+15 00 16.2		809
1992 CY6		1992 02 06.15764	07 27 23.79	+15 00 18.2		809
1992 CZ6	*	1992 02 06.13125	07 28 40.83	+16 17 03.3	18.6	809
1992 CZ6		1992 02 06.14444	07 28 40.24	+16 17 02.7		809
1992 CZ6		1992 02 06.15764	07 28 39.60	+16 17 01.6		809
1992 CA7	*	1992 02 06.13125	07 29 18.16	+15 05 53.0	18.5	809
1992 CA7		1992 02 06.14444	07 29 17.55	+15 05 57.0		809
1992 CA7		1992 02 06.15764	07 29 16.93	+15 06 02.1		809
1992 CB7	*	1992 02 06.13125	07 31 45.45	+16 25 29.7	18.6	809
1992 CB7		1992 02 06.14444	07 31 44.82	+16 25 32.5		809
1992 CB7		1992 02 06.15764	07 31 44.12	+16 25 36.3		809
1992 CC7	*	1992 02 06.13125	07 33 07.39	+16 16 50.0	19.2	809
1992 CC7		1992 02 06.14444	07 33 07.03	+16 16 52.0		809
1992 CC7		1992 02 06.15764	07 33 06.76	+16 16 54.3		809
1992 CD7	*	1992 02 06.13125	07 33 38.11	+11 52 50.4	19.0	809
1992 CD7		1992 02 06.14444	07 33 37.70	+11 52 49.6		809
1992 CD7		1992 02 06.15764	07 33 37.25	+11 52 48.9		809
1992 CE7	*	1992 02 06.13125	07 33 41.55	+15 44 19.6	18.7	809
1992 CE7		1992 02 06.14444	07 33 40.98	+15 44 21.9		809
1992 CE7		1992 02 06.15764	07 33 40.36	+15 44 25.5		809
1992 CF7	*	1992 02 06.13125	07 41 09.86	+12 41 23.2		809
1992 CF7		1992 02 06.14444	07 41 09.14	+12 41 26.5		809
1992 CF7		1992 02 06.15764	07 41 08.59	+12 41 30.1		809
1992 CG7	*	1992 02 06.17708	07 56 23.57	+15 55 22.4	19.2	809
1992 CG7		1992 02 06.19028	07 56 22.93	+15 55 30.0		809
1992 CG7		1992 02 06.20347	07 56 22.11	+15 55 38.8		809
1992 CH7	*	1992 02 11.19722	07 25 36.51	+13 49 19.3		809
1992 CH7		1992 02 11.21042	07 25 35.89	+13 49 21.3		809
1992 CJ7	*	1992 02 12.16597	07 36 04.24	+13 29 14.7	19.6	809
1992 CJ7		1992 02 12.17917	07 36 03.74	+13 29 16.0		809
1992 CJ7		1992 02 12.19236	07 36 03.17	+13 29 17.2		809
1992 CK7	*	1992 02 12.16597	07 36 40.26	+13 27 13.2	19.0	809
1992 CK7		1992 02 12.17917	07 36 39.57	+13 27 15.2		809
1992 CK7		1992 02 12.19236	07 36 38.99	+13 27 17.2		809
1992 CL7	*	1992 02 12.16597	07 43 26.75	+13 08 39.1	19.5	809

1992 CL7		1992 02 12.17917	07 43 26.13	+13 08 39.7		809
1992 CL7		1992 02 12.19236	07 43 25.65	+13 08 40.3		809
1992 CM7	*	1992 02 12.16597	07 49 49.99	+11 41 34.0	18.7	809
1992 CM7		1992 02 12.17917	07 49 49.51	+11 41 32.8		809
1992 CM7		1992 02 12.19236	07 49 48.92	+11 41 33.2		809
1992 CN7	*	1992 02 12.16597	07 50 47.20	+12 23 45.4	19.1	809
1992 CN7		1992 02 12.17917	07 50 46.42	+12 23 44.5		809
1992 CN7		1992 02 12.19236	07 50 45.85	+12 23 43.5		809
1992 CO7	*	1992 02 12.16597	07 54 02.98	+15 55 18.7	18.8	809
1992 CO7		1992 02 12.17917	07 54 02.42	+15 55 21.2		809
1992 CO7		1992 02 12.19236	07 54 01.86	+15 55 22.9		809
1992 CP7	*	1992 02 12.16597	07 54 29.24	+13 55 50.2	19.1	809
1992 CP7		1992 02 12.17917	07 54 28.52	+13 55 53.6		809
1992 CP7		1992 02 12.19236	07 54 27.89	+13 55 55.8		809
1992 CQ7	*	1992 02 12.20833	08 00 07.29	+13 39 24.8		809
1992 CQ7		1992 02 12.22153	08 00 06.64	+13 39 25.4		809
1992 CQ7		1992 02 12.23472	08 00 05.93	+13 39 26.9		809
1992 CR7	*	1992 02 12.20833	08 02 35.90	+16 11 13.4		809
1992 CR7		1992 02 12.22153	08 02 35.38	+16 11 18.9		809
1992 CR7		1992 02 12.23472	08 02 34.86	+16 11 21.1		809
1992 CS7	*	1992 02 12.20833	08 02 38.18	+14 37 48.3		809
1992 CS7		1992 02 12.22153	08 02 37.57	+14 37 50.3		809
1992 CS7		1992 02 12.23472	08 02 36.94	+14 37 52.6		809
1992 CT7	*	1992 02 12.20833	08 08 52.87	+15 39 57.6	19.0	809
1992 CT7		1992 02 12.22153	08 08 52.09	+15 40 01.5		809
1992 CT7		1992 02 12.23472	08 08 51.40	+15 40 05.4		809
1992 CU7	*	1992 02 12.20833	08 09 28.51	+14 38 36.8		809
1992 CU7		1992 02 12.22153	08 09 27.63	+14 38 37.8		809
1992 CU7		1992 02 12.23472	08 09 26.82	+14 38 39.4		809
1992 CV7	*	1992 02 12.20833	08 11 12.79	+13 28 16.6		809
1992 CV7		1992 02 12.22153	08 11 11.99	+13 28 22.0		809
1992 CV7		1992 02 12.23472	08 11 11.26	+13 28 25.3		809
1992 CW7	*	1992 02 12.20833	08 11 49.10	+15 39 14.9	19.2	809
1992 CW7		1992 02 12.22153	08 11 48.42	+15 39 15.6		809
1992 CW7		1992 02 12.23472	08 11 47.58	+15 39 15.8		809
1992 CX7	*	1992 02 12.20833	08 12 32.81	+11 56 59.1	18.8	809
1992 CX7		1992 02 12.22153	08 12 31.99	+11 57 00.8		809
1992 CX7		1992 02 12.23472	08 12 31.35	+11 57 01.3		809
1992 CY7	*	1992 02 12.20833	08 14 21.03	+13 59 56.9		809
1992 CY7		1992 02 12.22153	08 14 20.21	+13 59 57.6		809
1992 CY7		1992 02 12.23472	08 14 19.45	+13 59 57.1		809
1992 CZ7	*	1992 02 12.20833	08 16 02.91	+13 35 38.6	18.8	809
1992 CZ7		1992 02 12.22153	08 16 02.40	+13 35 43.1		809
1992 CZ7		1992 02 12.23472	08 16 01.81	+13 35 47.2		809
1992 CA8	*	1992 02 04.68061	11 15 47.30	+02 15 41.1	17.0	F 877
1992 CA8		1992 02 04.70382	11 15 47.04	+02 15 45.2		F 877
1992 CB8	*	1992 02 13.76181	09 31 25.22	+19 43 08.8	17.0	877
1992 CB8		1992 02 13.78229	09 31 24.52	+19 43 08.1		877
1992 DE5	*	1992 02 27.64479	10 05 23.24	+16 03 34.4	17.5	372
1992 DE5		1992 02 27.65592	10 05 22.61	+16 03 39.5		372
1992 DF5	*	1992 02 27.76632	12 02 04.51	+00 43 26.1	17	376
1992 DF5		1992 02 27.78438	12 02 03.69	+00 43 21.5		376
1992 DG5	*	1992 02 27.79826	12 20 07.16	+17 21 05.7	17.5	376
1992 DG5		1992 02 27.82188	12 20 06.36	+17 21 13.6		376
1992 DH5	*	1992 02 21.42361	09 16 02.45	+10 45 01.2	17	399
1992 DH5		1992 02 21.43854	09 16 01.54	+10 44 59.9		399
1992 DJ5	*	1992 02 26.55417	10 27 02.73	+13 14 59.1	17	399
1992 DJ5		1992 02 26.56944	10 27 01.84	+13 15 06.5		399
1992 DK5	*	1992 02 26.62569	11 40 14.57	+13 57 20.1	17.5	399

1992 DK5		1992 02 26.64067	11 40 13.81	+13 57 27.3			399
1992 DL5	*	1992 02 28.23264	09 36 50.86	+22 03 31.3	16.5		675
1992 DL5		1992 02 28.26493	09 36 48.03	+22 02 59.2			675
1992 DM5	*	1992 02 27.12470	09 39 45.08	+14 38 43.9	17.4 V		691
1992 DM5		1992 02 27.14632	09 39 43.86	+14 38 52.9			691
1992 DM5		1992 02 27.16747	09 39 42.68	+14 39 01.4			691
1992 EF3	*	1992 03 06.59809	10 00 22.62	+16 25 18.9	18.5		372
1992 EF3		1992 03 06.61181	10 00 22.49	+16 25 21.2			372
1992 EG3	*	1992 03 07.75486	11 25 23.96	+13 27 51.9	18		372
1992 EG3		1992 03 07.76493	11 25 23.32	+13 27 56.7			372
1992 EH3	*	1992 03 07.75486	11 25 35.20	+13 20 30.8	18		372
1992 EH3		1992 03 07.76493	11 25 34.93	+13 20 35.1			372
1992 EJ3	*	1992 03 10.66284	11 15 27.67	+10 07 42.6	18		372
1992 EJ3		1992 03 10.67360	11 15 27.12	+10 07 47.8			372
1992 EK3	*	1992 03 10.71008	12 13 11.40	+02 49 40.4	18		372
1992 EK3		1992 03 10.72083	12 13 11.13	+02 49 45.2			372
1992 EL3	*	1992 03 11.64754	12 10 51.54	+09 04 23.9	18		372
1992 EL3		1992 03 11.65694	12 10 50.98	+09 04 32.2			372
1992 EM3	*	1992 03 11.69375	11 16 01.09	+10 35 35.4	18.5		372
1992 EN3	*	1992 03 11.76735	12 54 04.77	+06 26 40.7	18		372
1992 EN3		1992 03 11.77813	12 54 04.39	+06 26 48.3			372
1992 EO3	*	1992 03 02.58842	11 23 22.32	+05 38 07.5	17		399
1992 EO3		1992 03 02.60313	11 23 21.43	+05 38 07.7			399
1992 EO3		1992 03 02.69931	11 23 15.67	+05 38 20.8			399
1992 EO3		1992 03 02.71424	11 23 14.62	+05 38 23.9			399
1992 EP3	*	1992 03 02.62523	11 36 55.36	+10 48 37.8	17		399
1992 EP3		1992 03 02.63999	11 36 54.44	+10 48 47.8			399
1992 EQ3	*	1992 03 08.56806	11 59 58.47	+05 05 27.9	17.5		399
1992 EQ3		1992 03 08.58299	11 59 57.75	+05 05 32.8			399
1992 ER3	*	1992 03 08.56806	12 00 37.87	+03 11 06.1	17		399
1992 ER3		1992 03 08.58299	12 00 36.87	+03 11 07.7			399
1992 ES3	*	1992 03 08.56806	12 05 34.56	+06 49 33.1	17		399
1992 ES3		1992 03 08.58299	12 05 33.72	+06 49 44.0			399
1992 ET3	*	1992 03 07.65972	12 08 42.08	+17 32 34.8	15.5		402
1992 ET3		1992 03 07.67639	12 08 40.70	+17 32 44.7			402
1992 EU3	*	1992 03 08.65521	13 11 03.17	+07 42 40.4	17.0		402
1992 EU3		1992 03 08.67292	13 11 02.02	+07 42 45.1			402
1992 EV3	*	1992 03 13.0868	10 20 41.2	+08 20 26	18		493
1992 EV3		1992 03 13.1424	10 20 38.9	+08 20 44			493
1992 EW3	*	1992 03 01.61076	11 25 05.44	+21 01 23.3	17.0		894
1992 EW3		1992 03 01.62396	11 25 04.27	+21 01 25.3			894
1992 EX3	*	1992 03 08.69479	12 06 28.52	+17 33 49.1			896
1992 EX3		1992 03 08.72118	12 06 21.70	+17 33 21.0			896
1992 FS2	*	1992 03 30.83194	09 09 26.66	+21 42 53.8	19.0		033
1992 FS2		1992 03 30.87639	09 09 26.64	+21 42 42.1			033
1992 FT2	*	1992 03 22.51736	12 31 29.49	+11 29 54.7	18		372
1992 FT2		1992 03 22.52743	12 31 28.90	+11 29 58.8			372
1992 FU2	*	1992 03 22.44763	10 19 13.93	-02 36 44.8	17		399
1992 FU2		1992 03 22.46395	10 19 13.31	-02 36 42.2			399
1992 FV2	*	1992 03 22.51667	10 56 44.88	+10 09 27.9	17		399
1992 FV2		1992 03 22.53194	10 56 44.08	+10 09 29.6			399
1992 FW2	*	1992 03 24.51389	11 43 33.09	+03 45 04.7	17		399
1992 FW2		1992 03 24.52882	11 43 32.39	+03 45 12.2			399
1992 FX2	*	1992 03 24.51389	11 46 00.30	+05 51 48.9	17.5		399
1992 FX2		1992 03 24.52882	11 45 59.44	+05 51 52.4			399
1992 FY2	*	1992 03 24.51389	11 52 08.17	+05 40 37.3	17		399
1992 FY2		1992 03 24.52882	11 52 07.37	+05 40 44.5			399
1992 FZ2	*	1992 03 24.54792	11 47 05.94	+10 38 31.8	17.5		399
1992 FZ2		1992 03 24.56296	11 47 05.01	+10 38 31.7			399

1992 FA3	*	1992 03	24.54792	11 50	18.75	+11 37	35.7	17	399
1992 FA3		1992 03	24.56296	11 50	18.19	+11 37	37.7		399
1992 FB3	*	1992 03	24.58125	13 09	02.81	+02 56	13.0	17	399
1992 FB3		1992 03	24.59583	13 09	02.11	+02 56	16.8		399
1992 FC3	*	1992 03	26.51458	11 20	30.88	+16 27	13.7	17	399
1992 FC3		1992 03	26.52951	11 20	30.26	+16 27	18.3		399
1992 FD3	*	1992 03	26.61528	12 29	36.67	-01 41	49.9	17.5	399
1992 FD3		1992 03	26.63021	12 29	35.62	-01 41	49.0		399
1992 FE3	*	1992 03	26.61528	12 33	42.30	+00 35	16.5	17.5	399
1992 FE3		1992 03	26.63021	12 33	41.33	+00 35	24.1		399
1992 FF3	*	1992 03	26.61528	12 35	53.54	+00 52	56.1	17.5	399
1992 FF3		1992 03	26.63021	12 35	52.64	+00 52	59.7		399
1992 GG5	*	1992 04	03.90660	10 57	22.12	+06 07	10.7	19.6	033
1992 GG5		1992 04	03.95139	10 57	20.66	+06 07	16.4		033
1992 GH5	*	1992 04	03.90660	10 58	06.49	+05 03	54.9	18.8	033
1992 GH5		1992 04	03.95139	10 58	04.54	+05 03	57.1		033
1992 GJ5	*	1992 04	03.90660	10 58	54.69	+05 52	23.2	19.3	033
1992 GJ5		1992 04	03.95139	10 58	53.25	+05 52	33.9		033
1992 GK5	*	1992 04	03.90660	10 59	02.26	+05 39	19.2	19.0	033
1992 GK5		1992 04	03.95139	10 59	00.28	+05 39	26.9		033
1992 GL5	*	1992 04	03.90660	10 59	16.55	+07 32	33.4	18.6	033
1992 GL5		1992 04	03.95139	10 59	14.59	+07 32	35.7		033
1992 GM5	*	1992 04	03.90660	11 00	38.22	+06 15	15.5	20.0	033
1992 GM5		1992 04	03.95139	11 00	36.01	+06 15	25.3		033
1992 GN5	*	1992 04	03.90660	11 01	14.49	+06 01	56.4	19.7	033
1992 GN5		1992 04	03.95139	11 01	13.01	+06 02	05.9		033
1992 GO5	*	1992 04	03.90660	11 01	49.10	+06 46	15.4	19.5	033
1992 GO5		1992 04	03.95139	11 01	47.13	+06 46	33.5		033
1992 GP5	*	1992 04	03.90660	11 01	59.33	+05 07	54.8	19.1	033
1992 GP5		1992 04	03.95139	11 01	57.43	+05 07	59.6		033
1992 GQ5	*	1992 04	03.90660	11 02	37.10	+05 14	16.9	19.1	033
1992 GQ5		1992 04	03.95139	11 02	35.08	+05 14	28.0		033
1992 GR5	*	1992 04	03.90660	11 04	23.87	+05 19	22.3	19.4	033
1992 GR5		1992 04	03.95139	11 04	21.70	+05 19	24.3		033
1992 GS5	*	1992 04	03.90660	11 04	52.39	+05 58	37.7	18.7	033
1992 GS5		1992 04	03.95139	11 04	50.98	+05 58	47.9		033
1992 GT5	*	1992 04	03.90660	11 06	15.17	+05 17	45.3	19.2	033
1992 GT5		1992 04	03.95139	11 06	13.56	+05 17	53.8		033
1992 GU5	*	1992 04	03.90660	11 06	42.02	+07 16	02.7	19.5	033
1992 GU5		1992 04	03.95139	11 06	41.07	+07 16	26.4		033
1992 GV5	*	1992 04	03.90660	11 07	17.39	+04 45	54.4	19.0	033
1992 GV5		1992 04	03.95139	11 07	15.85	+04 46	10.1		033
1992 GW5	*	1992 04	03.90660	11 08	05.66	+07 30	06.6	18.7	033
1992 GW5		1992 04	03.95139	11 08	03.72	+07 30	22.9		033
1992 GX5	*	1992 04	03.90660	11 08	24.39	+04 42	17.9	18.5	033
1992 GX5		1992 04	03.95139	11 08	22.66	+04 42	23.0		033
1992 GY5	*	1992 04	03.17014	12 50	57.64	-06 33	07.6	19	303
1992 GY5		1992 04	03.18542	12 50	56.83	-06 33	04.4		303
1992 GY5		1992 04	03.20139	12 50	55.93	-06 32	58.8		303
1992 GZ5	*	1992 04	03.17014	12 51	48.79	-06 31	41.4	19	303
1992 GZ5		1992 04	03.18542	12 51	47.95	-06 31	33.0		303
1992 GZ5		1992 04	03.20139	12 51	47.32	-06 31	26.0		303
1992 GA6	*	1992 04	03.23472	13 51	18.35	-12 13	24.9	17	303
1992 GA6		1992 04	03.25035	13 51	16.99	-12 13	28.4		303
1992 GA6		1992 04	03.26597	13 51	15.90	-12 13	30.2		303
1992 GB6	*	1992 04	04.16736	12 45	02.94	-03 07	45.2		303
1992 GB6		1992 04	04.18299	12 45	02.36	-03 07	33.7		303
1992 GB6		1992 04	04.19861	12 45	01.73	-03 07	25.0		303
1992 GC6	*	1992 04	04.16736	12 53	09.70	-05 41	14.2	18	303

1992 GC6		1992 04 04.18299	12 53 08.84	-05 41 09.4			303
1992 GC6		1992 04 04.19861	12 53 07.85	-05 41 03.5			303
1992 GD6	*	1992 04 01.52688	08 10 19.42	+15 26 17.4	15.4		330
1992 GD6		1992 04 01.58139	08 10 20.49	+15 26 17.9			330
1992 GE6	*	1992 04 05.63021	13 22 27.08	-04 05 15.0	18		372
1992 GE6		1992 04 05.64097	13 22 26.64	-04 05 11.7			372
1992 GF6	*	1992 04 05.65243	12 58 24.57	+00 34 32.4	18		372
1992 GF6		1992 04 05.66425	12 58 24.26	+00 34 35.2			372
1992 GG6	*	1992 04 05.67569	13 05 25.57	+02 57 11.0	18		372
1992 GG6		1992 04 05.68681	13 05 25.09	+02 57 10.5			372
1992 GH6	*	1992 04 05.74758	13 57 55.03	+01 20 57.2	18.5		372
1992 GH6		1992 04 05.75868	13 57 54.74	+01 20 59.6			372
1992 GJ6	*	1992 04 10.62465	12 54 40.84	+00 59 48.3	17.5		372
1992 GJ6		1992 04 10.63646	12 54 40.41	+00 59 57.2			372
1992 GK6	*	1992 04 10.62465	12 55 50.99	+00 40 11.4	17.5		372
1992 GK6		1992 04 10.63646	12 55 50.08	+00 40 14.2			372
1992 GL6	*	1992 04 10.71458	13 16 51.72	-02 40 10.0	17.5		372
1992 GL6		1992 04 10.72569	13 16 51.11	-02 40 07.5			372
1992 GM6	*	1992 04 13.73194	15 41 52.08	-10 44 12.6	17		372
1992 GM6		1992 04 13.74375	15 41 51.71	-10 44 13.9			372
1992 GN6	*	1992 04 07.53090	13 40 08.36	+08 23 47.3	17		399
1992 GN6		1992 04 07.54618	13 40 07.49	+08 23 58.3			399
1992 GN6		1992 04 07.68275	13 40 01.28	+08 25 22.4			399
1992 GN6		1992 04 07.69826	13 40 00.58	+08 25 29.7			399
1992 GO6	*	1992 04 05.59861	13 12 30.84	+15 01 20.2	17.5		402
1992 GO6		1992 04 05.61319	13 12 30.45	+15 01 13.3			402
1992 GP6	*	1992 04 05.36823	13 05 58.12	-09 12 55.5	17.2		675
1992 GP6		1992 04 05.39948	13 05 56.06	-09 12 53.5			675
1992 GQ6	*	1992 04 05.36823	13 11 21.06	-11 17 10.9	17.8		675
1992 GQ6		1992 04 05.39948	13 11 19.28	-11 16 59.5			675
1992 GR6	*	1992 04 05.36823	13 20 44.85	-05 01 09.7	17.8		675
1992 GR6		1992 04 05.39948	13 20 42.96	-05 00 58.2			675
1992 GS6	*	1992 04 01.26525	13 35 04.15	-04 00 34.2			801
1992 GS6		1992 04 01.28567	13 35 03.12	-04 00 24.3			801
1992 GT6	*	1992 04 04.23125	13 51 51.28	-14 19 28.1	19.1		809
1992 GT6		1992 04 04.24444	13 51 50.52	-14 19 26.1			809
1992 GT6		1992 04 04.25764	13 51 49.89	-14 19 23.5			809
1992 GU6	*	1992 04 04.23125	13 56 01.87	-13 29 52.6	19.5		809
1992 GU6		1992 04 04.24444	13 56 00.98	-13 29 49.1			809
1992 GU6		1992 04 04.25764	13 56 00.37	-13 29 45.5			809
1992 GV6	*	1992 04 04.23125	13 57 00.10	-13 27 26.8	19.5		809
1992 GV6		1992 04 04.24444	13 56 57.38	-13 27 03.7			809
1992 GV6		1992 04 04.25764	13 56 55.43	-13 26 44.0			809
1992 GW6	*	1992 04 04.23125	13 57 41.79	-14 58 13.1	19.0		809
1992 GW6		1992 04 04.24444	13 57 40.45	-14 58 18.8			809
1992 GW6		1992 04 04.25764	13 57 39.09	-14 58 24.1			809
1992 GX6	*	1992 04 04.23125	14 00 46.63	-11 30 42.3	18.8		809
1992 GX6		1992 04 04.24444	14 00 46.03	-11 30 36.3			809
1992 GX6		1992 04 04.25764	14 00 45.38	-11 30 32.5			809
1992 GY6	*	1992 04 04.23125	14 02 31.13	-12 48 28.2	19.2		809
1992 GY6		1992 04 04.24444	14 02 30.51	-12 48 23.9			809
1992 GY6		1992 04 04.25764	14 02 30.07	-12 48 19.7			809
1992 GZ6	*	1992 04 04.23125	14 02 52.03	-14 20 31.9	18.7		809
1992 GZ6		1992 04 04.24444	14 02 50.75	-14 20 33.2			809
1992 GZ6		1992 04 04.25764	14 02 49.33	-14 20 33.4			809
1992 GA7	*	1992 04 04.23125	14 03 43.94	-11 16 34.3	18.2		809
1992 GA7		1992 04 04.24444	14 03 43.22	-11 16 41.2			809
1992 GA7		1992 04 04.25764	14 03 42.56	-11 16 48.6			809
1992 GB7	*	1992 04 04.23125	14 04 18.72	-11 03 56.3	19.0		809

1992 GB7		1992 04 04.24444	14 04 18.04	-11 03 51.7		809
1992 GB7		1992 04 04.25764	14 04 17.39	-11 03 47.4		809
1992 GC7	*	1992 04 04.23125	14 04 22.67	-11 15 46.4	18.8	809
1992 GC7		1992 04 04.24444	14 04 22.02	-11 15 42.9		809
1992 GC7		1992 04 04.25764	14 04 21.49	-11 15 38.4		809
1992 GD7	*	1992 04 04.23125	14 04 23.82	-15 19 06.7	19.3	809
1992 GD7		1992 04 04.24444	14 04 23.08	-15 19 05.2		809
1992 GD7		1992 04 04.25764	14 04 22.25	-15 19 04.1		809
1992 GE7	*	1992 04 04.23125	14 05 56.89	-13 19 09.9	19.3	809
1992 GE7		1992 04 04.24444	14 05 56.35	-13 19 05.4		809
1992 GE7		1992 04 04.25764	14 05 55.68	-13 18 59.1		809
1992 GF7	*	1992 04 04.23125	14 06 12.75	-14 42 02.8	19.6	809
1992 GF7		1992 04 04.24444	14 06 11.92	-14 41 57.9		809
1992 GF7		1992 04 04.25764	14 06 11.16	-14 41 55.3		809
1992 GG7	*	1992 04 04.23125	14 08 46.12	-11 17 26.3	18.6	809
1992 GG7		1992 04 04.24444	14 08 45.53	-11 17 23.4		809
1992 GG7		1992 04 04.25764	14 08 45.01	-11 17 21.3		809
1992 GH7	*	1992 04 04.23125	14 09 40.23	-14 31 12.8	19.1	809
1992 GH7		1992 04 04.24444	14 09 39.60	-14 31 06.5		809
1992 GH7		1992 04 04.25764	14 09 38.95	-14 31 02.3		809
1992 GJ7	*	1992 04 04.23125	14 10 34.20	-14 34 15.3	18.6	809
1992 GJ7		1992 04 04.24444	14 10 33.43	-14 34 10.2		809
1992 GJ7		1992 04 04.25764	14 10 32.62	-14 34 06.5		809
1992 GK7	*	1992 04 04.27639	14 21 52.72	-15 31 54.9		809
1992 GK7		1992 04 04.28958	14 21 51.96	-15 31 52.7		809
1992 GK7		1992 04 04.30278	14 21 51.32	-15 31 52.2		809
1992 GL7	*	1992 04 04.27639	14 22 02.87	-14 07 18.2		809
1992 GL7		1992 04 04.28958	14 22 02.34	-14 07 17.3		809
1992 GL7		1992 04 04.30278	14 22 01.72	-14 07 16.8		809
1992 GM7	*	1992 04 04.27639	14 22 11.46	-16 18 35.4	18.7	809
1992 GM7		1992 04 04.28958	14 22 10.80	-16 18 35.3		809
1992 GM7		1992 04 04.30278	14 22 10.19	-16 18 36.6		809
1992 GN7	*	1992 04 04.27639	14 23 18.83	-17 04 40.8		809
1992 GN7		1992 04 04.28958	14 23 17.93	-17 04 44.6		809
1992 GN7		1992 04 04.30278	14 23 17.20	-17 04 48.3		809
1992 GO7	*	1992 04 04.27639	14 26 20.90	-13 40 13.4	20.0	809
1992 GO7		1992 04 04.28958	14 26 20.22	-13 40 14.2		809
1992 GO7		1992 04 04.30278	14 26 19.59	-13 40 15.5		809
1992 GP7	*	1992 04 04.27639	14 31 47.86	-17 24 16.7	19.0	809
1992 GP7		1992 04 04.28958	14 31 47.30	-17 24 15.8		809
1992 GP7		1992 04 04.30278	14 31 46.82	-17 24 14.9		809
1992 GQ7	*	1992 04 04.27639	14 36 18.19	-16 21 20.6	19.0	809
1992 GQ7		1992 04 04.28958	14 36 17.84	-16 21 19.4		809
1992 GQ7		1992 04 04.30278	14 36 17.55	-16 21 17.7		809
1992 GR7	*	1992 04 06.22500	13 58 20.58	-12 36 23.9	18.9	809
1992 GR7		1992 04 06.23819	13 58 19.69	-12 36 22.7		809
1992 GR7		1992 04 06.25139	13 58 18.86	-12 36 21.2		809
1992 GS7	*	1992 04 06.22500	14 07 54.86	-12 00 50.0	18.7	809
1992 GS7		1992 04 06.23819	14 07 54.05	-12 00 48.8		809
1992 GS7		1992 04 06.25139	14 07 53.38	-12 00 48.7		809
1992 GT7	*	1992 04 06.22500	14 08 07.98	-10 36 49.1		809
1992 GT7		1992 04 06.23819	14 08 07.36	-10 36 47.2		809
1992 GT7		1992 04 06.25139	14 08 06.77	-10 36 44.4		809
1992 GU7	*	1992 04 06.26806	14 19 26.30	-16 42 43.5	19.4	809
1992 GU7		1992 04 06.28125	14 19 25.52	-16 42 41.8		809
1992 GU7		1992 04 06.29444	14 19 24.78	-16 42 40.8		809
1992 GV7	*	1992 04 06.26806	14 20 26.45	-15 40 22.9	18.7	809
1992 GV7		1992 04 06.28125	14 20 25.80	-15 40 22.7		809
1992 GV7		1992 04 06.29444	14 20 25.15	-15 40 22.3		809

1992	GW7	*	1992	04	06.26806	14	20	34.69	-15	13	00.8	19.0	809
1992	GW7		1992	04	06.28125	14	20	34.10	-15	12	57.4		809
1992	GW7		1992	04	06.29444	14	20	33.48	-15	12	53.0		809
1992	GX7	*	1992	04	06.26806	14	24	46.50	-15	24	22.1	18.7	809
1992	GX7		1992	04	06.28125	14	24	45.97	-15	24	18.1		809
1992	GX7		1992	04	06.29444	14	24	45.31	-15	24	14.1		809
1992	GY7	*	1992	04	06.26806	14	30	53.58	-15	32	56.9	18.6	809
1992	GY7		1992	04	06.28125	14	30	52.63	-15	32	58.5		809
1992	GY7		1992	04	06.29444	14	30	51.43	-15	32	58.9		809
1992	GZ7	*	1992	04	06.26806	14	32	45.75	-16	16	25.2	18.7	809
1992	GZ7		1992	04	06.28125	14	32	45.00	-16	16	24.5		809
1992	GZ7		1992	04	06.29444	14	32	44.32	-16	16	24.0		809
1992	HN5	*	1992	04	30.96806	15	21	05.82	-08	15	25.6	17.0	033
1992	HN5		1992	05	01.03056	15	21	02.10	-08	15	24.2		033
1992	HO5	*	1992	04	27.86670	11	59	54.43	+18	33	26.6		071
1992	HO5		1992	04	27.91068	11	59	54.73	+18	33	32.3		071
1992	HP5	*	1992	04	27.92521	14	25	56.91	-16	57	39.0		071
1992	HP5		1992	04	27.95843	14	25	56.21	-16	57	31.5		071
1992	HQ5	*	1992	04	27.73490	15	58	38.40	-31	38	21.5	18.5	372
1992	HR5	*	1992	04	20.51240	12	16	28.4	+18	42	22	16	V p 374
1992	HR5		1992	04	20.53254	12	16	27.70	+18	42	24.8		374
1992	HR5		1992	04	20.54365	12	16	27.35	+18	42	29.7		374
1992	HS5	*	1992	04	27.23750	13	01	25.43	-07	21	14.9	17.5	675
1992	HS5		1992	04	27.28056	13	01	22.68	-07	21	02.7		675
1992	HT5	*	1992	04	23.14514	13	35	31.37	-10	00	37.6		809
1992	HT5		1992	04	23.15833	13	35	30.57	-10	00	29.4		809
1992	HT5		1992	04	23.17153	13	35	29.82	-10	00	22.9		809
1992	HU5	*	1992	04	25.08889	13	32	15.55	-12	14	24.3	18.7	809
1992	HU5		1992	04	25.10208	13	32	14.93	-12	14	21.8		809
1992	HU5		1992	04	25.11528	13	32	14.30	-12	14	18.6		809
1992	HV5	*	1992	04	25.08889	13	34	42.88	-10	03	59.5	18.6	809
1992	HV5		1992	04	25.10208	13	34	42.29	-10	03	57.3		809
1992	HV5		1992	04	25.11528	13	34	41.74	-10	03	54.8		809
1992	HW5	*	1992	04	25.08889	13	36	05.11	-10	14	15.6	18.6	809
1992	HW5		1992	04	25.10208	13	36	03.96	-10	14	03.2		809
1992	HW5		1992	04	25.11528	13	36	02.70	-10	13	50.3		809
1992	HX5	*	1992	04	25.08889	13	38	33.35	-08	39	34.8	19.5	809
1992	HX5		1992	04	25.10208	13	38	32.59	-08	39	32.8		809
1992	HX5		1992	04	25.11528	13	38	31.75	-08	39	29.9		809
1992	HY5	*	1992	04	25.08889	13	38	54.43	-08	50	56.2	19.2	809
1992	HY5		1992	04	25.10208	13	38	53.74	-08	50	50.8		809
1992	HY5		1992	04	25.11528	13	38	53.09	-08	50	48.0		809
1992	HZ5	*	1992	04	25.08889	13	39	28.23	-08	48	51.9	19.0	809
1992	HZ5		1992	04	25.10208	13	39	27.45	-08	48	48.4		809
1992	HZ5		1992	04	25.11528	13	39	26.69	-08	48	45.2		809
1992	HA6	*	1992	04	25.08889	13	40	59.68	-08	41	15.8	18.7	809
1992	HA6		1992	04	25.10208	13	40	58.86	-08	41	16.3		809
1992	HA6		1992	04	25.11528	13	40	58.05	-08	41	18.3		809
1992	HB6	*	1992	04	25.08889	13	45	53.62	-08	30	59.2	19.4	809
1992	HB6		1992	04	25.10208	13	45	53.05	-08	30	54.1		809
1992	HB6		1992	04	25.11528	13	45	52.33	-08	30	47.5		809
1992	HC6	*	1992	04	25.08889	13	47	43.20	-09	10	39.7	19.0	809
1992	HC6		1992	04	25.10208	13	47	42.57	-09	10	34.9		809
1992	HC6		1992	04	25.11528	13	47	42.01	-09	10	30.5		809
1992	HD6	*	1992	04	25.13403	14	00	19.97	-14	43	04.5	19.5	809
1992	HD6		1992	04	25.14722	14	00	19.20	-14	43	00.0		809
1992	HD6		1992	04	25.16042	14	00	18.46	-14	42	56.7		809
1992	HE6	*	1992	04	25.13403	14	02	56.66	-12	24	46.7	18.6	809
1992	HE6		1992	04	25.14722	14	02	56.18	-12	24	43.6		809

1992 HE6		1992 04 25.16042	14 02 55.54	-12 24 41.1			809
1992 HF6	*	1992 04 25.13403	14 03 07.71	-14 50 09.0	19.7		809
1992 HF6		1992 04 25.14722	14 03 07.04	-14 50 06.7			809
1992 HF6		1992 04 25.16042	14 03 06.20	-14 50 02.0			809
1992 HG6	*	1992 04 25.13403	14 03 11.70	-14 34 26.9	18.9		809
1992 HG6		1992 04 25.14722	14 03 10.73	-14 34 25.2			809
1992 HG6		1992 04 25.16042	14 03 10.05	-14 34 21.5			809
1992 HH6	*	1992 04 25.13403	14 03 37.75	-14 05 45.2	20.0		809
1992 HH6		1992 04 25.14722	14 03 36.76	-14 05 42.1			809
1992 HH6		1992 04 25.16042	14 03 36.18	-14 05 41.5			809
1992 HJ6	*	1992 04 25.13403	14 04 33.13	-15 18 39.0	18.7		809
1992 HJ6		1992 04 25.14722	14 04 32.37	-15 18 36.5			809
1992 HJ6		1992 04 25.16042	14 04 31.62	-15 18 36.9			809
1992 HK6	*	1992 04 25.13403	14 05 19.14	-14 10 13.7	19.0		809
1992 HK6		1992 04 25.14722	14 05 18.33	-14 10 10.9			809
1992 HK6		1992 04 25.16042	14 05 17.40	-14 10 07.6			809
1992 HL6	*	1992 04 25.13403	14 05 30.10	-13 28 35.0	19.3		809
1992 HL6		1992 04 25.14722	14 05 29.43	-13 28 33.0			809
1992 HL6		1992 04 25.16042	14 05 28.76	-13 28 32.4			809
1992 HM6	*	1992 04 25.13403	14 05 40.40	-11 16 12.9	19.2		809
1992 HM6		1992 04 25.14722	14 05 39.72	-11 16 07.4			809
1992 HM6		1992 04 25.16042	14 05 39.09	-11 16 01.7			809
1992 HN6	*	1992 04 25.13403	14 08 05.72	-14 42 14.1	18.3		809
1992 HN6		1992 04 25.14722	14 08 05.11	-14 42 06.3			809
1992 HN6		1992 04 25.16042	14 08 04.62	-14 41 58.5			809
1992 HO6	*	1992 04 25.13403	14 11 10.08	-14 58 52.2	19.1		809
1992 HO6		1992 04 25.14722	14 11 09.42	-14 58 49.8			809
1992 HO6		1992 04 25.16042	14 11 08.88	-14 58 47.0			809
1992 HP6	*	1992 04 25.13403	14 13 29.08	-13 56 28.4	19.2		809
1992 HP6		1992 04 25.14722	14 13 28.36	-13 56 25.1			809
1992 HP6		1992 04 25.16042	14 13 27.76	-13 56 23.5			809
1992 HQ6	*	1992 04 25.13403	14 14 08.48	-11 34 06.7	19.0		809
1992 HQ6		1992 04 25.14722	14 14 07.53	-11 34 05.4			809
1992 HQ6		1992 04 25.16042	14 14 06.72	-11 34 04.4			809
1992 HR6	*	1992 04 25.13403	14 14 42.43	-14 33 27.3	19.4		809
1992 HR6		1992 04 25.14722	14 14 41.81	-14 33 24.0			809
1992 HR6		1992 04 25.16042	14 14 41.15	-14 33 22.5			809
1992 HS6	*	1992 04 25.13403	14 15 25.20	-11 33 25.1	19.5		809
1992 HS6		1992 04 25.14722	14 15 24.32	-11 33 25.1			809
1992 HS6		1992 04 25.16042	14 15 23.57	-11 33 27.3			809
1992 HT6	*	1992 04 25.13403	14 15 58.63	-14 55 28.0	19.3		809
1992 HT6		1992 04 25.14722	14 15 57.94	-14 55 25.4			809
1992 HT6		1992 04 25.16042	14 15 57.22	-14 55 22.3			809
1992 HU6	*	1992 04 25.13403	14 18 35.71	-11 02 16.0	18.7		809
1992 HU6		1992 04 25.14722	14 18 34.87	-11 02 14.6			809
1992 HU6		1992 04 25.16042	14 18 34.07	-11 02 15.1			809
1992 HV6	*	1992 04 27.62674	13 55 57.88	-09 30 08.2	16.7		894
1992 HV6		1992 04 27.63993	13 55 57.07	-09 30 10.6			894
1992 JV3	*	1992 05 04.66528	15 14 38.90	-11 27 56.3	17.5		372
1992 JV3		1992 05 04.67569	15 14 38.49	-11 27 50.4			372
1992 JW3	*	1992 05 01.64028	14 47 46.32	-20 54 34.0	16.5	d	385
1992 JW3		1992 05 01.65174	14 47 45.23	-20 54 42.5		d	385
1992 JX3	*	1992 05 02.53194	13 22 39.11	+06 19 31.2	17		399
1992 JX3		1992 05 02.55000	13 22 38.37	+06 19 34.8			399
1992 JY3	*	1992 05 02.53194	13 22 54.01	+05 53 20.0	17		399
1992 JY3		1992 05 02.55000	13 22 53.27	+05 53 24.8			399
1992 JZ3	*	1992 05 02.60764	15 09 40.01	-10 51 08.3	17		399
1992 JZ3		1992 05 02.62407	15 09 38.96	-10 51 04.8			399
1992 JA4	*	1992 05 02.60764	15 17 45.03	-11 41 29.5	17		399



1992 JA4		1992 05 02.62407	15 17 44.16	-11 41 24.6				399
1992 JB4	*	1992 05 02.60764	15 18 46.64	-12 40 27.0	17			399
1992 JB4		1992 05 02.62407	15 18 45.56	-12 40 24.9				399
1992 JC4	*	1992 05 01.23420	12 33 48.49	-05 06 54.7	17			675
1992 JC4		1992 05 01.25764	12 33 48.01	-05 06 26.7				675
1992 JD4	*	1992 05 01.27795	13 28 28.26	-08 37 28.9	17			675
1992 JD4		1992 05 01.30295	13 28 26.97	-08 37 01.2				675
1992 JE4	*	1992 05 02.36267	14 52 42.71	-22 19 08.1	16.5			675
1992 JE4		1992 05 02.38698	14 52 41.28	-22 19 31.6				675
1992 KV	*	1992 05 28.58125	14 45 45.73	-12 26 04.9	19			372
1992 KV		1992 05 28.59167	14 45 45.34	-12 26 04.2				372
1992 KW	*	1992 05 28.60313	13 36 41.29	-13 27 11.6	18.5			372
1992 KW		1992 05 28.61458	13 36 40.86	-13 27 09.4				372
1992 KX	*	1992 05 29.49073	14 17 27.59	-13 51 46.3	18.6	t		474
1992 KX		1992 05 29.52019	14 17 26.26	-13 51 44.2		t		474
1992 KY	*	1992 05 29.49073	14 18 23.84	-14 00 38.7	20			474
1992 KY		1992 05 29.52019	14 18 22.93	-14 00 35.4				474
1992 KZ	*	1992 05 29.49073	14 19 28.16	-14 17 00.4	18.9			474
1992 KZ		1992 05 29.52019	14 19 27.16	-14 16 51.2				474
1992 KA1	*	1992 05 24.85278	13 32 03.25	+15 16 52.4				589
1992 KA1		1992 05 24.85694	13 32 03.11	+15 16 53.7				589
1992 KA1		1992 05 24.86944	13 32 02.48	+15 16 54.5				589
1992 KA1		1992 05 24.87361	13 32 02.37	+15 16 54.9				589
1992 LP1	*	1992 06 02.60938	15 44 24.02	-11 51 17.0	17.0			402
1992 LP1		1992 06 02.62153	15 44 23.62	-11 51 17.3				402
1992 LQ1	*	1992 06 02.63056	16 15 31.40	-10 42 30.9	17.0			402
1992 LQ1		1992 06 02.64444	16 15 30.61	-10 42 25.5				402
1992 LR1	*	1992 06 02.63056	16 15 59.46	-08 14 12.7	16.5			402
1992 LR1		1992 06 02.64444	16 15 58.70	-08 14 14.5				402
1992 LS1	*	1992 06 02.63056	16 19 46.25	-11 34 19.2	16.5			402
1992 LS1		1992 06 02.64444	16 19 45.23	-11 34 19.3				402
1992 LT1	*	1992 06 02.67847	19 27 16.65	-24 30 59.7	16.5			402
1992 LT1		1992 06 02.69583	19 27 15.97	-24 30 59.2				402
1992 LU1	*	1992 06 02.67847	19 33 23.90	-25 38 06.8	17.0			402
1992 LU1		1992 06 02.69583	19 33 23.33	-25 38 05.0				402
1992 LV1	*	1992 06 02.67847	19 37 07.55	-26 36 09.8	17.0			402
1992 LV1		1992 06 02.69583	19 37 06.47	-26 35 58.6				402
1992 LW1	*	1992 06 01.24583	16 00 50.57	-14 53 48.5				809
1992 LW1		1992 06 01.25903	16 00 49.93	-14 53 56.4				809
1992 LW1		1992 06 01.27222	16 00 49.28	-14 54 03.6				809
1992 LX1	*	1992 06 01.24583	16 13 38.16	-15 15 59.4				809
1992 LX1		1992 06 01.25903	16 13 37.32	-15 15 57.3				809
1992 LX1		1992 06 01.27222	16 13 36.46	-15 15 56.0				809
1992 LY1	*	1992 06 03.18542	16 11 58.84	-19 43 50.7	19.2			809
1992 LY1		1992 06 03.19861	16 11 57.92	-19 43 47.8				809
1992 LY1		1992 06 03.21181	16 11 57.01	-19 43 45.9				809
1992 LZ1	*	1992 06 03.18542	16 13 48.51	-16 55 58.0	18.7			809
1992 LZ1		1992 06 03.19861	16 13 47.72	-16 55 53.3				809
1992 LZ1		1992 06 03.21181	16 13 46.95	-16 55 47.6				809
1992 LA2	*	1992 06 03.18542	16 13 50.93	-20 24 39.4	18.5			809
1992 LA2		1992 06 03.19861	16 13 50.18	-20 24 34.6				809
1992 LA2		1992 06 03.21181	16 13 49.24	-20 24 29.7				809
1992 LB2	*	1992 06 03.18542	16 14 26.13	-18 50 21.8	19.0			809
1992 LB2		1992 06 03.19861	16 14 25.48	-18 50 20.9				809
1992 LB2		1992 06 03.21181	16 14 24.92	-18 50 20.1				809
1992 LC2	*	1992 06 03.18542	16 15 40.67	-18 55 43.4	18.5			809
1992 LC2		1992 06 03.19861	16 15 39.93	-18 55 42.9				809
1992 LC2		1992 06 03.21181	16 15 39.16	-18 55 42.6				809
1992 LD2	*	1992 06 03.18542	16 16 40.40	-18 23 23.0	18.1			809

1992 LD2		1992 06 03.19861	16 16 39.73	-18 23 18.2		809
1992 LD2		1992 06 03.21181	16 16 39.01	-18 23 13.3		809
1992 LE2	*	1992 06 03.18542	16 18 23.15	-17 52 16.5	19.4	809
1992 LE2		1992 06 03.19861	16 18 22.20	-17 52 14.6		809
1992 LE2		1992 06 03.21181	16 18 21.11	-17 52 11.1		809
1992 LF2	*	1992 06 03.18542	16 19 18.42	-20 25 03.1	18.6	809
1992 LF2		1992 06 03.19861	16 19 17.71	-20 25 02.6		809
1992 LF2		1992 06 03.21181	16 19 17.01	-20 25 01.9		809
1992 LG2	*	1992 06 03.18542	16 19 44.60	-18 43 11.5	18.4	809
1992 LG2		1992 06 03.19861	16 19 43.88	-18 43 09.8		809
1992 LG2		1992 06 03.21181	16 19 43.16	-18 43 07.8		809
1992 LH2	*	1992 06 03.18542	16 21 03.49	-20 02 25.8	19.0	809
1992 LH2		1992 06 03.19861	16 21 02.80	-20 02 24.5		809
1992 LH2		1992 06 03.21181	16 21 02.12	-20 02 22.9		809
1992 LJ2	*	1992 06 03.18542	16 21 06.96	-20 45 25.5	18.7	809
1992 LJ2		1992 06 03.19861	16 21 06.25	-20 45 21.5		809
1992 LJ2		1992 06 03.21181	16 21 05.68	-20 45 18.0		809
1992 LK2	*	1992 06 03.18542	16 21 30.63	-17 14 23.5	18.6	809
1992 LK2		1992 06 03.19861	16 21 29.79	-17 14 26.5		809
1992 LK2		1992 06 03.21181	16 21 28.73	-17 14 29.5		809
1992 LL2	*	1992 06 03.18542	16 21 57.18	-17 10 37.5	18.4	809
1992 LL2		1992 06 03.19861	16 21 56.46	-17 10 31.6		809
1992 LL2		1992 06 03.21181	16 21 55.81	-17 10 25.8		809
1992 LM2	*	1992 06 03.18542	16 23 05.88	-20 42 04.3	18.8	809
1992 LM2		1992 06 03.19861	16 23 05.04	-20 42 02.9		809
1992 LM2		1992 06 03.21181	16 23 04.17	-20 42 03.2		809
1992 LN2	*	1992 06 03.18542	16 23 06.26	-18 31 30.8	18.4	809
1992 LN2		1992 06 03.19861	16 23 05.35	-18 31 23.1		809
1992 LN2		1992 06 03.21181	16 23 04.64	-18 31 16.4		809
1992 LO2	*	1992 06 03.18542	16 23 12.92	-20 55 57.2	18.1	809
1992 LO2		1992 06 03.19861	16 23 12.16	-20 55 54.2		809
1992 LO2		1992 06 03.21181	16 23 11.44	-20 55 51.5		809
1992 LP2	*	1992 06 03.18542	16 23 26.98	-19 15 40.4	18.5	809
1992 LP2		1992 06 03.19861	16 23 26.30	-19 15 33.5		809
1992 LP2		1992 06 03.21181	16 23 25.59	-19 15 26.5		809
1992 LQ2	*	1992 06 03.18542	16 23 28.42	-20 49 15.8	18.5	809
1992 LQ2		1992 06 03.19861	16 23 27.74	-20 49 14.3		809
1992 LQ2		1992 06 03.21181	16 23 26.94	-20 49 11.4		809
1992 LR2	*	1992 06 03.18542	16 24 49.92	-20 16 01.3	18.8	809
1992 LR2		1992 06 03.19861	16 24 49.17	-20 16 00.7		809
1992 LR2		1992 06 03.21181	16 24 48.30	-20 16 00.8		809
1992 LS2	*	1992 06 03.18542	16 25 52.12	-16 49 52.2	18.5	809
1992 LS2		1992 06 03.19861	16 25 51.14	-16 49 53.7		809
1992 LS2		1992 06 03.21181	16 25 50.31	-16 49 54.4		809
1992 LT2	*	1992 06 03.18542	16 26 04.19	-16 35 59.6	18.6	809
1992 LT2		1992 06 03.19861	16 26 03.52	-16 36 01.0		809
1992 LT2		1992 06 03.21181	16 26 02.80	-16 36 01.4		809
1992 LU2	*	1992 06 03.18542	16 28 17.38	-19 47 07.0	18.7	809
1992 LU2		1992 06 03.19861	16 28 16.62	-19 47 01.5		809
1992 LU2		1992 06 03.21181	16 28 15.80	-19 46 56.6		809
1992 LV2	*	1992 06 03.18542	16 28 51.16	-21 00 06.4	18.5	809
1992 LV2		1992 06 03.19861	16 28 50.35	-21 00 04.6		809
1992 LV2		1992 06 03.21181	16 28 49.65	-21 00 01.6		809
1992 LW2	*	1992 06 03.18542	16 30 17.90	-16 55 48.1	18.7	809
1992 LW2		1992 06 03.19861	16 30 17.04	-16 55 48.1		809
1992 LW2		1992 06 03.21181	16 30 16.33	-16 55 48.8		809
1992 LX2	*	1992 06 03.18542	16 30 26.35	-20 15 38.1	18.2	809
1992 LX2		1992 06 03.19861	16 30 25.53	-20 15 38.7		809
1992 LX2		1992 06 03.21181	16 30 24.83	-20 15 40.0		809

1992 LY2	*	1992 06 03.18542	16 30 32.41	-21 03 56.2	18.5	809
1992 LY2		1992 06 03.19861	16 30 31.65	-21 03 55.5		809
1992 LY2		1992 06 03.21181	16 30 30.90	-21 03 54.9		809
1992 LZ2	*	1992 06 03.18542	16 30 34.44	-19 35 04.9	19.2	809
1992 LZ2		1992 06 03.19861	16 30 33.72	-19 35 02.0		809
1992 LZ2		1992 06 03.21181	16 30 32.98	-19 34 58.6		809
1992 LA3	*	1992 06 03.18542	16 30 55.03	-19 29 05.6	18.7	809
1992 LA3		1992 06 03.19861	16 30 54.19	-19 29 01.6		809
1992 LA3		1992 06 03.21181	16 30 53.37	-19 28 59.2		809
1992 LB3	*	1992 06 03.18542	16 31 27.19	-18 09 39.9	18.6	809
1992 LB3		1992 06 03.19861	16 31 26.32	-18 09 37.6		809
1992 LB3		1992 06 03.21181	16 31 25.37	-18 09 35.3		809
1992 LC3	*	1992 06 03.18542	16 31 29.66	-20 29 41.7	19.0	809
1992 LC3		1992 06 03.19861	16 31 28.82	-20 29 44.5		809
1992 LC3		1992 06 03.21181	16 31 27.92	-20 29 48.8		809
1992 LD3	*	1992 06 03.18542	16 31 53.80	-19 01 39.5	18.6	809
1992 LD3		1992 06 03.19861	16 31 53.06	-19 01 37.9		809
1992 LD3		1992 06 03.21181	16 31 52.29	-19 01 36.4		809
1992 LE3	*	1992 06 03.18542	16 32 35.86	-19 05 01.2	19.2	809
1992 LE3		1992 06 03.19861	16 32 35.00	-19 05 01.4		809
1992 LE3		1992 06 03.21181	16 32 34.16	-19 05 02.2		809
1992 LF3	*	1992 06 09.22153	16 05 48.09	-16 34 45.0		809
1992 LF3		1992 06 09.23472	16 05 47.31	-16 34 45.2		809
1992 LF3		1992 06 09.24792	16 05 46.46	-16 34 45.9		809
1992 LG3	*	1992 06 09.22153	16 20 44.09	-17 40 15.6		809
1992 LG3		1992 06 09.23472	16 20 43.24	-17 40 15.1		809
1992 LG3		1992 06 09.24792	16 20 42.67	-17 40 16.0		809
1992 LH3	*	1992 06 02.59618	16 20 35.22	-14 06 47.8	17.0	894
1992 LH3		1992 06 02.60799	16 20 34.52	-14 06 43.7		894
1992 MO	*	1992 06 23.71215	20 32 58.57	-09 49 22.5	18	372
1992 MO		1992 06 23.72222	20 32 58.32	-09 49 20.8		372
1992 MP	*	1992 06 23.49318	16 01 13.82	-08 55 51.9	16 V	413
1992 MP		1992 06 23.53485	16 01 12.44	-08 55 58.4		413
1992 MQ	*	1992 06 23.49318	16 08 49.13	-08 09 28.5	16 V	413
1992 MQ		1992 06 23.53485	16 08 47.74	-08 09 38.4		413
1992 MR	*	1992 06 30.16396	19 08 36.85	-13 27 01.4		801
1992 MR		1992 06 30.18307	19 08 37.15	-13 27 06.8		801

\* \* \* \* \*

## ORBITAL ELEMENTS.

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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. For the one-opposition orbits, equinox 2000.0 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. In some batches of MPCs the opportunity is taken to print improved results for previously-discussed multiple-opposition and long-arc single-opposition orbits sideways on pages at the end, following the ephemerides. These high-precision results make reference to earlier orbit computations for identifications and residuals, and the orbit computers are again indicated by the codes listed above.

## Comet Mueller (1993d)

Epoch 1992 Aug. 6.0 TT = JDT 2448840.5

T 1992 Aug. 3.56259 TT

		(2000.0)	P	Q	Marsden
q	5.8972890				
z	-0.0009479	Peri. 61.88175	-0.40518973	-0.46125619	
	+/-0.0000182	Node 77.53435	+0.24141295	-0.88673172	
e	1.0055899	Incl. 53.94006	+0.88178290	+0.03081512	

From 69 observations 1993 Mar. 26-July 9, mean residual 0".89.

## Comet Shoemaker (1992y)

Epoch 1993 Apr. 3.0 TT = JDT 2449080.5

T 1993 Mar. 25.67851 TT

		(2000.0)	P	Q	Marsden
q	2.3136643				
z	+0.0002524	Peri. 54.86362	+0.05402706	-0.65811140	
	+/-0.0000031	Node 55.29947	+0.31080387	-0.70363560	
e	0.9994161	Incl. 65.98605	+0.94893732	+0.26792970	

From 152 observations 1992 Oct. 25-1993 June 28, mean residual 0".83.

## Periodic Comet Helin-Lawrence

Epoch 1993 June 22.0 TT = JDT 2449160.5

T 1993 June 29.77930 TT

		(2000.0)	P	Q	Marsden
q	3.0882359				
n	0.10432514	Peri. 163.59235	-0.24358728	+0.95463591	
a	4.4689971	Node 92.06241	-0.90799439	-0.16239012	
e	0.3089644	Incl. 9.86848	-0.34089796	-0.24959915	
P	9.45				

From 36 observations 1993 Apr. 21-July 1, mean residual 0".87.

## Comet Shoemaker-Levy (1993h)

Epoch 1994 Jan. 8.0 TT = JDT 2449360.5

T 1993 Dec. 31.43588 TT

		(2000.0)	P	Q	Marsden
q	4.9999179				
z	+0.0032477	Peri. 227.37166	-0.44642076	+0.75811368	
	+/-0.0027744	Node 30.66934	-0.25473898	+0.40158670	
e	0.9837618	Incl. 68.73891	-0.85779750	-0.51380130	

From 15 observations 1993 May 23-June 18, mean residual 0".97.

## Comet Mueller (1993a)

Epoch 1994 Jan. 8.0 TT = JDT 2449360.5

T 1994 Jan. 12.89501 TT

			Marsden	
q	(2000.0)		P	Q
z	-0.0009800	Peri. 130.66951	+0.78251059	+0.40397276
	+/-0.0000084	Node 144.72245	-0.26797558	-0.46836006
e	1.0018986	Incl. 124.87783	+0.56201981	-0.78577660

From 224 observations 1992 Nov. 26-1993 May 31, mean residual 0".76.

## Periodic Comet Shoemaker-Levy 9 (1993e)

Epoch 1994 May 8.0 TT = JDT 2449480.5

T 1994 Apr. 1.16950 TT

			Marsden	
q	(2000.0)		P	Q
n	0.05564193	Peri. 355.18047	-0.80782914	+0.58567990
a	6.7951848	Node 220.90770	-0.53734111	-0.77799111
e	0.2079375	Incl. 5.80789	-0.24223256	-0.22739589
P	17.71			

From 130 observations 1993 Mar. 17-July 11, mean residual 1".1.

## One-opposition minor planets

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1988 PX1	13.7	880916	10.10	178.10	159.89	7.05	0.1294	2.3468	57	0		E
1988 PL2	14.9	880827	358.37	7.31	339.18	7.24	0.2210	2.2473	34	0		E
1988 PO2	14.9	880827	3.45	191.04	150.00	5.31	0.1479	2.3154	34	0		E
1988 PP2	14.9	880916	351.46	11.61	354.37	2.48	0.1713	2.3820	57	0		E
1988 PQ2	15.6	880827	6.35	244.56	89.80	1.70	0.2296	2.3238	34	7		E
1988 PE4	16.2	880916	19.01	192.62	130.78	2.76	0.2117	2.3943	56	0		E
1988 QC1	15.8	880916	18.95	123.98	194.78	3.37	0.2530	2.2415	52	0		E
1988 RD1	12.4	880916	350.75	46.62	319.31	9.85	0.0968	3.0010	13	0		E
1988 RE1	13.3	880916	313.38	214.67	195.62	14.86	0.1061	2.5981	12	0		E
1988 RY1	16.4	880827	351.68	215.59	140.68	3.43	0.1921	2.1976	33	0		E
1988 RH2	13.1	880916	73.71	296.60	327.38	7.03	0.1873	2.3220	5	9		E
1988 RN2	13.2	880916	283.11	192.44	263.45	5.96	0.1706	2.7808	8	8		E
1988 RH3	15.0	880916	342.25	26.17	357.52	7.62	0.1627	2.7010	3	0		E
1988 RM3	14.3	880916	1.56	0.30	356.44	8.82	0.1382	2.3907	6	0		E
1988 RO3	14.2	880916	332.63	39.84	358.38	15.11	0.1799	2.5824	6	0		E
1988 RP3	13.5	880916	335.09	36.99	358.23	13.27	0.1843	2.5875	6	0		E
1988 RL6	14.2	880916	7.43	180.22	160.17	7.31	0.1478	2.3912	31	0		E
1988 RC7	12.8	880916	338.84	206.57	177.36	10.92	0.2230	2.4090	34	0		E
1988 RH8	14.7	880916	348.30	27.64	341.39	4.95	0.1839	2.3637	28	0		E
1988 RJ8	14.1	880916	347.67	185.64	181.77	6.01	0.1147	2.3171	28	0		E
1988 RC9	16.4	880916	9.23	176.03	161.74	4.78	0.2408	2.2730	5	7		E
1988 RR11	16.5	880916	6.21	294.31	44.53	1.08	0.1906	2.1716	24	8		E
1988 RG12	14.4	880916	3.61	350.80	356.99	8.99	0.2245	2.6946	28	0		E
1988 RJ12	14.9	880916	342.67	28.32	351.21	11.20	0.1786	2.4829	5	9		E
1988 RL12	15.1	881006	330.81	197.46	203.83	0.38	0.1792	3.0756	55	0		E
1988 RM12	14.8	880916	329.95	232.56	167.22	12.97	0.2112	2.4928	5	9		E
1988 RN12	15.1	881006	32.29	307.08	359.24	17.01	0.2672	2.7753	24	0		E
1988 RR12	12.9	880916	9.49	171.51	170.29	11.93	0.1733	2.5514	22	0		E
1988 RX12	13.1	881006	353.77	168.14	194.81	9.80	0.1039	3.0136	55	0		E
1988 RY12	15.1	881006	11.64	63.36	277.51	2.53	0.1525	2.8066	55	9		E
1988 RZ12	15.1	880916	352.11	166.82	197.05	5.44	0.2156	2.7094	28	0		E
1988 RA13	15.4	880916	56.78	84.26	194.82	4.46	0.1472	2.1686	28	0		E
1988 SA	13.9	880916	12.74	327.81	5.73	8.04	0.1567	2.5479	7	0		E
1988 SC	13.4	880916	297.59	69.71	0.89	13.04	0.1532	2.5668	29	0		E
1988 SQ	11.1	881006	41.41	293.49	355.23	12.76	0.1910	3.9613	54	0		E
1988 SN1	14.8	881006	23.29	210.22	114.89	7.54	0.1641	2.3428	52	9		E
1988 SU1	12.9	881006	184.05	126.36	41.75	11.50	0.0367	2.9997	22	7		E
1988 SV1	14.5	881006	333.48	254.10	131.01	10.41	0.0514	2.6449	52	9		E

1988	SX1	16.5	881006	6.03	234.52	115.24	6.70	0.2392	2.4488	23	8	E
1988	SA2	16.5	881006	33.56	217.34	91.97	6.40	0.2087	2.2124	23	8	E
1988	SB2	13.9	881006	358.35	249.56	111.67	6.70	0.1335	2.2638	23	8	E
1988	SE2	14.6	881006	45.24	256.58	45.40	8.79	0.1103	2.4576	22	9	E
1988	SG2	15.0	881006	30.54	197.01	122.51	8.58	0.1288	2.4320	52	0	E
1988	SM2	14.6	881006	47.83	159.63	140.69	1.93	0.1415	3.2319	53	9	E
1988	SQ2	13.8	881006	324.81	236.94	176.90	8.25	0.2014	3.9424	53	0	E
1988	SS2	16.3	881006	3.68	208.75	151.87	2.06	0.1394	2.2257	56	0	E
1988	SU2	14.2	881006	166.65	75.91	120.23	2.68	0.0161	2.5924	56	0	E
1988	SY2	14.1	880916	358.30	184.22	177.05	12.71	0.2735	2.6270	24	0	E
1988	SP3	14.0	880916	19.24	164.76	163.48	7.50	0.1794	2.3835	5	8	E
1989	WS2	13.3	891220	5.66	317.58	107.31	7.39	0.1350	2.2530	33	0	N
1990	DW	12.8	900310	79.04	106.20	331.61	6.23	0.0665	2.3889	16	9	N
1990	RV17		900906	86.78	256.10	296.31	6.31	0.1605	2.9843	2	3	E W
1990	RB18		900906	359.46	3.43	293.11	12.99	0.0968	3.8343	2	3	E W
1990	RM18		900906	178.32	331.22	152.78	1.98	0.0332	2.5006	2	3	E W
1990	RN18		900906	178.37	2.99	120.80	3.03	0.1256	2.2956	2	3	E W
1991	XG1	10.5	911210	119.98	233.71	89.18	29.45	0.0917	5.1022	23	5	W
1991	XH1	15.0	911210	19.48	11.59	47.67	1.93	0.1762	2.4128	23	5	W
1991	XJ1	15.5	911210	43.43	303.05	82.72	4.11	0.1966	2.3165	23	5	W
1992	AM3	14.0	920119	31.40	137.76	294.30	14.85	0.2065	2.8068	41	8	W
1992	BQ2	14.5	920119	329.50	277.17	237.21	4.38	0.0524	2.4893	13	9	W
1992	BZ4	13.5	920119	335.45	253.56	258.85	8.27	0.0875	3.2505	7	8	W
1992	CQ	13.5	920208	272.43	115.20	134.32	14.31	0.1341	2.6704	23	9	D W
1992	CS2	14.5	920119	233.40	349.25	262.28	4.65	0.0560	2.5090	10	9	W
1992	DH1	14.0	920208	73.77	93.35	325.70	21.37	0.0881	1.9282	26	6	W
1992	GB2	15.0	920408	65.12	287.59	209.47	4.53	0.0236	2.3286	21	9	W
1992	GO2	15.0	920408	289.33	74.88	212.82	2.98	0.1011	2.3238	21	9	W
1992	GR2	14.5	920408	281.88	118.18	179.32	2.25	0.1196	2.3836	21	9	W
1992	HH5	14.5	920408	316.57	279.07	345.31	3.27	0.2124	2.3232	27	0	W
1992	JB2	12.5	920408	231.29	123.97	218.68	9.52	0.0083	2.6191	29	9	W
1992	WS2	12.0	921204	94.85	288.84	22.34	1.09	0.1652	3.1644	11	0	N
1993	FN1	12.3	930403	277.04	141.44	147.32	8.82	0.1904	2.6066	31	0	N
1993	FQ2	12.5	930403	13.28	141.91	25.67	9.92	0.1743	2.7626	66	0	W
1993	GE	10.5	930513	350.48	146.47	57.68	25.82	0.2349	3.1456	65	0	W
1993	GS	14.8	930423	40.32	99.23	51.38	2.92	0.2115	2.1985	5	6	N
1993	GT	13.3	930423	336.85	160.89	90.80	1.98	0.2880	3.0511	5	6	E N
1993	GZ	16.5	930423	8.06	83.81	116.84	11.11	0.1915	3.0190	43	0	W
1993	HE	12.5	930423	3.53	110.34	94.04	14.78	0.1489	2.6264	38	7	W
1993	HG	13.5	930513	340.14	185.78	41.94	1.38	0.1547	3.1587	59	0	W
1993	HH	11.2	930513	12.27	155.21	37.87	16.73	0.0762	3.2091	35	8	N
1993	HJ	13.3	930423	278.35	120.07	186.19	4.62	0.1559	2.2094	22	6	N
1993	HN1	13.5	930423	5.86	35.78	160.06	12.90	0.1909	2.6901	38	7	W
1993	HV1	14.5	930423	270.83	256.95	34.74	25.80	0.1358	3.1892	37	0	W
1993	HW1	13.0	930423	332.26	176.64	76.09	12.51	0.2047	2.2982	27	7	W
1993	HY5	14.5	930423	277.97	128.40	170.81	23.93	0.0350	1.9323	37	7	W
1993	HZ5	15.0	930423	70.13	68.04	68.16	26.25	0.1021	1.8528	37	6	W
1993	HA6	14.5	930403	340.14	180.34	43.20	6.29	0.1570	2.5494	33	0	W
1993	JA	17.0	930423	322.99	223.56	44.14	30.12	0.1830	1.9633	39	0	M
1993	JD	12.8	930513	9.59	356.74	223.62	12.34	0.1128	2.5900	13	0	N
1993	JK	13.5	930513	349.96	42.21	201.97	4.71	0.1287	2.2423	13	6	N
1993	KC	16.0	930602	348.75	37.40	228.59	25.33	0.3568	2.2053	44	0	W
1993	KD	14.5	930602	34.72	4.08	197.76	11.66	0.1753	2.3859	51	0	W
1993	KF	12.1	930602	184.96	328.68	83.55	10.71	0.0525	3.0166	9	0	N
1993	KJ	14.5	930513	354.93	14.89	224.69	24.78	0.1788	2.2697	3	7	E W
1993	KL	13.0	930513	14.82	149.71	44.58	25.62	0.2188	2.3542	52	0	W
1993	KM	13.0	930602	359.44	79.91	175.10	20.19	0.3491	3.1374	37	0	B
1993	KO	13.9	930602	17.19	24.19	198.82	5.72	0.1198	2.2197	7	0	N

1993 KR	13.7	930602	48.60	305.07	229.59	20.95	0.2509	2.3312	25 9	N
1993 KZ	17.5	930513	331.33	70.80	198.30	5.47	0.1624	2.4057	4 9	W
1993 KW1	15.0	930602	358.00	41.98	210.89	20.68	0.0458	1.9465	26 0	W
1993 KX1	12.5	930602	333.96	191.49	93.80	25.64	0.2003	2.3430	26 9	W
1993 KZ1	13.0	930602	353.42	169.38	89.98	25.58	0.2006	2.3483	33 0	W
1993 LA	14.0	930602	25.92	118.83	97.44	24.95	0.2212	2.3883	6 6	W
1993 LC	13.5	930602	355.56	40.42	228.11	12.21	0.1301	2.6255	7 3	W
1993 LE	13.5	930602	10.34	119.25	134.62	11.08	0.1189	3.0085	6 3	W
1993 LF	12.0	930602	329.66	184.79	119.50	15.69	0.1078	2.5573	12 7	W
1993 LX	14.0	930602	29.33	251.87	301.36	11.71	0.0896	3.0478	5 7	W
1993 LZ	14.5	930602	257.14	354.64	355.69	13.89	0.1494	2.4736	5 6	W
1993 LC1	15.5	930513	286.29	273.85	38.74	21.59	0.0806	1.9548	59 0	W
1993 LD1	14.0	930602	95.44	125.27	344.55	11.68	0.2408	2.7236	5 5	E W
1993 LE1	14.5	930602	44.22	202.12	343.61	12.93	0.0280	2.7139	5 6	W
1993 LF1	15.5	930602	347.65	280.80	330.87	12.05	0.1489	2.5740	5 8	W
1993 LG1	14.5	930622	336.54	9.73	265.34	23.75	0.1821	2.4080	18 0	W
1993 LH1	14.0	930602	138.46	129.50	310.86	14.34	0.1673	2.5170	5 5	W
1993 LJ1	14.5	930602	48.57	199.54	322.91	12.70	0.2118	2.6307	5 5	W
1993 LK1	15.0	930602	354.28	60.26	206.00	5.47	0.2127	2.2727	6 5	W
1993 LL1	14.0	930602	285.60	187.06	158.76	6.26	0.1037	2.3876	6 6	W
1993 LO1	15.0	930602	356.84	284.42	313.43	10.70	0.2408	2.5613	5 9	W
1993 LP1	15.0	930602	327.59	356.61	279.77	14.68	0.1877	2.6921	5 8	W
1993 LQ1	14.5	930602	175.81	56.62	357.48	13.95	0.0375	2.4134	2 5	E W
1993 LR1	14.0	930602	40.11	236.75	297.38	12.34	0.1695	2.7604	5 9	W
1993 LS1	14.5	930602	267.47	35.77	301.57	12.85	0.1373	2.4692	5 9	W
1993 LT1	15.5	930602	341.43	55.61	229.94	7.30	0.2042	2.3574	5 3	W
1993 LU1	14.0	930602	289.81	115.68	233.12	12.84	0.1653	2.6692	6 5	W
1993 LW1	14.5	930513	336.16	205.19	62.25	12.34	0.2412	2.4285	61 6	W
1993 LA2	15.5	930602	345.40	357.21	281.90	0.85	0.1880	2.1603	7 7	W
1993 MB	12.5	930602	10.26	61.12	197.43	11.75	0.1838	2.3578	2 6	W
1993 MC	12.5	930602	13.96	30.69	219.51	12.39	0.2607	2.5213	2 6	W
1993 MF	14.5	930622	350.06	74.51	241.41	8.16	0.5441	2.5167	16 0	W
1993 MO	16.0	930622	352.01	167.08	111.61	22.62	0.2204	1.6253	14 0	W
1993 MR	16.0	930622	349.38	77.04	202.03	6.08	0.2563	2.6834	16 0	W
1993 MV	13.5	930622	326.67	91.95	248.32	12.85	0.2478	2.5582	8 9	W
1993 MX	15.0	930602	328.05	250.12	23.51	25.97	0.1122	2.7281	5 3	W
1993 MY	14.5	930602	272.68	31.28	306.01	12.79	0.1594	2.5998	5 7	W
1993 MZ	14.0	930602	230.46	23.93	348.39	13.32	0.1267	2.5268	5 7	W
1993 MB1	13.5	930602	4.72	119.84	132.78	13.25	0.1442	2.5438	6 8	W
1993 ME1	16.0	930622	3.84	359.58	252.25	23.00	0.4845	2.6344	15 0	W
1993 MF1	13.0	930602	190.83	100.72	297.48	12.92	0.1452	2.7326	4 6	W
1993 NA		930712	17.17	77.47	194.14	4.54	0.1881	2.3180	4 9	W

1992 CQ = 1992 CF4 (S. Nakano)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 Williams  
 (41) Daphne Obs. 250 M 275.73898 Peri. 46.24875  
 H 7.12 G 0.10 Opp. 38 n 0.21490894 Node 178.37919  
 rms res. 0".97 (M-C) 1915-1992 e 0.2754882 Incl. 15.77726

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 Goffin  
 (118) Peitho Obs. 404 M 35.87513 Peri. 33.11427  
 H 9.14 G 0.15 Opp. 62 n 0.25896441 Node 47.81680  
 rms res. 1".07 (M-C) 1872-1992 e 0.1610233 Incl. 7.74835

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 Goffin  
 (153) Hilda Obs. 307 M 83.50107 Peri. 42.40975  
 H 7.48 G 0.15 Opp. 58 n 0.12406847 Node 228.48919  
 rms res. 0".97 (M-C) 1875-1992 e 0.1432291 Incl. 7.83303

Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(277) Elvira			Obs. 150	M	19.59385	Peri.	135.05766
H 9.84	G	0.15	Opp. 34	n	0.20113417	Node	232.14886
rms res. 0".95	(M-C)		1888-1992	e	0.0925158	Incl.	1.15539
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(279) Thule			Obs. 249	M	164.95285	Peri.	85.87352
H 8.57	G	0.15	Opp. 53	n	0.11132862	Node	73.70300
rms res. 0".93	(M-C)		1888-1991	e	0.0114893	Incl.	2.33892
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(334) Chicago			Obs. 401	M	122.12062	Peri.	135.67160
H 7.64	G	0.15	Opp. 69	n	0.12902855	Node	130.75828
rms res. 0".90	(M-C)		1892-1992	e	0.0420062	Incl.	4.65584
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(423) Diotima			Obs. 406	M	121.49276	Peri.	214.86230
H 7.24	G	0.15	Opp. 57	n	0.18336478	Node	69.81130
rms res. 0".79	(M-C)		1896-1990	e	0.0374750	Incl.	11.24904
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(434) Hungaria			Obs. 147	M	47.12313	Peri.	123.88493
H 11.21	G	0.15	Opp. 30	n	0.36352530	Node	175.47584
rms res. 0".97	(M-C)		1898-1990	e	0.0736641	Incl.	22.50566
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(448) Natalie			Obs. 82	M	337.75231	Peri.	295.72929
H 10.30	G	0.15	Opp. 25	n	0.17678155	Node	37.58656
rms res. 1".08	(M-C)		1899-1992	e	0.1772931	Incl.	12.72891
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(452) Hamiltonia			Obs. 30	M	93.65694	Peri.	62.30661
H 11.2	G	0.15	Opp. 10	n	0.20526590	Node	92.71203
rms res. 0".88	(M-C)		1899-1992	e	0.0151272	Incl.	3.22482
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(455) Bruchsalia			Obs. 190	M	109.36938	Peri.	272.19555
H 8.86	G	0.15	Opp. 41	n	0.22769996	Node	76.80549
rms res. 0".99	(M-C)		1900-1992	e	0.2926271	Incl.	12.03596
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(480) Hansa			Obs. 367	M	323.58304	Peri.	210.57531
H 8.38	G	0.15	Opp. 40	n	0.22923566	Node	237.56042
rms res. 0".78	(M-C)		1901-1992	e	0.0455526	Incl.	21.31601
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(704) Interamnia			Obs. 1625	M	173.42182	Peri.	92.88811
H 5.94	G	-0.02	Opp. 58	n	0.18347626	Node	280.94092
rms res. 0".82	(M-C)		1910-1992	e	0.1458106	Incl.	17.27997
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Goffin	
(747) Winchester			Obs. 216	M	261.24048	Peri.	275.85645
H 7.69	G	0.15	Opp. 39	n	0.19039967	Node	130.25952
rms res. 0".95	(M-C)		1913-1992	e	0.3444298	Incl.	18.17840
Epoch 1993 Aug.	1.0	TT =	JDT 2449200.5			Bowell	
(1697) Koskenniemi			Obs. 44	M	109.12360	Peri.	91.34988
H 12.6	G	0.15	Opp. 13	n	0.26932860	Node	331.93782
rms res. 1".35	(M-C)		1940-1993	e	0.1170735	Incl.	5.67036



Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (1872) Helenos	Obs. 30	M 216.55291	Williams
H 11.2 G 0.15	Opp. 6	n 0.08267954	Peri. 114.14617
rms res. 0".78 (M-C) 1971-1991		e 0.0431466	Node 189.16332
			Incl. 14.70929
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (1907) Rudneva	Obs. 64	M 202.61922	Bowell
H 11.8 G 0.15	Opp. 14	n 0.24262666	Peri. 62.29442
rms res. 0".91 (M-C) 1942-1988		e 0.0435682	Node 152.34079
			Incl. 3.20901
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (2205) Glinka	Obs. 19	M 330.20375	Williams
H 11.8 G 0.15	Opp. 7	n 0.18913959	Peri. 106.86403
rms res. 0".89 (M-C) 1968-1993		e 0.1191304	Node 227.97413
			Incl. 10.47554
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (2458) Veniakaverin	Obs. 55	M 352.70757	Bowell
H 11.8 G 0.15	Opp. 7	n 0.17714886	Peri. 183.73446
rms res. 0".89 (M-C) 1975-1991		e 0.1263007	Node 128.56149
			Incl. 2.07532
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (2586) Matson	Obs. 65	M 146.01807	Bowell
H 12.9 G 0.15	Opp. 11	n 0.26733890	Peri. 153.84489
rms res. 0".98 (M-C) 1962-1991		e 0.0895941	Node 166.76177
			Incl. 4.36211
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (2594) Acamas	Obs. 19	M 190.58607	Williams
H 11.5 G 0.15	Opp. 5	n 0.08487841	Peri. 277.69141
rms res. 0".70 (M-C) 1977-1990		e 0.0854636	Node 356.82335
			Incl. 5.51248
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (2641) Lipschutz	Obs. 39	M 36.17525	Bowell
H 12.7 G 0.15	Opp. 6	n 0.26866971	Peri. 164.28615
rms res. 0".75 (M-C) 1949-1993		e 0.1321039	Node 27.97136
			Incl. 9.01619
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (2685) Masursky	Obs. 21	M 59.25850	Williams
H 12.2 G 0.15	Opp. 7	n 0.23950379	Peri. 289.05819
rms res. 0".97 (M-C) 1973-1993		e 0.1137511	Node 215.51106
			Incl. 12.12607
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (2934) Aristophanes	Obs. 50	M 21.64830	Bowell
H 11.2 G 0.15	Opp. 9	n 0.17474041	Peri. 71.37199
rms res. 0".73 (M-C) 1960-1992		e 0.0405265	Node 202.98683
			Incl. 8.83086
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (3008) Nojiri	Obs. 63	M 225.55695	Williams
H 12.0 G 0.15	Opp. 6	n 0.17515900	Peri. 302.32930
rms res. 1".08 (M-C) 1938-1985		e 0.1439347	Node 168.89419
			Incl. 0.79486
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (3028) Zhangguoxi	Obs. 38	M 153.90677	Bowell
H 10.7 G 0.15	Opp. 8	n 0.18779741	Peri. 353.34851
rms res. 0".86 (M-C) 1931-1991		e 0.0251506	Node 189.96908
			Incl. 9.50266
Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (3072) Vilnius	Obs. 41	M 206.75809	Bowell
H 14.0 G 0.15	Opp. 6	n 0.29433918	Peri. 139.62209
rms res. 0".81 (M-C) 1954-1988		e 0.1801059	Node 152.69939
			Incl. 5.64054

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 (3107) Weaver Obs. 63 M 194.59737 Bowell  
 H 13.8 G 0.15 Opp. 8 n 0.30167671 Peri. 49.51254  
 rms res. 0".73 (M-C) 1952-1988 e 0.2082654 Node 272.11956  
 Incl. 1.60194

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 (3161) Beadell Obs. 45 M 147.08742 Bowell  
 H 12.1 G 0.15 Opp. 6 n 0.23900283 Peri. 256.17046  
 rms res. 0".88 (M-C) 1980-1991 e 0.1727937 Node 351.81283  
 Incl. 14.91280

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 (3537) Jurgen Obs. 14 M 276.03662 Williams  
 H 13.2 G 0.15 Opp. 5 n 0.23646334 Peri. 278.13220  
 rms res. 0".85 (M-C) 1982-1993 e 0.1556914 Node 44.39571  
 Incl. 15.16399

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 (3748) Tatum Obs. 39 M 79.46400 Bowell  
 H 12.8 G 0.15 Opp. 9 n 0.24471415 Peri. 110.34340  
 rms res. 0".88 (M-C) 1977-1993 e 0.1567502 Node 33.93089  
 Incl. 5.98289

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 (4586) Gunvor Obs. 22 M 0.30214 Bowell  
 H 13.7 G 0.15 Opp. 5 n 0.28151262 Peri. 304.54165  
 rms res. 0".68 (M-C) 1960-1990 e 0.0779158 Node 200.53670  
 Incl. 5.14916

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 (4687) 1979 SJ11 Obs. 21 M 138.29020 Williams  
 H 12.2 G 0.15 Opp. 6 n 0.17949802 Peri. 177.57760  
 rms res. 1".16 (M-C) 1951-1993 e 0.1454294 Node 268.14685  
 Incl. 3.88308

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 (5175) 1988 VS4 Obs. 31 M 106.84661 Williams  
 H 13.8 G 0.15 Opp. 4 n 0.35726767 Peri. 312.99525  
 rms res. 0".60 (M-C) 1988-1993 e 0.0387502 Node 234.67728  
 Incl. 16.84168

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 (5429) 1988 BZ1 Obs. 64 M 358.14520 Williams  
 H 12.2 G 0.15 Opp. 4 n 0.17095294 Peri. 294.66000  
 rms res. 0".95 (M-C) 1971-1992 e 0.1370127 Node 183.70830  
 Incl. 0.75558

(5611)\* 1943 DL = 1964 FF = 1987 UX9 = 1989 CS

Discovered 1943 Feb. 26 by L. Oterma at Turku.

Id. S. Nakano (MPC 14341), G. V. Williams (MPC 20008)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 M 54.08143 (2000.0) P Q  
 n 0.23541260 Peri. 111.98354 -0.28651111 -0.95785791  
 a 2.5976636 Node 354.54192 +0.78027405 -0.22087927  
 e 0.1305758 Incl. 12.43667 +0.55595304 -0.18363165  
 P 4.19 H 12.5 G 0.15

Residuals in seconds of arc

430226	062	0.9-	0.2-	890207	385	1.2-	1.4-	890308	372	1.5-	0.4+
430226	062	2.0+	0.6-	890207	385	1.0-	1.0-	890310	372	(3.6-	0.1-)
430301	062	1.3-	2.1+	890207	385	0.5+	0.7-	910912	675	0.7+	0.3+
430312	062	1.7+	1.4+	890213	385	(3.1-	0.3+)	910912	675	0.2+	0.3-
640316	760	0.1-	1.3+	890213	385	1.8+	1.6-	910916	675	0.9-	0.5+
640316	760	0.5+	1.2-	890301	372	1.0-	1.0-	910916	675	1.0+	1.5-
871023	095	1.0+	1.5-	890301	372	1.3+	0.2+	910916	675	0.4-	0.5+
890205	385	2.3-	1.1-	890306	372	(2.8-	2.8-)	910916	675	0.5+	0.8-
890205	385	0.4+	0.1-	890308	372	2.1-	0.5-	921022	801	0.9-	1.0-

921022	801	0.2-	0.8+	921128	801	0.3+	0.6+	930115	596	0.9+	0.0
921024	801	0.2-	0.9+	921129	801	0.2+	0.7+	930115	596	0.5+	0.0
921024	801	(2.9-	0.6+)	921129	801	0.2+	0.7+	930115	596	0.1+	0.0
921128	801	0.3+	0.8+	930115	596	0.1-	0.0				

(5612)\* 1975 TX2 = 1979 WY7 = 1987 UU8

Discovered 1975 Oct. 3 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Id. H. Kaneda (MPC 15699)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	133.72054		(2000.0)								
n	0.25159957	Peri.	40.48625			-0.06013084				-0.99234305	
a	2.4850175	Node	53.23309			+0.87751912				-0.10406607	
e	0.1009665	Incl.	7.73995			+0.47575674				+0.06652463	
P	3.92	H	13.0			G	0.15				

Nakano

Q

Residuals in seconds of arc

751003	095	1.0+	1.6-	911009	801	0.3-	0.5+	911210	033	0.3-	0.1-
751013	095	0.7-	1.0-	911010	801	0.3-	0.6+	911210	033	1.0+	0.5-
751105	095	0.3+	1.7+	911010	801	0.2-	0.6+	911211	033	0.4-	0.9-
751106	095	0.4-	0.2-	911103	801	0.1+	0.2+	930424	801	0.1-	0.8-
791122	095	0.6+	0.1+	911103	801	0.0	0.1+	930424	801	0.2-	0.1-
871023	095	(1.6-	3.2-)	911106	801	0.2+	0.4-	930524	801	0.0	0.2+
911009	801	0.1-	0.6+	911106	801	0.1+	0.1-	930524	801	0.1-	0.1-

(5613)\* 1976 YP1 = 1981 UU10

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

Id. S. Nakano (MPC 20804)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	37.98230		(2000.0)								
n	0.18015675	Peri.	39.61543			+0.62187760				-0.78309119	
a	3.1048148	Node	11.93530			+0.71088698				+0.56127092	
e	0.1770887	Incl.	1.67268			+0.32849345				+0.26784911	
P	5.47	H	12.6			G	0.15				

Nakano

Q

Residuals in seconds of arc

761216	095	0.4-	0.1-	860907	809	0.2-	0.1+	921021	894	2.0+	1.4-
761218	095	0.9-	1.0-	860907	809	0.3-	0.3+	921021	894	2.1+	0.7-
761220	095	0.4-	0.5-	860907	809	0.4-	0.5+	921022	801	0.2+	0.2-
770113	095	(2.8-	3.9-)	860908	095	0.7+	0.6-	921022	801	0.0	0.1-
780315	675	0.3-	0.5-	860909	809	0.6-	0.7+	921028	801	0.0	0.0
780316	675	0.1+	0.7-	860909	809	0.6-	0.7+	921028	801	0.0	0.1-
811007	095	(0.9-	3.5+)	860909	809	0.7-	0.7+	921102	010	0.2-	0.8-
811021	095	2.4+	1.9+	861030	801	1.4-	0.5+	921102	010	0.7-	0.5-
811125	095	2.3-	1.8+	871223	801	1.1+	0.1-	921102	010	0.5-	0.0
860905	809	0.6+	0.5+	910710	809	0.0	0.6-	921121	801	0.3-	0.1-
860905	809	0.8+	0.5+	910710	809	0.1+	0.7-	921121	801	0.2-	0.0
860905	809	1.1+	0.6+	910710	809	0.2+	0.8-	921129	801	0.2-	0.1+
860906	809	0.2-	0.8-	910711	809	0.1+	1.0-	921129	801	0.1-	0.1+
860906	809	0.0	0.8-	910711	809	0.1-	0.8-				
860906	809	0.2-	0.7-	921006	894	1.3-	1.2-				

(5614)\* 1979 VN = 1974 QT = 1974 QZ1 = 1974 TE

Discovered 1979 Nov. 11 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. H. Oishi (JAM 1992)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 325.28923	(2000.0)			P	Nakano	Q
n 0.20301452	Peri. 119.06639	+0.88579194			+0.45967291	
a 2.8671560	Node 213.68303	-0.45567712			+0.83542814	
e 0.3309617	Incl. 6.60829	-0.08792612			+0.30126507	
P 4.85	H 12.9	G 0.15				

Residuals in seconds of arc

740820 095	0.0	0.1-	891121 888	(6.8+ 3.0+)	891202 888	0.0	0.6-
740825 095	0.3+	1.2-	891121 888	0.7- 1.9+	891202 888	0.1-	0.3-
741009 095	0.8-	1.3+	891125 399	1.9+ 0.6-	930524 801	0.5+	0.1-
791016 095	1.3-	0.6+	891125 399	1.0- 1.5-	930524 801	0.3+	0.5+
791111 095	2.7+	1.2-	891125 888	0.4- 0.2-	930527 801	1.3-	0.1-
791116 095	0.5-	0.8+	891125 399	0.0 0.3+	930527 894	0.5+	1.5-
891025 888	0.6+	0.1+	891125 888	0.5+ 0.5+	930527 894	0.1+	0.9+
891025 888	0.5+	0.7+	891129 888	0.6- 0.8+	930618 801	0.2+	0.8+
891101 888	(15.2+ 12.4+)		891129 888	1.5+ 0.8+	930618 801	0.4+	0.1+
891101 888	0.4-	0.5-	891201 399	1.7- 0.7-	930624 801	0.8-	0.8-
891120 888	0.0	0.3+	891201 399	0.6- 1.0-	930624 801	0.2+	0.1-
891120 888	0.1-	0.1+	891201 399	0.1+ 0.6-			

(5615)\* 1983 PZ = 1990 SY1

Discovered 1983 Aug. 4 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Id. S. Nakano (MPC 17201)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 321.03131	(2000.0)			P	Nakano	Q
n 0.28774045	Peri. 120.45472	+0.86571415			+0.49886500	
a 2.2723162	Node 209.67702	-0.48288946			+0.81088930	
e 0.1926413	Incl. 4.73836	-0.13174512			+0.30592851	
P 3.43	H 13.8	G 0.15				

Residuals in seconds of arc

801129 675	0.1-	0.7-	900915 095	(2.5- 6.0+)	901014 675	0.8+	0.2-
801201 675	0.1+	0.6-	900916 675	0.8+ 0.6-	901015 095	(1.2+ 4.5-)	
830804 095	1.4-	1.3-	900916 675	1.0+ 0.7-	901017 675	0.2+	1.8-
830806 095	0.4+	0.7-	900919 675	0.5+ 0.3-	901017 675	0.2+	1.5-
830901 095	(1.1+ 4.0+)		900919 675	0.7+ 1.0-	930524 801	0.4-	0.8+
830905 095	0.0	0.5-	900922 675	0.6+ 0.4-	930524 801	0.2-	0.4+
830911 095	1.4+	2.2+	900922 675	0.3+ 0.4+	930527 801	0.4-	0.9-
900826 095	0.4-	1.4+	900923 095	2.6- 1.6+	930527 801	1.5+	0.5-
900827 095	1.1+	2.1+	900924 675	0.2+ 0.1+	930618 801	0.3+	0.1-
900830 095	2.3-	1.1+	900924 675	0.4- 0.6+	930618 801	0.3+	0.1+
900831 095	(3.2- 3.7+)		901011 095	(3.3- 0.0)	930624 801	0.4-	1.2-
900915 095	2.2-	0.6+	901014 675	1.7+ 1.2-	930624 801	0.7-	0.7-

(5616)\* 1987 ST10 = 1977 LC = 1979 YF3 = 1993 AO

Discovered 1987 Sept. 29 by F. Borngen at Tautenburg.

Id. S. Nakano (MPC 21936)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 49.87779	(2000.0)			P	Nakano	Q
n 0.23044989	Peri. 28.76182	-0.38242525			-0.92230523	
a 2.6348246	Node 83.76880	+0.83665302			-0.37123815	
e 0.1922847	Incl. 3.21280	+0.39212581			-0.10740248	
P 4.28	H 13.3	G 0.15				

Residuals in seconds of arc

770612 675	1.6-	0.4+	870929 033	0.3+ 0.7+	890326 399	0.6-	0.9+
770612 675	1.8+	0.3-	870929 033	1.2+ 0.8+	890326 399	0.9-	0.4-
770613 675	1.0-	0.3+	870930 033	0.0 0.2+	890326 399	1.9+	1.2-
770613 675	(5.9+ 0.6-)		870930 033	0.5- 0.3-	890326 399	0.9-	1.0-
791224 095	0.1+	0.3-	871001 033	0.7- 0.3-	890406 399	0.3+	0.5+

890406	399	0.7+	1.4+	930120	399	1.5-	0.0	930416	033	1.6+	0.5-
890406	399	0.7+	0.4+	930210	399	0.9+	1.3+	930420	033	0.0	0.1-
930113	399	0.1+	0.4+	930210	399	1.0-	1.0+	930420	033	0.0	1.0-
930113	399	0.9-	0.4-	930215	399	0.2-	1.8-	930421	033	0.7+	0.2-
930120	399	0.1-	0.4+	930215	399	0.8+	0.5+				

(5617)\* 1989 EL = 1987 UG2 = 1990 OR4

Discovered 1989 Mar. 5 by E. F. Helin at Palomar.

Id. H. E. Holt (k, MPC 16876), G. V. Williams (ibid.)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

				Williams			
M			(2000.0)	P			Q
n	0.26101188	Peri.	252.98791	-0.72649286			-0.68190492
a	2.4249114	Node	243.92711	+0.66095483			-0.65959925
e	0.1449677	Incl.	5.42581	+0.18800755			-0.31612421
P	3.78	H	13.0	G	0.15		

Residuals in seconds of arc

550418	675	0.3+	0.3+	900724	675	(3.7+	1.1-)	911108	801	0.0	0.3+
550418	675	0.0	0.2+	900725	675	0.1+	2.1-	911108	801	0.1+	0.3+
871025	054	0.3+	0.8-	900725	675	(0.7-	3.4-)	930424	801	0.5+	0.2+
871025	054	0.9+	0.1+	900727	675	0.3-	1.7-	930424	801	0.2+	1.1-
890305	675	1.3+	0.1-	900727	675	(2.4-	3.7-)	930518	675	0.8+	0.6+
890306	675	0.5+	1.3-	911010	675	0.5+	0.1-	930518	675	1.5+	1.7+
890405	675	1.0-	0.9-	911010	675	0.4-	0.7-	930520	675	0.9+	1.4+
890405	675	1.1-	0.9-	911013	675	1.3-	1.4-	930520	675	(0.8+	2.6+)
890407	675	1.0-	1.2-	911013	675	0.4+	0.1-	930524	801	0.8-	0.1+
890407	675	1.9-	1.1-	911103	801	0.3+	0.6+	930524	801	0.7-	0.8+
900724	675	(3.1+	1.5-)	911103	801	0.2+	0.7+				

(5618)\* 1990 EA = 1975 XK

Discovered 1990 Mar. 4 by A. Sugie at the Dynic Astronomical

Observatory.

Id. H. Kaneda (MPC 16436)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

				Nakano			
M			(2000.0)	P			Q
n	0.29287632	Peri.	342.64910	-0.57511345			-0.81461687
a	2.2456731	Node	142.36165	+0.76440624			-0.56782759
e	0.1235449	Incl.	7.06646	+0.29142343			-0.11819970
P	3.37	H	14.0	G	0.15		

Residuals in seconds of arc

540729	675	0.2-	0.1+	880913	675	1.2-	1.5-	900321	402	0.7-	1.2+
540729	675	0.4+	0.0	880913	675	0.1+	1.1-	900322	402	0.7+	0.4-
751201	805	0.2-	1.0+	880916	675	0.1+	0.8-	900322	402	1.5-	1.3-
751204	805	1.0-	0.3+	880916	675	0.4+	0.6-	921221	801	0.3-	0.4-
751205	805	0.3+	1.0+	900304	402	0.1+	1.1-	921221	801	0.0	0.3-
880910	675	1.1+	1.4-	900304	402	0.3-	0.9-	930120	801	0.1-	0.8-
880910	675	0.0	1.0+	900305	402	0.1-	0.7-	930120	801	0.1+	1.2-
880912	675	0.9+	0.9-	900305	402	(0.8+	2.8-)	930126	801	0.1+	0.1+
880912	675	0.5+	0.9-	900321	402	0.5+	0.8-	930126	801	0.7+	0.3+

(5619)\* 1990 HC1 = 1978 SQ3 = 1991 TT1

Discovered 1990 Apr. 26 by E. F. Helin at Palomar.

Id. G. V. Williams (MPC 19304, MPC 21940)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

				Williams			
M			(2000.0)	P			Q
n	0.23187368	Peri.	141.31104	+0.74495811			+0.66661363
a	2.6240277	Node	176.53577	-0.66711008			+0.74432890
e	0.2139527	Incl.	25.23591	+0.00124756			-0.04000944
P	4.25	H	12.1	G	0.15		

## Residuals in seconds of arc

780927	095	0.1+	2.0+	900522	675	0.5+	0.2+	920206	801	0.9-	0.9+
900426	675	(6.5+	7.0-)	911010	675	1.6+	0.2+	920207	801	(1.6-	2.7-)
900426	675	0.5-	1.2-	911010	675	0.4-	0.9-	920207	801	2.1-	1.4-
900429	675	0.6-	0.1-	911013	675	0.7-	1.5-	930218	801	0.2-	1.4+
900429	675	1.3-	0.5-	911013	675	1.1+	0.3-	930218	801	0.2+	0.9+
900519	675	0.5+	0.1+	920101	801	0.2+	0.3-	930320	801	0.9+	0.2-
900519	675	0.8+	0.1+	920101	801	0.1-	0.2-	930320	801	0.3-	0.8-
900522	675	0.5+	0.5+	920206	801	0.8-	1.0+				

(5620)\* 1990 OA

Discovered 1990 July 19 by B. Roman and E. F. Helin at Palomar.

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M 350.89152		(2000.0)		P		Q
n	0.31068171	Peri.	152.96932	+0.21059430		+0.97181530
a	2.1590312	Node	128.99468	-0.91974674		+0.23369219
e	0.4220608	Incl.	7.83495	-0.33123401		-0.03103205
P	3.17	H	17.0	G	0.15	

## Residuals in seconds of arc

900719	675	0.2+	0.1+	900723	675	(2.8-	1.7+)	900918	474	(4.4+	0.3+)
900719	675	0.5+	1.0-	900723	675	(1.7-	9.2-)	900919	474	2.2+	1.0+
900720	675	0.6+	0.5-	900729	871	(2.5+	4.8-)	900919	474	2.2+	0.5+
900720	675	2.0+	0.3-	900729	871	(2.9-	4.5-)	900922	688	0.5-	0.1+
900721	675	0.1-	1.5+	900816	801	0.1-	0.3+	900922	688	0.2-	0.2+
900721	675	0.2+	0.5-	900816	801	0.1-	0.7+	900925	688	0.2-	0.0
900721	568	0.4+	0.9-	900816	675	(3.4-	0.9+)	900925	688	0.0	0.2+
900721	568	0.1+	2.1-	900816	675	(2.9-	0.8+)	930303	413	0.1-	0.2+
900721	413	0.6-	1.1-	900817	801	0.0	0.6+	930303	413	0.3-	0.1+
900721	413	0.1-	0.1-	900817	801	0.2+	1.0+	930303	413	0.1+	0.2+
900721	413	0.4-	0.1+	900818	413	0.2+	1.2-	930511	413	0.5+	0.7+
900722	675	1.1-	0.3+	900819	675	(3.0-	0.4-)	930511	413	0.4+	0.9+
900722	675	1.4-	2.3+	900819	675	2.4-	1.2+	930701	413	0.2-	0.3+
900722	474	(4.1-	4.0+)	900826	413	0.8-	0.1+	930701	413	0.1+	0.1+
900722	474	0.5+	0.1-	900914	675	0.1+	1.8-				
900722	474	0.4-	0.4+	900918	474	(2.7+	0.1-)				

(5621)\* 1990 SG4 = 1955 ST2

Discovered 1990 Sept. 23 by K. Lawrence at Palomar.

Id. G. V. Williams (MPC 18822)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M 330.84925		(2000.0)		P		Q
n	0.28206033	Peri.	4.51325	+0.23750396		+0.96669418
a	2.3027213	Node	279.24745	-0.89422674		+0.17923751
e	0.3856415	Incl.	5.54454	-0.37940798		+0.18269177
P	3.49	H	13.7	G	0.15	

## Residuals in seconds of arc

550917	760	1.3+	1.0-	900923	675	0.6-	0.8+	901213	801	0.7+	0.1+
550917	760	1.1-	0.4+	900925	675	0.5-	0.3+	901214	801	0.6-	0.7-
860314	413	0.2-	0.9-	900925	675	0.6-	0.5+	930221	801	0.1-	0.2-
860314	413	0.6+	0.8-	901014	675	0.6+	0.6-	930221	801	0.0	0.5-
860316	413	1.8-	1.4+	901014	675	0.4+	0.6-	930226	801	0.4+	0.2-
860316	413	1.6+	1.1+	901017	675	0.4-	0.3-	930226	801	0.1-	0.6-
860401	413	0.2+	1.4-	901017	675	1.4-	0.1-	930319	675	0.4+	0.7+
860401	413	0.5+	0.7-	901114	801	0.4+	0.5+	930319	675	0.7-	0.1-
900918	675	1.1+	1.9-	901114	801	0.6+	0.4-	930322	675	0.2-	0.2+
900918	675	0.9+	1.2-	901116	801	0.7+	1.1+	930322	675	1.6-	0.7-
900923	675	0.4-	0.3+	901116	801	0.6+	1.3+				

(5622)\* 1990 TL4 = 1943 TE = 1971 OR1 = 1988 DF5  
 Discovered 1990 Oct. 14 by E. F. Helin at Palomar.  
 Id. G. V. Williams (MPC 17826)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 Williams  
 M 251.25335 (2000.0) P Q  
 n 0.20969240 Peri. 51.93482 +0.85651435 +0.49694885  
 a 2.8059564 Node 277.86490 -0.50656161 +0.75767802  
 e 0.1693965 Incl. 8.08819 -0.09888631 +0.42304356  
 P 4.70 H 11.2 G 0.15

Residuals in seconds of arc

431005	062	0.9-	1.5-	901118	675	0.1+	0.1-	920109	894	1.2+	1.2-
431005	062	0.8+	1.5+	901119	675	(0.6-	3.0-)	920112	894	0.2-	0.4+
710729	095	0.7+	1.6-	910113	675	0.9+	0.1-	920112	894	0.5-	1.3-
880217	809	0.3+	0.6-	910113	675	1.2+	0.4-	920115	894	0.6+	0.1-
880217	809	0.5+	0.4-	920104	894	1.4-	2.0+	930319	675	1.8-	0.3+
900915	095	(1.9+	3.1+)	920104	894	0.6-	0.2+	930319	675	2.0+	0.6-
900923	095	(1.2+	3.2+)	920106	801	0.4+	0.3+	930321	675	2.2-	2.0+
901014	675	0.0	0.0	920106	801	0.5+	0.5+	930321	675	1.9+	0.5+
901014	675	0.5-	0.2-	920107	801	0.3+	0.0	930422	675	0.4-	2.3-
901016	675	0.1+	0.1-	920107	801	0.3+	0.6-	930422	675	0.6+	0.7+
901016	675	0.1+	0.1-	920109	675	0.5-	0.4+	930425	675	2.1-	1.0-
901023	095	(1.2+	2.7-)	920109	675	0.4+	0.3-	930425	675	0.0	1.9-
901118	675	0.1-	0.6-	920109	894	0.9-	0.2+				

(5623)\* 1990 UY = 1971 BN2 = 1979 QN7 = 1979 SK3 = 1980 XU2 = 1982 DG6  
 Discovered 1990 Oct. 20 by A. Sugie at the Dyncic Astronomical  
 Observatory.

Id. G. V. Williams (MPC 17456)  
 Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 Williams  
 M 219.83293 (2000.0) P Q  
 n 0.18806702 Peri. 194.77114 +0.99743749 -0.06066221  
 a 3.0171319 Node 168.50453 +0.06753665 +0.97329503  
 e 0.0965283 Incl. 10.97121 -0.02360606 +0.22139757  
 P 5.24 H 11.7 G 0.15

Residuals in seconds of arc

710127	805	1.0+	0.6+	901020	402	0.2-	0.2+	901218	675	2.1-	0.7-
790820	095	1.0+	1.2+	901020	402	0.9-	0.6-	901218	675	0.2-	1.3-
790924	095	2.0-	2.2-	901021	402	0.3+	1.4-	920201	376	0.6-	0.7-
801210	095	(5.7+	6.9+)	901021	402	0.6-	0.6-	920201	376	0.1+	0.7-
820227	010	0.4-	0.8+	901028	402	0.1+	0.9+	920206	801	0.3+	0.4-
890802	675	0.6+	0.7-	901028	402	0.4-	0.5+	920206	801	0.1+	0.4-
890802	675	1.2+	1.5-	901108	413	1.5+	0.0	920207	801	0.1+	0.4-
901014	095	1.4+	2.2-	901109	413	0.1+	0.4-	920207	801	0.1+	0.7-
901014	095	0.4+	0.2+	901109	413	1.5+	1.0+	930419	801	0.2-	1.0-
901016	095	1.9-	1.9+	901113	402	0.3+	0.5+	930419	801	0.4+	0.6-
901016	095	1.0-	0.5+	901113	402	1.8+	0.4+	930624	691	0.9-	0.0
901019	402	0.7+	0.1-	901215	675	0.8+	0.4-	930624	691	0.8-	0.4-
901019	402	0.8-	0.1+	901215	675	0.8-	0.7-	930624	691	0.9-	0.4-

(5624)\* 1991 AY1 = 1990 WT7 = 1950 DK = 1968 QR1 = 1989 QZ = 1989 RE4  
 Discovered 1991 Jan. 11 by E. F. Helin at Palomar.

Id. H. Kaneda (MPC 20820)  
 Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 Nakano  
 M 225.49479 (2000.0) P Q  
 n 0.18810193 Peri. 227.35118 +0.91870465 -0.38722292  
 a 3.0167585 Node 155.12605 +0.39428551 +0.88786705  
 e 0.0494036 Incl. 10.64772 +0.02281877 +0.24849652  
 P 5.24 H 11.9 G 0.15

## Residuals in seconds of arc

500217	024	0.0	0.9+	910111	675	0.4+	2.6-	930517	675	0.2+	0.1+
500223	024	0.1-	0.0	910115	675	0.5+	1.9-	930517	675	0.0	0.8-
680828	095	0.3+	0.2+	910115	675	1.3+	1.1-	930519	675	1.2-	1.0-
890828	888	(0.5+	8.2-)	930421	675	1.2+	1.1-	930519	675	0.4-	1.7-
890828	888	(2.0+	8.2-)	930421	675	0.8-	0.5+	930524	801	0.2+	0.4-
890908	095	0.4+	2.3-	930425	675	0.7+	0.6-	930524	801	0.1+	0.2-
901120	413	1.3-	1.4-	930425	675	0.5+	0.8-	930526	801	0.8+	1.1-
901120	413	0.4+	0.8-	930514	691	1.2-	0.1-	930526	801	0.4-	0.8-
910111	675	(2.3+	3.0-)	930514	691	1.4-	0.5+				

(5625)\* 1991 AO2 = 1955 XS = 1971 KD = 1972 TM = 1985 QC2

Discovered 1991 Jan. 7 by R. H. McNaught at Siding Spring.

Id. G. V. Williams (MPC 17833)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	246.73090		(2000.0)			P		Q	
n	0.22555623	Peri.	216.59216	+0.84828521				-0.52926173	
a	2.6727982	Node	175.26578	+0.52163969				+0.82961737	
e	0.1945467	Incl.	11.99501	+0.09112753				+0.17781180	
P	4.37	H	12.5	G	0.15				

## Residuals in seconds of arc

551213	760	0.9-	0.0	850820	675	0.6+	1.4-	930521	595	0.0	0.2-
551213	760	0.8+	0.6-	850820	675	0.9+	0.3+	930521	595	0.2+	0.4-
710522	095	0.2-	0.5-	910107	413	1.2-	0.1-	930522	595	0.0	0.4+
721004	095	(4.3+	2.0-)	910108	413	0.5+	0.5-	930522	595	0.0	0.5+
840718	413	0.6+	0.3-	910117	413	0.1+	0.3+	930522	595	0.2+	0.1+
840718	413	1.1+	0.0	910202	413	0.8+	0.5+	930524	801	0.1+	1.0+
850816	675	(3.7-	0.8+)	930521	595	0.6-	0.1+	930524	801	0.1+	0.9+
850816	675	1.4-	1.7+	930521	595	0.3-	0.0	930624	801	0.6-	0.8-
850817	675	0.3+	0.4-	930521	595	0.1-	0.2-	930624	801	0.5-	1.4-
850817	675	(3.7+	2.3+)	930521	595	0.0	0.1-				

(5626)\* 1991 FE = 1970 RA

Discovered 1991 Mar. 18 by Spacewatch at Kitt Peak.

Id. S. Nakano (MPC 18300)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Nakano

M	346.25973		(2000.0)			P		Q	
n	0.30318872	Peri.	230.99378	+0.71198662				-0.70215293	
a	2.1944584	Node	173.59341	+0.66325234				+0.66895468	
e	0.4551055	Incl.	3.85654	+0.23058923				+0.24388708	
P	3.25	H	14.9	G	0.15				

## Residuals in seconds of arc

700908	323	0.3+	0.3-	910318	691	0.0	0.1-	910422	691	0.7-	0.1-
700908	323	0.3+	0.2-	910318	691	0.2+	0.2-	910422	691	0.6-	0.1+
700909	323	0.4-	0.6+	910320	691	0.1-	0.0	910604	691	0.4+	0.8+
700909	323	0.5-	0.3+	910320	691	0.2-	0.2+	910604	691	0.7-	0.1+
850323	413	1.9+	0.0	910320	691	0.0	0.2+	910604	691	0.0	0.5+
850323	413	(6.0-	4.2+)	910405	691	0.4+	0.3+	920404	691	0.6-	0.1-
860713	413	0.8+	0.2+	910405	691	0.5+	1.1+	920404	691	0.9-	0.4-
860713	413	0.6+	0.9+	910405	691	0.5+	0.5+	920404	691	0.6-	0.7-
910318	691	0.3-	0.6-	910418	691	1.1+	0.3+	920405	691	0.6-	0.8-
910318	691	0.2-	0.0	910418	691	0.9+	0.4+	920405	691	0.5-	0.5-
910318	691	0.4-	0.2-	910418	691	0.7+	0.1+	920405	691	1.4-	0.3-
910318	691	0.1-	0.3-	910422	691	0.7-	0.0	920707	711	1.0+	0.2-

(5627)\* 1991 MA = 1989 WO2

Discovered 1991 June 16 by R. H. McNaught at Siding Spring.

Id. G. V. Williams (MPC 18641)



Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M 329.95238	(2000.0)		P	Q
n 0.38298351	Peri. 169.54786	-0.36505284		+0.82361153
a 1.8779441	Node 77.90222	-0.88299567		-0.15854389
e 0.0210827	Incl. 26.35361	-0.29505098		-0.54454373
P 2.57	H 14.5	G 0.15		

Residuals in seconds of arc

860726 413	1.0+	0.5-	910618 474	0.1+	1.6+	910902 413	0.3+	0.1+
891130 675	0.5+	0.2+	910624 413	0.2+	0.0	921221 801	0.4+	1.0-
891130 675	0.2+	0.2+	910705 474	0.6-	1.0-	921221 801	0.1+	0.4-
891202 675	0.6+	0.4+	910705 474	0.7-	1.6-	930126 801	0.5-	0.6-
891202 675	1.9-	1.3-	910711 474	0.7-	0.5-	930126 801	0.5-	0.8-
910616 413	1.1+	0.6+	910711 474	0.5-	0.2-	930323 801	0.1+	0.4+
910616 413	0.4-	0.2+	910716 413	1.0+	0.3-			
910618 474	0.7-	0.1+	910716 413	0.4+	0.0			

(5628)\* 1991 RP7 = 1979 BW2 = 1982 VX = 1989 GX4 = 1993 CX

Discovered 1991 Sept. 13 by F. Borngen and L. D. Schmadel at Tautenburg.

Id. K. Ichikawa (MPC 21943), A. Lowe

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Ichikawa

M 134.21881	(2000.0)		P	Q
n 0.21533687	Peri. 124.81123	+0.75742537		-0.64976484
a 2.7567060	Node 275.80173	+0.57602133		+0.71123015
e 0.0424252	Incl. 3.69577	+0.30741866		+0.26824862
P 4.58	H 12.4	G 0.15		

Residuals in seconds of arc

790127 675	0.6-	0.2+	900911 413	0.1+	1.7-	930225 399	0.1-	0.9-
790129 675	0.3-	0.5-	910910 033	0.6+	0.4-	930225 399	2.3-	0.7-
821115 688	0.3+	0.3-	910911 033	0.1+	0.1+	930226 691	0.6+	0.2+
821115 688	1.3+	2.0-	910911 033	0.9+	0.2-	930226 691	0.2+	0.0
890408 809	0.0	0.6+	910913 033	1.6-	0.2+	930226 691	0.2+	0.1+
890408 809	1.7+	0.1-	910913 033	0.3-	0.3+	930416 033	1.1+	0.2-
890408 809	1.0+	0.1-	910914 033	0.0	0.4+	930416 033	0.1-	0.4-
890411 809	(3.4-	1.0-)	910915 033	0.3-	0.1+	930420 033	0.5+	0.1-
890411 809	(3.6-	0.5-)	930215 399	0.4-	0.2+	930420 033	0.4+	0.1+
890411 809	2.9-	1.4-	930215 399	0.2-	0.2-	930421 033	1.7+	0.2-
900909 413	1.1-	1.6-	930216 399	0.4-	0.6+			
900910 413	1.5+	1.1-	930216 399	0.8-	0.6-			

(5629)\* 1993 DA1 = 1934 EJ = 1975 VF5 = 1979 OA13 = 1980 TQ13 = 1989 LG

Discovered 1993 Feb. 20 by T. Hioki and S. Hayakawa at Okutama.

Id. S. Nakano (MPC 21949), A. Lowe (ibid.)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Nakano

M 105.28552	(2000.0)		P	Q
n 0.18451504	Peri. 284.11931	+0.33082183		-0.93863507
a 3.0557293	Node 146.05536	+0.91915641		+0.29706804
e 0.0684165	Incl. 10.06383	+0.21379527		+0.17525633
P 5.34	H 11.3	G 0.15		

Residuals in seconds of arc

340305 024	0.1+	0.4+	890606 675	(1.3-	3.3-)	930223 877	0.4+	0.2-
751102 095	(4.2-	5.8-)	890606 675	1.5+	1.7-	930225 877	0.2+	0.4+
790726 675	1.7-	0.9+	930130 877	(4.9-	3.1+)	930225 877	2.0-	0.1+
790727 675	0.4-	0.9+	930130 877	0.3+	0.6+	930302 877	2.2+	0.8-
801012 095	0.5+	1.4+	930220 877	0.1-	0.5-	930302 877	1.3-	0.1+
890604 675	0.7+	0.9+	930220 877	1.3+	0.3+	930524 801	1.3-	1.1+
890604 675	0.1-	0.3+	930223 877	0.2-	0.6+	930524 801	0.8-	1.3+

(5630)\* 1993 FZ = 1949 CK = 1973 GR = 1983 EV1

Discovered 1993 Mar. 21 by J. B. Child on films taken at Palomar by E. F. Helin et al.

Id. G. V. Williams (MPC 22239)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

				Williams			
M 347.29234 (2000.0)				P	Q		
n	0.29329258	Peri.	64.02536	-0.38930005	+0.92110703		
a	2.2435478	Node	183.06751	-0.86213094	-0.36540378		
e	0.1403743	Incl.	2.89405	-0.32430805	-0.13432018		
P	3.36	H	13.3	G	0.15		

Residuals in seconds of arc

490201 012	0.5-	1.4+	911104 675	0.5-	0.6+	930415 411	0.2+	0.7+
730401 095	(1.9+	3.6+)	911208 675	2.0+	0.9+	930415 411	0.5+	0.5+
730401 095	(6.4-	8.7-)	911208 675	0.3-	0.7-	930522 674	0.6-	0.1+
730404 095	2.5+	2.4-	930321 675	0.7-	1.7-	930522 674	0.7-	0.1+
830311 381	0.7-	1.4+	930321 675	0.6-	1.5-	930522 674	0.6-	0.4+
830311 381	0.3-	0.7+	930322 675	2.0-	0.8-	930613 674	0.1+	0.7-
830316 095	1.3-	2.6+	930322 675	2.2-	0.8-	930613 674	0.2+	1.0-
870823 675	0.5-	0.9+	930403 670	1.3+	2.2+	930613 674	0.7+	0.4+
870823 675	1.2-	1.2+	930403 670	0.8+	0.6+	930615 670	0.8-	0.5-
870919 675	1.7-	1.7+	930403 670	1.4+	1.7+	930615 670	1.8+	0.4+
870919 675	0.7+	0.0	930414 411	1.4+	0.1+	930616 670	1.4-	1.5-
911102 675	0.4+	0.6+	930414 411	1.0+	0.3-	930616 670	1.5+	1.2+
911102 675	0.1+	1.5+	930414 411	0.9+	0.1+	930616 670	0.0	0.3+
911104 675	0.3-	0.6-	930415 411	0.1+	1.5+			

(5631)\* 1993 FE1 = 1954 JQ = 1975 EE4 = 1980 TX11 = 1983 NP = 1987 UR7  
= 1991 YY1

Discovered 1993 Mar. 20 by K. Endate and K. Watanabe at Kitami.

Id. S. Nakano (MPC 22240)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

				Nakano			
M 306.72497 (2000.0)				P	Q		
n	0.27624364	Peri.	276.56733	+0.24160058	+0.97037180		
a	2.3349335	Node	7.41545	-0.88157471	+0.22068748		
e	0.0938670	Incl.	1.23415	-0.40553075	+0.09836463		
P	3.57	H	13.4	G	0.15		

Residuals in seconds of arc

540501 839	0.4-	1.6-	911208 691	0.5+	0.5-	930325 400	2.2+	0.5-
540501 839	0.4+	1.2-	911208 691	1.9-	2.0-	930329 400	1.3-	0.8-
750315 095	2.3-	0.1+	911228 033	2.0+	0.0	930329 400	(3.0+	1.3-)
801010 095	0.2-	0.0	930315 400	0.8+	1.5-	930410 400	1.6-	1.8+
830710 688	0.4-	1.1-	930315 400	0.7-	0.7+	930410 400	1.1+	1.7+
830710 688	0.4+	0.9-	930320 400	0.3+	0.6+	930415 399	0.5-	1.6+
871023 095	(4.9+	1.5+)	930320 400	1.7+	2.5-	930415 399	0.7-	0.6+
911208 691	1.0+	0.6-	930325 400	0.0	1.0-			

(5632)\* 1993 GG = 1952 HF2 = 1984 JG1 = 1985 VZ

Discovered 1993 Apr. 15 by C. S. Shoemaker at Palomar.

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

				Ichikawa			
M 330.19871 (2000.0)				P	Q		
n	0.21678487	Peri.	189.85557	+0.03451671	+0.95026935		
a	2.7444168	Node	82.60867	-0.89437470	+0.16757230		
e	0.0827292	Incl.	18.18607	-0.44598486	-0.26250274		
P	4.55	H	11.4	G	0.15		

Residuals in seconds of arc

520426 711	(2.4+	5.4-)	851103 809	0.4-	2.7+	880218 675	0.0	0.4-
840504 688	0.9-	0.0	851104 809	1.0+	2.3-	880218 675	0.9+	0.1+
840504 688	0.3+	0.7-	851105 809	0.2+	1.5-	880320 675	0.2+	0.1+
851101 809	0.3-	0.2+	851107 809	0.3+	0.6-	880320 675	0.1-	0.4+

880321	675	0.4-	0.1-	930415	675	0.3-	0.2-	930524	675	0.6-	0.1-
880322	675	0.5-	1.5-	930416	675	0.0	0.2+	930614	675	1.2+	0.2+
880414	675	0.7-	0.2-	930419	675	0.4+	0.4+	930614	675	0.0	1.3-
880414	675	0.0	0.1+	930420	675	0.6-	0.0	930617	675	0.4+	0.1+
901114	675	(0.6+	3.5-)	930523	675	0.0	0.4-	930617	675	0.5-	0.4-
901114	675	0.9+	2.1-	930523	675	0.1+	0.1-				
930415	675	0.6-	0.5+	930524	675	0.2+	0.4-				

1975 SR = 1986 RO6 = 1993 MA

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 302.77493

(2000.0)

P

Williams

Q

n	0.26607329	Peri.	164.94625	+0.99663602	+0.08160402
a	2.3940609	Node	190.38183	-0.07886627	+0.92981648
e	0.2488977	Incl.	2.41018	-0.02228808	+0.35886224
P	3.70	H	15.0	G	0.15

Residuals in seconds of arc

750930	675	0.2-	0.2-	930617	589	0.9+	0.7-	930621	589	0.7+	1.0-
751001	675	0.5+	0.5+	930618	589	0.1-	0.1+	930621	589	0.4+	0.9-
751002	675	0.6+	0.3+	930618	595	0.7-	0.3-	930621	589	0.1-	1.5-
751015	675	0.3+	1.4-	930618	589	0.1-	0.5-	930707	589	0.2+	1.5+
751016	675	0.5-	1.0-	930618	595	0.2-	0.6+	930708	589	0.8+	0.1+
860906	095	0.5-	1.3+	930618	589	0.6-	0.6-	930708	589	0.7+	2.2+
930616	589	0.3-	0.7-	930618	595	0.8+	0.4-	930709	589	0.1-	0.9+
930616	589	0.3-	0.3+	930620	589	1.6+	0.0				
930617	589	1.4-	0.4+	930620	589	2.1-	0.9-				

1980 RX1 = 1951 CF = 1978 AK = 1984 YH7 = 1992 DM5 = 1993 MC1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 254.75066

(2000.0)

P

Williams

Q

n	0.28870667	Peri.	245.62202	+0.86700364	-0.49611515
a	2.2672435	Node	144.07076	+0.48112623	+0.80908877
e	0.1396592	Incl.	4.55800	+0.12970055	+0.31503192
P	3.41	H	13.5	G	0.15

Residuals in seconds of arc

510210	760	1.3+	0.4+	800915	511	0.4-	0.7-	920227	691	0.2+	0.0
510210	760	1.2-	0.6-	801001	046	(6.0+	2.3+)	920227	691	0.2+	0.0
780110	330	0.8-	0.1-	801002	046	0.1-	0.7+	930618	675	2.1-	1.0-
800907	095	1.9+	0.3+	801003	046	0.4-	0.4-	930620	675	0.3+	0.3-
800915	511	0.1+	0.3-	841228	010	0.6-	1.4-	930620	675	1.0+	0.3-
800915	511	0.2-	0.4-	920227	691	0.5+	0.3-				

1981 EW9 = 1975 ND1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 162.24899

(2000.0)

P

Bardwell

Q

n	0.29760471	Peri.	336.91194	+0.46813590	+0.88216027
a	2.2218233	Node	320.94803	-0.79748123	+0.39671230
e	0.1707396	Incl.	4.67969	-0.38062117	+0.25379639
P	3.31	H	15.0	G	0.15

Residuals in seconds of arc

750711	095	0.1+	0.4-	810307	413	0.5-	0.1-	810406	413	0.3-	0.5-
791122	675	1.0+	1.7+	810307	413	(4.5-	2.3+)	810412	413	(9.2-	1.2+)
791125	675	0.9-	2.0-	810311	413	0.1+	0.1+	810412	413	0.3+	0.5+
810209	413	(3.1+	1.8-)	810311	413	2.5+	0.0	810430	413	1.0+	0.6-
810213	413	0.3+	0.5-	810315	413	1.1-	0.0	810502	413	1.7+	0.4-
810301	413	2.3-	0.7+	810315	413	1.5+	0.6-				
810301	413	1.2-	0.2+	810406	413	1.9-	0.8+				



## Residuals in seconds of arc

810212	413	0.2+	0.3-	810405	413	(3.4+	2.7-)	901016	809	0.7+	0.2-
810212	413	0.5+	0.5-	810406	413	1.2-	1.2+	901016	809	0.5+	0.5+
810302	413	0.8-	0.6+	810406	413	1.9+	1.4-	901020	809	1.7-	0.6-
810306	413	0.7-	0.2-	810407	413	0.2+	0.8+	901020	809	1.0-	0.3-
810306	413	0.2-	0.2-	810407	413	0.6+	0.3+	901020	809	1.3+	0.5+
810311	413	0.9-	0.3-	810410	413	0.6+	0.5+	930713	595	0.2+	0.0
810311	413	0.2+	0.5-	810410	413	0.1-	1.4-	930713	595	0.0	0.8-
810315	413	0.3-	0.3+	810426	413	(3.1+	2.1-)	930713	595	0.6+	0.0
810315	413	0.9+	0.2-	810501	413	0.7+	0.1+	930713	595	0.9-	0.3+
810405	413	1.5-	0.9+	901016	809	0.2+	0.0	930713	595	0.2+	0.2+

1981 RB2 = 1993 ME

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	339.04159		(2000.0)		P		Williams	Q	
n	0.23669796	Peri.	47.29741	+0.52825450				+0.82093520	
a	2.5882509	Node	255.81617	-0.82966341				+0.44475106	
e	0.2001076	Incl.	12.92302	-0.18057080				+0.35813670	
P	4.16	H	13.0	G	0.15				

## Residuals in seconds of arc

810907	095	0.2-	0.1+	811003	095	0.0	1.4+	930620	675	0.1+	0.1+
810927	095	0.2+	1.5-	930619	675	0.1+	0.8-	930620	675	0.3-	0.7+

1981 RQ2 = 1981 SY = 1981 TE1 = 1981 UD13 = 1993 LD

Id. T. Furuta (d, JAM 2059), G. V. Williams

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	333.73154		(2000.0)		P		Williams	Q	
n	0.23607737	Peri.	91.45529	+0.78069036				+0.60973500	
a	2.5927848	Node	230.99668	-0.62016773				+0.72896948	
e	0.1847624	Incl.	10.14765	-0.07690616				+0.31116994	
P	4.17	H	13.0	G	0.15				

## Residuals in seconds of arc

810907	095	0.8+	0.1+	811003	095	0.3-	0.5-	930617	675	0.7+	0.2-
810924	675	1.7-	0.5-	811023	095	1.3+	1.0+	930620	675	0.9+	0.3-
810924	675	0.0	0.1+	930614	675	1.6-	0.5+				

1982 JD1 = 1993 JC

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	4.54850		(2000.0)		P		Nakano	Q	
n	0.26820760	Peri.	36.18059	-0.31885181				+0.94402122	
a	2.3813432	Node	215.44716	-0.90025190				-0.32956384	
e	0.1724465	Incl.	8.38808	-0.29644568				-0.01454703	
P	3.67	H	14.0	G	0.15				

## Residuals in seconds of arc

820515	675	1.7+	2.9-	930515	894	0.0	0.1+	930523	894	0.6-	0.5-
820516	675	0.4-	0.2-	930516	894	0.0	0.2-	930523	361	(0.5-	2.8+)
820516	675	0.7-	1.5+	930516	894	0.6-	0.2+	930524	361	0.0	0.8+
820517	675	1.3-	1.7+	930518	894	0.3-	0.0	930524	361	1.6+	0.9+
820518	675	0.8+	0.1-	930518	894	1.0-	1.3-	930524	361	1.0+	0.5+
930514	894	0.3-	1.1-	930520	894	0.2+	0.8+	930526	894	0.3-	0.1+
930514	894	0.9+	1.3+	930520	894	0.8+	0.7-	930526	894	0.7-	1.2-
930515	894	0.2+	1.0+	930523	894	1.0-	0.7-				

1983 XW = 1954 WF = 1988 PY1 = 1988 UX

Id. E. Bowell (k), G. V. Williams

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	270.87619	(2000.0)		P		Q	
n	0.17276401	Peri.	10.19900	+0.70156905		-0.71258962	
a	3.1927668	Node	35.24819	+0.65329641		+0.64086765	
e	0.2057094	Incl.	0.40808	+0.28461319		+0.28549026	
P	5.70	H	12.5	G	0.15		

Residuals in seconds of arc

541116	760	0.3-	0.7+	831208	046	3.0-	2.1-	880916	675	1.5+	0.6-
541116	760	1.0-	1.3+	831208	046	1.8-	2.8-	881007	675	0.5+	1.1-
541117	760	0.8+	0.9+	880813	511	0.2-	0.1-	881007	675	0.5+	2.2-
541117	760	0.7-	1.2+	880813	511	2.0-	0.8+	881009	675	1.3+	1.4-
831204	046	1.4+	0.8+	880815	511	0.9-	0.8+	881009	675	0.9+	1.7-
831204	046	0.7+	0.3+	880815	511	1.1-	1.2+	881016	071	0.7-	0.3+
831205	046	1.7+	0.7+	880911	675	0.9+	2.1+	881016	071	1.6-	0.4-
831205	046	1.1+	0.6+	880916	675	1.4+	0.1-				

1984 MQ = 1971 RB = 1971 SF3 = 1993 MH1

Id. G. V. Williams, H. Oishi (d, JAM 852)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	345.54787	(2000.0)		P		Q	
n	0.21992857	Peri.	168.29112	+0.70946058		+0.69824957	
a	2.7182013	Node	146.76188	-0.65983669		+0.70571056	
e	0.2706188	Incl.	10.03006	-0.24755045		+0.12008391	
P	4.48	H	13.0	G	0.15		

Residuals in seconds of arc

710915	805	1.5-	0.3-	710927	805	1.3+	0.1+	930622	675	0.6-	2.6-
710915	805	0.3-	2.2-	840625	095	0.9+	2.8+	930622	675	0.7+	0.6-
710927	805	0.5-	1.0+	840628	095	0.9-	0.9-	930626	675	0.1+	0.8-
710927	805	0.9+	1.5+	840702	095	0.3+	1.8+	930626	675	0.2-	0.4+

1988 BW = 1990 SG16 = 1993 LB1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	127.77868	(2000.0)		P		Q	
n	0.22985356	Peri.	141.89139	-0.26141517		-0.95672081	
a	2.6393798	Node	322.76275	+0.82558890		-0.15299977	
e	0.1237381	Incl.	12.19814	+0.50006508		-0.24754061	
P	4.29	H	13.0	G	0.15		

Residuals in seconds of arc

880124	399	(3.9-	0.7-)	880218	399	0.9-	0.9+	930613	413	0.5+	0.3+
880124	399	2.3-	0.6-	880218	399	0.1-	0.0	930614	413	0.4+	0.2+
880124	399	1.1+	1.6-	880219	399	0.4+	0.7+	930615	413	0.1+	0.1+
880125	399	0.2-	1.0+	880219	399	1.3+	0.7-	930615	413	0.0	0.4-
880125	399	0.8-	0.5-	880219	399	1.3+	0.4-	930615	413	0.4-	0.3-
880125	399	(3.8-	0.2-)	880223	399	1.3+	0.5-	930618	413	0.4-	0.5-
880208	399	2.2-	0.5-	880223	399	0.9+	1.8+	930618	413	0.6-	0.5-
880208	399	0.4-	0.5-	900917	675	0.5+	0.8-				
880218	399	(3.5-	0.5+)	900917	675	0.2+	0.3-				

1988 LE = 1983 CZ = 1993 MP

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	51.48760	(2000.0)		P		Q	
n	0.22650373	Peri.	133.80862	-0.60333217		+0.75974502	
a	2.6653392	Node	97.50524	-0.78374023		-0.50865831	
e	0.1214396	Incl.	14.15443	-0.14745016		-0.40503607	
P	4.35	H	13.0	G	0.15		

## Residuals in seconds of arc

830211	688	0.3-	0.9-	880608	675	0.5-	0.3+	930617	675	0.7-	1.0-
830211	688	0.4+	0.5-	880611	675	0.2+	0.8-	930620	675	1.1-	1.5-
880512	675	0.6+	0.6+	880613	675	0.8-	0.3-				
880512	675	0.5+	0.4+	930617	675	1.7+	1.5+				

1988 RV1 = 1983 HJ1 = 1990 FN5

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	32.18597		(2000.0)			P		Williams		Q	
n	0.27779969	Peri.	91.75968	-0.22473633						-0.97429577	
a	2.3262062	Node	11.26406	+0.85941130						-0.20569999	
e	0.0801371	Incl.	4.56168	+0.45924482						-0.09184374	
P	3.55	H	15.0	G	0.15						

## Residuals in seconds of arc

830416	033	0.0	0.7+	880910	675	0.8-	0.8-	881007	675	0.3-	0.8+
830416	033	0.6+	0.4+	880911	675	0.6-	0.9+	881007	675	0.8+	0.0
880907	033	1.0-	0.5+	880912	675	1.0-	0.5-	881009	675	2.4+	1.1+
880908	033	0.3-	0.2+	880912	675	0.5+	0.4-	881009	675	1.3+	1.0-
880908	033	0.8-	0.8+	880916	675	0.1+	0.8+	900322	071	1.1+	0.6-
880910	675	1.1-	0.2-	880916	675	0.3-	0.7+	900322	071	0.2-	2.6+

1989 BA

Id. R. H. McNaught (1975, 1991 observations)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	81.19230		(2000.0)			P		Williams		Q	
n	0.26832227	Peri.	140.31812	-0.56412958						-0.81705829	
a	2.3806647	Node	342.91436	+0.61647569						-0.32087063	
e	0.2807625	Incl.	23.90468	+0.54928639						-0.47901753	
P	3.67	H	13.0	G	0.15						

## Residuals in seconds of arc

750609	413	1.1-	0.0	890130	026	1.3-	0.5-	890304	026	0.9-	0.5+
750609	413	0.9+	0.0	890131	026	1.0+	0.1+	890305	026	0.2+	0.9-
750707	413	0.3+	0.1+	890202	026	1.1-	0.8-	890326	026	0.7-	0.7+
750707	413	0.1+	0.4+	890203	026	1.0+	0.8+	890327	026	1.1+	0.1-
890128	026	0.1-	0.6+	890204	026	0.8-	1.7-	910904	413	0.1+	0.0
890129	026	0.3+	0.5+	890207	026	0.8+	0.3+	910904	413	0.6-	0.6+
890130	026	0.1-	0.0	890212	026	0.8+	1.2+				

1989 CH4 = 1993 EV

Id. S. Nakano; 1989 CH4 = 1979 QY7 (MPC 15252) is invalid, see also MPC 21805

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	25.04546		(2000.0)			P		Nakano		Q	
n	0.26240007	Peri.	231.29353	-0.94094416						+0.33804143	
a	2.4163514	Node	328.45126	-0.29842975						-0.85430565	
e	0.1524648	Incl.	2.05514	-0.15988672						-0.39482887	
P	3.76	H	13.5	G	0.15						

## Residuals in seconds of arc

890204	399	0.7-	2.0-	890209	809	0.5+	0.1+	890212	809	0.0	0.4+
890204	399	1.2-	0.6+	890209	809	0.6+	0.1+	890212	809	0.1-	0.4+
890204	399	(2.9-	1.6+)	890209	809	0.8+	0.1+	890213	049	0.3-	0.4-
890205	399	0.7-	0.2+	890210	809	0.2-	0.3+	890213	049	1.5-	1.0+
890207	399	0.7+	0.8-	890210	809	0.0	0.3+	890213	809	0.1+	0.1-
890207	399	1.4+	0.0	890210	809	0.1+	0.4+	890213	809	0.4+	0.2-
890207	399	0.5-	0.3+	890211	399	0.2-	0.5+	890213	809	0.5+	0.2-
890208	809	0.1-	0.5-	890211	399	0.1-	0.0	890214	809	1.4+	0.4-
890208	809	0.0	0.4-	890211	399	1.7-	1.6+	890214	809	1.4+	0.3-
890208	809	0.1+	0.5-	890212	809	0.3-	0.3+	890227	399	0.9-	0.2+

890227	399	0.4-	1.6-	930315	400	(0.7-	4.7-)	930329	400	0.1-	0.5+
890227	399	0.7+	0.7+	930320	400	0.7-	1.5+	930329	400	0.2+	0.3+
930315	400	0.6-	0.2-	930320	400	1.2+	2.2-				

1989 GG4 = 1970 EM2 = 1993 KF2

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	86.97035		(2000.0)			P		Urata		Q	
n	0.26033850	Peri.	299.34031				-0.87454635				-0.48190639
a	2.4290910	Node	211.93878				+0.47283178				-0.82255941
e	0.0664003	Incl.	5.87781				+0.10769765				-0.30193088
P	3.79	H	13.0			G	0.15				

Residuals in seconds of arc

700304	805	0.5+	0.3-	890405	809	0.2-	0.0	930525	905	0.5-	0.3-
700304	805	0.4-	0.0	890406	809	0.4-	0.2+	930525	905	0.5-	1.3-
700304	805	0.1-	0.1-	890406	809	0.2+	0.2-	930527	385	1.1+	1.7+
890403	809	0.9-	1.4+	890406	809	0.7+	0.2-	930527	385	0.1-	0.8+
890403	809	0.8+	0.7+	890409	809	0.0	1.1-	930527	385	0.0	0.8-
890403	809	0.3+	1.4+	890409	809	0.1-	1.4-				
890405	809	0.3-	1.0+	890409	809	0.1-	1.4-				

1989 RC1 = 1934 NY = 1982 YK5 = 1986 YL

Id. R. H. McNaught (1985, 1992 observations), G. V. Williams

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	3.55368		(2000.0)			P		Williams		Q	
n	0.26953931	Peri.	257.08009				+0.95160131				-0.21348011
a	2.3734931	Node	114.88782				+0.27339757				+0.91661273
e	0.2749929	Incl.	14.10648				-0.14038771				+0.33800494
P	3.66	H	13.0			G	0.15				

Residuals in seconds of arc

340712	078	(33.6-	6.7-)X	890905	474	2.0+	0.3+	891024	474	0.6-	0.5-
821221	095	0.7+	0.9+	890906	474	0.2-	0.1+	891025	474	1.8-	1.2-
850625	413	0.7+	1.3+	890906	474	0.2-	0.2-	891025	474	(3.0-	0.7-)
850625	413	1.5-	0.3+	890909	474	0.4-	0.9-	920530	413	0.7+	1.2-
861227	675	0.9-	0.6-	890910	474	0.0	0.1-	920530	413	0.3+	1.2-
861227	675	0.6-	0.5-	890910	474	0.1-	0.2-				
890905	474	0.3+	0.8+	890910	474	0.2+	0.0				

1990 OV = 1987 SX25 = 1993 KU1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	328.32227		(2000.0)			P		Nakano		Q	
n	0.28879825	Peri.	86.42699				+0.42090004				+0.90557585
a	2.2667642	Node	208.64761				-0.86977541				+0.38640670
e	0.1289939	Incl.	6.30895				-0.25755367				+0.17499210
P	3.41	H	14.0			G	0.15				

Residuals in seconds of arc

870924	095	0.4+	1.8-	900817	675	0.2+	1.2+	930518	894	0.8+	1.5+
900719	675	1.6+	0.7-	900819	675	0.1+	0.7+	930523	894	1.9-	0.5-
900719	675	0.2-	1.5-	900819	675	0.1-	1.8+	930523	894	0.6-	1.1-
900722	675	0.1-	0.1-	930516	894	1.5+	0.6-	930526	894	0.3+	0.3+
900722	675	1.4-	0.9-	930516	894	0.7-	1.1-	930526	894	0.7+	1.1+
900817	675	0.2-	0.2+	930518	894	0.3-	0.4-				

1990 OK1

Id. R. H. McNaught (1975, 1992, 1993 observations)



Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 293.08024	(2000.0)			P	Williams
n 0.27969440	Peri.	38.96573	+0.93774829	Q	+0.13056354
a 2.3156888	Node	310.31689	-0.31108997		+0.72779872
e 0.3319971	Incl.	24.96713	+0.15443823		+0.67324749
P 3.52	H 13.5		G 0.15		

Residuals in seconds of arc

750409 413	0.6-	0.5+	900818 675	0.0	1.9+	901016 801	0.7+	0.0
750409 413	1.8+	0.3+	900818 675	0.3+	0.9+	901213 801	0.3-	0.2-
900727 675	1.1-	0.7-	900821 675	0.1-	0.2+	901213 801	0.2+	0.1-
900727 675	1.1-	0.9-	900821 675	0.3+	0.3+	920326 413	2.0-	0.0
900730 675	0.1-	1.4-	901015 801	0.3+	0.2+	930510 413	0.5+	0.8-
900730 675	0.8+	1.2-	901015 801	0.3+	0.3+	930510 413	0.3+	0.4-

1990 QB

Id. R. H. McNaught (1975, 1978, 1992 observations)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 260.64309	(2000.0)			P	Williams
n 0.27673690	Peri.	56.90382	+0.84384537	Q	-0.50822163
a 2.3321581	Node	332.44209	+0.27671080		+0.68703267
e 0.2537802	Incl.	21.84523	+0.45973485		+0.51932349
P 3.56	H 14.0		G 0.15		

Residuals in seconds of arc

750314 413	0.5-	0.8+	900820 675	0.1-	0.6-	901021 675	1.3-	0.8-
780218 413	0.5+	0.8-	900824 046	(4.7-	0.9-)	901115 801	0.2+	0.1-
780218 413	0.4+	0.5-	900824 046	(2.7-	1.0-)	901115 801	0.5+	0.1-
780428 413	0.8-	0.2+	900917 675	1.7+	0.8+	901119 801	0.0	0.4-
780428 413	0.1+	0.2+	900920 675	0.6-	0.3+	901119 801	0.1+	0.3-
900817 675	0.9+	0.1+	900920 675	1.1-	0.2-	920327 413	0.1+	0.3-
900817 675	1.2+	1.1+	900924 675	0.7-	0.7+	920327 413	0.5-	0.3+
900820 675	0.4-	1.2-	900924 675	0.2-	0.1+			

1990 QT4 = 1986 TF9 = 1993 LA1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 195.10696	(2000.0)			P	Williams
n 0.23878524	Peri.	48.40737	+0.64126958	Q	-0.76727297
a 2.5731458	Node	1.76645	+0.60243450		+0.49691187
e 0.0961713	Incl.	15.22348	+0.47523256		+0.40542668
P 4.13	H 13.0		G 0.15		

Residuals in seconds of arc

861002 095	0.0	0.0	900829 675	0.2+	0.4-	930615 413	0.1+	0.0
900824 675	0.2-	0.4+	930613 413	0.4-	0.2+	930615 413	0.3-	0.4+
900824 675	0.1+	0.2+	930613 413	0.4+	0.4-	930618 413	0.6-	0.4+
900826 675	0.2+	0.1-	930614 413	0.3+	0.7-			
900826 675	0.3-	0.0	930615 413	0.4+	0.1+			

1990 SP

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 240.13432	(2000.0)			P	Williams
n 0.62499642	Peri.	47.97897	-0.05319768	Q	-0.98436665
a 1.3548286	Node	45.91902	+0.83315441		-0.13644315
e 0.3872100	Incl.	13.51710	+0.55047592		+0.11138032
P 1.58	H 16.5		G 0.15		

Residuals in seconds of arc

900818 413	0.2-	0.5-	900922 413	0.4+	1.0-	901017 413	1.4+	0.8+
900818 413	0.9-	0.3-	900924 413	0.5+	0.5-	910119 801	0.0	0.3+
900910 413	(0.9-	7.0-)	901010 413	0.2-	0.2-	910119 801	0.2+	0.1-
900920 413	0.1-	1.2-	901011 413	0.5-	0.0	910211 801	0.8+	0.5-
900921 413	0.2+	0.4-	901016 413	0.8+	0.6+	910211 801	0.2+	0.2-

910313	801	0.3-	0.5-	910412	801	0.2-	0.5-	930630	413	0.6-	0.7+
910313	801	0.3+	0.5+	910414	801	0.4+	0.0	930630	413	0.5-	0.5+
910316	801	0.1+	0.8-	910414	801	0.4+	0.0	930701	413	0.2-	0.4+
910316	801	0.1-	0.5-	910419	801	0.3+	0.6-	930701	413	0.2+	0.5+
910321	801	0.9+	0.8+	910419	801	0.1-	0.4-	930701	413	0.0	0.5+
910321	801	1.7-	0.4+	910420	413	0.9-	0.0	930701	413	0.2-	0.5+
910410	413	0.0	0.1-	910512	801	0.6-	0.6-				
910412	801	0.1+	0.1-	910512	801	0.4-	0.2-				

1990 VY2 = 1993 MJ1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 294.46819

(2000.0)

P

Williams

Q

n	0.24533026	Peri.	339.51568	+0.95981682	+0.28057855
a	2.5271749	Node	4.20004	-0.24650703	+0.85187701
e	0.1795165	Incl.	4.09502	-0.13411174	+0.44224568
P	4.02	H	12.5	G	0.15

Residuals in seconds of arc

901111	374	0.3+	0.6+	901117	374	1.2-	1.1+	930622	675	0.1+	1.1+
901111	374	1.3-	0.5+	901121	875	0.4+	0.3+	930624	675	0.2+	0.3-
901116	875	0.2-	2.1-	901121	875	0.8+	0.6+	930624	675	0.6-	0.6+
901116	875	1.2+	0.3+	901124	871	1.6-	0.1+				
901117	374	1.7+	1.3-	930622	675	0.2+	1.4-				

1990 WE2 = 1955 HY = 1973 UH5

Id. H. Kaneda (MPC 18435)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 336.23335

(2000.0)

P

Williams

Q

n	0.23627768	Peri.	90.45463	+0.37926634	+0.92117797
a	2.5913192	Node	202.45822	-0.91345560	+0.35774626
e	0.2098617	Incl.	13.18120	-0.14749886	+0.15312988
P	4.17	H	13.0	G	0.15

Residuals in seconds of arc

550418	675	0.6+	0.1-	901111	809	1.6-	0.1-	901120	809	0.6+	0.0
550418	675	0.4-	1.2+	901111	809	(3.4-	1.2-)	930424	691	0.6-	0.2+
731027	033	1.6-	0.3-	901118	809	1.4+	0.8-	930424	691	0.8-	0.0
731027	033	1.6+	1.0+	901118	809	0.5+	0.0	930617	693	1.1+	1.2-
731028	033	0.8+	0.7+	901118	809	0.3-	0.5-	930617	693	0.2+	0.4+
731031	033	1.1-	0.5+	901120	809	1.3+	0.4+	930618	693	0.2+	0.4-
901111	809	1.5-	0.1-	901120	809	0.3-	1.0-				

1991 AB1 = 1932 YS = 1952 OE1 = 1957 OH = 1968 TJ = 1978 NP2 = 1978 PM1  
= 1981 AG = 1983 PO2 = 1992 GE

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 270.21245

(2000.0)

P

Williams

Q

n	0.18900522	Peri.	241.23182	+0.96305412	-0.21414483
a	3.0071391	Node	130.63214	+0.25138579	+0.93234165
e	0.1743979	Incl.	12.42642	-0.09660204	+0.29134352
P	5.21	H	11.0	G	0.15

Residuals in seconds of arc

321223	012	0.9+	0.9+	830804	808	0.3+	0.2-	910209	896	0.4-	1.4+
520724	760	1.2-	0.6+	910113	896	1.3+	0.6+	910211	675	1.2-	0.8-
570725	760	0.3-	0.6+	910113	896	0.6-	1.5+	910211	675	1.2-	0.5-
570725	760	0.2-	0.8+	910114	399	0.3-	1.0+	920307	402	0.2-	0.7+
681015	095	0.1+	1.2-	910114	399	1.0-	1.2+	920307	402	1.3+	1.5+
780707	095	1.4-	1.2+	910114	399	0.9-	1.0-	920405	402	0.4+	0.6+
780808	095	0.9+	0.9-	910115	896	1.8+	0.5-	920405	402	0.7-	1.1-
810103	688	(0.4+	3.9-)	910115	896	1.7+	1.0-	920407	402	1.1-	1.3-
810103	688	(0.9-	3.3-)	910120	896	0.3+	0.4-	920407	402	0.2-	0.9-
830804	808	1.9+	1.1-	910120	896	0.3-	0.7-				

1991 CS1 = 1978 XY = 1984 YN4 = 1986 HV

Id. S. Nakano (MPC 17971, unpublished)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 169.05450

(2000.0)

P

Williams

Q

n	0.17976479	Peri.	9.07005	-0.83978671	-0.54241110
a	3.1093263	Node	138.05438	+0.49589329	-0.78389754
e	0.1309559	Incl.	2.00789	+0.22101613	-0.30215038
P	5.48	H	13.0	G	0.15

Residuals in seconds of arc

781205	675	2.4+	0.8+	881007	675	2.3+	2.3-	910222	413	1.4+	1.3-	
781206	675	2.4-	0.7+	881009	675	(3.1+	0.8+)	910223	894	0.2+	0.4+	
781206	675	0.5-	0.5+	881009	675	1.0+	1.1-	910223	894	(2.6+	1.8+)	
841228	095	0.3-	1.2-	910211	894	2.4+	1.2-	910224	413	0.2+	0.5-	
860429	675	(15.1+	6.6+)	910211	894	1.1-	1.4+	910311	809	1.2-	0.2+	
860429	675	(13.2+	6.7+)	910213	675	0.8-	1.4-	910311	809	0.9-	0.1-	
880910	675	0.6-	1.8-	910213	675	0.2+	0.2-	910311	809	0.4-	0.2-	
880910	675	1.8+	0.4-	910217	894	(3.3+	2.1+)	910313	809	1.1-	0.8-	
880912	675	0.8-	0.6-	910217	894	1.6+	0.3+	Y	910313	809	0.9-	0.9-
880912	675	0.1-	1.2-	910220	413	0.2-	0.8+	910313	809	0.6-	0.7-	
881007	675	1.1-	1.2+	910220	894	0.4-	0.5-					

1991 FG

Id. R. H. McNaught (1987, 1993 observations)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 192.07140

(2000.0)

P

Williams

Q

n	0.21493620	Peri.	325.00229	-0.97791642	-0.18444077
a	2.7601308	Node	204.92374	+0.20053583	-0.96053973
e	0.3377535	Incl.	13.48801	-0.05886308	-0.20819468
P	4.59	H	13.0	G	0.15

Residuals in seconds of arc

870731	413	0.3+	0.5+	910410	413	0.3-	0.6+	930701	413	0.3-	0.3+
870731	413	0.2-	0.9-	910412	675	1.0-	0.1+	930701	413	0.5+	0.3+
910210	413	0.3-	0.3-	910412	675	0.9+	0.3-	930701	413	0.0	0.5+
910318	413	0.6+	0.6-	910413	675	1.4+	0.8-	930701	413	0.3-	0.5+
910319	413	1.3-	1.8+	910413	675	1.0+	0.2-	930701	413	0.2-	0.7+
910321	413	1.1-	0.5+	910515	413	0.5-	0.0				
910327	413	0.4+	0.1+	910531	413	0.2+	0.0				

1991 TG4

Id. E. F. Helin (1993 observations)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 137.45143

(2000.0)

P

Williams

Q

n	0.36027061	Peri.	270.22120	-0.64238397	-0.73199023
a	1.9560659	Node	222.73799	+0.76568850	-0.62560697
e	0.1014641	Incl.	19.54229	-0.03261830	-0.26982629
P	2.74	H	13.0	G	0.15

Residuals in seconds of arc

910913	675	0.0	0.6+	911013	675	1.0-	0.0	911103	675	2.4+	2.3+
910913	675	0.4-	0.4+	911014	675	0.4-	1.1-	930622	675	0.9-	2.1+
910914	675	0.3-	0.3+	911014	675	1.1-	0.9-	930622	675	1.4+	0.6-
910915	675	0.2-	0.5+	911101	675	0.4-	0.3-	930623	675	0.2-	0.3-
910916	675	0.1+	0.3-	911101	675	1.2+	0.9+	930623	675	0.3-	1.1-
911013	675	1.4-	2.2-	911103	675	1.6+	0.3+				

1991 YE = 1982 YS2 = 1990 SZ23

Id. K. Ichikawa

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	95.22776		(2000.0)		P		Williams		Q
n	0.22515890	Peri.	46.21956			-0.88800907			-0.45242267
a	2.6759416	Node	106.72408			+0.39339112			-0.84001527
e	0.1617651	Incl.	4.92260			+0.23808259			-0.29947968
P	4.38	H	13.5		G	0.15			

Residuals in seconds of arc

821222	095	0.1-	0.6+	920103	596	1.0+	1.3+	920127	565	0.6-	0.1+
900925	809	0.5+	0.6-	920110	894	0.2+	0.5+	920127	565	0.1+	1.0-
900925	809	0.2-	0.4-	920110	894	0.4+	0.6-	920128	894	0.7-	0.7-
900925	809	0.3+	0.7-	920112	372	(5.2-	0.4+)	920130	565	0.7-	0.3+
911230	565	0.8-	0.1+	920112	894	0.5+	0.5-	920130	565	0.0	0.9-
911230	565	0.6-	1.3-	920112	372	(3.8-	0.3+)	930521	565	0.1+	1.6-
911231	565	1.0+	0.6+	920114	894	2.0-	0.4-	930616	589	0.3+	0.6-
911231	565	0.1+	0.6-	920114	372	1.5-	0.4+	930616	589	0.3+	0.4-
920101	589	2.0-	1.1-	920114	372	(3.9-	0.4+)	930616	589	0.3-	0.7-
920101	589	0.3-	1.2+	920124	894	0.3-	0.0	930616	589	0.4-	1.3-
920102	589	0.9-	1.4-	920124	894	0.8-	0.2+	930617	589	0.2-	0.4-
920102	589	0.7-	1.7+	920124	894	0.1+	1.7-	930617	589	0.6+	0.5-
920102	589	(2.9-	0.9+)	920125	894	1.5+	1.9-	930618	595	0.4-	0.9+
920102	589	1.6+	0.1+	920125	894	0.1-	0.5-	930618	595	2.0-	1.3+
920102	589	(2.7-	0.5+)	920125	565	0.9+	0.2-	930618	595	1.4-	1.5+
920102	589	1.3+	1.0+	920125	565	1.4-	0.3+	930618	589	1.1+	1.1+
920103	596	0.5+	2.5+	920126	894	0.8+	1.2-	930618	589	1.3+	0.8+
920103	596	1.3+	2.4+	920126	894	1.0+	0.4-	930618	589	0.6+	0.0
920103	596	0.6+	0.0	920127	894	0.7+	0.2+	930620	589	0.3+	0.7-

1992 AO

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	206.34998		(2000.0)		P		Bardwell		Q
n	0.27331094	Peri.	281.00839			+0.60847428			-0.73435086
a	2.3516068	Node	127.20355			+0.79122361			+0.59054781
e	0.09333378	Incl.	22.18949			-0.06102657			+0.33463727
P	3.61	H	12.0		G	0.15			

Residuals in seconds of arc

540729	675	0.6-	1.2+	920130	675	0.5+	0.5-	930518	675	0.1+	0.6-
540729	675	0.2-	0.6-	920131	675	0.9+	0.1-	930518	675	0.3+	0.8-
540731	675	0.6+	0.7-	920131	675	0.4+	1.3-	930520	675	0.3-	1.8-
540731	675	0.1+	0.7-	920201	675	0.1+	0.1-	930618	801	0.2-	0.7-
920109	675	0.4-	0.6-	930514	693	0.5-	0.3-	930618	801	0.4-	0.2-
920109	675	0.7-	0.3+	930514	693	0.8-	1.3+	930624	801	0.5-	0.1+
920110	675	0.2-	0.3+	930517	693	1.7+	2.4+	930624	801	0.1+	0.6-
920130	675	0.2-	0.9+	930517	693	0.3+	0.6+				

1992 NJ

Id. R. H. McNaught (1974, 1975 observations)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	325.15547		(2000.0)		P		Williams		Q
n	0.17252333	Peri.	24.59543			+0.63564666			-0.75160703
a	3.1957355	Node	27.02617			+0.62843850			+0.37125240
e	0.0707007	Incl.	22.81316			+0.44835074			+0.54521421
P	5.71	H	12.0		G	0.15			

## Residuals in seconds of arc

740618	413	0.1-	0.8-	920711	413	0.2+	0.3-	920905	413	0.0	0.1+
740618	413	0.0	0.6+	920727	413	0.0	0.4+	920905	413	0.2-	0.2+
750608	413	0.2+	0.0	920727	413	0.2+	0.1+	921006	413	0.2-	0.5+
750608	413	0.9+	1.7-	920805	413	0.0	0.7+	921006	413	0.4-	0.5+
920701	413	1.4-	1.8-	920805	413	0.1-	0.7+	921209	413	0.3+	0.4-
920701	413	0.1+	0.9+	920820	413	0.0	0.1-	921209	413	0.8+	0.5-
920703	413	0.2-	0.6-	920820	413	0.1-	0.1+	921209	413	0.5+	0.3-
920704	413	0.2+	0.6+	920821	413	0.1-	0.1-				
920704	413	0.3+	0.6+	920821	413	0.0	0.0				

## 1992 OB

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	84.76866		(2000.0)			P		Q			
n	0.18061631	Peri.	232.80717			+0.18584063		+0.95503288			
a	3.0995459	Node	49.57561			-0.77762067		+0.28668308			
e	0.2017048	Incl.	17.66701			-0.60064079		-0.07566383			
P	5.46	H	14.0			G	0.15				

From 13 observations 1992 July 26-Dec. 11, mean residual 0".38.

## 1992 OO

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	102.68000		(2000.0)			P		Q			
n	0.27512008	Peri.	195.20427			+0.72251888		+0.58721308			
a	2.3412863	Node	122.90347			-0.58028308		+0.80200429			
e	0.1795481	Incl.	25.76053			-0.37581647		-0.10940710			
P	3.58	H	13.5			G	0.15				

From 21 observations 1992 July 27-Dec. 9, mean residual 0".69.

## 1992 PD6 = 1978 WJ2

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Ichikawa

M	84.42226		(2000.0)			P		Q			
n	0.26688728	Peri.	242.37026			+0.79621886		+0.60202496			
a	2.3891906	Node	80.55385			-0.53143745		+0.74335383			
e	0.0741948	Incl.	3.48787			-0.28915352		+0.29153220			
P	3.69	H	14.7			G	0.15				

## Residuals in seconds of arc

781129	675	0.6-	0.0	920801	809	0.3+	0.1+	920804	809	0.0	0.6-
781130	675	0.6+	0.0	920803	809	0.7-	0.9+	920804	809	0.2+	0.4-
920801	809	0.3-	0.4-	920803	809	0.3-	0.7+	920804	809	0.6+	0.6-
920801	809	0.3+	0.1-	920803	809	0.2-	0.5+				

## 1992 WB9 = 1991 PO6

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Ichikawa

M	48.46085		(2000.0)			P		Q			
n	0.18601979	Peri.	70.98952			+0.52388290		-0.85176123			
a	3.0392280	Node	347.41019			+0.76886086		+0.47641719			
e	0.0851026	Incl.	1.84979			+0.36660562		+0.21801253			
P	5.30	H	13.7			G	0.15				

## Residuals in seconds of arc

910806	809	0.8-	0.1+	910814	809	0.2+	0.3-	921125	675	1.1+	0.6-
910806	809	0.5+	0.3+	910814	809	1.0+	0.5+	921125	675	0.3-	0.2-
910806	809	0.0	0.1+	921121	399	0.3-	0.7+	921128	675	0.3-	0.4-
910814	809	0.8-	0.7-	921121	399	0.2-	1.2+	921128	675	0.0	0.6-

1993 CC

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 339.34922 (2000.0)

n	0.22621289	Peri.	93.69571	-0.67572002	+0.71556732
a	2.6676232	Node	132.10752	-0.73479954	-0.63462513
e	0.1349019	Incl.	13.81105	-0.05892440	-0.29191497
P	4.36	H	12.0	G	0.15

From 38 observations 1993 Feb. 12-May 22, mean residual 0".55.

1993 EW = 1977 FK3 = 1977 GO = 1980 WW1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 342.77399 (2000.0)

n	0.18223263	Peri.	14.09378	-0.76014365	+0.64974382
a	3.0811910	Node	206.42971	-0.59696710	-0.70069730
e	0.1275950	Incl.	0.49190	-0.25653833	-0.29471386
P	5.41	H	12.7	G	0.15

Residuals in seconds of arc

770325	095	1.6+	1.2+	930215	399	1.1+	0.5+	930312	399	0.1-	0.4+
770326	095	1.5+	2.0+	930215	399	1.1-	0.6+	930315	400	0.2-	1.5-
770410	381	2.4-	2.0-	930221	399	0.4+	0.8+	930315	400	1.2-	0.8-
770410	381	0.6-	1.0-	930221	399	0.5+	0.1-				
801130	095	0.0	0.3-	930312	399	0.6+	0.3-				

1993 FS

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 33.37416 (2000.0)

n	0.29672076	Peri.	20.77811	-0.93833301	+0.34572850
a	2.2262337	Node	179.43945	-0.33681685	-0.91300028
e	0.4249701	Incl.	10.13181	-0.07801007	-0.21656938
P	3.32	H	20.0	G	0.15

From 23 observations 1993 Mar. 25-May 26, mean residual 0".49.

1993 FB1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 6.53067 (2000.0)

n	0.23923625	Peri.	160.10903	-0.68991988	+0.71079076
a	2.5699109	Node	65.98805	-0.68280582	-0.57611650
e	0.1459413	Incl.	8.62990	-0.24038880	-0.40356695
P	4.12	H	12.5	G	0.15

From 16 observations 1993 Jan. 19-June 18, mean residual 0".91.

1993 FS1 = 1951 JC1 = 1969 VE3 = 1989 RF2

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 331.76758 (2000.0)

n	0.18599897	Peri.	93.44587	-0.41050307	+0.90685811
a	3.0394548	Node	151.70818	-0.89596221	-0.38168990
e	0.1008521	Incl.	11.60833	-0.16952565	-0.17866504
P	5.30	H	11.8	G	0.15

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

510505	020(0.07+ 0.04-)X	890905	511	1.4-	1.3-	930325	399	0.7+	1.4-
691110	805 0.0 0.1+	890905	511	1.6+	1.8+	930326	399	0.5-	1.8+
890902	511 0.9- 1.5+	930315	400	0.7+	1.4+	930326	399	1.9-	1.0+
890902	511(16.7- 12.6+)	930315	400	0.2+	1.4-	930329	399	0.5+	0.3+
890905	511 0.7+ 1.9-	930325	399	0.8+	1.5-	930329	399	0.4-	0.1-

1993 FP2 = 1930 UJ1 = 1974 SY1 = 1991 XN2

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 206.89003

(2000.0)

P

Nakano

Q

n	0.29130404	Peri.	24.94979	+0.96772153	-0.25174097
a	2.2537464	Node	349.60968	+0.21874428	+0.86244787
e	0.1510346	Incl.	3.78205	+0.12516382	+0.43910152
P	3.38	H	13.1	G	0.15

Residuals in seconds of arc

301016	008	0.5+	1.1-	911207	399	0.3+	0.3+	930329	399	0.3+	0.9+
301017	008	0.6+	1.0-	911207	399	1.1-	1.3+	930329	399	0.6+	0.3+
740919	095	2.1-	0.6+	930320	400	0.4-	1.2+	930415	399	2.0-	0.6-
740922	095	1.0+	1.8+	930320	400	0.7-	0.5-	930415	399	0.1+	0.2+
911204	399	0.1+	0.7-	930326	399	0.9-	0.2-	930419	399	1.7+	0.3-
911204	399	0.6+	0.4-	930326	399	0.2-	1.0-	930419	399	1.8+	0.4+

1993 GM = 1972 BB = 1982 AD = 1990 RG16 = 1991 YL2

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 116.74120

(2000.0)

P

Ichikawa

Q

n	0.19611026	Peri.	336.43302	-0.21310109	-0.97598143
a	2.9340612	Node	125.84149	+0.90505260	-0.21463968
e	0.0683201	Incl.	3.20039	+0.36805940	-0.03728339
P	5.03	H	12.8	G	0.15

Residuals in seconds of arc

720117	095	(1.1-	5.0-)	900915	809	0.3-	0.2-	930414	894	0.8-	1.1-
820115	046	0.5+	0.2+	900915	809	0.5+	0.1+	930417	894	2.1-	0.7-
820115	046	1.5-	0.1+	900922	809	0.4+	1.4-	930417	894	0.8-	1.2-
820116	046	0.8+	2.6-	900922	809	0.4+	1.9-	930425	361	1.2+	1.7-
820116	046	0.4-	0.4-	900922	809	1.2+	2.1-	930425	361	2.2+	1.3-
820118	046	0.3-	0.1+	911231	565	0.9+	0.5-	930427	894	0.8-	1.2+
820118	046	0.6+	0.2+	911231	565	1.0-	0.7+	930427	894	2.1-	0.0
900915	809	0.3+	0.6-	930414	894	1.1+	1.2-				

1993 HA

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 185.00043

(2000.0)

P

Williams

Q

n	0.68194942	Peri.	263.43162	+0.05444631	-0.99848340
a	1.2783053	Node	183.47867	+0.96100442	+0.05461667
e	0.1442119	Incl.	7.72393	+0.27112008	+0.00692264
P	1.45	H	20.0	G	0.15

From 23 observations 1993 Apr. 17-June 17, mean residual 0".54.

1993 HC

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 55.37568

(2000.0)

P

Marsden

Q

n	0.35146838	Peri.	306.31149	-0.84295586	-0.53462960
a	1.9885898	Node	201.56723	+0.53091919	-0.80869825
e	0.5072295	Incl.	9.38962	+0.08689210	-0.24531271
P	2.80	H	20.5	G	0.15

From 24 observations 1993 Apr. 20-May 27, mean residual 0".52.

1993 HL = 1950 TM2 = 1984 RK

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 243.86731

(2000.0)

P

Nakano

Q

n	0.29170990	Peri.	308.04065	+0.99217395	-0.02966133
a	2.2516555	Node	53.98214	+0.08416691	+0.87639426
e	0.1940125	Incl.	8.62435	-0.09223223	+0.48068005
P	3.38	H	12.6	G	0.15

## Residuals in seconds of arc

501005	760	0.1+	0.0	930416	400	(10.5+	1.6+)	930508	400	2.5-	1.4-
501005	760	0.3-	0.4+	930416	400	1.3+	0.9-	930508	400	1.5-	0.7-
840905	675	0.2+	0.2+	930420	400	1.1+	1.6+				
840906	675	0.2+	1.2-	930420	400	1.2+	1.1+				

## 1993 HO1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	79.19117		(2000.0)			P		Q	
n	0.35194461	Peri.	105.05290	-0.61306880				-0.78901413	
a	1.9867955	Node	22.90362	+0.67956126				-0.55251578	
e	0.4165705	Incl.	5.90543	+0.40291827				-0.26866896	
P	2.80	H	16.0	G	0.15				

From 22 observations 1993 Apr. 19-July 1, mean residual 0".51.

## 1993 HQ1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	28.88488		(2000.0)			P		Q	
n	0.35469936	Peri.	198.79874	-0.90628754				+0.42104539	
a	1.9764953	Node	6.47427	-0.33352222				-0.65874831	
e	0.0701969	Incl.	19.11706	-0.25962630				-0.62351539	
P	2.78	H	15.5	G	0.15				

From 10 observations 1993 Apr. 17-July 1, mean residual 0".47.

## 1993 HT1 = 1977 HG1 = 1980 FK6

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Nakano

M	1.45654		(2000.0)			P		Q	
n	0.30796522	Peri.	52.69404	-0.30095254				+0.95321842	
a	2.1717088	Node	199.84768	-0.89922052				-0.29354320	
e	0.1359696	Incl.	4.78527	-0.31753745				-0.07215980	
P	3.20	H	13.8	G	0.15				

## Residuals in seconds of arc

770424	675	0.3+	0.5-	800323	808	0.3-	0.6-	930429	400	0.8+	0.3-
770425	675	0.4-	0.1-	930421	400	1.1+	1.6+	930521	400	1.0+	0.7+
800323	809	1.1+	0.8+	930421	400	0.2-	0.8-	930521	400	2.2-	0.4-
800323	808	0.9-	0.2-	930429	400	0.3-	0.1-				

## 1993 HA2

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	3.35851		(2000.0)			P		Q	
n	0.00794865	Peri.	174.14978	-0.90090015				+0.41100106	
a	24.8660720	Node	31.31582	-0.40830090				-0.69354122	
e	0.5234099	Incl.	15.56751	-0.14720494				-0.59167449	
P	124.00	H	9.5	G	0.15				

From 30 observations 1993 Apr. 26-June 17, mean residual 0".48.

## 1993 JE = 1989 FT = 1990 OW5

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Ichikawa

M	108.33969		(2000.0)			P		Q	
n	0.26721784	Peri.	58.57530	-0.74411387				-0.65801483	
a	2.3872199	Node	80.00647	+0.56626021				-0.71288815	
e	0.0786262	Incl.	6.72770	+0.35446287				-0.24250147	
P	3.69	H	12.9	G	0.15				

## Residuals in seconds of arc

890328	046	1.1+	1.1-	890331	046	1.4-	1.0+	930514	400	0.8+	0.7-
890328	046	2.0+	0.9-	900726	675	0.3-	0.1-	930514	400	0.5+	1.5+
890330	046	1.4-	1.4+	900726	675	0.2+	0.3+	930516	400	1.6-	2.8-



930516	400	0.1-	1.0-	930524	361	0.9+	1.1+	930527	361	0.0	2.4+
930521	400	1.1+	0.1-	930524	361	0.5-	1.9+				
930521	400	0.1+	2.7-	930524	361	1.2-	0.2+				

1993 JF = 1972 JD1 = 1980 TB15 = 1980 UB2

Id. T. Urata

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	310.25412		(2000.0)			P		Q	
n	0.28188758	Peri.	58.61409	+0.58170636				+0.80970146	
a	2.3036620	Node	247.15295	-0.77191433				+0.51950197	
e	0.1875196	Incl.	4.82214	-0.25644877				+0.27294916	
P	3.50	H	13.0	G	0.15				

Residuals in seconds of arc

720512	805	1.6+	1.4-	801017	095	0.5-	0.1+	930515	905	0.1-	0.8-
720512	805	0.1+	0.8-	911207	691	0.5+	0.1-	930515	905	0.8-	0.1-
720512	805	0.8+	1.6-	911207	691	0.2-	0.2+	930520	385	0.5+	0.3+
720514	805	1.4-	2.1+	911207	691	0.2-	0.0	930520	385	0.0	0.4-
720514	805	0.2+	2.0+	930417	693	0.3+	0.8-	930525	905	0.2-	0.2-
720514	805	0.3-	2.4+	930417	693	0.6+	0.0	930525	905	1.3+	1.4+
801015	095	0.4+	0.9+	930418	693	2.1-	0.8-				

1993 JH = 1970 GP = 1978 PW4 = 1985 FW

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Urata

M	358.60223		(2000.0)			P		Q	
n	0.25859902	Peri.	226.03571	+0.04095598				+0.99770522	
a	2.4399717	Node	46.39452	-0.89407452				+0.06068410	
e	0.2355477	Incl.	4.27009	-0.44604187				-0.03002881	
P	3.81	H	13.5	G	0.15				

Residuals in seconds of arc

700409	805	0.2+	1.1-	850321	688	0.6+	0.0	930524	361	0.6-	1.2-
700409	805	0.2-	0.9+	930511	905	1.4-	0.0	930525	361	0.7+	0.7+
700409	805	0.3-	0.4-	930511	905	1.2-	0.0	930525	361	1.4+	1.1+
780807	323	2.0-	2.3+	930520	905	0.7+	0.3+	930525	361	1.8-	1.3-
780807	323	2.9-	2.8+	930520	905	0.0	0.2+	930527	385	0.3+	0.3+
780809	323	1.7+	2.9-	930524	361	0.3+	0.8-	930527	385	0.2-	0.2+
780809	323	3.2+	2.6-	930524	361	2.7+	0.0	930527	385	0.4-	0.4+
850321	688	0.6-	0.0	930524	361	0.3-	0.5+				

1993 JJ = 1976 MB = 1977 XV2 = 1980 TU1 = 1984 YN = 1987 SH22 = 1990 HE2  
= 1990 MV1 = 1992 BF5

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

Williams

M	283.28347		(2000.0)			P		Q	
n	0.28650844	Peri.	248.90333	+0.92500389				+0.36846320	
a	2.2788257	Node	89.38014	-0.30501886				+0.86566046	
e	0.0815050	Incl.	5.32218	-0.22656411				+0.33892010	
P	3.44	H	13.5	G	0.15				

Residuals in seconds of arc

760620	095	1.2+	0.1-	900427	413	2.0+	0.4+	920124	399	0.3-	0.4-
771207	675	0.2-	0.7+	900427	413	0.5-	0.9-	930514	399	1.2-	0.9+
771208	675	0.0	0.6+	900430	413	0.5+	0.0	930514	399	0.9-	0.1+
801005	809	1.0-	0.4-	900430	413	1.0-	0.4-	930516	399	0.2+	0.6-
801005	809	1.0-	0.3-	900628	808	1.4+	1.3-	930516	399	0.1+	0.1-
841223	046	0.9+	1.9-	900628	808	2.2+	0.4+	930521	691	1.0-	0.4-
841223	046	0.0	1.6-	920124	399	0.8+	0.2-	930521	691	0.7-	0.3-
870918	095	0.6-	2.1-	920124	399	1.5+	0.6-	930521	691	0.8-	0.3-

1993 JL = 1968 HC1 = 1972 JR  
 Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 M 6.87323 (2000.0)  
 n 0.23604237 Peri. 165.62675  
 a 2.5930412 Node 78.49803  
 e 0.1329091 Incl. 14.97346  
 P 4.18 H 11.7 G 0.15

Nakano  
 Q  
 +0.86751556  
 -0.29482604  
 -0.40061747

Residuals in seconds of arc

680426	095	0.2+	0.3-	930514	399	0.4-	0.2+	930527	361	0.2-	0.9+
720512	095	0.6+	1.8+	930514	399	0.3-	0.2+	930527	361	(0.9+	2.6-)
930419	399	0.3+	1.6-	930516	399	1.1+	0.1-	930527	361	0.4-	0.1+
930419	399	1.1-	1.3-	930516	399	0.2+	0.2+				

1993 KA  
 Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (M-N)  
 M 65.21472 (2000.0)  
 n 0.70078152 Peri. 341.81970  
 a 1.2553003 Node 235.93806  
 e 0.1974428 Incl. 6.04996  
 P 1.41 H 26.0 G 0.15

Marsden  
 Q  
 +0.60794067  
 -0.76247930  
 -0.22143501

From 21 observations 1993 May 17-26, mean residual 0".90.

1993 KG = 1951 CU1 = 1954 US1 = 1956 GM = 1970 FF = 1979 EC = 1991 VJ16  
 Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 M 52.11198 (2000.0)  
 n 0.21258953 Peri. 130.44628  
 a 2.7804055 Node 13.97776  
 e 0.1978636 Incl. 8.80987  
 P 4.64 H 12.5 G 0.15

Williams  
 Q  
 -0.58363049  
 -0.69989291  
 -0.41173459

Residuals in seconds of arc

510210	711	0.3+	2.0-	Y	930520	589	0.1-	0.1-	930605	589	0.1+	0.3-
510210	711	1.4-	0.9+	Y	930524	589	0.4+	0.1-	930605	589	0.1+	1.2-
541024	760	(0.1-	24.8-)	X	930524	589	0.7-	0.8-	930605	589	0.1+	0.2-
560406	839	2.0+	1.2+		930524	589	0.6+	0.1+	930606	589	1.9+	1.1+
700331	095	0.2-	2.1+		930525	589	0.0	0.3-	930607	589	0.2-	0.2-
790301	330	1.6+	1.1+		930525	589	0.3+	0.2-	930607	589	0.3-	0.2+
911109	691	0.1-	0.2+		930525	587	0.4-	0.1-	930610	589	0.7-	0.1-
911109	691	0.2-	0.4+		930525	587	0.5-	0.2-	930610	589	0.7-	0.1+
911109	691	0.0	0.3+		930525	587	0.2+	1.2+	930610	589	0.9-	0.3+
930520	589	0.1-	0.0		930525	587	0.5+	1.2-	930610	589	1.3-	0.2-
930520	589	0.2-	0.1+		930526	589	0.5-	0.2-	930612	589	0.8-	0.0
930520	589	0.0	0.1+		930526	589	1.3+	1.0-	930612	589	1.5-	0.5-

1993 KH  
 Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 M 334.99611 (2000.0)  
 n 0.72014878 Peri. 293.61221  
 a 1.2326920 Node 54.56099  
 e 0.3101407 Incl. 12.75010  
 P 1.37 H 19.0 G 0.15

Williams  
 Q  
 +0.21300070  
 +0.85758774  
 +0.46816019

From 14 observations 1993 May 24-July 1, mean residual 0".41.

1993 KP = 1953 RQ = 1975 RS = 1978 EO2 = 1978 GA1  
 Epoch 1993 Aug. 1.0 TT = JDT 2449200.5  
 M 3.51090 (2000.0)  
 n 0.26820859 Peri. 78.50025  
 a 2.3813374 Node 185.21764  
 e 0.1901764 Incl. 3.60083  
 P 3.67 H 13.9 G 0.15

Ichikawa  
 Q  
 +0.99395937  
 -0.10501561  
 -0.03188265

## Residuals in seconds of arc

530909	760	0.4+	0.1+	930520	894	0.5-	0.3-	930525	361	0.2-	2.2+
530909	760	1.3+	0.8-	930520	894	0.6-	0.2-	930527	361	0.3-	0.7+
750903	095	(0.3-	5.3+)	930523	894	1.2-	0.6-	930527	361	0.8-	2.2+
750906	095	1.3+	0.5+	930523	894	0.9-	1.4-	930527	361	0.6-	0.3-
780305	095	1.0+	1.4-	930525	361	2.3+	1.0-				
780407	095	0.8+	0.5-	930525	361	2.8+	1.0-				

1993 KQ = 1958 DQ = 1979 HE6 = 1982 BE2 = 1989 AQ9

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	33.74399		(2000.0)			P				Q	
n	0.28447984	Peri.	124.65620			-0.72389046				+0.67059575	
a	2.2896463	Node	98.04652			-0.67438031				-0.63819073	
e	0.1995206	Incl.	9.42377			-0.14558093				-0.37817184	
P	3.46	H	13.6			G	0.15				

Nakano

## Residuals in seconds of arc

580223	760	0.3-	0.2+	820119	046	(3.2+	2.7-)	930526	894	0.2-	0.6+
580223	760	0.5+	0.1+	820119	046	0.4+	0.6-	930527	894	0.6-	0.0
790428	095	0.3+	0.9+	890104	807	0.9-	2.2+	930527	894	0.4+	0.3-
820116	046	0.4+	0.0	890104	807	0.7+	2.0-	930611	361	0.8-	0.7-
820116	046	1.6+	0.5+	890105	807	(2.5-	3.4+)	930611	361	0.3-	0.9-
820118	046	2.7-	1.3-	890105	807	0.4+	0.7-	930611	361	0.2-	1.0-
820118	046	(3.1-	0.5-)	930526	894	1.1+	0.8+				

1993 KT1 = 1990 FU1 = 1992 BX5

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	344.04497		(2000.0)			P				Q	
n	0.36162498	Peri.	211.27422			+0.27548706				+0.86746171	
a	1.9511790	Node	77.59194			-0.77093647				+0.45679476	
e	0.0499781	Incl.	25.09844			-0.57425068				-0.19710079	
P	2.73	H	14.0			G	0.15				

Williams

## Residuals in seconds of arc

900331	675	1.0+	0.4-	930523	675	0.8-	0.4+	930616	675	0.2-	0.2-
900401	675	1.1-	0.1+	930523	675	1.1-	0.3-	930620	675	0.1-	0.3-
920126	691	0.6-	0.6+	930524	675	1.3-	0.8-	930627	413	1.3+	2.0-
930517	675	0.3+	0.0	930525	675	0.3-	0.6+	930627	413	1.2+	1.3+
930517	675	0.8+	0.5+	930526	675	0.3+	0.0	930627	413	0.8-	0.4-
930519	675	2.4+	1.0+	930615	675	1.0-	0.5-	930710	413	0.4+	1.3+
930519	675	0.7+	0.2-	930615	675	1.3-	0.1+				

1993 KY1 = 1972 HQ1 = 1990 SR16 = 1991 XU5

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M	33.90020		(2000.0)			P				Q	
n	0.28276851	Peri.	96.73902			-0.65191475				+0.75580652	
a	2.2988750	Node	132.38308			-0.72440064				-0.59681930	
e	0.1179713	Incl.	4.76417			-0.22416706				-0.26937562	
P	3.49	H	14.0			G	0.15				

Nakano

## Residuals in seconds of arc

720419	805	0.2+	1.1-	911211	033	0.3+	0.5-	930609	894	0.0	1.4+
720419	805	0.3-	0.9-	911212	033	0.2+	0.2-	930609	894	0.3+	1.7+
720419	805	0.7-	1.1-	911212	033	0.6-	0.5-	930611	361	0.4+	0.5-
900917	675	0.5-	0.7-	930527	894	0.2-	0.4-	930611	361	1.5-	1.0-
900917	675	0.4+	0.7-	930527	894	1.6-	1.2-	930619	361	0.1-	0.3-
900920	675	0.3+	1.1-	930531	894	1.3+	1.1+				
900920	675	0.4+	0.6+	930531	894	1.5+	0.9+				

1993 KA2

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 (M-N) Marsden  
 M 35.10845 (2000.0) P Q  
 n 0.29651965 Peri. 261.30317 -0.77506599 -0.63005937  
 a 2.2272402 Node 239.62746 +0.59939183 -0.70908437  
 e 0.7747615 Incl. 3.18510 +0.20000536 -0.31658260  
 P 3.32 H 29.0 G 0.15

From 10 observations 1993 May 21-22, mean residual 0".71.

1993 KB2 = 1983 SK = 1983 TK

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 Williams  
 M 354.02079 (2000.0) P Q  
 n 0.18010988 Peri. 97.45424 +0.06491113 +0.99766137  
 a 3.1053533 Node 176.07218 -0.99354896 +0.06661301  
 e 0.1595867 Incl. 18.21215 -0.09298934 -0.01531314  
 P 5.47 H 11.5 G 0.15

Residuals in seconds of arc

830929	046	0.4+	0.4+	930525	675	0.0	1.1-	930622	071	0.0	1.1-
830929	046	1.9-	1.8+	930527	675	0.6-	1.8+	930623	071	0.0	0.7-
831005	046	1.5+	2.0-	930527	675	0.0	1.6+	930623	071	0.2+	1.1-
831005	046	(5.7-	2.3+)	930622	071	1.1+	0.7+				
930524	675	0.2+	0.8-	930622	071	0.8-	0.6+				

1993 KD2 = 1986 LE1 = 1987 YP

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 Nakano  
 M 292.15971 (2000.0) P Q  
 n 0.27652743 Peri. 251.42179 +0.94676188 +0.28815923  
 a 2.3333358 Node 91.63282 -0.21351958 +0.89576086  
 e 0.1680828 Incl. 8.25662 -0.24093843 +0.33849186  
 P 3.56 H 13.2 G 0.15

Residuals in seconds of arc

860607	675	2.1-	2.0-	930516	894	0.2-	1.6+	930520	894	0.4+	0.2-
860607	675	2.0-	1.2-	930516	894	0.2+	1.2+	930523	894	0.1-	0.4-
860608	675	3.5+	0.7+	930518	894	0.2-	0.5+	930523	894	0.2+	0.9-
871222	046	1.3-	0.3-	930518	894	0.3+	0.4+	930525	894	1.7-	0.3-
871222	046	1.6+	1.4-	930520	894	1.7+	0.5-	930525	894	0.3-	0.2-

4224 T-2 = 1993 KS1

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5 Williams  
 M 290.19956 (2000.0) P Q  
 n 0.28631842 Peri. 198.75743 +0.96079533 +0.27405823  
 a 2.2798338 Node 145.24922 -0.24402305 +0.90778509  
 e 0.1716210 Incl. 4.22608 -0.13162479 +0.31751902  
 P 3.44 H 18.0 G 0.15

Residuals in seconds of arc

730920	675	0.0	0.7-	730930	675	0.9-	1.0+	930525	691	0.1+	0.3+
730924	675	1.1-	1.2-	730930	675	(2.7+	2.7+)	930525	691	0.3-	0.3-
730924	675	1.4+	0.2+	731004	675	0.6+	0.0	930526	691	0.0	0.1+
730925	675	0.1-	1.0+	731004	675	1.2+	0.8-	930526	691	0.5+	0.2-
730925	675	0.3+	0.1-	731005	675	0.5+	0.0	930526	691	0.5+	0.3+
730929	675	0.5+	1.0+	731005	675	1.3-	0.0				
730929	675	1.2-	0.4-	930525	691	0.8-	0.2-				

3108 T-3 = 1989 UM5

Id. T. Kobayashi (MPC 15908); 3108 T-3 = 1941 UB = 1978 TB9 (ibid.) is  
 invalid

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

M 198.60851	(2000.0)										
n 0.08259921	Peri.	256.59430		+0.37481968							
a 5.2217824	Node	35.43474		-0.83849370							
e 0.0687223	Incl.	1.72910		-0.39552311							
P 11.93	H 11.5			G 0.15							

Bowell


Residuals in seconds of arc

771007	675	1.0+	1.4-	771021	675	0.2+	0.3+	891101	807	1.0-	0.0
771011	675	(2.6-	1.5-)	771021	675	0.2+	1.6+	891124	675	1.1+	1.3+
771011	675	1.3-	0.8-	771022	675	1.5-	0.7+	891124	675	0.3-	0.2+
771012	675	0.4+	1.1-	771022	675	0.6+	0.1+	891128	688	0.0	0.1+
771012	675	0.3-	1.3-	880910	675	0.6-	1.4-	891128	688	0.4-	0.2+
771016	675	1.1+	1.4-	880910	675	0.3+	0.7+	891128	688	0.0	0.3-
771016	675	0.3+	0.5-	880912	675	0.5+	0.2+	891129	688	0.4-	0.1-
771017	675	0.5-	0.1-	880912	675	0.9-	0.5+	891129	688	0.8-	0.0
771017	675	0.5+	1.1+	891030	807	0.7-	0.5+				

\* \* \* \* \*

EPHEMERIDES.

Comet Shoemaker-Levy (1993h)

Elements MPC 22382

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	ml
1993 07 22		13 02.92	-35 07.3	5.058	5.151	89.5	11.4	17.1
1993 08 01		13 04.54	-35 35.5	5.184	5.133	81.5	11.3	17.2
1993 08 11		13 07.42	-36 11.3	5.306	5.116	73.8	11.0	17.2
1993 08 21		13 11.42	-36 54.7	5.421	5.101	66.4	10.5	17.2
1993 08 31		13 16.43	-37 45.8	5.525	5.086	59.4	9.8	17.3
1993 09 10		13 22.33	-38 44.5	5.616	5.073	52.9	9.1	17.3
1993 09 20		13 29.04	-39 50.6	5.694	5.061	46.9	8.3	17.3
1993 09 30		13 36.45	-41 03.9	5.755	5.049	41.5	7.6	17.3
1993 10 10		13 44.49	-42 24.1	5.801	5.039	37.0	6.9	17.3
1993 10 20		13 53.09	-43 50.9	5.828	5.030	33.7	6.3	17.3
1993 10 30		14 02.17	-45 24.3	5.839	5.023	31.8	6.0	17.3
1993 11 09		14 11.67	-47 03.9	5.832	5.016	31.7	5.9	17.3
1993 11 19		14 21.52	-48 49.7	5.809	5.010	33.2	6.2	17.3
1993 11 29		14 31.64	-50 41.5	5.769	5.006	36.1	6.7	17.3

Periodic Comet Helin-Lawrence (1993l)

Elements MPC 22382

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	ml
1993 07 22		16 13.91	-18 33.6	2.387	3.091	125.6	15.5	16.8
1993 08 01		16 15.48	-19 11.2	2.504	3.093	116.5	17.1	16.9
1993 08 11		16 19.16	-19 51.3	2.631	3.097	107.9	18.1	17.0
1993 08 21		16 24.81	-20 33.0	2.765	3.101	99.7	18.8	17.1
1993 08 31		16 32.28	-21 15.3	2.904	3.107	91.9	18.9	17.2
1993 09 10		16 41.37	-21 56.8	3.045	3.113	84.4	18.8	17.3
1993 09 20		16 51.90	-22 36.6	3.185	3.120	77.2	18.3	17.5
1993 09 30		17 03.70	-23 13.6	3.323	3.128	70.2	17.5	17.6
1993 10 10		17 16.59	-23 46.9	3.457	3.137	63.3	16.5	17.7
1993 10 20		17 30.44	-24 15.6	3.584	3.147	56.6	15.3	17.8
1993 10 30		17 45.09	-24 38.9	3.704	3.158	50.0	13.9	17.8
1993 11 09		18 00.39	-24 56.3	3.815	3.170	43.4	12.4	17.9
1993 11 19		18 16.22	-25 07.3	3.916	3.182	36.9	10.8	18.0
1993 11 29		18 32.44	-25 11.7	4.005	3.195	30.5	9.0	18.1

1993 MO a,e,i = 1.63, 0.22, 23

Elements MPC 22385

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
1993 08 01		17 03.89	-29 05.8	0.369	1.278	128.6	38.4	15.9
1993 08 11		17 17.86	-37 19.8	0.425	1.289	121.8	41.9	16.3

1993 08 21	17 38.47	-43 14.4	0.491	1.304	116.0	44.2	16.7
1993 08 31	18 04.97	-47 13.7	0.563	1.322	111.2	45.4	17.1
1993 09 10	18 35.96	-49 38.5	0.640	1.342	107.0	45.8	17.4
1993 09 20	19 09.88	-50 43.7	0.721	1.366	103.5	45.7	17.7
1993 09 30	19 45.04	-50 41.9	0.803	1.391	100.3	45.1	18.0
1993 10 10	20 19.89	-49 43.8	0.888	1.418	97.3	44.3	18.2
1993 10 20	20 53.40	-47 59.0	0.975	1.446	94.4	43.3	18.4
1993 10 30	21 25.03	-45 37.1	1.064	1.476	91.6	42.3	18.6
1993 11 09	21 54.57	-42 46.6	1.156	1.506	88.8	41.1	18.8
1993 11 19	22 22.16	-39 34.4	1.250	1.536	85.9	39.9	19.0
1993 11 29	22 48.02	-36 07.2	1.346	1.567	82.9	38.7	19.2

1993 ME1		a,e,i = 2.63, 0.48, 23				Elements MPC 22385		
Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
1993 08 01	17 09.86	+10 28.1	0.679	1.474	119.7	36.7	17.5	
1993 08 11	17 25.76	+10 46.7	0.770	1.515	115.6	37.1	17.8	
1993 08 21	17 42.70	+10 30.1	0.867	1.560	112.0	37.0	18.2	
1993 08 31	18 00.56	+09 52.9	0.970	1.608	108.6	36.5	18.5	
1993 09 10	18 19.17	+09 05.2	1.080	1.660	105.3	35.8	18.7	
1993 09 20	18 38.39	+08 14.7	1.196	1.713	101.9	35.0	19.0	
1993 09 30	18 58.09	+07 27.2	1.318	1.769	98.4	34.1	19.3	
1993 10 10	19 18.11	+06 46.6	1.447	1.825	94.8	33.0	19.5	
1993 10 20	19 38.33	+06 15.5	1.582	1.883	90.9	31.9	19.7	

1993 MF		a,e,i = 2.51, 0.54, 8				Elements MPC 22385		
Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
1993 08 01	22 34.80	+37 06.7	0.234	1.147	119.1	50.6	13.5	
1993 08 11	23 10.21	+40 29.3	0.246	1.153	119.0	50.3	13.6	
1993 08 21	23 39.15	+41 25.8	0.261	1.171	121.8	47.2	13.7	
1993 08 31	00 00.18	+40 21.2	0.279	1.199	127.4	42.0	13.8	
1993 09 10	00 13.67	+37 40.7	0.300	1.238	135.1	35.0	13.8	
1993 09 20	00 21.23	+33 47.8	0.328	1.285	144.3	27.2	13.8	
1993 09 30	00 25.43	+29 13.7	0.365	1.338	153.5	19.5	13.9	
1993 10 10	00 28.50	+24 34.8	0.416	1.397	160.3	13.9	14.1	
1993 10 20	00 32.01	+20 22.5	0.482	1.460	161.0	12.8	14.5	
1993 10 30	00 36.97	+16 57.1	0.566	1.526	155.6	15.6	15.0	
1993 11 09	00 43.61	+14 24.6	0.666	1.594	147.9	19.3	15.6	
1993 11 19	00 51.92	+12 41.7	0.782	1.663	139.7	22.6	16.2	
1993 11 29	01 01.76	+11 40.9	0.913	1.733	131.7	25.2	16.7	
1993 12 09	01 12.86	+11 13.7	1.058	1.804	124.0	26.9	17.1	
1993 12 19	01 25.02	+11 12.2	1.214	1.874	116.6	28.0	17.5	
1993 12 29	01 38.07	+11 29.8	1.379	1.943	109.5	28.5	17.9	
1994 01 08	01 51.81	+12 01.2	1.553	2.012	102.7	28.5	18.2	

1989 UY3		a,e,i = 2.74, 0.48, 22				Elements MPC 18817		
Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
1993 08 01	23 19.04	+24 53.3	2.682	3.345	123.0	14.7	20.0	
1993 08 11	23 14.05	+25 24.1	2.552	3.308	131.2	13.3	19.8	
1993 08 21	23 07.22	+25 33.1	2.440	3.271	139.0	11.7	19.6	
1993 08 31	22 58.96	+25 17.1	2.349	3.233	145.6	10.2	19.5	
1993 09 10	22 49.93	+24 34.5	2.282	3.193	149.9	9.1	19.3	
1993 09 20	22 40.91	+23 26.5	2.241	3.153	150.3	9.1	19.3	
1993 09 30	22 32.78	+21 57.6	2.227	3.112	146.6	10.2	19.3	
1993 10 10	22 26.29	+20 14.9	2.238	3.070	139.9	12.1	19.3	
1993 10 20	22 21.95	+18 26.7	2.271	3.027	131.7	14.2	19.4	
1993 10 30	22 20.08	+16 40.9	2.324	2.983	122.9	16.2	19.5	
1993 11 09	22 20.72	+15 03.9	2.393	2.937	113.9	17.9	19.6	
1993 11 19	22 23.77	+13 40.3	2.472	2.891	105.1	19.3	19.6	
1993 11 29	22 29.07	+12 32.7	2.557	2.844	96.6	20.1	19.7	

(5143) Heracles		a,e,i = 1.83, 0.77, 9				Elements MPC 19850		
Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
1993 08 01	00	54.00	+14 52.4	2.723	3.221	110.4	17.2	19.5
1993 08 11	00	50.84	+15 09.4	2.574	3.209	120.4	15.8	19.3
1993 08 21	00	45.26	+15 11.9	2.438	3.194	131.0	13.8	19.1
1993 08 31	00	37.23	+14 57.5	2.320	3.177	142.1	11.3	18.9
1993 09 10	00	27.00	+14 24.4	2.226	3.158	153.4	8.2	18.7
1993 09 20	00	15.10	+13 32.4	2.160	3.137	164.0	5.1	18.5
1993 09 30	00	02.41	+12 24.2	2.125	3.114	168.8	3.6	18.3
1993 10 10	23	49.94	+11 05.0	2.124	3.088	161.7	5.8	18.4
1993 10 20	23	38.69	+09 41.9	2.154	3.060	150.4	9.3	18.6
1993 10 30	23	29.48	+08 22.6	2.213	3.029	138.5	12.5	18.8
1993 11 09	23	22.77	+07 13.1	2.295	2.996	126.9	15.3	18.9
1993 11 19	23	18.74	+06 17.6	2.393	2.961	115.8	17.5	19.1
1993 11 29	23	17.35	+05 38.2	2.502	2.923	105.4	19.0	19.2
1993 12 09	23	18.39	+05 15.2	2.617	2.882	95.4	19.9	19.3

1984 KB		a,e,i = 2.22, 0.76, 5				Elements MPC 12959		
Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
1993 08 01	01	03.61	+06 00.4	2.167	2.714	111.9	20.3	20.4
1993 08 11	01	04.36	+05 52.2	1.971	2.644	121.4	19.1	20.1
1993 08 21	01	02.50	+05 25.5	1.786	2.571	131.6	17.1	19.7
1993 08 31	00	57.55	+04 37.0	1.616	2.495	142.6	14.2	19.3
1993 09 10	00	49.15	+03 24.2	1.467	2.416	154.7	10.3	18.9
1993 09 20	00	37.19	+01 46.2	1.343	2.334	167.7	5.2	18.4
1993 09 30	00	22.14	-00 13.0	1.248	2.249	176.9	1.4	17.9
1993 10 10	00	05.15	-02 24.0	1.185	2.160	163.2	7.7	18.1
1993 10 20	23	47.95	-04 32.9	1.151	2.068	148.6	14.5	18.2
1993 10 30	23	32.52	-06 25.2	1.144	1.971	134.4	21.1	18.3
1993 11 09	23	20.39	-07 51.1	1.156	1.871	121.1	27.0	18.4
1993 11 19	23	12.46	-08 46.3	1.179	1.766	108.9	32.0	18.4
1993 11 29	23	08.98	-09 11.5	1.204	1.657	97.8	36.1	18.5

1980 RG1		a,e,i = 2.65, 0.47, 4				Elements MPC 8391		
Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
1993 08 01	01	05.17	+16 16.8	0.719	1.408	107.4	43.4	17.7
1993 08 11	01	29.05	+18 54.4	0.675	1.401	110.6	42.6	17.5
1993 08 21	01	50.95	+21 02.7	0.636	1.401	114.5	41.1	17.4
1993 08 31	02	09.90	+22 36.6	0.604	1.407	119.3	38.7	17.2
1993 09 10	02	24.94	+23 33.1	0.577	1.421	125.3	35.3	17.0
1993 09 20	02	35.13	+23 49.9	0.557	1.441	132.7	30.8	16.8
1993 09 30	02	40.06	+23 26.8	0.545	1.467	141.4	25.2	16.7
1993 10 10	02	40.02	+22 26.6	0.544	1.499	151.5	18.5	16.5
1993 10 20	02	36.16	+20 56.7	0.556	1.536	162.6	11.2	16.4
1993 10 30	02	30.52	+19 10.7	0.586	1.577	173.7	4.0	16.2
1993 11 09	02	25.21	+17 25.8	0.634	1.621	172.4	4.6	16.5
1993 11 19	02	21.88	+15 57.0	0.702	1.669	161.6	10.8	17.0
1993 11 29	02	21.47	+14 53.3	0.788	1.719	151.1	16.1	17.5
1993 12 09	02	24.15	+14 17.0	0.892	1.772	141.4	20.3	18.0
1993 12 19	02	29.71	+14 05.5	1.011	1.825	132.4	23.4	18.4
1993 12 29	02	37.77	+14 14.5	1.143	1.880	124.2	25.6	18.8
1994 01 08	02	47.89	+14 38.8	1.286	1.936	116.4	27.1	19.2
1994 01 18	02	59.69	+15 13.9	1.439	1.992	109.1	27.8	19.5
1994 01 28	03	12.86	+15 55.6	1.600	2.048	102.2	28.0	19.8

(5407) 1992 AX		a,e,i = 1.84, 0.28, 11				Elements MPC 21249		
Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
1993 08 01	03	31.49	+07 23.3	2.304	2.295	76.7	25.5	18.6
1993 08 11	03	43.17	+07 25.7	2.193	2.307	83.3	25.9	18.5

1993 08 21	03 53.30	+07 16.4	2.079	2.317	90.3	25.9	18.4
1993 08 31	04 01.55	+06 55.4	1.963	2.326	97.8	25.5	18.3
1993 09 10	04 07.57	+06 23.1	1.849	2.333	105.8	24.5	18.1
1993 09 20	04 10.97	+05 40.1	1.738	2.339	114.4	23.0	17.9
1993 09 30	04 11.36	+04 48.0	1.636	2.344	123.6	20.8	17.7
1993 10 10	04 08.44	+03 49.5	1.545	2.347	133.5	18.0	17.5
1993 10 20	04 02.11	+02 48.7	1.470	2.348	143.7	14.5	17.3
1993 10 30	03 52.67	+01 51.5	1.417	2.348	153.6	10.8	17.1
1993 11 09	03 40.89	+01 05.0	1.388	2.347	160.9	7.9	16.9
1993 11 19	03 28.01	+00 36.0	1.387	2.344	161.0	7.9	16.9
1993 11 29	03 15.55	+00 29.4	1.413	2.339	153.8	10.7	17.1
1993 12 09	03 04.90	+00 46.6	1.465	2.333	143.7	14.5	17.3
1993 12 19	02 57.02	+01 26.0	1.539	2.326	133.2	18.0	17.5
1993 12 29	02 52.41	+02 24.0	1.630	2.317	123.0	20.9	17.7
1994 01 08	02 51.10	+03 36.2	1.733	2.306	113.3	23.1	17.9
1994 01 18	02 52.92	+04 58.7	1.844	2.294	104.3	24.6	18.1
1994 01 28	02 57.56	+06 27.9	1.959	2.281	95.9	25.4	18.2

## Periodic Comet Gehrels 3 (1992v)

## Elements MPC 16381

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m2
1993 09 10		08 58.38	+16 21.2	4.206	3.431	35.0	9.7	17.4
1993 09 20		09 10.95	+15 25.0	4.118	3.433	41.6	11.2	17.4
1993 09 30		09 22.92	+14 28.1	4.018	3.435	48.4	12.6	17.4
1993 10 10		09 34.20	+13 31.4	3.906	3.438	55.3	13.8	17.4
1993 10 20		09 44.67	+12 36.2	3.785	3.441	62.5	14.9	17.4
1993 10 30		09 54.22	+11 43.5	3.655	3.445	70.0	15.7	17.4
1993 11 09		10 02.71	+10 54.7	3.519	3.448	77.8	16.3	17.3
1993 11 19		10 09.99	+10 11.2	3.379	3.452	85.9	16.6	17.2
1993 11 29		10 15.89	+09 34.3	3.237	3.457	94.5	16.5	17.1
1993 12 09		10 20.24	+09 05.5	3.098	3.462	103.4	16.1	17.0
1993 12 19		10 22.87	+08 46.2	2.964	3.467	112.9	15.2	16.9
1993 12 29		10 23.66	+08 37.4	2.840	3.473	122.8	13.8	16.8
1994 01 08		10 22.55	+08 39.8	2.730	3.478	133.3	11.9	16.6
1994 01 18		10 19.58	+08 53.1	2.639	3.485	144.2	9.5	16.4
1994 01 28		10 14.98	+09 16.3	2.571	3.491	155.6	6.7	16.3
1994 02 07		10 09.14	+09 47.0	2.529	3.498	167.2	3.6	16.1
1994 02 17		10 02.61	+10 22.1	2.517	3.505	178.2	0.5	15.8
1994 02 27		09 56.06	+10 57.8	2.535	3.513	169.0	3.1	16.1
1994 03 09		09 50.15	+11 30.5	2.582	3.520	157.5	6.2	16.3
1994 03 19		09 45.43	+11 57.5	2.657	3.528	146.3	9.0	16.5
1994 03 29		09 42.31	+12 16.6	2.754	3.537	135.6	11.4	16.6
1994 04 08		09 40.99	+12 26.8	2.870	3.545	125.4	13.3	16.8
1994 04 18		09 41.53	+12 27.8	3.002	3.554	115.7	14.8	17.0
1994 04 28		09 43.85	+12 19.7	3.144	3.563	106.5	15.7	17.1
1994 05 08		09 47.79	+12 03.0	3.292	3.572	97.8	16.3	17.2
1994 05 18		09 53.19	+11 38.2	3.444	3.582	89.5	16.4	17.3
1994 05 28		09 59.83	+11 05.9	3.596	3.592	81.6	16.2	17.4
1994 06 07		10 07.54	+10 26.7	3.746	3.602	74.1	15.7	17.5
1994 06 17		10 16.14	+09 41.2	3.890	3.612	66.8	15.0	17.6
1994 06 27		10 25.47	+08 50.1	4.028	3.623	59.7	14.0	17.6
1994 07 07		10 35.41	+07 54.0	4.157	3.633	52.8	12.9	17.7
1994 07 17		10 45.85	+06 53.3	4.276	3.644	46.0	11.6	17.7
1994 07 27		10 56.67	+05 48.8	4.383	3.655	39.4	10.1	17.7
1994 08 06		11 07.80	+04 40.9	4.478	3.666	32.8	8.6	17.7

## Periodic Comet Hartley 3 (1993m)

## Elements IAUC 5826

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m2
1993 09 20		02 45.99	+31 59.3	2.132	2.849	126.7	16.4	19.8
1993 09 30		02 44.18	+32 28.4	2.015	2.822	136.0	14.3	19.6



1993 10 10	02 39.90	+32 40.3	1.915	2.795	145.4	11.7	19.4
1993 10 20	02 33.46	+32 31.7	1.837	2.769	154.5	8.9	19.1
1993 10 30	02 25.61	+32 01.0	1.784	2.744	161.6	6.5	18.9
1993 11 09	02 17.38	+31 09.6	1.757	2.720	163.1	6.1	18.9
1993 11 19	02 09.89	+30 02.0	1.757	2.696	157.5	8.1	18.9
1993 11 29	02 04.18	+28 45.8	1.782	2.673	148.5	11.1	19.1
1993 12 09	02 00.94	+27 29.5	1.831	2.651	138.6	14.2	19.2
1993 12 19	02 00.53	+26 20.1	1.899	2.630	128.8	17.0	19.4
1993 12 29	02 03.00	+25 22.7	1.984	2.610	119.3	19.2	19.5
1994 01 08	02 08.18	+24 39.5	2.080	2.591	110.3	20.8	19.7
1994 01 18	02 15.85	+24 11.0	2.184	2.573	101.9	22.0	19.8
1994 01 28	02 25.70	+23 56.0	2.293	2.556	93.9	22.6	19.9
1994 02 07	02 37.45	+23 52.5	2.404	2.541	86.4	22.8	20.0
1994 02 17	02 50.87	+23 57.9	2.516	2.527	79.3	22.6	20.1

## Periodic Comet Tempel 1 (1993c)

## Elements MPC 18258

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m2
1993 09 20		10 00.87	+20 09.4	3.648	2.854	32.7	10.9	19.3
1993 09 30		10 16.48	+19 01.6	3.513	2.799	38.5	12.9	19.2
1993 10 10		10 32.09	+17 52.1	3.368	2.744	44.3	14.7	19.2
1993 10 20		10 47.67	+16 41.8	3.213	2.687	50.2	16.6	19.1
1993 10 30		11 03.18	+15 31.8	3.050	2.630	56.2	18.3	19.0
1993 11 09		11 18.60	+14 22.9	2.880	2.573	62.2	19.9	18.8
1993 11 19		11 33.88	+13 16.3	2.705	2.515	68.4	21.4	18.7
1993 11 29		11 48.96	+12 13.5	2.527	2.456	74.6	22.8	18.6
1993 12 09		12 03.78	+11 15.7	2.348	2.397	80.8	23.9	18.4
1993 12 19		12 18.23	+10 24.7	2.169	2.338	87.2	24.9	18.2
1993 12 29		12 32.17	+09 42.0	1.992	2.279	93.8	25.5	18.0
1994 01 08		12 45.46	+09 09.5	1.818	2.219	100.5	25.8	17.7
1994 01 18		12 57.84	+08 49.1	1.651	2.160	107.4	25.8	17.4
1994 01 28		13 09.03	+08 42.3	1.492	2.101	114.5	25.2	17.1
1994 02 07		13 18.71	+08 50.5	1.342	2.043	121.9	24.2	16.8
1994 02 17		13 26.39	+09 14.3	1.203	1.985	129.6	22.5	16.5
1994 02 27		13 31.63	+09 52.4	1.079	1.929	137.5	20.3	16.1
1994 03 09		13 33.94	+10 41.6	0.969	1.874	145.5	17.5	15.7
1994 03 19		13 32.96	+11 34.8	0.876	1.821	153.0	14.4	15.3
1994 03 29		13 28.72	+12 20.7	0.802	1.769	158.6	11.9	15.0
1994 04 08		13 21.78	+12 45.2	0.746	1.721	159.8	11.6	14.8
1994 04 18		13 13.38	+12 33.1	0.710	1.676	155.6	14.3	14.7
1994 04 28		13 05.36	+11 34.0	0.690	1.635	148.3	18.9	14.7
1994 05 08		12 59.48	+09 45.3	0.686	1.597	140.1	23.9	14.8
1994 05 18		12 57.16	+07 11.1	0.695	1.565	132.2	28.6	14.9
1994 05 28		12 59.10	+04 00.4	0.715	1.539	124.9	32.7	15.1
1994 06 07		13 05.39	+00 23.5	0.743	1.518	118.6	36.0	15.2
1994 06 17		13 15.82	-03 30.2	0.779	1.503	113.1	38.4	15.4
1994 06 27		13 30.03	-07 31.6	0.822	1.496	108.4	40.2	15.5
1994 07 07		13 47.55	-11 32.8	0.872	1.495	104.3	41.2	15.7
1994 07 17		14 08.06	-15 26.6	0.930	1.501	100.8	41.7	15.9
1994 07 27		14 31.20	-19 06.3	0.994	1.513	97.7	41.7	16.0
1994 08 06		14 56.59	-22 25.9	1.067	1.532	94.8	41.3	16.2
1994 08 16		15 23.94	-25 20.8	1.148	1.558	92.1	40.5	16.4
1994 08 26		15 52.82	-27 47.4	1.237	1.589	89.4	39.5	16.5
1994 09 05		16 22.82	-29 43.3	1.335	1.624	86.6	38.3	16.7
1994 09 15		16 53.50	-31 07.9	1.441	1.665	83.7	36.9	16.9
1994 09 25		17 24.38	-32 01.5	1.555	1.709	80.7	35.4	17.1
1994 10 05		17 55.03	-32 25.9	1.677	1.756	77.5	33.8	17.3
1994 10 15		18 25.09	-32 23.4	1.805	1.807	74.1	32.1	17.4
1994 10 25		18 54.26	-31 57.2	1.939	1.860	70.5	30.3	17.6
1994 11 04		19 22.34	-31 10.5	2.077	1.914	66.6	28.4	17.8

1994 11 14	19 49.24	-30 06.4	2.219	1.970	62.6	26.5	17.9
1994 11 24	20 14.89	-28 48.3	2.363	2.028	58.4	24.5	18.0
1994 12 04	20 39.32	-27 18.7	2.508	2.086	53.9	22.5	18.2
1994 12 14	21 02.57	-25 40.3	2.651	2.144	49.4	20.4	18.3
1994 12 24	21 24.71	-23 55.3	2.792	2.204	44.6	18.3	18.4
1995 01 03	21 45.83	-22 05.6	2.930	2.263	39.8	16.1	18.5
1995 01 13	22 06.01	-20 12.8	3.061	2.322	34.8	14.0	18.6

Planet	Opposition	R.A. (2000)	Decl.	V	Motion	Min. Phase	Ref
1992 DZ2	93 07 02.0	18 44.75	-24 33.6	17.8	-1.04 - 1.4	0.6/01.9	20341
1978 TP6	93 07 02.1	18 45.08	-27 59.8	17.7	-0.85 - 0.4	1.3/01.8	20806
1981 ET22	93 07 02.2	18 45.53	-26 58.1	18.1	-1.08 - 1.4	1.4/02.0	17430
1981 EN4	93 07 02.3	18 45.93	-16 02.6	18.1	-0.84 + 1.3	2.2/02.6	17816
1980 VA	93 07 02.4	18 46.39	-17 51.7	17.9	-1.13 - 1.5	2.1/02.8	21966
1990 YH	93 07 02.4	18 46.43	-13 28.7	15.8	-0.81 - 3.2	3.0/03.4	20151
1989 RB2	93 07 02.5	18 46.67	-25 46.3	14.4	-0.98 + 2.0	1.1/02.4	22081
1990 TB4	93 07 02.6	18 47.45	-23 00.9	17.5	-0.98 - 0.7	0.0/02.7	17642
1991 BM2	93 07 02.7	18 47.59	-23 42.9	17.9	-0.83 - 0.9	0.2/02.7	18436
1984 DE1	93 07 02.8	18 47.98	-24 47.6	17.5	-0.75 - 0.6	0.5/02.7	22076
1988 RD5	93 07 03.0	18 48.93	-25 05.5	16.8	-0.87 - 1.4	0.7/02.9	22272
1981 EG44	93 07 03.1	18 49.29	-36 58.9	18.2	-0.97 - 1.0	4.4/02.1	21968
2808 P-L	93 07 03.2	18 49.91	-19 45.2	18.5	-1.02 - 1.4	1.2/03.5	21977
1990 QC8	93 07 03.2	18 49.92	-16 57.9	17.5	-1.05 - 3.3	2.5/03.9	21974
1988 BH5	93 07 03.3	18 50.23	-17 28.0	16.9	-1.01 + 2.9	2.1/03.5	22079
1982 DC2	93 07 03.3	18 50.28	-15 41.6	18.1	-1.06 - 2.4	3.0/04.0	17432
1990 QT9	93 07 03.4	18 50.30	-22 02.1	16.8	-1.01 - 2.5	0.5/03.5	20335
(5079)	93 07 03.4	18 50.42	-19 23.6	16.4	-1.00 + 1.9	1.2/03.6	19824
1989 GF1	93 07 03.4	18 50.60	-28 15.8	17.1	-1.16 - 0.4	2.2/03.1	19864
1989 NM	93 07 03.5	18 51.16	-23 35.5	14.7	-0.95 - 6.4	0.3/03.5	22081
1989 GR4	93 07 03.6	18 51.35	-16 00.8	17.8	-1.06 - 1.5	2.8/04.2	20334
2121 P-L	93 07 03.7	18 51.70	-44 38.0	20.5	-1.23 - 0.9	7.1/01.9	12570
1159 T-2	93 07 03.7	18 51.81	+00 53.7	16.6	-0.88 - 0.9	9.2/05.8	22087
(5230)	93 07 04.0	18 52.90	+06 37.3	18.1	-0.91 - 0.7	8.7/06.3	20321
1990 QJ1	93 07 04.0	18 53.01	-28 36.5	16.6	-1.20 + 0.3	2.6/03.7	17639
2208 P-L	93 07 04.0	18 53.01	-17 18.4	20.4	-0.94 - 0.6	1.8/04.4	12571
1981 EJ35	93 07 04.1	18 53.33	-15 36.6	20.7	-1.00 - 2.0	2.6/04.8	22271
1976 SA	93 07 04.1	18 53.48	-14 37.4	16.8	-0.90 - 2.3	3.1/04.9	15402
1975 NC	93 07 04.1	18 53.50	-20 43.3	15.7	-0.93 + 1.9	0.9/04.3	21782
1978 VP1	93 07 04.2	18 54.03	-17 49.3	18.2	-0.82 + 0.0	1.5/04.6	19856
1991 YG	93 07 04.3	18 54.15	-17 38.4	16.8	-1.09 - 0.4	2.1/04.7	20511
1990 SN7	93 07 04.3	18 54.36	-30 32.7	16.6	-1.05 - 4.3	4.2/03.4	18123
1990 TO4	93 07 04.3	18 54.41	-28 04.7	18.5	-1.03 - 4.1	1.8/03.8	21974
1980 FR1	93 07 04.3	18 54.47	-26 36.3	16.5	-0.87 - 0.5	1.2/04.1	22270
1981 EA43	93 07 04.4	18 54.73	-24 41.2	19.6	-1.11 - 1.1	0.7/04.3	10825
1990 OT3	93 07 04.4	18 54.76	-25 41.5	15.3	-1.16 + 0.6	1.3/04.3	21941
1988 SW2	93 07 04.8	18 56.15	-25 17.2	16.2	-0.87 - 1.7	0.9/04.6	21972
(5464)	93 07 04.9	18 56.46	-43 00.6	17.4	-1.20 - 3.5	7.3/02.3	21770
1991 CR1	93 07 04.9	18 56.68	-21 11.8	17.1	-0.82 - 2.9	0.5/05.1	20507
1985 PL	93 07 04.9	18 56.73	-37 15.8	16.3	-1.23 + 3.5	6.4/04.4	15709
1983 RP2	93 07 04.9	18 56.74	-17 06.0	16.4	-1.06 - 2.8	2.6/05.5	22076
1981 ET31	93 07 04.9	18 56.84	-09 56.1	17.7	-0.78 - 1.4	3.5/06.1	16577
(5274)	93 07 05.0	18 57.04	-41 58.0	15.5	-1.18 + 0.4	7.7/03.9	20617
1985 RW	93 07 05.0	18 57.04	+02 34.7	18.1	-1.22 + 6.7	12.0/04.8	22076
1281 T-2	93 07 05.0	18 57.35	-03 40.8	18.4	-0.88 - 1.0	6.3/06.7	22087
3100 T-1	93 07 05.3	18 58.29	-12 07.8	17.7	-0.92 - 0.6	3.6/06.1	22087
1991 YF	93 07 05.4	18 58.58	-26 06.4	15.7	-1.15 + 2.6	1.4/05.3	22273
1975 TC6	93 07 05.4	18 58.94	-37 34.1	16.1	-1.20 - 1.7	5.7/04.2	21963
2304 T-2	93 07 05.6	18 59.35	-26 09.2	19.4	-0.88 - 1.6	1.1/05.3	15083
2527 P-L	93 07 05.9	19 00.98	-01 09.5	17.9	-0.78 - 1.1	6.5/07.8	22086

4214	T-1	93	07	06.0	19	01.11	-17	33.2	18.9	-0.93	-	2.3	1.8/06.5	19880
4523	P-L	93	07	06.1	19	01.50	-21	31.7	17.8	-0.56	-	0.8	0.2/06.2	18130
(5114)		93	07	06.3	19	02.49	-29	41.2	15.6	-1.07	-	1.8	2.9/05.7	19838
1983	XG	93	07	06.5	19	03.10	-15	35.2	16.3	-0.81	-	0.8	2.3/07.0	22076
4837	P-L	93	07	06.7	19	03.86	-23	11.6	17.6	-0.84	-	1.3	0.2/06.6	17975
1990	TQ1	93	07	06.8	19	04.72	-18	56.4	17.2	-1.06	-	5.1	1.7/07.0	18823
1982	FA	93	07	07.4	19	06.95	-23	49.4	16.6	-1.12	-	2.4	0.5/07.3	22075
1988	ST2	93	07	07.5	19	07.23	-24	00.9	16.4	-0.84	-	2.1	0.5/07.4	19864
1955	EH	93	07	07.6	19	07.99	-14	18.1	16.5	-1.00	-	3.3	3.1/08.6	21963
1981	EL41	93	07	07.8	19	08.76	-37	41.7	20.0	-0.99	-	0.7	4.9/06.4	10632
9073	P-L	93	07	08.1	19	09.90	-28	54.0	17.0	-0.90	-	0.7	2.1/07.5	15571
1981	ES39	93	07	08.3	19	10.67	-22	13.1	20.7	-0.85	-	1.2	0.1/08.4	10543
4127	P-L	93	07	08.5	19	11.45	-22	02.2	18.2	-0.86	-	1.4	0.1/08.6	22086
1973	SR6	93	07	08.5	19	11.71	-42	54.0	17.7	-1.22	-	2.4	7.2/05.9	22072
1990	VD4	93	07	08.8	19	12.69	-19	37.3	16.9	-1.05	-	2.1	1.1/09.1	21975
1981	EP38	93	07	08.8	19	12.84	-06	30.6	19.3	-0.79	-	1.5	5.3/10.6	21967
1971	SN2	93	07	08.9	19	13.25	-23	52.5	15.6	-0.85	-	2.3	0.5/08.8	21963
5140	T-2	93	07	09.1	19	14.07	-20	27.0	15.0	-0.90	+	1.8	0.7/09.3	21978
1981	ES8	93	07	09.1	19	14.13	-07	41.8	16.7	-0.81	-	0.7	5.0/10.6	22074
1988	CX3	93	07	09.4	19	14.92	-16	10.8	17.2	-1.00	-	0.4	2.3/10.0	17635
1988	RW3	93	07	09.5	19	15.43	-25	00.2	17.6	-0.85	-	1.6	1.0/09.2	21972
1990	WP4	93	07	09.6	19	15.96	-27	34.8	16.5	-0.95	-	5.3	2.0/08.8	18435
1972	TE	93	07	09.7	19	16.50	-15	10.8	16.8	-0.98	-	0.7	2.9/10.4	22072
1988	RB11	93	07	09.8	19	16.67	-21	09.5	18.6	-0.82	-	1.6	0.3/10.0	22079
1979	KQ	93	07	10.0	19	17.38	-13	52.9	17.0	-0.88	-	2.5	3.5/11.0	20141
6837	P-L	93	07	10.0	19	17.65	-24	00.1	18.9	-0.91	-	2.8	0.6/09.8	15905
1990	QC2	93	07	10.0	19	17.69	-12	51.5	15.8	-0.88	-	4.7	5.1/11.5	21974
1990	RQ2	93	07	10.0	19	17.83	-29	36.1	16.7	-1.20	-	1.2	3.0/09.3	21974
(5175)		93	07	10.1	19	17.96	+05	48.5	16.1	-1.16	+	4.8	13.9/11.3	22388
1983	EV	93	07	10.2	19	18.22	-27	49.8	16.9	-0.98	-	1.6	1.9/09.6	22075
1981	SA7	93	07	10.2	19	18.32	-30	30.9	16.3	-1.04	-	3.2	3.0/09.1	22074
1990	SK11	93	07	10.2	19	18.53	-20	54.9	16.2	-1.10	-	0.7	0.6/10.4	20927
1990	SK6	93	07	10.3	19	19.10	-35	35.4	16.8	-1.17	-	2.5	5.8/08.8	19866
1939	UB	93	07	10.8	19	20.99	-03	56.6	16.3	-0.88	-	0.9	6.1/12.9	21963
1987	RT5	93	07	10.9	19	21.50	-20	47.4	15.7	-0.93	-	5.1	0.7/11.2	20500
1989	OL	93	07	11.1	19	22.30	-43	11.5	16.8	-1.14	-	5.3	9.4/07.4	16029
1981	EE22	93	07	11.2	19	22.47	-29	30.2	18.9	-0.90	-	1.4	2.4/10.4	22271
1981	EX30	93	07	11.4	19	23.14	-18	27.5	18.3	-1.04	-	3.2	1.6/11.9	21967
1988	LE	93	07	11.7	19	24.69	-26	59.8	16.0	-0.97	-	8.2	2.0/10.8	22400
1981	JB2	93	07	12.0	19	25.69	-39	32.8	16.1	-0.97	-	3.0	5.7/09.4	20142
4086	T-3	93	07	12.2	19	26.49	-21	39.5	17.4	-0.93	-	5.8	0.2/12.3	21978
1989	SL12	93	07	12.4	19	27.32	-22	21.3	17.9	-0.88	-	1.6	0.1/12.4	21973
1128	T-3	93	07	12.5	19	28.03	-40	46.6	17.5	-1.05	+	0.7	6.7/10.5	20648
1983	XW	93	07	12.6	19	28.04	-22	28.2	17.0	-0.83	-	1.8	0.2/12.5	22399
1992	FB1	93	07	12.6	19	28.05	-05	34.8	16.3	-0.85	-	4.6	5.5/15.4	20343
1978	PO3	93	07	12.6	19	28.12	-23	42.6	15.5	-0.98	-	2.1	0.9/12.4	21964
1976	YB2	93	07	12.9	19	29.38	-27	32.0	15.8	-1.06	-	3.7	2.6/12.1	19289
1981	ET25	93	07	12.9	19	29.65	-10	48.5	17.0	-0.91	-	3.2	5.0/14.6	22398
1981	RQ	93	07	13.0	19	30.09	-38	40.4	16.1	-1.24	+	1.9	7.0/11.5	22074
(5236)		93	07	13.4	19	31.37	-08	52.9	16.0	-0.99	-	1.6	5.4/15.0	20324
1976	YR1	93	07	13.5	19	31.95	-26	00.0	17.2	-1.07	-	4.1	1.6/12.9	20009
1981	ER35	93	07	13.6	19	32.40	-21	33.8	19.0	-0.90	+	0.3	0.1/13.7	22271
1976	WC	93	07	13.6	19	32.44	+03	32.0	18.7	-0.93	-	4.5	7.9/17.9	21964
1988	CH2	93	07	13.9	19	33.64	-16	52.4	15.9	-1.00	-	6.0	2.2/14.8	22079
1991	BG2	93	07	14.1	19	34.11	-24	35.8	17.2	-0.81	-	2.1	0.8/13.7	21575
(5225)		93	07	14.1	19	34.12	-22	23.3	16.4	-0.86	-	2.6	0.2/14.0	20319
3236	T-2	93	07	14.2	19	34.75	-33	10.6	16.3	-1.19	-	3.0	5.0/12.7	22088
1979	DF	93	07	14.3	19	35.28	-43	31.4	16.9	-1.18	-	2.6	7.4/11.2	18105
1987	WV1	93	07	14.6	19	36.16	-20	52.3	17.5	-1.10	-	2.9	0.3/14.7	22079

1985 TY1	93 07 15.0	19 38.03	-12 01.6	16.8	-0.93	+ 0.4	3.7/16.1	15245
1989 GZ1	93 07 15.1	19 38.55	-19 01.2	17.3	-1.03	- 1.4	1.2/15.5	17636
1981 ES10	93 07 15.1	19 38.59	-19 35.9	19.7	-1.05	- 1.2	0.7/15.4	22270
1078 T-3	93 07 15.5	19 39.87	-02 32.0	18.5	-0.92	+ 0.4	6.8/17.8	12701
1980 RJ	93 07 15.5	19 40.05	-32 00.0	16.3	-1.24	- 1.3	4.6/14.2	22074
1992 GZ4	93 07 15.5	19 40.16	-23 44.4	17.3	-0.83	- 2.5	0.7/15.2	21581
1979 MA6	93 07 15.6	19 40.28	-17 23.8	17.9	-1.01	- 4.9	1.6/16.3	21965
4668 P-L	93 07 15.7	19 40.68	-33 59.9	18.3	-1.14	- 2.8	4.9/13.8	17651
1985 RU	93 07 16.1	19 42.33	-37 05.1	15.9	-1.38	+ 8.5	8.2/15.6	22076
1990 VL2	93 07 16.1	19 42.48	-19 44.9	17.0	-0.97	- 3.5	0.6/16.4	20150
1991 BH2	93 07 16.2	19 42.93	-33 31.8	16.5	-0.96	- 0.3	3.7/14.7	17969
(5112)	93 07 16.2	19 43.03	-29 32.9	16.1	-1.18	- 4.9	3.6/14.9	19838
1977 DS4	93 07 16.4	19 43.77	-27 14.7	16.5	-0.91	- 2.6	2.3/15.6	22073
5111 T-3	93 07 16.7	19 44.93	-45 19.5	17.7	-1.16	- 5.5	10.2/11.5	16040
1991 AF1	93 07 16.8	19 45.14	-22 30.4	15.8	-0.90	+ 0.2	0.4/16.7	21975
(5224)	93 07 17.0	19 45.99	-34 33.9	17.0	-1.23	- 0.8	5.9/15.3	20318
1991 CL3	93 07 17.1	19 46.59	-45 55.6	16.9	-1.03	- 1.7	6.6/13.0	18127
1989 TC3	93 07 17.2	19 46.60	-12 21.6	18.7	-0.77	- 2.9	2.4/18.7	21973
1990 SN3	93 07 17.2	19 46.84	-33 24.5	15.0	-0.97	- 3.6	6.9/15.0	20927
1991 BY	93 07 17.2	19 46.88	-37 05.3	15.4	-0.98	+ 0.6	4.7/15.2	22083
1985 RB3	93 07 17.3	19 47.02	-30 16.0	18.0	-1.14	- 2.6	3.7/15.9	10836
1978 RE3	93 07 17.3	19 47.29	-21 31.2	17.9	-1.05	- 1.9	0.2/17.3	12452
1981 EC26	93 07 17.4	19 47.48	-23 17.7	19.3	-1.04	- 2.4	0.9/17.1	21967
1991 AA1	93 07 17.4	19 47.72	-24 53.0	16.6	-0.93	- 3.9	1.4/16.8	17832
(5081)	93 07 17.4	19 47.86	-34 10.8	14.6	-1.09	- 9.3	6.0/14.5	19825
(5311)	93 07 17.5	19 47.79	-16 28.8	18.2	-0.81	- 1.8	1.4/18.2	20789
1992 EC1	93 07 17.7	19 48.79	+15 20.0	19.9	-0.86	- 3.6	11.0/26.0	20342
1971 TY2	93 07 17.8	19 49.05	-17 40.8	16.7	-0.90	- 0.5	1.0/18.3	21963
1988 BV	93 07 17.8	19 49.14	-23 27.1	16.8	-1.07	- 3.7	0.9/17.4	20333
6245 P-L	93 07 18.0	19 50.12	-00 07.8	18.2	-0.86	- 3.5	7.9/22.0	12700
1966 CM	93 07 18.1	19 50.30	-08 58.9	16.9	-0.86	- 6.0	4.1/20.6	16227
1990 QF	93 07 18.1	19 50.54	-27 22.1	15.6	-1.22	- 0.4	3.0/17.4	21791
1981 GQ	93 07 18.2	19 50.66	-40 32.0	17.6	-1.03	- 1.1	5.6/15.4	21968
1987 WF	93 07 18.4	19 51.45	-32 56.3	16.2	-1.18	- 3.6	4.8/16.4	21971
2702 P-L	93 07 18.7	19 52.61	-22 33.9	18.5	-0.83	- 2.2	0.5/18.4	19035
1989 GT3	93 07 18.7	19 52.92	-19 48.9	15.7	-1.04	- 2.2	0.5/18.9	22081
(5146)	93 07 18.7	19 53.01	-38 06.9	14.9	-1.17	+ 3.0	7.1/17.2	19851
1990 TW7	93 07 18.8	19 53.04	-30 53.3	18.9	-1.16	- 3.5	3.8/17.1	20336
1991 CX5	93 07 18.8	19 53.15	-23 39.0	16.7	-0.82	- 4.1	0.8/18.3	21942
(5547)	93 07 18.8	19 53.26	-02 52.4	15.8	-0.93	+ 0.2	7.0/21.4	22041
1990 SA2	93 07 18.8	19 53.47	-23 21.7	16.6	-1.08	- 2.5	1.2/18.5	17216
1981 ED11	93 07 19.0	19 54.08	-28 26.8	18.3	-1.07	+ 3.2	3.8/18.4	22270
(5234)	93 07 19.2	19 54.64	+33 02.9	16.1	-0.93	+ 3.0	17.5/25.9	20323
1990 TZ	93 07 19.4	19 55.76	+08 18.5	15.6	-0.96	+ 0.8	9.3/23.3	21974
1981 EU18	93 07 19.6	19 56.56	-20 54.7	16.6	-0.83	- 2.4	0.1/19.6	22398
9511 P-L	93 07 19.8	19 57.12	-19 46.9	16.6	-0.81	- 2.5	0.3/20.0	22087
(5141)	93 07 20.0	19 58.06	-19 05.0	16.0	-0.86	- 3.5	0.6/20.3	19849
(5294)	93 07 20.5	19 59.92	-15 53.3	15.8	-0.83	- 6.9	1.5/21.6	20625
1983 VN7	93 07 20.8	20 01.18	-19 18.8	16.8	-0.84	- 2.9	0.4/21.0	21969
1981 EN16	93 07 21.0	20 02.10	-26 36.5	19.6	-1.13	+ 0.1	2.5/20.3	21967
1981 EQ43	93 07 21.1	20 02.58	-18 17.6	20.0	-0.99	- 3.2	0.9/21.5	10825
1986 GY	93 07 21.2	20 02.79	-27 07.0	15.5	-1.07	- 2.5	3.5/20.1	21970
1990 TB1	93 07 21.4	20 03.84	-35 02.0	15.4	-1.14	+ 0.4	7.4/19.4	20336
1977 EA6	93 07 21.5	20 04.20	-21 28.1	17.4	-1.06	- 1.3	0.4/21.4	19012
1985 CH1	93 07 21.6	20 04.34	-26 34.7	15.8	-1.11	- 2.7	2.4/20.6	22076
1981 QF	93 07 21.6	20 04.35	-25 13.1	16.7	-1.02	- 1.4	2.2/20.9	22074
1987 YD	93 07 21.7	20 05.05	-31 52.4	16.7	-1.12	- 4.6	4.2/19.6	21971
1992 FP	93 07 21.8	20 05.04	-23 04.6	16.4	-0.84	- 2.6	0.9/21.3	20155
1990 UK1	93 07 21.8	20 05.44	-14 17.8	16.0	-1.05	- 0.7	2.9/22.7	22273

5170	T-3	93 07 21.9	20 05.46	-10 45.1	17.2	-0.88	- 5.9	3.3/24.0	20039
1989	TH1	93 07 22.1	20 06.51	-30 23.7	15.8	-1.11	- 0.9	4.0/20.5	22081
1010	T-2	93 07 22.3	20 07.08	-06 10.9	16.7	-0.78	- 2.7	4.3/25.0	22274
1990	WU5	93 07 22.3	20 07.15	-18 37.2	18.5	-0.92	- 4.2	0.6/22.6	19307
1978	VT6	93 07 22.8	20 09.09	-15 39.4	16.6	-1.05	- 1.2	2.3/23.5	21965
1992	FJ1	93 07 23.0	20 09.80	-32 38.5	15.8	-1.07	+ 3.2	4.2/21.7	21977
3226	T-3	93 07 23.0	20 10.09	-37 19.2	18.2	-1.09	- 2.9	5.8/19.7	22088
4311	T-2	93 07 23.2	20 10.94	-17 50.2	17.5	-0.98	- 5.4	1.0/23.7	21126
2314	T-2	93 07 23.2	20 11.00	-15 39.3	16.9	-0.99	- 4.9	2.0/24.2	15906
7622	P-L	93 07 23.3	20 11.00	-33 40.1	16.6	-1.15	- 4.8	6.6/20.4	17463
1986	RJ4	93 07 23.3	20 11.43	-47 37.2	17.7	-1.78	+ 5.1	11.3/20.3	16024
1976	UP18	93 07 23.6	20 12.34	-09 28.3	18.7	-0.99	- 4.3	4.6/25.6	21964
1988	DE2	93 07 23.9	20 13.57	-22 13.8	17.0	-1.01	- 4.1	0.8/23.5	20015
3109	T-3	93 07 24.2	20 14.94	-20 12.1	17.8	-0.80	- 2.5	0.1/24.2	22088
4171	T-3	93 07 24.4	20 15.58	-29 10.4	16.9	-1.13	- 4.6	3.9/22.6	22088
1991	AC	93 07 24.4	20 15.67	-23 49.6	16.5	-0.88	- 3.1	1.4/23.7	17830
1990	QT2	93 07 24.5	20 16.05	-21 14.5	17.2	-1.10	- 3.5	0.6/24.3	21974
9508	P-L	93 07 24.7	20 16.98	-21 13.2	17.4	-0.81	- 3.1	0.5/24.5	21951
1990	UW3	93 07 25.0	20 18.09	-18 44.6	19.3	-1.00	- 4.5	0.3/25.3	20928
1979	MD2	93 07 25.3	20 19.22	-14 24.9	17.1	-1.02	- 3.9	2.0/26.4	20922
(5231)		93 07 25.5	20 19.83	-31 47.1	14.8	-1.00	- 7.7	4.4/22.4	20321
1990	QV5	93 07 25.6	20 20.38	-16 15.3	16.2	-1.02	- 4.2	1.6/26.3	22082
1981	EM31	93 07 25.7	20 20.86	-17 52.4	18.0	-0.94	- 3.8	0.8/26.1	22074
1989	TZ15	93 07 25.8	20 21.08	-31 04.5	16.1	-1.02	- 0.4	4.5/23.9	20636
1978	VW2	93 07 25.9	20 21.48	-18 58.4	19.0	-0.77	- 2.9	0.1/26.0	19291
1990	RS17	93 07 26.0	20 21.70	-23 42.0	14.6	-1.05	+ 1.6	2.3/25.4	21974
1981	ET8	93 07 26.0	20 22.04	-12 33.5	17.4	-0.96	- 3.4	2.8/27.4	10769
1992	HK1	93 07 26.2	20 22.47	-23 47.5	17.0	-0.88	- 3.0	1.6/25.3	20933
1980	SQ	93 07 26.3	20 22.90	-10 10.6	16.3	-1.02	- 2.6	4.3/28.0	21966
1981	EL20	93 07 26.3	20 22.91	-29 23.9	17.9	-0.95	- 0.1	3.6/24.6	15407
4806	P-L	93 07 26.3	20 23.32	-16 52.6	18.8	-0.91	- 3.8	0.9/26.9	12699
2678	P-L	93 07 26.4	20 23.68	-19 44.0	19.3	-0.99	- 4.1	0.1/26.4	22086
1990	VQ5	93 07 26.6	20 24.16	-16 53.8	17.2	-0.89	- 6.6	0.9/27.2	20022
1990	UD	93 07 26.6	20 24.18	-28 09.2	15.1	-1.04	- 6.1	4.5/24.6	22082
1978	QY1	93 07 26.9	20 25.37	-13 30.3	16.8	-0.93	- 4.8	2.3/28.2	17815
1982	BD13	93 07 27.0	20 25.65	-21 09.9	15.8	-1.12	- 0.8	0.9/26.7	22075
1981	EH35	93 07 27.0	20 26.10	-21 12.6	20.3	-1.09	- 2.6	0.8/26.7	21967
1979	SJ	93 07 27.2	20 26.80	-29 20.5	16.6	-1.04	- 0.8	5.3/25.4	12143
1981	EO19	93 07 27.4	20 27.65	-08 06.7	17.9	-0.77	- 4.0	3.4/30.0	22270
1981	EC10	93 07 27.6	20 28.12	-08 03.7	19.0	-0.78	- 3.1	3.8/30.0	12715
1990	WZ2	93 07 27.6	20 28.51	-51 56.6	16.8	-1.75	- 0.5	12.1/20.4	18825
1991	DS	93 07 27.7	20 28.54	-19 31.8	16.8	-0.78	- 3.2	0.1/27.6	21975
4600	P-L	93 07 27.8	20 29.03	-18 28.9	18.0	-0.76	- 3.0	0.1/28.0	22086
(5362)		93 07 27.8	20 29.18	-17 16.6	16.0	-0.73	- 4.0	0.5/28.3	21086
1988	FM	93 07 27.8	20 29.22	-41 00.9	16.8	-1.20	- 0.7	8.2/24.0	19863
1988	QP	93 07 28.1	20 30.00	-16 55.9	17.1	-0.83	- 1.0	0.6/28.5	13859
1942	CG	93 07 28.1	20 30.25	-25 20.8	16.0	-0.95	- 5.7	2.1/26.7	21963
1975	QC	93 07 28.2	20 30.61	-10 01.6	16.0	-0.87	- 6.8	4.2/30.4	22072
1976	GL8	93 07 28.2	20 30.61	-12 04.6	14.5	-0.95	- 0.2	3.1/29.4	17624
1979	YN	93 07 28.3	20 30.88	-20 20.8	17.1	-0.80	- 5.8	0.4/28.0	17955
1992	EB	93 07 28.4	20 31.18	-19 28.5	16.0	-1.08	- 3.3	0.3/28.3	20033
1990	HP	93 07 28.5	20 31.65	-62 34.5	16.9	-2.05	+ 0.6	21.0/18.6	18120
1990	SK3	93 07 28.5	20 31.86	-26 11.8	15.0	-0.93	- 5.2	3.9/26.9	20927
1983	UC	93 07 28.5	20 31.98	-30 16.0	17.6	-1.12	- 3.9	5.0/26.1	21969
1982	UK7	93 07 28.7	20 32.49	-23 52.8	15.6	-0.97	- 6.4	2.3/27.5	20812
1985	RH	93 07 28.9	20 33.36	-37 34.2	16.1	-1.21	+ 2.4	7.9/26.3	22076
(5174)		93 07 28.9	20 33.39	-10 26.5	16.5	-0.88	- 5.3	2.9/30.9	19998
2244	T-2	93 07 29.5	20 35.64	-17 18.0	18.0	-0.90	- 3.7	0.6/29.8	17977
1981	EK35	93 07 29.6	20 36.24	-18 02.3	18.1	-0.84	- 2.8	0.2/29.8	21967

3289	T-2	93	07	29.7	20	36.42	-08	38.4	17.8	-0.76	-	5.0	3.2/01.2	14969
1978	SN7	93	07	29.7	20	36.60	-03	36.6	17.1	-0.77	-	2.6	4.6/02.1	21964
9099	P-L	93	07	29.9	20	37.01	-01	35.2	17.8	-0.72	-	5.1	5.8/03.3	16036
1990	RC8	93	07	29.9	20	37.40	-17	12.7	17.5	-1.02	-	6.5	0.6/30.3	19305
1990	TN	93	07	30.0	20	37.41	-34	29.2	16.6	-1.13	-	3.5	6.0/26.5	22082
1982	VB4	93	07	30.1	20	38.00	-24	14.2	18.0	-0.97	-	3.8	1.9/28.9	21103
1986	RW2	93	07	30.2	20	38.61	-21	56.8	15.4	-0.98	-	3.7	1.7/29.5	22077
1990	TQ12	93	07	30.6	20	39.96	-11	59.5	17.2	-1.02	-	2.6	2.5/31.9	17965
1985	SX2	93	07	31.1	20	42.08	-19	57.7	17.2	-0.97	-	2.2	0.7/30.8	14194
6573	P-L	93	07	31.3	20	42.71	-18	19.6	17.0	-0.90	-	4.7	0.0/31.3	22061
1987	BS1	93	07	31.3	20	42.84	-13	20.3	16.7	-1.01	+	0.1	1.7/01.2	17959
(5153)		93	07	31.3	20	42.84	-29	32.6	15.9	-0.94	-	5.8	3.5/28.5	19990
1981	EO22	93	07	31.4	20	42.82	-17	26.0	19.6	-0.99	-	3.5	0.3/31.6	10823
4066	P-L	93	07	31.4	20	43.06	-24	41.9	18.4	-1.15	-	2.8	2.9/30.1	22274
1990	QW3	93	07	31.7	20	44.10	-18	48.4	16.4	-0.98	-	1.9	0.4/31.6	22082
2064	P-L	93	07	31.7	20	44.37	-17	15.4	18.3	-0.78	-	2.3	0.2/01.0	16033
1992	FK1	93	07	31.9	20	45.10	+04	48.8	18.6	-1.10	+	1.1	7.9/05.0	21580
1980	VX1	93	08	01.2	20	46.27	-26	50.5	17.6	-0.95	-	2.3	2.8/30.4	22074
1990	VV2	93	08	01.3	20	46.34	-10	45.4	17.9	-1.02	-	3.6	2.8/02.8	17460
(5255)		93	08	01.3	20	46.49	-27	02.9	15.8	-0.91	-	7.1	3.3/29.9	20491
1990	SM6	93	08	01.5	20	47.18	-25	43.0	16.5	-1.09	-	3.7	3.2/30.8	21974
1991	AD2	93	08	01.6	20	47.54	-16	23.5	15.9	-0.89	-	5.4	0.6/02.0	21975
1978	VT4	93	08	01.6	20	47.59	-20	07.6	18.7	-0.79	-	3.0	0.6/01.1	15404
1992	BW	93	08	01.6	20	47.85	-23	43.9	15.6	-1.76	+	10.8	3.1/01.4	20032
1990	VS2	93	08	01.9	20	48.96	-17	38.3	16.3	-0.91	-	6.5	0.1/02.0	22083
1986	QQ2	93	08	02.0	20	49.17	-16	35.8	16.3	-0.95	-	7.5	0.5/02.3	18286
1981	EX43	93	08	02.1	20	49.66	-06	44.3	16.8	-0.90	-	4.4	5.0/04.7	21785
1991	GE9	93	08	02.2	20	49.98	-18	17.8	17.8	-0.78	-	3.6	0.2/02.1	19308
(5471)		93	08	02.3	20	50.41	-04	28.7	15.8	-0.81	-	1.7	4.6/05.3	21772
1990	XA	93	08	02.4	20	50.75	-10	52.1	15.0	-0.88	-	1.6	2.3/03.9	22083
1991	AS1	93	08	02.4	20	50.92	-26	14.6	17.0	-1.32	+	3.7	2.9/01.3	18436
1992	JP	93	08	02.5	20	51.08	-18	25.9	15.4	-0.74	-	7.3	0.2/02.3	20645
1987	SO9	93	08	02.8	20	52.12	-17	09.8	16.9	-1.06	-	5.4	0.2/02.9	20014
5200	T-2	93	08	02.8	20	52.53	-15	39.6	17.1	-0.86	-	1.2	0.6/03.3	21978
1981	GP	93	08	02.9	20	52.58	-49	27.8	18.3	-1.45	-	0.8	9.7/26.8	21968
1981	EB31	93	08	03.0	20	53.07	-12	05.5	19.1	-0.76	-	4.5	1.6/04.4	15704
2086	T-2	93	08	03.1	20	53.40	-23	11.1	18.0	-0.84	-	2.3	1.6/01.9	22087
1988	RO11	93	08	03.1	20	53.40	-19	30.5	18.0	-0.84	-	3.3	0.7/02.7	19022
1985	PO	93	08	03.1	20	53.51	-15	52.0	15.8	-0.87	-	5.6	0.7/03.6	22076
(5323)		93	08	03.1	20	53.56	-23	05.3	16.9	-1.04	-	4.8	2.3/01.8	20794
1990	YQ	93	08	03.2	20	53.94	-14	49.6	16.5	-1.00	-	4.2	1.1/03.9	21975
4831	P-L	93	08	03.3	20	54.30	-36	24.9	19.4	-1.10	-	1.7	6.1/30.2	12572
2647	P-L	93	08	03.4	20	54.47	-19	57.1	17.2	-1.02	-	3.9	1.0/02.8	16438
1978	VJ8	93	08	03.5	20	54.86	-16	17.1	17.3	-0.79	-	3.4	0.4/03.8	21965
(5302)		93	08	03.5	20	55.07	-19	10.9	16.5	-1.03	-	3.1	0.8/03.2	20786
4203	T-3	93	08	03.5	20	55.21	-00	33.2	18.4	-0.83	-	6.3	5.9/08.3	12703
1981	EQ12	93	08	03.7	20	55.77	-02	33.0	15.8	-0.76	+	0.1	8.1/06.8	18417
A920	TA	93	08	03.8	20	56.41	-08	58.1	14.3	-0.79	-	1.0	4.4/05.7	21963
(5297)		93	08	03.8	20	56.44	-13	45.9	17.1	-0.98	-	6.8	1.4/04.8	20626
1989	SE2	93	08	03.9	20	56.76	-24	16.9	16.6	-0.88	-	4.5	2.5/02.2	17962
6516	P-L	93	08	03.9	20	56.83	-30	04.9	17.7	-1.15	-	2.4	6.6/01.1	21978
1990	WS2	93	08	04.0	20	57.01	-15	49.4	16.8	-0.98	-	5.1	0.5/04.4	17647
4077	P-L	93	08	04.2	20	57.62	-17	27.3	17.7	-1.00	-	3.6	0.1/04.2	22086
1984	DQ	93	08	04.2	20	58.00	-24	03.7	16.9	-1.14	+	1.0	2.8/03.1	22076
7633	P-L	93	08	04.4	20	58.45	-19	18.0	16.9	-0.84	-	4.7	0.8/03.9	22087
2572	P-L	93	08	04.4	20	58.56	-21	11.9	18.2	-1.08	-	3.7	1.6/03.6	14627
1989	RB	93	08	04.5	20	58.88	-54	21.7	15.9	-1.52	+	10.2	20.3/29.9	22081
1982	SV	93	08	04.7	20	59.58	+12	53.3	18.2	-0.95	-	6.0	11.1/12.4	8393
1990	TF4	93	08	05.2	21	01.46	-15	43.8	17.4	-0.98	-	3.7	0.4/05.5	22082

6615 P-L	93 08 05.2	21 01.53	-25 03.3	16.7	-1.12	- 3.1	3.5/03.5	19876
6034 P-L	93 08 05.2	21 01.64	-02 56.2	16.1	-0.75	- 5.2	6.6/09.1	22086
4882 P-L	93 08 05.2	21 01.68	-32 55.8	18.6	-1.06	- 2.0	5.9/01.7	21978
(5184)	93 08 05.3	21 02.17	-19 29.0	16.0	-1.13	- 2.4	1.1/04.8	20003
3070 T-2	93 08 05.4	21 02.14	-16 52.4	16.2	-1.00	- 6.1	0.0/05.4	21978
1981 EJ25	93 08 05.4	21 02.58	-13 36.0	19.6	-0.95	- 5.1	1.4/06.3	11149
(5265)	93 08 05.5	21 02.66	-10 47.0	17.4	-0.74	- 4.6	1.9/07.1	20494
4226 P-L	93 08 05.5	21 02.85	-14 41.4	18.9	-0.97	- 3.8	0.8/06.1	16439
2642 P-L	93 08 05.9	21 04.19	-07 03.2	16.8	-0.94	- 7.4	4.3/08.6	22086
1980 UM1	93 08 06.0	21 04.51	-10 29.1	17.0	-1.04	- 2.8	2.6/07.4	21784
1989 UL	93 08 06.2	21 05.40	-07 44.4	16.7	-0.84	- 3.7	3.2/08.4	21973
1173 T-2	93 08 06.3	21 05.75	-27 55.4	19.2	-0.93	- 1.7	3.7/03.7	15077
1992 FY1	93 08 06.6	21 06.95	-31 42.5	16.5	-1.09	- 4.2	5.8/02.9	20343
1986 RY5	93 08 06.7	21 07.42	-04 42.1	15.4	-0.88	- 3.7	5.6/09.7	20632
4611 P-L	93 08 07.2	21 09.23	-34 20.5	17.9	-1.17	- 1.4	6.4/03.3	22086
4854 T-1	93 08 07.2	21 09.32	-33 37.9	17.5	-0.94	- 2.3	5.9/03.0	19881
1981 VN	93 08 07.2	21 09.39	-42 42.2	17.0	-1.15	- 2.9	9.3/31.1	21564
2203 T-3	93 08 07.5	21 10.32	+00 44.6	18.6	-0.71	- 3.5	4.7/12.2	12701
1982 RK1	93 08 07.5	21 10.36	-13 30.0	16.4	-0.90	- 0.7	1.4/08.1	22271
1992 FD	93 08 07.7	21 11.27	+12 14.4	16.4	-0.86	-12.6	10.6/18.5	21977
1991 AX1	93 08 07.9	21 11.89	-16 57.5	15.8	-0.82	- 4.6	0.3/07.7	21975
1985 CN1	93 08 08.0	21 12.11	-20 55.6	17.1	-1.05	- 3.7	1.8/06.9	21969
1984 HR1	93 08 08.2	21 13.03	-25 49.8	15.9	-0.96	- 2.9	4.1/05.9	15709
1990 DJ	93 08 08.3	21 13.48	-03 21.2	14.5	-1.03	-24.0	5.9/13.2	21973
1982 FF3	93 08 08.4	21 13.72	-14 05.0	15.8	-1.05	- 4.0	0.8/08.9	20498
6766 P-L	93 08 08.5	21 14.16	-04 07.8	16.3	-0.70	- 6.8	3.7/12.2	21950
1989 SW2	93 08 08.6	21 14.47	-23 09.2	17.2	-0.86	- 4.7	2.4/06.7	20017
1990 YX	93 08 08.6	21 14.57	-22 58.8	18.2	-0.99	- 3.2	2.5/07.0	22083
2030 T-2	93 08 08.8	21 15.19	-19 33.5	19.0	-0.95	- 3.5	1.5/07.9	17977
1979 FD3	93 08 08.9	21 15.90	-16 49.5	16.7	-1.00	- 6.3	0.4/08.7	21927
1990 VX2	93 08 09.1	21 16.29	-52 45.5	17.7	-1.40	- 4.1	11.3/28.1	21975
1981 EZ32	93 08 09.1	21 16.49	-03 21.5	18.9	-0.75	- 5.1	3.9/12.7	22271
1992 ER	93 08 09.1	21 16.71	-26 33.5	17.1	-1.13	- 2.3	4.3/06.8	21977
1981 EP15	93 08 09.4	21 17.65	-11 25.2	18.0	-1.03	- 2.2	1.9/10.4	22270
1982 TP1	93 08 09.4	21 17.66	-10 19.0	16.7	-0.92	- 4.0	1.9/10.8	22075
1981 EH13	93 08 09.6	21 18.22	-09 46.6	16.9	-0.83	- 2.4	3.1/11.1	10770
1981 EY42	93 08 09.7	21 18.77	-14 33.5	19.7	-0.96	- 4.6	0.4/10.0	21968
(5317)	93 08 09.9	21 19.62	-21 10.7	16.0	-0.86	- 8.3	1.9/08.3	20791
(5295)	93 08 10.0	21 20.00	-23 04.6	16.4	-0.78	- 4.2	2.1/08.0	20625
1988 PX2	93 08 10.0	21 20.07	-04 09.3	16.6	-0.73	- 5.9	3.7/13.4	21972
6555 P-L	93 08 10.3	21 20.95	-16 35.0	16.2	-0.82	- 4.8	0.4/10.0	22087
1986 QS1	93 08 10.4	21 21.40	-16 14.6	15.7	-0.88	- 8.4	0.4/10.2	22272
(5166)	93 08 10.5	21 21.69	-15 54.9	15.6	-0.96	- 6.4	0.2/10.4	19995
1989 FH	93 08 10.8	21 22.80	-19 35.7	17.0	-1.03	- 5.4	1.8/09.7	21973
1989 TR11	93 08 10.9	21 23.43	-36 57.2	16.7	-1.11	+ 0.8	9.6/05.9	22081
1981 EP10	93 08 11.0	21 23.56	-13 52.5	19.0	-1.03	- 1.6	0.6/11.3	10820
1987 DN6	93 08 11.1	21 24.03	-13 16.8	18.5	-0.90	- 3.6	0.6/11.6	22078
(5242)	93 08 11.2	21 24.30	-10 20.7	15.8	-0.83	- 4.0	1.8/12.5	20326
1981 ET19	93 08 11.2	21 24.38	-15 24.8	18.7	-0.93	- 5.5	0.1/11.2	21967
5174 T-3	93 08 11.2	21 24.54	-31 46.1	16.6	-0.83	- 5.4	5.5/06.4	22088
1986 JS	93 08 11.5	21 25.54	-17 30.3	14.5	-0.89	- 9.4	1.1/10.8	22077
4537 P-L	93 08 11.7	21 26.23	-23 39.0	19.0	-1.15	- 2.5	3.7/09.7	22086
1992 DB	93 08 11.8	21 26.71	-16 40.9	16.3	-0.97	- 6.5	0.6/11.4	20032
1980 RV2	93 08 11.8	21 26.92	-17 15.0	15.8	-0.97	- 2.0	1.2/11.4	17816
1981 ET9	93 08 12.0	21 27.51	-12 22.1	19.8	-1.00	- 3.3	1.0/12.7	22270
1989 VR	93 08 12.1	21 27.89	-12 39.2	16.1	-0.80	- 4.5	0.8/12.8	22081
1990 KK	93 08 12.2	21 28.20	-54 06.1	16.1	-1.48	- 9.8	17.3/27.4	21974
(5221)	93 08 12.2	21 28.30	-17 18.4	16.5	-0.78	- 3.5	0.7/11.6	20317
1990 UB2	93 08 12.2	21 28.32	-25 06.6	15.0	-0.76	- 7.5	5.5/09.0	21975

1988 BT3	93 08 12.3	21 28.56	-12 40.8	17.2	-0.95	- 7.2	0.9/13.0	22079
1980 VA3	93 08 12.4	21 29.12	-18 09.7	16.0	-1.06	- 3.2	1.5/11.7	18107
5332 T-2	93 08 12.5	21 29.33	+00 42.3	19.0	-0.77	- 3.2	4.8/16.8	20517
1990 SZ7	93 08 12.6	21 29.60	-26 21.2	17.0	-1.10	- 4.2	4.5/09.7	19866
3220 T-3	93 08 12.6	21 29.76	-13 47.3	17.2	-0.77	- 4.0	0.3/12.9	22088
1931 FC	93 08 12.6	21 29.86	-20 28.5	16.1	-1.11	- 2.4	2.4/11.4	21963
1978 RR8	93 08 12.8	21 30.33	-07 46.5	17.4	-0.87	- 7.0	2.2/14.9	22073
1989 YZ1	93 08 12.9	21 30.67	-17 16.9	16.3	-0.79	- 3.7	0.8/12.2	21973
1991 CS1	93 08 12.9	21 30.97	-14 49.4	17.7	-0.75	- 4.1	0.0/12.9	22405
1981 EN	93 08 13.0	21 31.14	-08 29.3	18.1	-0.90	- 7.5	2.1/14.9	10768
1991 DT	93 08 13.1	21 31.83	-16 53.2	17.3	-0.76	- 4.1	0.6/12.6	21975
1984 BK	93 08 13.5	21 33.34	-12 10.6	15.4	-1.00	- 2.5	1.0/14.2	22076
1950 DO	93 08 13.8	21 34.15	-11 41.2	14.5	-0.86	- 3.4	1.0/14.5	21963
1988 RD11	93 08 14.6	21 37.15	-17 25.9	17.3	-0.80	- 3.2	0.9/13.8	20815
1990 TS	93 08 14.9	21 38.21	-20 18.9	15.9	-1.11	- 3.4	2.7/13.4	20819
(5149)	93 08 14.9	21 38.24	-14 57.6	17.5	-0.75	- 3.6	0.2/14.7	19852
1990 RH4	93 08 15.4	21 40.15	-11 58.6	16.4	-0.98	- 7.2	0.8/16.0	17964
1978 SE3	93 08 15.5	21 40.54	-08 24.3	16.0	-0.87	- 5.3	2.4/17.1	10516
2170 T-2	93 08 15.7	21 41.42	+03 02.7	16.8	-0.79	- 9.2	6.3/21.6	22088
1979 ME8	93 08 16.0	21 42.69	-08 30.6	18.2	-0.96	- 5.9	2.0/17.6	20808
1991 AP1	93 08 16.3	21 43.66	-14 06.2	16.6	-1.02	- 4.3	0.2/16.2	17967
1968 OAL	93 08 16.4	21 43.78	-01 57.3	16.9	-0.88	- 5.8	5.2/19.8	21963
(5310)	93 08 16.4	21 43.81	-08 28.3	16.7	-0.89	- 7.3	2.0/18.0	20789
1989 UR3	93 08 16.8	21 45.38	-10 55.8	15.1	-0.71	- 6.2	1.2/17.6	22081
1992 HZ3	93 08 16.8	21 45.57	-16 59.0	16.6	-0.87	- 3.6	1.2/15.9	22085
2127 T-2	93 08 16.9	21 45.80	-13 33.1	18.4	-0.92	- 3.8	0.0/16.9	22088
3523 P-L	93 08 16.9	21 45.90	-15 14.8	16.0	-1.00	- 1.0	0.7/16.5	22086
1990 BK	93 08 17.1	21 46.44	-16 52.1	17.0	-0.77	- 4.3	1.0/16.1	22082
1988 CF6	93 08 17.2	21 46.79	-07 46.0	17.0	-0.95	- 4.4	2.0/18.7	21568
(5286)	93 08 17.2	21 46.96	-15 17.7	16.0	-0.80	- 5.0	0.6/16.7	20622
(5262)	93 08 17.3	21 47.47	-31 14.9	15.7	-0.82	- 5.4	4.9/11.8	20493
1990 VD3	93 08 17.5	21 48.08	-09 00.8	17.1	-0.96	- 4.1	1.6/18.7	21575
(5281)	93 08 17.5	21 48.10	-20 06.4	14.5	-0.76	- 7.6	2.3/15.3	20620
6012 P-L	93 08 17.6	21 48.44	-08 04.9	19.7	-0.74	- 3.7	1.4/19.1	16035
(5147)	93 08 17.7	21 48.76	-19 24.3	14.7	-1.03	- 0.3	2.6/16.3	19851
1981 EL4	93 08 17.9	21 49.80	-08 58.8	16.4	-0.84	- 1.9	1.3/19.1	22270
1982 YQ	93 08 18.0	21 49.98	-32 09.5	16.9	-0.94	- 6.4	6.5/12.0	21969
1990 VD7	93 08 18.1	21 50.51	-15 31.0	15.6	-1.03	- 3.5	1.0/17.6	20928
6328 P-L	93 08 18.2	21 50.95	-16 37.7	18.1	-0.92	- 3.9	1.3/17.3	22087
1989 TB11	93 08 18.3	21 51.08	-14 29.2	15.7	-0.92	- 2.7	0.6/18.0	21973
1985 CV1	93 08 18.4	21 51.46	-15 46.6	18.0	-0.74	- 3.7	0.7/17.6	19295
1983 AD	93 08 18.4	21 51.55	-28 16.2	17.1	-0.95	- 5.1	5.0/13.9	21969
1984 SG1	93 08 18.4	21 51.68	-09 26.1	15.9	-0.85	- 3.4	1.3/19.5	22076
1992 GA	93 08 18.7	21 52.61	-07 08.2	17.8	-0.97	- 1.3	2.0/20.2	21111
1992 FS	93 08 19.0	21 53.91	-22 41.5	15.6	-0.91	- 3.2	3.9/16.4	20155
1982 SE1	93 08 19.1	21 53.89	-08 14.7	15.7	-0.78	- 3.0	1.5/20.4	22075
1978 VV9	93 08 19.2	21 54.34	-09 25.2	16.8	-0.76	- 3.7	1.0/20.2	21965
1136 T-2	93 08 19.3	21 54.66	-10 18.1	17.5	-0.87	- 5.7	0.8/20.0	20648
1980 LY	93 08 19.5	21 55.78	-19 41.7	16.5	-0.94	- 7.2	3.5/17.4	17428
1981 EK10	93 08 19.8	21 56.58	-10 56.2	18.1	-1.00	- 4.1	0.6/20.3	21966
3197 T-3	93 08 20.1	21 57.75	-17 11.9	16.5	-0.79	- 4.5	1.7/18.7	22088
1978 UW7	93 08 20.1	21 57.82	+10 47.7	15.6	-0.76	- 7.4	10.5/28.9	20921
1985 CR2	93 08 20.3	21 58.53	-11 36.0	16.6	-0.99	- 5.1	0.3/20.6	22076
1982 PR	93 08 20.3	21 58.68	-14 01.9	15.2	-0.78	- 4.0	0.6/19.9	21968
1985 CY1	93 08 20.6	21 59.52	-08 44.0	20.0	-0.68	- 5.6	0.8/21.8	18425
(5484)	93 08 21.0	22 00.91	-33 08.7	16.4	-1.08	- 3.5	7.2/15.0	21778
1981 EF45	93 08 21.0	22 01.11	-15 25.7	19.2	-0.79	- 4.1	1.0/20.1	21968
1978 VG5	93 08 21.0	22 01.13	-12 02.6	17.2	-0.75	- 3.9	0.0/21.1	21965
(5226)	93 08 21.0	22 01.16	-30 31.1	16.7	-1.05	- 5.5	7.0/15.4	20319



1978 VD5	93 08 21.2	22 01.81	-10 58.5	19.1	-0.75	- 4.3	0.3/21.6	15404
4023 T-1	93 08 21.6	22 03.40	-06 25.3	17.7	-0.93	- 8.1	2.2/23.4	21952
1989 EL2	93 08 21.6	22 03.57	-19 35.7	15.7	-1.08	- 3.5	3.5/19.7	21973
1992 DA	93 08 21.7	22 03.57	-17 33.5	16.8	-1.01	- 4.4	2.1/20.2	19874
1981 EV28	93 08 21.8	22 04.18	+02 59.8	17.7	-0.72	- 5.8	5.1/26.8	22271
1990 WY3	93 08 21.8	22 04.29	-22 27.6	15.4	-0.91	- 8.0	4.2/18.4	21975
(5263)	93 08 22.0	22 04.83	+09 43.4	16.4	-0.70	- 4.3	6.0/29.2	20494
1981 EV17	93 08 22.0	22 04.97	-08 19.7	18.9	-0.93	- 5.3	1.4/23.1	10822
1986 QG1	93 08 22.2	22 05.74	-16 49.2	17.7	-0.94	- 6.9	2.0/20.7	22077
(5333)	93 08 22.4	22 06.45	+03 42.0	17.0	-0.89	- 6.7	5.2/27.4	20798
1986 RT2	93 08 22.5	22 06.62	-12 09.2	15.7	-0.96	- 4.2	0.2/22.4	21970
1986 WO1	93 08 22.6	22 07.07	-15 05.5	16.4	-0.96	- 4.1	1.6/21.7	22078
1988 UP	93 08 23.0	22 08.52	-15 06.6	15.3	-0.75	- 4.6	1.3/21.9	22080
1978 RD10	93 08 23.1	22 08.67	-10 20.3	17.5	-0.78	- 5.1	0.4/23.4	22073
1981 EV18	93 08 23.2	22 09.21	-05 49.5	18.5	-0.75	- 5.0	1.8/25.0	21930
1988 FB	93 08 23.3	22 09.50	-15 39.1	16.6	-0.96	- 4.9	1.5/22.1	22079
1979 ML5	93 08 23.3	22 09.60	-08 04.1	19.0	-0.78	- 6.7	1.2/24.4	13310
1971 UT1	93 08 23.4	22 09.94	-09 49.0	16.0	-0.72	- 5.1	0.6/23.9	22072
1976 QL2	93 08 23.5	22 10.24	-25 59.1	16.9	-0.84	- 2.8	4.5/19.1	14185
1979 MX5	93 08 23.6	22 10.50	-10 09.0	17.9	-0.95	- 6.5	0.4/23.9	18803
(5260)	93 08 23.8	22 11.62	-02 08.3	17.0	-0.79	- 8.6	2.9/27.0	21909
3138 T-1	93 08 23.9	22 11.78	-08 08.8	17.9	-0.94	- 6.8	1.1/24.9	21951
1989 WK2	93 08 23.9	22 11.96	-15 43.6	17.3	-0.83	-12.7	1.5/22.3	22081
1980 KK	93 08 24.0	22 12.27	-11 43.0	16.2	-0.94	- 6.1	0.3/23.9	17816
1989 KA	93 08 24.0	22 12.40	-02 45.1	16.5	-0.96	- 6.3	3.2/26.7	22081
4550 P-L	93 08 24.1	22 12.70	-16 36.2	18.9	-1.08	- 4.1	2.4/22.7	17462
1983 WM	93 08 24.2	22 12.95	-00 33.3	16.5	-0.95	- 4.5	4.2/27.3	17434
1981 DU1	93 08 24.6	22 14.20	+08 06.1	17.9	-0.79	- 4.2	6.3/30.5	20809
(5135)	93 08 24.7	22 14.63	-17 06.8	15.0	-1.02	- 4.2	2.8/23.0	19847
1041 T-2	93 08 24.8	22 15.32	-09 22.3	16.7	-0.77	- 5.2	0.5/25.4	22274
1981 CB1	93 08 24.9	22 15.27	-20 05.8	16.8	-1.04	- 4.5	3.5/22.2	21966
1981 ET7	93 08 25.0	22 15.98	-05 56.6	18.3	-0.99	- 3.9	1.9/26.4	22270
1981 EQ33	93 08 25.6	22 17.82	-03 55.1	18.7	-0.96	- 2.7	3.0/27.4	10772
4028 P-L	93 08 25.9	22 19.22	-00 22.5	17.4	-0.84	- 6.3	3.7/29.2	22086
(5292)	93 08 26.2	22 20.12	-34 44.8	14.7	-0.85	- 8.4	9.9/16.7	20624
1991 BV	93 08 26.3	22 20.43	-13 41.9	15.6	-0.81	- 9.3	1.1/25.1	20638
1981 EK34	93 08 26.3	22 20.59	-10 43.6	16.9	-0.95	- 5.0	0.2/26.2	22271
1979 HW6	93 08 26.4	22 21.01	-09 37.6	16.6	-0.98	- 5.5	0.3/26.7	14780
4050 T-3	93 08 26.6	22 21.78	-12 56.4	17.5	-0.86	- 7.2	1.0/25.8	19332
1985 CM1	93 08 26.7	22 22.26	-13 13.7	16.4	-0.93	- 7.4	1.2/25.8	21969
1992 FJ	93 08 26.7	22 22.29	-03 23.0	17.4	-0.94	- 6.3	2.6/28.9	20154
1992 HX	93 08 27.0	22 23.32	-12 46.1	16.9	-0.77	- 4.1	1.0/26.3	20825
1989 XM	93 08 27.0	22 23.38	-14 53.8	16.3	-0.81	- 4.4	1.6/25.6	20506
4636 P-L	93 08 27.2	22 23.67	-24 52.7	18.4	-0.87	- 1.7	4.1/22.9	12699
1981 EA9	93 08 27.3	22 24.32	-09 37.9	15.8	-0.98	+ 2.3	0.2/27.4	21966
1992 FR	93 08 27.5	22 24.88	-01 01.9	15.7	-0.79	- 8.6	3.0/31.0	22085
1985 CC2	93 08 27.5	22 25.10	-13 49.2	16.1	-0.94	- 7.0	1.6/26.3	21969
2546 P-L	93 08 27.6	22 25.40	+02 43.4	18.1	-0.77	- 9.4	4.4/01.1	12689
2574 P-L	93 08 28.1	22 27.01	-34 11.3	18.6	-1.00	- 0.1	6.8/21.2	22086
(5227)	93 08 28.1	22 27.26	+07 55.6	15.5	-0.92	- 4.0	7.8/02.6	20320
1986 CG	93 08 28.1	22 27.37	+00 32.4	17.9	-0.82	- 3.9	3.1/31.3	22077
(5240)	93 08 28.2	22 27.69	+00 50.2	15.2	-0.91	- 5.2	4.2/31.5	20325
1975 XH	93 08 28.3	22 27.87	-24 40.1	18.3	-0.95	- 6.4	4.8/23.4	22072
(5480)	93 08 28.4	22 28.28	-15 24.8	15.3	-0.73	- 5.9	1.8/26.5	21776
1978 SO4	93 08 28.5	22 28.68	-16 02.8	15.7	-0.70	- 2.5	1.9/26.6	21964
1986 EQ2	93 08 28.7	22 29.33	-08 09.5	16.7	-0.78	- 5.2	0.5/29.2	11143
1992 LM	93 08 28.8	22 29.52	-20 16.5	16.6	-0.87	- 5.0	3.5/25.4	20827
3111 T-2	93 08 28.8	22 29.53	-01 20.9	18.2	-0.79	- 8.9	2.6/31.6	17978
1991 AK	93 08 28.8	22 29.85	-09 17.4	16.3	-0.87	- 4.3	0.1/28.9	17967

1990 XK	93 08 28.9	22 29.92	+10 34.8	15.7	-0.85	- 4.1	6.4/04.3	22083
1992 HY	93 08 29.0	22 30.51	-08 48.2	17.5	-0.91	- 5.5	0.2/29.2	20825
1985 QP5	93 08 29.7	22 32.80	-20 20.2	16.4	-1.13	+ 1.5	4.6/27.1	16024
1985 UC	93 08 29.8	22 33.28	-31 43.5	16.3	-1.26	+ 6.6	10.9/25.8	16232
5104 T-2	93 08 30.0	22 33.94	+03 26.0	19.2	-0.77	- 4.2	3.9/03.0	15087
1981 EH9	93 08 30.4	22 35.33	-03 15.1	19.7	-0.94	- 5.2	1.9/01.1	21930
(5222)	93 08 30.4	22 35.47	+34 37.6	15.9	-0.81	- 6.3	11.6/18.9	20318
1990 UW	93 08 30.4	22 35.53	-08 33.7	15.3	-1.03	- 4.3	0.1/30.5	22082
1991 GH11	93 08 30.6	22 36.32	-09 36.6	19.2	-0.72	- 4.7	0.2/30.4	20638
5137 T-2	93 08 30.8	22 36.83	+10 14.4	19.4	-0.81	- 7.6	6.3/06.6	20833
1989 GT4	93 08 31.0	22 37.84	-04 56.8	15.3	-0.81	- 7.7	1.8/01.3	22081
1990 UR4	93 08 31.0	22 37.89	-19 40.5	18.7	-0.97	- 5.9	4.1/27.6	22273
1971 UN1	93 08 31.4	22 39.19	-07 22.7	16.4	-0.75	- 5.0	0.4/31.8	14011
1978 SP4	93 08 31.9	22 41.15	-20 10.7	16.5	-0.87	- 2.4	3.6/28.4	21964
1991 DX	93 09 01.0	22 41.28	-01 39.2	16.3	-0.79	- 9.9	2.3/03.4	22083
4327 T-3	93 09 01.0	22 41.36	-23 46.1	18.4	-0.94	- 4.0	5.2/27.3	13304
1979 MP3	93 09 01.0	22 41.57	-02 47.0	17.6	-0.91	- 6.3	2.4/02.8	21965
1978 XW	93 09 01.5	22 42.95	-10 25.3	17.9	-0.76	- 4.8	0.6/31.8	20140
1985 CA2	93 09 01.5	22 43.16	-13 37.2	15.9	-0.94	- 8.2	2.3/30.7	22076
1981 EU13	93 09 01.6	22 43.39	+01 14.9	18.8	-0.90	- 7.9	3.4/04.7	21966
1989 VK	93 09 02.0	22 44.94	-01 35.7	16.8	-0.85	- 3.9	2.9/03.9	15720
1976 GY3	93 09 02.3	22 46.14	-03 41.9	15.7	-0.95	- 7.8	1.6/03.7	21964
1991 FF	93 09 02.4	22 46.22	-06 56.0	17.6	-0.85	- 0.9	0.2/02.6	21975
1981 EF30	93 09 02.5	22 46.76	-07 17.3	17.4	-0.88	- 8.2	0.2/02.7	21967
1978 UK7	93 09 02.6	22 46.99	-05 32.3	16.7	-0.87	- 6.1	0.9/03.3	20808
1992 HD	93 09 02.6	22 47.08	-11 13.5	16.4	-0.83	- 5.8	1.1/01.5	22085
4805 P-L	93 09 02.6	22 47.23	-10 28.2	18.6	-0.96	- 4.9	1.0/01.8	22086
1981 ED24	93 09 02.8	22 47.80	-05 49.4	17.8	-0.71	- 7.6	0.6/03.5	21967
1989 SA	93 09 02.8	22 47.92	-34 11.3	15.9	-0.91	- 5.2	10.8/23.8	22081
1991 FH	93 09 03.2	22 49.17	+11 58.3	18.3	-0.66	- 6.5	4.9/10.5	18826
1977 UO5	93 09 03.4	22 49.88	-11 23.6	16.0	-0.78	- 4.7	1.3/02.1	22049
1992 GE2	93 09 03.5	22 50.40	-10 51.2	16.3	-1.05	- 3.6	1.6/02.6	20824
3151 T-2	93 09 03.9	22 51.76	-13 02.3	17.6	-1.02	- 4.8	2.4/02.2	17653
1990 XF	93 09 04.0	22 52.41	+06 54.4	16.4	-0.91	- 3.3	4.3/08.4	21975
1965 UA	93 09 04.1	22 52.52	-11 23.8	15.0	-0.92	- 0.5	2.2/03.0	21963
1983 RM3	93 09 04.6	22 54.22	-01 05.5	16.0	-1.08	- 2.9	2.5/06.2	21969
1989 AM	93 09 04.6	22 54.47	-62 11.1	15.0	-1.49	+ 0.1	25.4/16.0	22080
1989 XC	93 09 04.6	22 54.58	-12 29.8	15.9	-0.80	- 5.1	2.0/02.9	21939
1980 GO	93 09 04.9	22 55.25	-07 36.0	17.6	-0.71	- 4.8	0.2/04.7	18106
2558 P-L	93 09 04.9	22 55.50	-12 02.1	17.1	-0.80	- 3.5	1.6/03.3	22061
1988 BB4	93 09 05.2	22 56.65	+04 05.0	16.3	-0.95	- 5.0	4.0/08.6	22079
1981 EG27	93 09 05.4	22 57.17	-04 55.5	19.1	-0.78	- 4.2	0.5/06.0	21967
(5160)	93 09 05.4	22 57.19	-15 07.3	15.5	-0.84	- 8.7	3.3/02.5	19993
1981 FL	93 09 05.4	22 57.45	-02 02.4	18.2	-0.87	- 8.0	1.5/07.1	22074
1982 BA	93 09 05.5	22 57.49	-14 22.3	16.4	-0.77	- 9.0	2.4/02.7	22271
2224 T-2	93 09 05.5	22 57.49	-10 13.6	17.0	-0.80	- 4.3	1.2/04.4	22088
1986 XF1	93 09 05.7	22 58.48	-01 52.5	15.2	-0.88	- 4.1	2.2/07.2	22078
2078 T-3	93 09 06.0	22 59.24	-06 40.6	16.5	-0.94	- 3.2	0.1/05.9	22088
1988 TA1	93 09 06.1	22 59.87	+04 01.3	16.1	-0.69	- 6.9	3.3/09.9	22080
1985 UO3	93 09 06.1	22 59.98	-40 08.6	17.3	-1.27	+ 2.1	12.3/27.6	20813
(5277)	93 09 06.2	23 00.19	+04 57.5	17.6	-1.01	- 3.4	4.2/09.5	20619
1975 SJ	93 09 06.4	23 00.87	-11 12.7	15.9	-0.86	- 4.2	1.7/04.9	18280
1989 SP	93 09 06.5	23 01.26	+08 12.7	14.8	-0.67	-10.4	6.1/12.3	20504
9515 P-L	93 09 06.7	23 02.14	-12 30.6	17.4	-0.89	- 4.7	2.4/04.8	13154
1988 BX3	93 09 06.9	23 02.56	+03 39.5	16.5	-0.90	- 6.8	3.7/10.2	13468
1988 JW	93 09 07.0	23 03.02	-25 11.7	16.9	-0.90	- 6.9	7.0/31.6	22079
1988 TO1	93 09 07.2	23 03.64	-09 53.0	16.9	-0.78	- 5.4	1.3/05.9	22080
1210 T-2	93 09 07.2	23 03.65	-06 28.3	16.5	-1.02	- 4.4	0.2/07.1	22087
(5321)	93 09 07.6	23 05.03	+13 38.1	15.1	-0.61	-11.1	8.4/15.9	20793