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Commission 20 of the International Astronomical Union, usually in batches  
on the date of each full moon, by:

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### ERRATA

MPC	Line	
17481	12	For originally given as (11) read originally given as (10)
22434	33	For Karlsruhe read Karlsruhe
22434	-50	For Innsbrück read Innsbruck
22434	- 9	For St. Polten read St. Pölten
22505	19	For Andréevna read Andreevna
22559	39	Add A. Woszczyk
22559	40	Add J. Dumoulin, G. Peeters
22574	43	For H 11.80 read H 11.8
22575	-14	For H 14.60 read H 14.6

22575	-10	For H 18.10 read H 18.1
22591	44	The orbit for 1989 SR <sub>2</sub> should include H 13.5 G 0.15

### CORRECTED OBSERVATIONS

The following observations correct those previously published.

Object	Date	UT	$\alpha_{2000}$	$\delta_{2000}$	Reference	N Obs.
(2)	1952 09	10.06393	00 23 49.15	-03 07 43.8	<i>MPC</i> 913	1 822
(6)	1982 03	22.95787	12 04 07.03	+14 56 12.6	<i>MPC</i> 16666	2 553
(6)	1982 03	23.93137	12 03 16.74	+15 04 15.9	<i>MPC</i> 16666	3 553
(4055)	1993 09	02.79427	03 46 18.00	+00 17 27.0	<i>MPC</i> 22539	413
(4055)	1993 09	02.79760	03 46 18.35	+00 17 20.6	<i>MPC</i> 22539	413

Note 1: date corrected by +1 month. 2: date corrected by -1 day. 3: date corrected by +1 day.

### DELETED OBSERVATIONS

The following observations are to be deleted.

Object	Date	UT	$\alpha_{2000}$	$\delta_{2000}$	Reference	Obs.
(1)	1977 06	30.87615	12 33 50.19	+06 01 56.1	<i>MPC</i> 4652	006
(11)	1988 05	17.86839	12 54 47.79	+01 34 06.8	<i>MPC</i> 17790	975
(11)	1988 05	17.87271	12 54 47.89	+01 34 06.4	<i>MPC</i> 17790	975

### IDENTIFICATION CHANGES

Continuation to *MPC* 22519.

Object	Date	UT	$\alpha_{2000}$	$\delta_{2000}$	Originally	Mag.	Obs.
1967 HB	* 1967 04	27.81617	12 38 34.08	-05 46 47.7	1967 GF		095
1975 FA <sub>1</sub>	* 1975 03	17.89182	11 59 48.85	-02 49 06.4	1975 ET <sub>1</sub>	17.5	095
1987 PN	* 1987 08	01.05694	21 58 45.93	-00 00 08.2	1987 OW		511
1991 FP <sub>6</sub>	* 1991 03	20.05798	10 52 47.08	+09 42 34.7	1991 FW <sub>1</sub>		809
1991 FP <sub>6</sub>	1991 03	20.06841	10 52 46.71	+09 42 39.1	1991 FW <sub>1</sub>		809
1991 FP <sub>6</sub>	1991 03	20.07882	10 52 46.34	+09 42 43.7	1991 FW <sub>1</sub>		809

### CRITICAL LIST OF MINOR PLANETS

The following list updates and is in the same form as that on *MPC* 21628:

- Object observed at only one opposition:  
(719)

2. Objects observed at only two oppositions:  
 (2608) (3360) (3671) (3688) (3757) (3908) (4503) (4544)  
 (4581) (4688) (4769) (5189) (5335) (5370) (5381) (5496)  
 (5620) (5645) (5660)
3. Objects accurately observed at only three oppositions:  
 (2059) (2061) (2101) (2202) (2340) (2552) (2937) (3102)  
 (3144) (3270) (3289) (3551) (3833) (3838) (3988) (4034)  
 (4257) (4341) (4401) (4486) (4487) (4587) (4776) (4783)  
 (4791) (4792) (4827) (4828) (4829) (4947) (5164) (5206)  
 (5269) (5324) (5477) (5590) (5653)
4. Objects observed at four or more oppositions, last during 1979–1981:  
 (1221) (1575) (1920) (2077) (2096) (2221) (2262) (2263)  
 (2337)
5. Objects observed at four or more oppositions, last during 1982–1983:  
 (132) (945) (1403) (1441) (1460) (1473) (1556) (1766)  
 (1926) (1963) (2005) (2011) (2301) (2423) (2452) (2485)  
 (2546) (2600) (2604) (2639) (2660) (2699) (2735) (2782)  
 (2783) (2869) (2876) (2892) (2897) (2902) (2908) (2965)

## OBSERVATIONS OF COMETS

Observations are published here for the following observatory codes:

- 046 Kletř. 0.63-m Maksutov telescope. Observer M. Tichý. Communicated by J. Tichá.
- 104 San Marcello Pistoiese. 0.4-m  $f/5$  reflector. Observers L. Tesi and G. Cattani.
- 107 Cavezzo. 0.40-m  $f/2.23$  reflector + CCD. Observers R. Calanca and R. Bonomi. Communicated by E. Colombini.
- 360 Kuma Kogen. 0.60-m  $f/6.0$  Ritchey Chrétien + CCD. Observer A. Nakamura.
- 372 Geisei. 0.60-m  $f/3.5$  reflector. Observer T. Seki.
- 376 Uenohara. 0.30-m reflector + CCD. Observer N. Kawasato.
- 410 Sengamine. 0.20-m  $f/4.8$  reflector + CCD. Observer K. Ito.
- 411 Oizumi. 0.16-m  $f/6.3$  reflector + CCD. Observer T. Kobayashi.
- 413 Siding Spring. 1.0-m reflector + CCD. Observers G. J. Garradd and D. I. Steel. Measured by G. J. Garradd and R. H. McNaught.
- 474 Mt. John Observatory. 0.6-m reflector. Observers A. C. Gilmore and P. M. Kilmartin.
- 540 Linz. 0.3-m  $f/5.2$  Schmidt-Cassegrain + CCD. Observers E. Meyer, E. Obermair and H. Raab.
- 557 Ondřejov. 0.18-m  $f/5.6$  Maksutov + CCD. Observers P. Pravec and M. Wolf. Measured by P. Pravec.
- 595 Farra d'Isonzo. 0.4-m  $f/4.5$  reflector + CCD. Observers W. Boschin, G. Lombardi and E. Pettarin. Measured by E. Pettarin.
- 657 Climenhaga Observatory, Victoria. 0.5-m reflector + CCD and 0.25-m Schmidt. Observers J. B. Tatum and D. D. Balam.
- 658 Dominion Astrophysical Observatory, Victoria. 1.82-m Plaskett telescope + CCD. Observers D. D. Balam, J. B. Tatum and G. C. L. Aikman. Measured by D. D. Balam.
- 670 Camarillo. 0.25-m Schmidt-Cassegrain + CCD. Observer J. E. Rogers.
- 675 Palomar. 0.46-m and 1.2-m Schmidts. Observers J. Alu, E. F. Helin and K. Lawrence. Measured by K. Lawrence and B. A. Skiff.
- 691 Kitt Peak. 0.91-m Spacewatch telescope. Observers J. V. Scotti and R. Jedicke.
- 693 University of Arizona, Catalina Station. Observers C. Hergenrother and Y. Shirley.
- 801 Oak Ridge. 1.5-m reflector + CCD. Observers R. E. McCrosky and C.-Y. Shao.
- 871 Akou. 0.33-m  $f/3.3$  reflector + CCD. Observer K. Kawanishi.
- 900 Kiryuu Observatory, Ohtsu. 0.26-m  $f/2.9$  reflector. Observer Y. Ikari.

Object	Date	UT	$\alpha_{2000}$	$\delta_{2000}$	Mag.	N Obs.
<b>Periodic Comet Neujmin 3</b>						
/1951 V	1951 08 06.39444		23 07 28.46	-04 55 52.5		675
/1951 V	1951 08 06.41875		23 07 28.26	-04 56 01.0		675
<b>Periodic Comet Schwassmann-Wachmann 2</b>						
/1987 XIX	1993 09 20.13733		06 57 25.20	+20 03 31.8	15.5 T	557
/1987 XIX	1993 09 20.14054		06 57 25.47	+20 03 31.4	15.5 T	557
/1987 XIX	1993 09 20.14378		06 57 25.80	+20 03 31.4		557
/1987 XIX	1993 09 20.14690		06 57 26.09	+20 03 31.2		557
/1987 XIX	1993 09 26.77176		07 09 16.43	+19 45 58.0		411
/1987 XIX	1993 09 26.77616		07 09 16.92	+19 45 57.2		411
/1987 XIX	1993 09 26.77841		07 09 17.15	+19 45 57.2		411
/1987 XIX	1993 09 26.79074		07 09 18.52	+19 45 55.1	14.9 T	360
/1987 XIX	1993 09 26.79340		07 09 18.80	+19 45 54.6		360
/1987 XIX	1993 09 29.99966		07 14 55.04	+19 36 29.5		107
/1987 XIX	1993 09 30.00819		07 14 56.35	+19 36 24.9		107
/1987 XIX	1993 10 11.76319		07 34 42.28	+18 57 58.0	14.9 T	360
/1987 XIX	1993 10 11.76667		07 34 42.60	+18 57 57.4		360
/1987 XIX	1993 10 16.04243		07 41 31.81	+18 42 48.6		107
<b>Periodic Comet Schwassmann-Wachmann 1</b>						
/1989 XV	1993 10 11.77431		07 45 05.13	+25 51 03.9	16.9 T	360
/1989 XV	1993 10 11.78125		07 45 05.25	+25 51 03.9		360
/1989 XV	1993 10 13.38966		07 45 36.25	+25 50 03.8		801
/1989 XV	1993 10 13.40589		07 45 36.50	+25 50 03.3		801
/1989 XV	1993 10 19.13932		07 47 13.20	+25 47 04.6	15.6 T	557
/1989 XV	1993 10 19.14168		07 47 13.26	+25 47 04.7	15.6 T	557
<b>Periodic Comet Encke</b>						
/1990 XXI	1993 09 14.73125		01 11 12.38	+20 10 15.3		376
/1990 XXI	1993 09 14.74334		01 11 11.56	+20 10 15.4		376
/1990 XXI	1993 09 20.96520		01 02 02.85	+20 09 33.2	17.1 T	540
/1990 XXI	1993 09 20.98370		01 02 00.97	+20 09 32.2	17.3 T	540
/1990 XXI	1993 09 25.73733		00 53 40.85	+20 00 46.5	17.7 T	360
/1990 XXI	1993 09 25.75000		00 53 39.43	+20 00 44.3		360
/1990 XXI	1993 09 26.73108		00 51 47.74	+19 57 55.4	17.8 T	360
/1990 XXI	1993 09 26.73403		00 51 47.39	+19 57 54.8		360
/1990 XXI	1993 10 09.59653		00 23 25.86	+18 44 53.8		360
/1990 XXI	1993 10 09.60556		00 23 24.53	+18 44 49.3		360
/1990 XXI	1993 10 11.61748		00 18 25.99	+18 26 55.7	17.1 T	360
/1990 XXI	1993 10 11.62060		00 18 25.49	+18 26 53.9		360
/1990 XXI	1993 10 24.12680		23 46 22.06	+15 59 18.3	17.1 T	691

/1990 XXI	1993 10 24.13503	23 46 20.78	+15 59 11.6	17.1 T	691	/1992j	1993 08 13.01368	01 30 34.63	+09 00 49.5	12.7 T	557
/1990 XXI	1993 10 24.14255	23 46 19.57	+15 59 05.5	17.1 T	691	/1992j	1993 08 13.01486	01 30 34.64	+09 00 49.3	12.7 T	557
<b>Comet McNaught-Russell (1990 XXII)</b>						/1992j	1993 08 27.75706	01 33 10.68	+10 53 35.4		411
/1990 XXII	1993 09 23.50186	22 11 18.14	-47 23 02.0	20 T	413	/1992j	1993 08 27.76042	01 33 10.61	+10 53 36.6		411
/1990 XXII	1993 09 23.50866	22 11 17.94	-47 23 02.8		413	/1992j	1993 08 27.76204	01 33 10.64	+10 53 37.5		411
/1990 XXII	1993 09 23.51619	22 11 17.77	-47 23 03.4		413	/1992j	1993 09 09.55781	01 30 26.18	+12 13 28.0		411
<b>Periodic Comet Van Biesbroeck</b>						/1992j	1993 09 09.56002	01 30 26.15	+12 13 28.7		411
/1991 VI	1993 10 21.40023	04 07 29.25	+13 05 54.4	20.7 T	691	/1992j	1993 09 09.56117	01 30 26.10	+12 13 28.9		411
/1991 VI	1993 10 21.44935	04 07 27.93	+13 05 48.1	22.0 T	691	/1992j	1993 09 10.94323	01 29 51.57	+12 20 57.5		107
/1991 VI	1993 10 21.46110	04 07 27.74	+13 05 45.8	23.1 N	691	/1992j	1993 09 12.31765	01 29 13.96	+12 28 08.9		801
<b>Periodic Comet Howell</b>						/1992j	1993 09 12.34267	01 29 13.21	+12 28 16.5		801
/1992c	1993 08 11.70509	03 10 56.74	+14 43 43.4		411	/1992j	1993 09 14.50685	01 28 08.52	+12 39 06.6		411
/1992c	1993 08 11.70757	03 10 56.98	+14 43 44.2		411	/1992j	1993 09 14.52670	01 28 07.95	+12 39 12.6		411
/1992c	1993 08 11.70988	03 10 57.15	+14 43 44.1		411	/1992j	1993 09 14.52781	01 28 07.94	+12 39 12.7		411
/1992c	1993 08 27.76615	03 21 18.23	+15 29 01.9		411	/1992j	1993 09 15.22738	01 27 45.15	+12 42 35.0		801
/1992c	1993 08 27.76858	03 21 18.27	+15 29 02.4		411	/1992j	1993 09 15.25373	01 27 44.21	+12 42 42.5		801
/1992c	1993 09 25.79340	03 20 07.08	+15 40 01.4	16.1 T	360	/1992j	1993 09 15.88983	01 27 23.14	+12 45 41.2		107
/1992c	1993 09 25.79670	03 20 06.96	+15 40 00.9		360	/1992j	1993 09 16.85625	01 26 50.13	+12 50 06.5		107
/1992c	1993 09 26.73981	03 19 37.60	+15 38 53.1	16.0 T	360	/1992j	1993 09 18.99874	01 25 30.86	+12 59 38.7		557
/1992c	1993 09 26.74329	03 19 37.49	+15 38 52.8		360	/1992j	1993 09 19.00091	01 25 30.76	+12 59 39.1		557
/1992c	1993 09 26.74427	03 19 37.41	+15 38 53.0		411	/1992j	1993 09 19.00229	01 25 30.72	+12 59 39.4		557
/1992c	1993 09 26.74870	03 19 37.21	+15 38 51.9		411	/1992j	1993 09 20.82885	01 24 19.20	+13 07 15.4		107
/1992c	1993 09 26.75093	03 19 37.12	+15 38 52.3		411	/1992j	1993 09 22.84035	01 22 54.74	+13 15 06.4		107
/1992c	1993 10 11.67066	03 08 33.06	+15 09 43.5	16.2 T	360	/1992j	1993 09 23.70674	01 22 16.76	+13 18 26.9		413
/1992c	1993 10 11.67361	03 08 32.91	+15 09 42.8		360	/1992j	1993 09 23.70956	01 22 16.63	+13 18 27.4		413
/1992c	1993 10 19.10786	03 01 10.34	+14 48 25.4		557	/1992j	1993 09 25.73003	01 20 45.54	+13 25 28.2	13.3 T	360
/1992c	1993 10 19.11350	03 01 10.08	+14 48 24.0		557	/1992j	1993 09 25.73299	01 20 45.40	+13 25 28.8		360
/1992c	1993 10 19.11963	03 01 09.59	+14 48 23.0	16.0 T	557	/1992j	1993 09 26.71100	01 19 59.77	+13 28 44.3		411
/1992c	1993 10 19.12806	03 01 09.24	+14 48 20.4		557	/1992j	1993 09 26.71811	01 19 59.43	+13 28 45.8		411
/1992c	1993 10 20.43938	02 59 46.04	+14 44 19.9	20.2 N	691	/1992j	1993 09 26.71968	01 19 59.36	+13 28 46.1		411
<b>Comet Spacewatch (1992h)</b>						/1992j	1993 09 29.86626	01 17 27.30	+13 38 21.7		107
/1992h	1993 09 26.80127	11 12 18.76	+58 32 46.0		411	/1992j	1993 10 04.85863	01 13 11.56	+13 51 06.8		107
/1992h	1993 09 26.80590	11 12 19.09	+58 32 49.5		411	/1992j	1993 10 04.98288	01 13 04.99	+13 51 23.1		595
<b>Periodic Comet Ashbrook-Jackson</b>						/1992j	1993 10 04.99770	01 13 04.19	+13 51 24.9		595
/1992j	1993 07 31.75597	01 24 07.16	+07 13 05.6		413	/1992j	1993 10 08.65819	01 09 49.64	+13 58 46.6	13.2 T	871
/1992j	1993 07 31.75972	01 24 07.30	+07 13 07.6		413	/1992j	1993 10 08.66096	01 09 49.61	+13 58 50.1		871
/1992j	1993 08 11.69532	01 30 03.56	+08 49 46.9		411	/1992j	1993 10 10.27153	01 08 23.77	+14 01 33.9		657
/1992j	1993 08 11.69763	01 30 03.60	+08 49 48.1		411	/1992j	1993 10 11.62789	01 07 10.95	+14 03 44.4	12.9 T	360
/1992j	1993 08 11.69986	01 30 03.64	+08 49 48.8		411	/1992j	1993 10 11.62806	01 07 10.82	+14 03 44.9	12 T	900
/1992j	1993 08 12.66875	01 30 26.90	+08 57 56.6		411	/1992j	1993 10 11.63090	01 07 10.78	+14 03 44.7		360
/1992j	1993 08 12.67205	01 30 26.93	+08 57 59.1		411	/1992j	1993 10 11.63557	01 07 10.51	+14 03 45.4		900
/1992j	1993 08 12.68438	01 30 27.18	+08 58 04.1		411	/1992j	1993 10 12.20999	01 06 39.81	+14 04 34.9		801
/1992j	1993 08 12.98376	01 30 33.96	+09 00 35.0		557	/1992j	1993 10 12.22472	01 06 38.90	+14 04 35.7		801
/1992j	1993 08 12.99319	01 30 34.14	+09 00 39.6		557	/1992j	1993 10 15.78099	01 03 31.02	+14 09 11.0		107
/1992j	1993 08 12.99677	01 30 34.22	+09 00 41.0		557	/1992j	1993 10 19.08319	01 00 40.69	+14 12 31.5		557
/1992j	1993 08 13.00079	01 30 34.31	+09 00 43.4		557	/1992j	1993 10 19.08438	01 00 40.64	+14 12 31.6	12.7 T	557
/1992j	1993 08 13.00197	01 30 34.32	+09 00 43.5		557	/1992j	1993 10 19.08556	01 00 40.53	+14 12 31.3		557
/1992j	1993 08 13.00315	01 30 34.40	+09 00 44.6		557	/1992j	1993 10 19.22839	01 00 33.56	+14 12 40.3		801
/1992j	1993 08 13.01132	01 30 34.57	+09 00 47.9	12.7 T	557	/1992j	1993 10 19.24292	01 00 32.79	+14 12 41.1		801
/1992j	1993 08 13.01250	01 30 34.55	+09 00 49.2		557	/1992j	1993 10 24.18018	00 56 34.23	+14 16 27.9	17.0 N	691
						/1992j	1993 10 24.19983	00 56 33.29	+14 16 28.6	11.0 T	691
						/1992j	1993 10 24.21811	00 56 32.42	+14 16 29.5		691



/1993k	1993 09 26.72083	00 41 39.86	+00 30 16.5		360	/1993p	1993 08 21.90736	01 42 08.90	+50 00 48.6		557
/1993k	1993 10 11.59325	00 33 35.23	-01 12 18.4		900	/1993p	1993 08 21.90763	01 42 08.70	+50 00 49.2		046
/1993k	1993 10 11.60358	00 33 34.93	-01 12 22.3	16.5 T	360	/1993p	1993 08 21.90942	01 42 08.73	+50 00 48.8		557
/1993k	1993 10 11.60694	00 33 34.77	-01 12 23.4		360	/1993p	1993 08 22.56690	01 41 40.07	+50 01 53.4		411
/1993k	1993 10 11.60898	00 33 34.71	-01 12 23.0	16.5 T	900	/1993p	1993 08 22.57002	01 41 39.94	+50 01 53.6		411
/1993k	1993 10 16.01745	00 31 22.22	-01 39 03.3		107	/1993p	1993 08 22.57998	01 41 39.44	+50 01 54.6		411
/1993k	1993 10 22.23256	00 28 40.94	-02 11 35.5		691	/1993p	1993 08 25.69861	01 39 07.46	+50 05 55.6	15 T	372
/1993k	1993 10 22.24153	00 28 40.72	-02 11 38.2		691	/1993p	1993 08 27.74896	01 37 13.79	+50 07 26.2		411
/1993k	1993 10 22.24890	00 28 40.51	-02 11 40.6		691	/1993p	1993 08 27.75226	01 37 13.54	+50 07 26.0		411
/1993k	1993 10 24.15253	00 27 58.98	-02 20 15.9	16.4 T	691	/1993p	1993 08 27.75382	01 37 13.44	+50 07 26.3		411
/1993k	1993 10 24.16018	00 27 58.79	-02 20 18.2	20.3 N	691	/1993p	1993 09 06.80443	01 25 10.67	+49 58 17.9	13.7 T	540
/1993k	1993 10 24.16781	00 27 58.62	-02 20 19.7	16.4 T	691	/1993p	1993 09 06.80727	01 25 10.38	+49 58 17.1	13.7 T	540
<b>Periodic Comet Helin-Lawrence</b>						/1993p	1993 09 06.80936	01 25 10.22	+49 58 16.5	13.7 T	540
/1993l	1993 08 10.44840	16 18 52.81	-19 48 59.4	17.8 N	474	/1993p	1993 09 06.81493	01 25 09.82	+49 58 15.9	13.7 T	540
/1993l	1993 08 10.46993	16 18 53.36	-19 49 04.0		474	/1993p	1993 09 09.54566	01 21 03.76	+49 49 51.0		411
/1993l	1993 08 15.45275	16 21 24.77	-20 09 43.7	17.6 N	474	/1993p	1993 09 09.55047	01 21 03.38	+49 49 51.4		411
/1993l	1993 08 15.47463	16 21 25.51	-20 09 49.8		474	/1993p	1993 09 09.55207	01 21 03.27	+49 49 50.9		411
/1993l	1993 09 13.14097	16 44 28.99	-22 09 33.8		675	/1993p	1993 09 10.92268	01 18 51.63	+49 44 23.5		107
/1993l	1993 09 13.17784	16 44 31.10	-22 09 43.1		675	/1993p	1993 09 12.78617	01 15 43.89	+49 35 40.5	13.4 T	540
/1993l	1993 09 23.42824	16 55 45.42	-22 49 40.2		413	/1993p	1993 09 12.78912	01 15 43.75	+49 35 39.8	13.5 T	540
/1993l	1993 09 23.43069	16 55 45.59	-22 49 40.7		413	/1993p	1993 09 12.79201	01 15 43.39	+49 35 38.7	13.5 T	540
/1993l	1993 10 10.41806	17 17 05.39	-23 48 15.5	17.2 T	360	/1993p	1993 09 12.79427	01 15 43.08	+49 35 37.8	13.4 T	540
/1993l	1993 10 10.42292	17 17 05.71	-23 48 16.8		360	/1993p	1993 09 13.30302	01 14 49.89	+49 33 00.1		1 801
/1993l	1993 10 10.42708	17 17 06.09	-23 48 15.4		360	/1993p	1993 09 13.32012	01 14 48.09	+49 32 54.8		1 801
<b>Periodic Comet Hartley 3</b>						/1993p	1993 09 14.50012	01 12 42.93	+49 26 11.2		411
/1993m	1993 09 25.77847	02 45 18.45	+32 18 16.3	16.4 T	360	/1993p	1993 09 14.50308	01 12 42.59	+49 26 10.2		411
/1993m	1993 09 25.78194	02 45 18.41	+32 18 16.9		360	/1993p	1993 09 14.50463	01 12 42.40	+49 26 09.7		411
/1993m	1993 09 26.74884	02 45 06.15	+32 20 55.3	16.6 T	360	/1993p	1993 09 15.17228	01 11 29.71	+49 22 02.9		801
/1993m	1993 09 26.75162	02 45 06.12	+32 20 55.8		360	/1993p	1993 09 15.17764	01 11 29.23	+49 22 02.1		801
/1993m	1993 10 11.65868	02 39 01.72	+32 40 41.4	15.7 T	360	/1993p	1993 09 15.87546	01 10 11.64	+49 17 26.6		107
/1993m	1993 10 11.66146	02 39 01.61	+32 40 41.4		360	/1993p	1993 09 16.82074	01 08 24.58	+49 10 48.6		107
/1993m	1993 10 20.45073	02 33 11.46	+32 31 09.7	15.1 T	691	/1993p	1993 09 18.82951	01 04 29.39	+48 55 03.8	13.2 T	540
/1993m	1993 10 20.45994	02 33 11.01	+32 31 08.6	18.5 N	691	/1993p	1993 09 18.83316	01 04 28.98	+48 55 01.9	13.2 T	540
<b>Periodic Comet West-Kohoutek-Ikemura</b>						/1993p	1993 09 18.83472	01 04 28.81	+48 55 01.2	13.2 T	540
/1993o	1993 09 26.75498	05 00 00.46	-12 36 43.4		411	/1993p	1993 09 18.83785	01 04 28.39	+48 55 00.3	13.2 T	540
/1993o	1993 09 26.76100	05 00 00.87	-12 36 44.2		411	/1993p	1993 09 19.03212	01 04 04.94	+48 53 23.2		557
/1993o	1993 09 26.76395	05 00 01.06	-12 36 43.5		411	/1993p	1993 09 19.03406	01 04 04.71	+48 53 22.2		557
/1993o	1993 09 26.78183	05 00 02.40	-12 36 41.6	17.1 T	360	/1993p	1993 09 19.04409	01 04 03.47	+48 53 17.6		557
/1993o	1993 09 26.78472	05 00 02.58	-12 36 41.3		360	/1993p	1993 09 19.04545	01 04 03.33	+48 53 17.2		557
/1993o	1993 10 11.68944	05 14 41.98	-11 58 20.8		900	/1993p	1993 09 19.04683	01 04 03.17	+48 53 16.5		557
/1993o	1993 10 11.70217	05 14 42.51	-11 58 21.5	16.5 T	900	/1993p	1993 09 19.04821	01 04 02.99	+48 53 15.3		557
/1993o	1993 10 11.73333	05 14 44.20	-11 58 13.8	16.4 T	360	/1993p	1993 09 19.05082	01 04 02.67	+48 53 13.7	13.6 T	557
/1993o	1993 10 11.73819	05 14 44.39	-11 58 12.8		360	/1993p	1993 09 19.05219	01 04 02.53	+48 53 12.9	13.6 T	557
<b>Comet Mueller (1993p)</b>						/1993p	1993 09 20.79132	01 00 30.05	+48 37 20.5	13.2 T	557
/1993p	1993 08 21.88881	01 42 09.66	+50 00 46.8		557	/1993p	1993 09 20.79569	01 00 29.59	+48 37 17.1		107
/1993p	1993 08 21.89576	01 42 09.09	+50 00 43.5		046	/1993p	1993 09 20.80005	01 00 28.98	+48 37 15.6	13.2 T	557
/1993p	1993 08 21.89758	01 42 09.29	+50 00 47.8	14.7 T	557	/1993p	1993 09 20.80297	01 00 28.60	+48 37 14.0		557
/1993p	1993 08 21.90118	01 42 09.21	+50 00 48.1	14.7 T	557	/1993p	1993 09 20.80492	01 00 28.34	+48 37 12.9		557
/1993p	1993 08 21.90324	01 42 09.05	+50 00 48.6		557	/1993p	1993 09 20.80881	01 00 27.88	+48 37 10.4		557
/1993p	1993 08 21.90530	01 42 09.01	+50 00 48.5	14.5 T	557	/1993p	1993 09 20.81319	01 00 27.37	+48 37 08.7		104
						/1993p	1993 09 20.81949	01 00 26.51	+48 37 04.4		557
						/1993p	1993 09 20.82222	01 00 26.26	+48 37 04.2		104

/1993p	1993 09 20.82324	01 00 26.08	+48 37 02.9		557	/1993p	1993 10 09.87448	00 15 50.11	+43 13 53.1	12.4 T	540
/1993p	1993 09 20.82512	01 00 25.85	+48 37 01.7		557	/1993p	1993 10 09.87656	00 15 49.73	+43 13 49.2	12.5 T	540
/1993p	1993 09 20.82888	01 00 25.34	+48 36 59.3		557	/1993p	1993 10 09.87795	00 15 49.61	+43 13 48.3	12.5 T	540
/1993p	1993 09 20.83075	01 00 25.15	+48 36 58.2		557	/1993p	1993 10 09.88027	00 15 49.13	+43 13 45.3	12.5 T	540
/1993p	1993 09 21.81528	00 58 21.52	+48 27 08.8		104	/1993p	1993 10 11.55510	00 11 41.33	+42 30 26.0	11 T	900
/1993p	1993 09 21.82500	00 58 20.29	+48 27 02.5		104	/1993p	1993 10 11.56260	00 11 40.23	+42 30 13.6		900
/1993p	1993 09 22.80785	00 56 14.32	+48 16 31.2		107	/1993p	1993 10 11.64740	00 11 27.47	+42 27 57.2	12.5 T	360
/1993p	1993 09 24.65347	00 52 12.18	+47 55 03.8	14 T	372	/1993p	1993 10 11.65069	00 11 27.01	+42 27 52.1		360
/1993p	1993 09 25.62721	00 50 01.90	+47 42 42.2	13.4 T	410	/1993p	1993 10 14.21066	00 05 11.30	+41 16 22.9		801
/1993p	1993 09 25.65341	00 49 58.33	+47 42 21.7		410	/1993p	1993 10 14.21762	00 05 10.28	+41 16 10.7		801
/1993p	1993 09 25.68576	00 49 53.93	+47 41 56.5	13.1 T	360	/1993p	1993 10 15.75901	00 01 27.17	+40 30 17.4		107
/1993p	1993 09 25.69375	00 49 52.82	+47 41 50.1		360	/1993p	1993 10 19.09530	23 53 32.81	+38 43 46.2		557
/1993p	1993 09 25.71456	00 49 49.79	+47 41 32.8	14.3 T	871	/1993p	1993 10 19.09648	23 53 32.66	+38 43 43.9		557
/1993p	1993 09 25.71734	00 49 49.50	+47 41 30.9		871	/1993p	1993 10 19.09766	23 53 32.50	+38 43 41.3	12.6 T	557
/1993p	1993 09 25.72023	00 49 49.15	+47 41 28.1		871	/1993p	1993 10 19.09885	23 53 32.31	+38 43 39.2		557
/1993p	1993 09 26.55191	00 47 56.53	+47 30 20.2		900	/1993p	1993 10 19.12347	23 53 29.10	+38 42 52.2		801
/1993p	1993 09 26.63608	00 47 44.83	+47 29 10.5	13.6 T	871	/1993p	1993 10 19.12533	23 53 28.84	+38 42 48.4		801
/1993p	1993 09 26.63885	00 47 44.37	+47 29 08.0		871	<b>Periodic Comet Urata-Nijima</b>					
/1993p	1993 09 26.64582	00 47 43.53	+47 29 03.3		871	/1993q	1993 10 20.48992	10 24 24.33	+33 03 28.7	19.4 T	691
/1993p	1993 09 26.68339	00 47 38.29	+47 28 30.8		411	/1993q	1993 10 20.49859	10 24 25.51	+33 03 26.5	22.7 N	691
/1993p	1993 09 26.70550	00 47 35.15	+47 28 12.1		411	/1993q	1993 10 20.50731	10 24 26.76	+33 03 23.1	19.2 T	691
/1993p	1993 09 26.70885	00 47 34.69	+47 28 09.3		411	/1993q	1993 10 21.48952	10 26 50.29	+32 58 20.4	22.7 N	691
/1993p	1993 09 26.71528	00 47 33.84	+47 28 04.6	14 T	372	/1993q	1993 10 21.49821	10 26 51.65	+32 58 17.0	19.6 T	691
/1993p	1993 09 26.99754	00 46 55.12	+47 24 06.3		107	Note 1: very poor seeing.					
/1993p	1993 09 27.60658	00 45 31.41	+47 15 26.4	11 T	900	<b>OBSERVATIONS OF MINOR PLANETS</b>					
/1993p	1993 09 27.61584	00 45 30.09	+47 15 19.0		900	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. Numeric codes are defined in the headings for the individual observatories.					
/1993p	1993 09 28.74437	00 42 53.00	+46 58 20.2		107	A	earlier approximate position inferior				
/1993p	1993 09 29.77934	00 40 26.93	+46 41 54.0		107	a	sense of motion ambiguous				
/1993p	1993 10 01.64058	00 36 00.62	+46 10 16.1	13.6 T	871	B	black or dark plate				
/1993p	1993 10 01.64399	00 36 00.12	+46 10 12.8		871	b	bad seeing				
/1993p	1993 10 01.64741	00 35 59.63	+46 10 09.6		871	C	correction to earlier position				
/1993p	1993 10 04.61948	00 28 46.94	+45 13 25.7	11.5 T	900	c	crowded star field				
/1993p	1993 10 04.83687	00 28 15.14	+45 08 56.8		107	D	declination uncertain				
/1993p	1993 10 06.14097	00 25 03.13	+44 41 20.6		670	d	diffuse image				
/1993p	1993 10 06.15556	00 25 01.01	+44 41 02.3		670	E	at or near edge of plate				
/1993p	1993 10 06.77072	00 23 30.07	+44 27 27.8	12.7 T	540	F	faint image				
/1993p	1993 10 06.77331	00 23 29.58	+44 27 23.9	12.6 T	540	f	involved with emulsion or plate flaw				
/1993p	1993 10 06.77456	00 23 29.43	+44 27 21.7	12.6 T	540	G	poor guiding				
/1993p	1993 10 06.77600	00 23 29.22	+44 27 20.4	12.6 T	540	g	no guiding				
/1993p	1993 10 07.80277	00 20 57.16	+44 03 59.7		557	I	involved with star				
/1993p	1993 10 07.80395	00 20 56.95	+44 03 57.9		557	i	inkdot measured				
/1993p	1993 10 07.80513	00 20 56.84	+44 03 56.3		557	J	J2000.0 rereduction of previously-reported position				
/1993p	1993 10 07.80631	00 20 56.67	+44 03 54.7		557	M	measurement difficult				
/1993p	1993 10 08.63133	00 18 54.10	+43 44 27.0	13.2 T	871	N	near edge of plate, measurement uncertain				
/1993p	1993 10 08.63551	00 18 53.41	+43 44 21.7		871	O	image out of focus				
/1993p	1993 10 08.63869	00 18 52.89	+43 44 16.5		871	o	plate measured in one direction only				
/1993p	1993 10 09.61192	00 16 28.75	+43 20 30.5		360	P	position uncertain				
/1993p	1993 10 09.61597	00 16 28.16	+43 20 24.5		360	p	poor image				
/1993p	1993 10 09.63999	00 16 24.58	+43 19 48.6	13.1 T	871						
/1993p	1993 10 09.64404	00 16 23.86	+43 19 43.2		871						
/1993p	1993 10 09.64774	00 16 23.37	+43 19 35.3		871						
/1993p	1993 10 09.77278	00 16 05.31	+43 16 25.6		107						

Object	Date	UT	$\alpha_{2000}$	$\delta_{2000}$	Mag.	N Obs.					
R	right ascension uncertain						1993 PL <sub>6</sub>	1993 08 19.04931	22 46 57.76	-04 07 45.3	010
r	poor distribution of reference stars						1993 PP <sub>6</sub>	1993 08 17.98229	22 48 33.18	-02 44 47.4	010
S	poor sky						1993 PP <sub>6</sub>	1993 08 19.02812	22 47 34.45	-02 47 15.7	18.3 010
s	streaked image						1993 PP <sub>6</sub>	1993 08 19.03889	22 47 33.82	-02 47 17.1	010
T	time uncertain						1993 PP <sub>6</sub>	1993 08 19.04931	22 47 33.14	-02 47 19.0	010
t	trailed image						1993 PS <sub>6</sub>	1993 08 17.98229	22 50 08.65	-04 22 23.6	010
U	uncertain image						1993 PS <sub>6</sub>	1993 08 19.02812	22 49 27.62	-04 30 11.9	18.4 010
u	unconfirmed image						1993 PS <sub>6</sub>	1993 08 19.03889	22 49 27.20	-04 30 16.9	010
V	very faint image						1993 PS <sub>6</sub>	1993 08 19.04931	22 49 26.74	-04 30 22.1	010
W	weak image						1993 PX <sub>6</sub>	1993 08 17.98229	22 54 07.15	-02 50 34.3	010
w	weak solution						1993 PX <sub>6</sub>	1993 08 19.02812	22 53 18.47	-02 48 20.1	18.2 010
						1993 PX <sub>6</sub>	1993 08 19.03889	22 53 17.98	-02 48 18.1	010	
						1993 PX <sub>6</sub>	1993 08 19.04931	22 53 17.49	-02 48 17.0	010	
						1993 PY <sub>6</sub>	1993 08 17.98229	22 54 26.38	-03 52 22.9	010	
						1993 PY <sub>6</sub>	1993 08 19.02812	22 53 45.22	-03 58 00.2	18.2 010	
						1993 PY <sub>6</sub>	1993 08 19.03889	22 53 44.79	-03 58 03.2	010	
						1993 PY <sub>6</sub>	1993 08 19.04931	22 53 44.35	-03 58 06.4	010	
						1993 PZ <sub>6</sub>	1993 08 17.98229	22 55 18.48	-03 04 26.6	010	
						1993 PZ <sub>6</sub>	1993 08 19.02812	22 54 32.94	-03 07 12.1	18.2 010	
						1993 PZ <sub>6</sub>	1993 08 19.03889	22 54 32.42	-03 07 13.4	010	
						1993 PZ <sub>6</sub>	1993 08 19.04931	22 54 31.95	-03 07 15.7	010	
1978 UK <sub>7</sub>	1993 08 17.98229		22 56 15.17	-04 26 35.4		010	1993 PE <sub>7</sub>	1993 08 17.98229	22 56 46.47	-04 43 36.3	010
1978 UK <sub>7</sub>	1993 08 19.02812		22 55 30.41	-04 31 26.2	18.5	010	1993 PE <sub>7</sub>	1993 08 19.02812	22 56 10.51	-04 49 34.2	18.6 010
1978 UK <sub>7</sub>	1993 08 19.03889		22 55 29.92	-04 31 29.9		010	1993 PE <sub>7</sub>	1993 08 19.03889	22 56 10.11	-04 49 36.6	010
1978 UK <sub>7</sub>	1993 08 19.04931		22 55 29.55	-04 31 31.1		010	1993 PE <sub>7</sub>	1993 08 19.04931	22 56 09.80	-04 49 41.0	010
1978 VD <sub>7</sub>	1992 11 03.02014		02 02 28.88	+09 04 09.0		010	1993 PH <sub>7</sub>	1993 08 19.02812	22 57 58.68	-04 09 32.6	18.3 010
1978 VD <sub>7</sub>	1992 11 03.03056		02 02 28.24	+09 04 04.0		010	1993 PH <sub>7</sub>	1993 08 19.03889	22 57 58.22	-04 09 36.4	010
1979 MP <sub>3</sub>	1993 08 17.98229		22 53 32.68	-01 31 58.5		010	1993 PH <sub>7</sub>	1993 08 19.04931	22 57 57.74	-04 09 40.4	010
1981 EF <sub>30</sub>	1993 08 17.98229		22 59 39.54	-05 15 43.5		010	1993 PL <sub>7</sub>	1993 08 17.98229	23 00 08.63	-04 12 17.9	010
1981 EF <sub>30</sub>	1993 08 19.02812		22 58 52.54	-05 23 15.0	18.5	010	1993 PL <sub>7</sub>	1993 08 19.02812	22 59 29.16	-04 23 37.6	18.5 010
1981 EF <sub>30</sub>	1993 08 19.03889		22 58 51.83	-05 23 19.4		010	1993 PL <sub>7</sub>	1993 08 19.03889	22 59 28.77	-04 23 46.2	010
1981 EF <sub>30</sub>	1993 08 19.04931		22 58 51.39	-05 23 23.0		010	1993 PL <sub>7</sub>	1993 08 19.04931	22 59 28.27	-04 23 52.6	010
1989 EJ <sub>1</sub>	1993 08 17.98229		23 00 43.61	-04 40 20.7		010	1993 PM <sub>7</sub>	1993 08 17.98229	23 00 21.54	-05 19 04.3	010
1989 EJ <sub>1</sub>	1993 08 19.02812		22 59 52.09	-04 48 12.9	18.3	010	1993 PM <sub>7</sub>	1993 08 19.02812	22 59 41.59	-05 22 59.9	18.6 010
1989 EJ <sub>1</sub>	1993 08 19.03889		22 59 51.48	-04 48 17.9		010	1993 PM <sub>7</sub>	1993 08 19.03889	22 59 41.23	-05 23 01.9	010
1989 EJ <sub>1</sub>	1993 08 19.04931		22 59 51.05	-04 48 21.0		010	1993 PM <sub>7</sub>	1993 08 19.04931	22 59 40.81	-05 23 03.9	010
1989 GT <sub>4</sub>	1993 08 17.98229		22 47 53.58	-03 24 34.2		010	1993 PN <sub>7</sub>	1993 08 17.98229	23 00 14.86	-02 50 26.7	010
1989 GT <sub>4</sub>	1993 08 19.02812		22 47 09.43	-03 31 10.3	17.9	010	1993 PO <sub>7</sub>	1993 08 17.98229	23 00 09.53	-03 53 29.9	010
1989 GT <sub>4</sub>	1993 08 19.03889		22 47 08.90	-03 31 14.0		010	1993 PO <sub>7</sub>	1993 08 19.02812	22 59 18.66	-03 55 09.3	18.3 010
1989 GT <sub>4</sub>	1993 08 19.04931		22 47 08.40	-03 31 17.6		010	1993 PO <sub>7</sub>	1993 08 19.03889	22 59 18.05	-03 55 10.7	010
1989 VK	1993 08 17.98229		22 56 07.08	-00 55 58.1		010	1993 PO <sub>7</sub>	1993 08 19.04931	22 59 17.54	-03 55 11.6	010
1989 VK	1993 08 19.02812		22 55 26.40	-00 57 41.2	18.4	010	1993 PP <sub>7</sub>	1993 08 17.98229	23 00 38.47	-05 05 51.8	010
1989 VK	1993 08 19.03889		22 55 25.90	-00 57 42.0		010	1993 PP <sub>7</sub>	1993 08 19.02812	22 59 50.08	-05 09 02.1	18.4 010
1989 VK	1993 08 19.04931		22 55 25.37	-00 57 44.0		010	1993 PP <sub>7</sub>	1993 08 19.03889	22 59 49.45	-05 09 04.6	010
1993 NK	* 1993 07 15.99722		20 03 01.72	-13 49 31.7	19.0	010	1993 PP <sub>7</sub>	1993 08 19.04931	22 59 48.96	-05 09 06.7	010
1993 NK	1993 07 16.00764		20 03 01.51	-13 49 32.0		010	1993 PT <sub>7</sub>	1993 08 17.98229	23 02 11.09	-05 42 50.7	010
1993 NK	1993 07 16.01806		20 03 01.13	-13 49 33.8		010	1993 PW <sub>7</sub>	1993 08 17.98229	23 02 22.41	-05 37 00.6	010
1993 NK	1993 07 23.00208		19 58 20.60	-14 05 51.6	18.5	010	1993 PW <sub>7</sub>	1993 08 19.02812	23 01 37.27	-05 39 56.9	18.1 010
1993 NK	1993 07 23.01285		19 58 20.10	-14 05 54.5		010	1993 PW <sub>7</sub>	1993 08 19.03889	23 01 36.75	-05 39 59.2	010
1993 NK	1993 07 23.02332		19 58 19.62	-14 05 55.2		010	1993 PW <sub>7</sub>	1993 08 19.04931	23 01 36.25	-05 40 00.2	010
1993 PL <sub>6</sub>	1993 08 17.98229		22 47 42.07	-04 02 51.1		010	1993 PZ <sub>7</sub>	* 1993 08 15.00069	22 17 03.50	-05 55 57.2	18.7 010
1993 PL <sub>6</sub>	1993 08 19.02812		22 46 58.62	-04 07 40.4	18.5	010	1993 PZ <sub>7</sub>	1993 08 15.01146	22 17 02.88	-05 56 01.2	010
1993 PL <sub>6</sub>	1993 08 19.03889		22 46 58.18	-04 07 43.0		010					

1993 PZ <sub>7</sub>	1993 08 16.02986	22 16 07.17	-06 01 10.0		010	1993 QK <sub>5</sub>	1993 08 19.03889	22 52 30.77	-02 06 06.6		010
1993 PZ <sub>7</sub>	1993 08 16.04097	22 16 06.46	-06 01 13.7		010	1993 QK <sub>5</sub>	1993 08 19.04931	22 52 30.37	-02 06 12.1		010
1993 PZ <sub>7</sub>	1993 08 16.05174	22 16 05.86	-06 01 17.3		010	1993 QL <sub>5</sub>	* 1993 08 17.98229	22 53 30.48	-02 53 19.3		010
1993 PA <sub>8</sub>	* 1993 08 15.00069	22 32 53.82	-03 01 48.7	18.3	010	1993 QL <sub>5</sub>	1993 08 19.02812	22 52 29.96	-02 46 00.2	18.6	010
1993 PA <sub>8</sub>	1993 08 15.01146	22 32 53.30	-03 01 48.2		010	1993 QL <sub>5</sub>	1993 08 19.03889	22 52 29.24	-02 45 54.9		010
1993 PA <sub>8</sub>	1993 08 16.02986	22 32 12.27	-03 01 35.2		010	1993 QL <sub>5</sub>	1993 08 19.04931	22 52 28.55	-02 45 52.2		010
1993 PA <sub>8</sub>	1993 08 16.04097	22 32 11.84	-03 01 35.2		010	1993 QM <sub>5</sub>	* 1993 08 17.98229	22 56 16.21	-02 12 54.2		010
1993 PA <sub>8</sub>	1993 08 16.05174	22 32 11.37	-03 01 35.3		010	1993 QM <sub>5</sub>	1993 08 19.02812	22 55 32.25	-02 37 29.7	18.5	010
1993 QF <sub>1</sub>	1993 08 17.98229	23 03 11.95	-02 00 23.1		010	1993 QM <sub>5</sub>	1993 08 19.03889	22 55 31.76	-02 37 44.2		010
1993 QF <sub>1</sub>	1993 08 19.02812	23 02 19.39	-01 58 59.1	18.5	010	1993 QM <sub>5</sub>	1993 08 19.04931	22 55 31.24	-02 38 00.4		010
1993 QF <sub>1</sub>	1993 08 19.03889	23 02 18.95	-01 58 57.2		010	1993 QN <sub>5</sub>	* 1993 08 17.98229	22 56 20.94	-00 45 27.8		010
1993 QF <sub>1</sub>	1993 08 19.04931	23 02 18.39	-01 58 56.5		010	1993 QN <sub>5</sub>	1993 08 19.02812	22 55 44.29	-00 48 02.0	18.3	010
1993 QJ <sub>1</sub>	1993 08 17.98229	23 05 55.92	-03 06 18.9		010	1993 QN <sub>5</sub>	1993 08 19.03889	22 55 43.87	-00 48 03.2		010
1993 QJ <sub>1</sub>	1993 08 19.02812	23 05 14.75	-03 14 41.2	18.3	010	1993 QN <sub>5</sub>	1993 08 19.04931	22 55 43.41	-00 48 04.5		010
1993 QJ <sub>1</sub>	1993 08 19.03889	23 05 14.31	-03 14 45.2		010	1993 QO <sub>5</sub>	* 1993 08 17.98229	22 56 54.80	-04 02 11.4		010
1993 QJ <sub>1</sub>	1993 08 19.04931	23 05 13.90	-03 14 50.3		010	1993 QO <sub>5</sub>	1993 08 19.02812	22 56 12.33	-04 04 33.4	18.5	010
1993 QK <sub>1</sub>	1993 08 17.98229	23 06 56.63	-01 36 49.9		010	1993 QO <sub>5</sub>	1993 08 19.03889	22 56 11.85	-04 04 34.9		010
1993 QK <sub>1</sub>	1993 08 19.02812	23 06 06.37	-01 40 44.5	18.3	010	1993 QO <sub>5</sub>	1993 08 19.04931	22 56 11.40	-04 04 37.2		010
1993 QK <sub>1</sub>	1993 08 19.03889	23 06 05.73	-01 40 47.0		010	1993 QP <sub>5</sub>	* 1993 08 17.98229	22 57 10.71	-04 41 42.6		010
1993 QK <sub>1</sub>	1993 08 19.04931	23 06 05.20	-01 40 49.7		010	1993 QP <sub>5</sub>	1993 08 19.02812	22 56 14.12	-04 41 17.0	18.3	010
1993 QM <sub>1</sub>	1993 08 19.02812	23 07 14.26	-03 06 43.6	18.2	010	1993 QP <sub>5</sub>	1993 08 19.03889	22 56 13.42	-04 41 16.0		010
1993 QM <sub>1</sub>	1993 08 19.03889	23 07 13.74	-03 06 45.3		010	1993 QP <sub>5</sub>	1993 08 19.04931	22 56 12.80	-04 41 16.1		010
1993 QM <sub>1</sub>	1993 08 19.04931	23 07 13.22	-03 06 46.9		010	1993 QQ <sub>5</sub>	* 1993 08 17.98229	22 57 11.72	-01 42 42.5		010
1993 QX <sub>4</sub>	1993 08 16.07431	23 05 26.62	-04 25 11.3	17.8	010	1993 QQ <sub>5</sub>	1993 08 19.02812	22 56 31.77	-01 48 08.3	18.4	010
1993 QX <sub>4</sub>	1993 08 16.08472	23 05 26.22	-04 25 17.8		010	1993 QQ <sub>5</sub>	1993 08 19.03889	22 56 31.32	-01 48 11.6		010
1993 QX <sub>4</sub>	1993 08 16.09514	23 05 25.92	-04 25 23.5		010	1993 QQ <sub>5</sub>	1993 08 19.04931	22 56 30.89	-01 48 15.0		010
1993 QX <sub>4</sub>	1993 08 17.98229	23 04 16.72	-04 43 31.5		010	1993 QR <sub>5</sub>	* 1993 08 17.98229	22 57 13.69	-04 04 03.5		010
1993 QX <sub>4</sub>	1993 08 19.02812	23 03 36.72	-04 53 45.3	18.1	010	1993 QR <sub>5</sub>	1993 08 19.02812	22 56 24.07	-04 04 43.2	18.7	010
1993 QX <sub>4</sub>	1993 08 19.03889	23 03 36.28	-04 53 52.1		010	1993 QR <sub>5</sub>	1993 08 19.03889	22 56 23.59	-04 04 42.6		010
1993 QX <sub>4</sub>	1993 08 19.04931	23 03 35.86	-04 53 58.7		010	1993 QR <sub>5</sub>	1993 08 19.04931	22 56 23.14	-04 04 42.9		010
1993 QC <sub>5</sub>	* 1993 08 16.07431	23 16 35.54	-02 33 23.5	18.6	010	1993 QS <sub>5</sub>	* 1993 08 17.98229	22 57 30.70	-01 26 43.7		010
1993 QC <sub>5</sub>	1993 08 16.08472	23 16 35.08	-02 33 23.4		010	1993 QS <sub>5</sub>	1993 08 19.02812	22 56 37.94	-01 30 33.1	18.4	010
1993 QC <sub>5</sub>	1993 08 16.09514	23 16 34.67	-02 33 23.9		010	1993 QS <sub>5</sub>	1993 08 19.03889	22 56 37.29	-01 30 36.0		010
1993 QC <sub>5</sub>	1993 08 17.05417	23 15 53.04	-02 33 11.0		010	1993 QS <sub>5</sub>	1993 08 19.04931	22 56 36.71	-01 30 37.9		010
1993 QD <sub>5</sub>	* 1993 08 18.05729	23 24 54.78	-03 12 26.4		010	1993 QT <sub>5</sub>	* 1993 08 17.98229	22 58 05.92	-00 43 17.0		010
1993 QD <sub>5</sub>	1993 08 19.08403	23 24 03.60	-03 10 44.2	18.6	010	1993 QT <sub>5</sub>	1993 08 19.02812	22 57 31.76	-00 49 18.9	18.5	010
1993 QD <sub>5</sub>	1993 08 19.09479	23 24 03.03	-03 10 43.0		010	1993 QT <sub>5</sub>	1993 08 19.03889	22 57 31.48	-00 49 21.7		010
1993 QD <sub>5</sub>	1993 08 19.10556	23 24 02.42	-03 10 43.4		010	1993 QT <sub>5</sub>	1993 08 19.04931	22 57 31.04	-00 49 26.8		010
1993 QG <sub>5</sub>	* 1993 08 17.98229	22 50 05.52	-03 01 38.8		010	1993 QU <sub>5</sub>	* 1993 08 17.98229	22 58 48.96	-02 17 38.2		010
1993 QG <sub>5</sub>	1993 08 19.02812	22 49 19.34	-03 05 29.9	19.0	010	1993 QU <sub>5</sub>	1993 08 19.02812	22 58 19.91	-02 27 23.8	18.4	010
1993 QG <sub>5</sub>	1993 08 19.03889	22 49 18.67	-03 05 33.9		010	1993 QU <sub>5</sub>	1993 08 19.03889	22 58 19.59	-02 27 30.3		010
1993 QG <sub>5</sub>	1993 08 19.04931	22 49 18.20	-03 05 36.6		010	1993 QU <sub>5</sub>	1993 08 19.04931	22 58 19.26	-02 27 37.4		010
1993 QH <sub>5</sub>	* 1993 08 17.98229	22 50 16.29	-01 58 12.2		010	1993 QV <sub>5</sub>	* 1993 08 17.98229	22 59 28.08	-02 05 39.3		010
1993 QH <sub>5</sub>	1993 08 19.02812	22 49 36.16	-02 07 45.8	18.4	010	1993 QV <sub>5</sub>	1993 08 19.02812	22 58 09.72	-02 03 26.7	18.0	010
1993 QH <sub>5</sub>	1993 08 19.03889	22 49 35.69	-02 07 52.2		010	1993 QV <sub>5</sub>	1993 08 19.03889	22 58 08.85	-02 03 25.4		010
1993 QH <sub>5</sub>	1993 08 19.04931	22 49 35.30	-02 07 57.1		010	1993 QV <sub>5</sub>	1993 08 19.04931	22 58 08.04	-02 03 24.3		010
1993 QJ <sub>5</sub>	* 1993 08 17.98229	22 51 58.27	-02 45 43.1		010	1993 QW <sub>5</sub>	* 1993 08 17.98229	23 02 00.12	-01 30 50.7		010
1993 QJ <sub>5</sub>	1993 08 19.02812	22 51 02.85	-02 48 01.9	18.6	010	1993 QW <sub>5</sub>	1993 08 19.02812	23 01 16.94	-01 36 24.1	18.7	010
1993 QJ <sub>5</sub>	1993 08 19.03889	22 51 02.28	-02 48 03.4		010	1993 QW <sub>5</sub>	1993 08 19.03889	23 01 16.37	-01 36 27.5		010
1993 QJ <sub>5</sub>	1993 08 19.04931	22 51 01.69	-02 48 04.2		010	1993 QW <sub>5</sub>	1993 08 19.04931	23 01 15.88	-01 36 30.3		010
1993 QK <sub>5</sub>	* 1993 08 17.98229	22 53 08.76	-01 56 33.2		010	1993 QX <sub>5</sub>	* 1993 08 17.98229	23 02 23.08	-02 37 00.3		010
1993 QK <sub>5</sub>	1993 08 19.02812	22 52 31.18	-02 06 00.8	18.1	010	1993 QX <sub>5</sub>	1993 08 19.02812	23 01 43.30	-02 43 33.1	18.6	010



1993 QX <sub>5</sub>	1993 08 19.03889	23 01 42.85	-02 43 37.8	010	(4796)	1993 08 19.02812	22 49 01.18	-04 29 40.2	18.0	010	
1993 QX <sub>5</sub>	1993 08 19.04931	23 01 42.49	-02 43 42.8	010	(4796)	1993 08 19.03889	22 49 00.63	-04 29 41.8		010	
1993 QY <sub>5</sub>	* 1993 08 17.98229	23 02 49.97	-03 55 01.0	010	(4796)	1993 08 19.04931	22 49 00.11	-04 29 42.9		010	
1993 QY <sub>5</sub>	1993 08 19.02812	23 01 57.28	-03 54 38.3	18.6	010	<b>026 Zimmerwald</b>					
1993 QY <sub>5</sub>	1993 08 19.03889	23 01 56.76	-03 54 37.8	010	P. Wild, Astronomisches Institut der Universitaet, Sidlerstrasse 5, CH-3012 Berne,						
1993 QY <sub>5</sub>	1993 08 19.04931	23 01 56.21	-03 54 38.7	010	Switzerland						
1993 QZ <sub>5</sub>	* 1993 08 17.98229	23 03 34.66	-05 16 20.5	010	Observer P. Wild						
1993 QZ <sub>5</sub>	1993 08 19.02812	23 02 53.11	-05 21 15.3	18.7	010	Measurer P. Wild					
1993 QZ <sub>5</sub>	1993 08 19.03889	23 02 52.59	-05 21 18.6	010	0.4-m Schmidt telescope						
1993 QZ <sub>5</sub>	1993 08 19.04931	23 02 52.21	-05 21 21.2	010	PPM						
1993 QA <sub>6</sub>	* 1993 08 17.98229	23 04 22.21	-01 44 35.1	010	1993 RH	1993 09 19.90563	23 59 03.02	-00 43 47.4	15	M 026	
1993 QA <sub>6</sub>	1993 08 19.02812	23 03 32.99	-01 47 26.2	18.6	010	1993 RH	1993 09 21.06458	23 57 42.05	-00 38 52.4	026	
1993 QA <sub>6</sub>	1993 08 19.03889	23 03 32.34	-01 47 28.9	010	1993 RH	1993 10 09.91806	23 37 49.48	+00 42 52.8		026	
1993 QA <sub>6</sub>	1993 08 19.04931	23 03 31.87	-01 47 31.0	010	1993 RH	1993 10 10.94583	23 36 56.70	+00 47 35.2		026	
1993 QB <sub>6</sub>	* 1993 08 17.98229	23 04 28.07	-03 48 41.2	010	1993 RH	1993 10 11.88576	23 36 10.16	+00 51 54.0		026	
1993 QB <sub>6</sub>	1993 08 19.02812	23 03 54.52	-03 54 34.3	18.7	010	1993 RK	1993 09 19.88819	23 50 05.23	+06 09 44.8	15.5	M 026
1993 QB <sub>6</sub>	1993 08 19.03889	23 03 54.06	-03 54 37.9	010	1993 RK	1993 09 20.95972	23 48 54.72	+06 15 06.7		026	
1993 QB <sub>6</sub>	1993 08 19.04931	23 03 53.78	-03 54 43.0	010	1993 RK	1993 10 09.93333	23 30 27.42	+07 30 25.4		026	
1993 SO	1993 08 15.00069	22 29 49.38	-04 21 02.6	18.4	010	1993 RK	1993 10 11.86597	23 29 03.28	+07 36 36.4		026
1993 SO	1993 08 15.01146	22 29 48.84	-04 21 08.1	010	1993 RU <sub>2</sub>	1993 09 19.88819	23 45 57.46	+03 02 47.0	15	M 026	
1993 SO	1993 08 16.02986	22 29 05.69	-04 30 07.5	010	1993 RU <sub>2</sub>	1993 09 20.95972	23 45 13.28	+02 51 35.5		026	
1993 SO	1993 08 16.04097	22 29 05.14	-04 30 14.1	010	1993 RU <sub>2</sub>	1993 10 09.91806	23 34 48.55	-00 16 37.4	16	026	
1993 SO	1993 08 16.05174	22 29 04.70	-04 30 19.5	010	1993 RU <sub>2</sub>	1993 10 11.88576	23 34 11.30	-00 33 02.9		026	
1001 T-2	1993 08 17.98229	22 55 42.26	-05 28 08.9	010	<b>033 Tautenburg</b>						
1001 T-2	1993 08 19.02812	22 55 00.32	-05 32 56.1	18.5	010	F. Börngen, Thüringer Landessternwarte, Sternwarte 5, D-07778 Tautenburg,					
1001 T-2	1993 08 19.03889	22 54 59.81	-05 33 00.0	010	Germany						
1001 T-2	1993 08 19.04931	22 54 59.37	-05 33 03.4	010	L. D. Schmadel, Astronomisches Rechen-Institut, Mönchhofstrasse 12-14, D-69120						
(76)	1993 08 17.98229	22 54 50.31	-04 40 08.1	010	Heidelberg, Germany						
(76)	1993 08 19.02812	22 54 12.66	-04 44 02.9	14.0	010	1.3-m Schmidt telescope					
(76)	1993 08 19.03889	22 54 12.18	-04 44 05.4	010	PPM						
(76)	1993 08 19.04931	22 54 11.76	-04 44 07.7	010	1989 AO <sub>6</sub>	1992 09 07.00764	23 39 39.25	+06 08 59.1	17.8	033	
(310)	1993 08 17.98229	23 04 01.97	-01 14 26.2	010	1989 AO <sub>6</sub>	1992 09 07.04861	23 39 37.28	+06 08 54.8		033	
(310)	1993 08 19.02812	23 03 18.19	-01 18 41.4	17.8	010	1989 AO <sub>6</sub>	1992 09 21.86528	23 27 32.97	+05 31 33.2	16.9	033
(310)	1993 08 19.03889	23 03 17.61	-01 18 44.3	010	1989 AO <sub>6</sub>	1992 09 21.91111	23 27 30.70	+05 31 24.8		033	
(310)	1993 08 19.04931	23 03 17.17	-01 18 46.9	010	1989 AO <sub>6</sub>	1992 09 22.93403	23 26 41.10	+05 28 12.1		033	
(358)	1993 08 17.98229	22 51 12.77	-05 36 43.3	010	1989 AO <sub>6</sub>	1992 09 25.01389	23 25 01.43	+05 21 31.3		033	
(358)	1993 08 19.02812	22 50 30.25	-05 42 08.9	14.0	010	1989 AO <sub>6</sub>	1992 09 26.88264	23 23 33.88	+05 15 22.9	033	
(358)	1993 08 19.03889	22 50 29.71	-05 42 12.3	010	1989 AO <sub>6</sub>	1992 09 27.88056	23 22 47.81	+05 12 03.6		033	
(358)	1993 08 19.04931	22 50 29.27	-05 42 15.1	010	1989 AO <sub>6</sub>	1992 09 28.87153	23 22 02.73	+05 08 44.5		033	
(709)	1993 08 17.98229	22 48 00.59	-02 01 05.5	010	1991 AO <sub>3</sub>	1993 08 24.04722	00 44 26.10	-08 50 42.6	17.9	033	
(709)	1993 08 19.02812	22 47 03.22	-01 58 37.1	15.0	010	1991 AO <sub>3</sub>	1993 09 18.93889	00 29 06.98	-11 47 07.4	17.0	033
(709)	1993 08 19.03889	22 47 02.52	-01 58 35.2	010	1991 AO <sub>3</sub>	1993 09 18.98403	00 29 04.47	-11 47 24.3		033	
(709)	1993 08 19.04931	22 47 01.89	-01 58 33.5	010	1991 AO <sub>3</sub>	1993 09 21.98333	00 26 26.26	-12 05 09.1		033	
(3113)	1993 08 17.98229	23 01 31.03	-01 39 39.7	010	1992 SN <sub>24</sub>	* 1992 09 21.86528	23 23 49.75	+06 53 07.9	18.5	I 033	
(3113)	1993 08 19.02812	23 00 48.53	-01 45 46.5	18.0	010	1992 SN <sub>24</sub>	1992 09 21.91111	23 23 47.55	+06 52 46.7	033	
(3113)	1993 08 19.03889	23 00 48.02	-01 45 50.2	010	1992 SN <sub>24</sub>	1992 09 22.93403	23 23 00.31	+06 44 21.3		033	
(3113)	1993 08 19.04931	23 00 47.57	-01 45 54.1	010	1992 SN <sub>24</sub>	1992 09 25.01389	23 21 26.62	+06 26 56.6		033	
(4109)	1993 08 17.98229	22 56 44.14	-05 28 13.2	010	1992 SN <sub>24</sub>	1992 09 26.88264	23 20 06.01	+06 11 07.1		033	
(4109)	1993 08 19.02812	22 55 55.97	-05 34 11.8	17.8	010	1992 SN <sub>24</sub>	1992 09 27.88056	23 19 24.29	+06 02 35.3	033	
(4109)	1993 08 19.03889	22 55 55.41	-05 34 15.4	010	1992 SN <sub>24</sub>	1992 09 28.87153	23 18 43.87	+05 54 07.0		033	
(4109)	1993 08 19.04931	22 55 54.95	-05 34 18.4	010	1992 SO <sub>24</sub>	1992 09 07.00764	23 37 42.08	+06 35 12.3	18.9	033	
(4796)	1993 08 17.98229	22 49 48.41	-04 27 03.7	010							



1993 SJ <sub>3</sub>	* 1993 09 20.91111	00 16 16.37	+05 27 53.9	17.8	033
1993 SJ <sub>3</sub>	1993 09 22.02639	00 15 18.40	+05 18 43.7		033
1993 SJ <sub>3</sub>	1993 09 22.06944	00 15 16.18	+05 18 21.5		033
1993 SK <sub>3</sub>	* 1993 09 20.91111	00 21 31.90	+05 22 35.4	17.3	033
1993 SK <sub>3</sub>	1993 09 22.02639	00 20 41.55	+05 18 04.6		033
1993 SK <sub>3</sub>	1993 09 22.06944	00 20 39.59	+05 17 54.1		033
2572 P-L	1992 04 03.90660	11 07 32.22	+06 36 58.6	18.9	033
2572 P-L	1992 04 03.95139	11 07 30.53	+06 37 03.4		033
2158 T-3	1993 09 20.91111	00 20 51.31	+05 49 53.4	17.6	033
2158 T-3	1993 09 22.02639	00 19 44.55	+05 43 11.1		033
2158 T-3	1993 09 22.06944	00 19 41.86	+05 42 54.3		033
(189)	1993 09 20.91111	00 19 27.66	+05 35 04.3	13.3	033
(189)	1993 09 22.02639	00 18 32.62	+05 26 28.0		033
(189)	1993 09 22.06944	00 18 30.43	+05 26 07.8		033
(396)	1993 09 18.91458	23 58 06.92	+03 59 46.7	14.5	033
(396)	1993 09 18.96250	23 58 04.68	+03 59 30.0		033
(396)	1993 09 20.88472	23 56 29.69	+03 48 29.0		033
(396)	1993 09 22.00486	23 55 33.68	+03 42 01.3		033
(673)	1993 09 18.91458	23 52 42.90	+02 52 25.4	14.7	033
(673)	1993 09 18.96250	23 52 40.62	+02 52 08.9		033
(673)	1993 09 20.88472	23 51 10.43	+02 41 05.8		033
(673)	1993 09 22.00486	23 50 17.63	+02 34 35.8		033
(2483)	1992 09 07.00764	23 41 20.39	+04 37 14.5	17.0	E 033
(2483)	1992 09 07.04861	23 41 18.88	+04 37 06.4		033
(2834)	1992 09 07.04861	23 43 09.31	+04 32 50.3	16.9	E 033
(3662)	1993 09 19.00972	00 46 37.32	+12 11 14.3	15.9	033
(3662)	1993 09 22.04861	00 43 31.89	+12 18 36.6		033
(3662)	1993 09 22.09167	00 43 29.07	+12 18 42.7		033
(4292)	1993 09 18.91458	23 53 30.53	+02 52 59.9	16.7	033
(4292)	1993 09 18.96250	23 53 28.06	+02 52 47.7		033
(4292)	1993 09 20.88472	23 51 51.04	+02 44 26.0		033
(4292)	1993 09 22.00486	23 50 54.09	+02 39 29.7		033
(4513)	1992 09 07.00764	23 33 34.15	+07 07 31.3	16.8	033
(4513)	1992 09 07.04861	23 33 32.47	+07 07 15.0		033
(4513)	1992 09 21.86528	23 23 16.78	+05 20 54.9	16.2	033
(4513)	1992 09 21.91111	23 23 14.89	+05 20 33.4		033
(4513)	1992 09 22.93403	23 22 33.29	+05 12 34.4		033
(4513)	1992 09 25.01389	23 21 10.06	+04 56 14.0		033
(4513)	1992 09 26.88264	23 19 57.39	+04 41 26.5		033
(4513)	1992 09 27.88056	23 19 19.39	+04 33 31.8		033
(4513)	1992 09 28.87153	23 18 42.20	+04 25 40.7		033
(4693)	1993 09 19.00972	00 48 48.24	+13 06 03.7	17.2	033
(4693)	1993 09 22.04861	00 46 19.02	+12 50 21.1		033
(4693)	1993 09 22.09167	00 46 16.74	+12 50 06.5		033
(5089)	1993 09 18.91458	23 47 12.99	+03 14 59.7	17.7	033
(5089)	1993 09 18.96250	23 47 10.21	+03 14 55.6		033
(5089)	1993 09 20.88472	23 45 21.70	+03 11 43.5		033
(5089)	1993 09 22.00486	23 44 18.32	+03 09 46.3		033

**046 Kleť**

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

0.63-m Maksutov reflector, 0.57-m reflector  
 PPM

1993 MF	1993 08 12.89115	23 16 25.93	+40 50 45.4	046
1993 MF	1993 08 12.89497	23 16 26.69	+40 50 47.5	046
1993 MF	1993 08 21.87076	23 41 32.75	+41 24 42.8	046
1993 MF	1993 08 21.87806	23 41 33.72	+41 24 41.3	046

**098 Cima Ekar**

G. Forti, Osservatorio Astrofisico di Arcetri, Largo E. Fermi 5, I-50125 Florence,  
 Italy

Observers A. Boattini, S. Mistero, V. Goretti, S. Bartolini, M. Tombelli  
 0.67-m  $f/3.2$  Schmidt

1987 DH <sub>6</sub>	1993 09 15.98700	23 42 55.16	+00 32 32.6	17.0 V	098
1990 UF <sub>2</sub>	1993 09 14.98424	23 56 52.69	+05 25 16.3	17.5 V	098
1990 UF <sub>2</sub>	1993 09 15.00235	23 56 51.48	+05 25 06.5		098
1993 RK	1993 09 14.98424	23 55 25.35	+05 43 03.8	14.5 V	098
1993 RK	1993 09 15.00235	23 55 24.17	+05 43 14.7		098
1993 RN <sub>1</sub>	1993 09 15.98353	23 40 03.00	-00 35 40.9	17.5 V	098
1993 RN <sub>1</sub>	1993 09 15.99137	23 40 02.60	-00 35 41.5		098
1993 RO <sub>2</sub>	* 1993 09 14.98424	23 54 32.46	+07 12 38.4	17.5 V	098
1993 RO <sub>2</sub>	1993 09 15.00235	23 54 31.29	+07 12 34.9		098
1993 RO <sub>2</sub>	1993 09 15.94580	23 53 37.36	+07 08 17.4		098
1993 RP <sub>2</sub>	* 1993 09 14.98424	23 56 34.14	+06 22 40.3	16.5 V	098
1993 RP <sub>2</sub>	1993 09 15.00235	23 56 33.10	+06 22 37.4		098
1993 RP <sub>2</sub>	1993 09 15.94580	23 55 43.04	+06 20 26.7		098
1993 RV <sub>2</sub>	* 1993 09 14.89251	00 19 55.97	+14 51 21.8	17.0 V	098
1993 RV <sub>2</sub>	1993 09 14.93094	00 19 53.53	+14 51 36.5		098
1993 RV <sub>2</sub>	1993 09 15.96424	00 18 51.11	+14 57 47.3		098
1993 RD <sub>3</sub>	1993 09 14.98424	23 54 07.44	+07 32 33.4	16 V	098
1993 RD <sub>3</sub>	1993 09 15.00235	23 54 06.94	+07 32 13.5		098
1993 RG <sub>3</sub>	* 1993 09 14.89251	00 17 51.50	+15 53 02.8	17.5 V	098
1993 RG <sub>3</sub>	1993 09 14.93094	00 17 49.30	+15 53 02.1		098
1993 RG <sub>3</sub>	1993 09 15.96424	00 16 53.78	+15 52 50.9	17.5 V	098
1993 RH <sub>3</sub>	* 1993 09 14.89251	00 24 13.70	+15 19 35.0	16.5 V	098
1993 RH <sub>3</sub>	1993 09 14.93094	00 24 11.78	+15 19 34.8		098
1993 RH <sub>3</sub>	1993 09 15.96424	00 23 20.93	+15 19 00.6		098
1993 RJ <sub>3</sub>	1993 09 14.89251	00 19 21.37	+14 58 10.1	17.0 V	098
1993 RJ <sub>3</sub>	1993 09 14.93094	00 19 19.69	+14 58 00.3		098
1993 RJ <sub>3</sub>	* 1993 09 15.96424	00 18 34.94	+14 52 46.5	17.0 V	098

**104 San Marcello Pistoiese**

L. Tesi, Osservatorio di Pian dei Termini, Viale Panoramico 45, I-51028 San  
 Marcello Pistoiese (PT), Italy

Observers L. Tesi, P. Gigli

Measurers L. Tesi, G. Cattani

GSC

1993 MF	1993 08 12.86181	23 16 20.85	+40 50 27.7	104
1993 MF	1993 08 12.87222	23 16 22.83	+40 50 35.3	104
1993 MF	1993 08 18.83611	23 33 46.70	+41 24 56.1	104
1993 MF	1993 08 18.84653	23 33 48.27	+41 24 57.9	104
1993 MF	1993 08 22.88819	23 43 59.29	+41 22 12.1	104
1993 MF	1993 08 22.90486	23 44 01.55	+41 22 10.0	104
1993 MF	1993 08 22.92014	23 44 03.61	+41 22 08.2	104

1993 RP <sub>2</sub>	1993 09 21.85556	23 50 23.22	+06 03 40.9	16.5 V	104	1988 TP <sub>1</sub>	1993 09 23.31389	01 48 00.47	+08 12 07.6	16	303
1993 RP <sub>2</sub>	1993 09 21.87014	23 50 22.52	+06 03 37.6		104	1989 AQ	1993 09 22.26111	01 47 14.25	+08 13 55.0	16	303
(5641)	1993 08 12.89792	21 08 46.01	-05 13 18.1		104	1989 AQ	1993 09 22.27500	01 47 13.93	+08 13 52.5	16	303
(5641)	1993 08 12.91007	21 08 45.31	-05 13 34.2		104	1989 AQ	1993 09 22.28889	01 47 13.52	+08 13 50.7	16	303
(5641)	1993 08 18.86944	21 02 54.56	-07 40 13.0		104	1989 AQ	1993 09 23.31389	01 46 42.95	+08 10 43.5	15	303
(5641)	1993 08 18.88194	21 02 53.84	-07 40 30.7		104	1993 SL <sub>3</sub>	1993 09 22.26111	01 40 28.92	+07 33 52.0	15	303
(5656)	1993 08 22.94792	20 42 49.60	-09 36 40.5		104	1993 SL <sub>3</sub>	1993 09 22.27500	01 40 27.85	+07 33 59.6	15	303
(5656)	1993 08 22.95972	20 42 49.14	-09 36 42.8		104	1993 SL <sub>3</sub>	1993 09 22.28889	01 40 26.55	+07 34 07.9	15	303
<b>107 Cavezzo</b>						1993 SL <sub>3</sub>	1993 09 23.31389	01 39 02.23	+07 43 21.4	15	303
E. Colombini, Via S. Vittore 44, I-40136 Bologna, Italy						1993 SM <sub>3</sub>	* 1993 09 22.26111	01 34 17.86	+07 16 01.3	17	303
Observers R. Calanca, R. Bonomi						1993 SM <sub>3</sub>	1993 09 22.27500	01 34 17.47	+07 15 59.1	17	303
0.40-m $f/2.23$ reflector + CCD						1993 SM <sub>3</sub>	1993 09 22.28889	01 34 17.06	+07 15 55.2	17	303
GSC						1993 SM <sub>3</sub>	1993 09 23.31389	01 33 44.83	+07 11 49.1	17	303
1993 MF	1993 09 10.95995	00 14 56.70	+37 19 51.6		107	1993 SN <sub>3</sub>	* 1993 09 22.26111	01 36 35.85	+09 30 25.7	16	303
1993 MF	1993 09 10.96792	00 14 57.07	+37 19 41.8		107	1993 SN <sub>3</sub>	1993 09 22.27500	01 36 35.42	+09 30 22.9	16	303
1993 MF	1993 09 10.97264	00 14 57.29	+37 19 35.8		107	1993 SN <sub>3</sub>	1993 09 22.28889	01 36 34.75	+09 30 20.3	16	303
1993 MF	1993 09 15.88611	00 19 01.37	+35 28 44.4		107	1993 SN <sub>3</sub>	1993 09 23.31389	01 36 02.46	+09 26 44.7	16	303
1993 MF	1993 09 15.92126	00 19 02.52	+35 27 55.3		107	1993 SO <sub>3</sub>	* 1993 09 22.26111	01 39 53.66	+06 44 31.7	16	303
1993 MF	1993 09 16.81764	00 19 39.92	+35 06 00.3		107	1993 SO <sub>3</sub>	1993 09 22.27500	01 39 53.06	+06 44 32.2	16	303
1993 MF	1993 09 16.87110	00 19 41.71	+35 04 44.0		107	1993 SO <sub>3</sub>	1993 09 22.28889	01 39 52.46	+06 44 31.7	16	303
1993 MF	1993 09 17.81382	00 20 18.37	+34 41 13.9		107	1993 SO <sub>3</sub>	1993 09 23.31389	01 39 09.69	+06 44 12.9	16	303
1993 MF	1993 09 20.80648	00 22 00.13	+33 23 57.8		107	1993 SP <sub>3</sub>	* 1993 09 22.26111	01 48 02.07	+09 08 34.6	15	303
1993 MF	1993 09 20.83672	00 22 00.88	+33 23 13.5		107	1993 SP <sub>3</sub>	1993 09 22.27500	01 48 01.85	+09 08 31.5	15	303
1993 MF	1993 09 22.80055	00 22 58.40	+32 30 33.0		107	1993 SP <sub>3</sub>	1993 09 22.28889	01 48 01.41	+09 08 27.3	15	303
1993 MF	1993 09 22.85207	00 22 59.54	+32 29 10.6		107	1993 SP <sub>3</sub>	1993 09 23.31389	01 47 40.52	+09 02 23.9	15	303
1993 MF	1993 09 28.78092	00 25 20.23	+29 43 57.9		107	1993 SQ <sub>3</sub>	* 1993 09 22.26111	01 48 47.80	+08 22 14.4	17	303
1993 MF	1993 09 29.82621	00 25 41.37	+29 14 17.8		107	1993 SQ <sub>3</sub>	1993 09 22.27500	01 48 47.36	+08 22 14.0	17	303
1993 MF	1993 09 29.88750	00 25 42.12	+29 12 35.3		107	1993 SQ <sub>3</sub>	1993 09 22.28889	01 48 46.88	+08 22 12.5	17	303
1993 MF	1993 09 29.97379	00 25 43.22	+29 10 08.8		107	1993 SQ <sub>3</sub>	1993 09 23.31389	01 48 17.35	+08 19 33.9	17	303
1993 MF	1993 10 04.84633	00 27 14.77	+26 51 48.6		107	(146)	1993 09 22.34861	03 36 42.36	+06 07 44.8	13	303
1993 MF	1993 10 04.87912	00 27 15.12	+26 50 53.8		107	(146)	1993 09 23.36840	03 36 35.85	+06 05 50.3	13	303
1993 MF	1993 10 15.78983	00 30 39.62	+21 56 52.8		107	(1093)	1993 09 22.34861	03 43 53.96	+09 25 06.2	14	303
1993 MF	1993 10 15.80198	00 30 39.79	+21 56 36.4		107	(1093)	1993 09 23.36840	03 43 38.81	+09 27 48.1	14	303
(433)	1993 09 29.84946	19 43 43.22	-14 20 51.0		107	(1965)	1993 09 22.26111	01 37 09.99	+06 19 15.9	15	303
(4420)	1993 09 29.84273	23 52 17.04	+11 56 09.9		107	(1965)	1993 09 22.27500	01 37 09.44	+06 19 12.3	15	303
(4420)	1993 09 29.93314	23 52 12.19	+11 55 43.3		107	(1965)	1993 09 22.28889	01 37 08.90	+06 19 09.0	15	303
(4420)	1993 10 04.86302	23 48 14.23	+11 31 03.4		107	(1965)	1993 09 23.31389	01 36 30.92	+06 14 57.1	15	303
(4420)	1993 10 04.89002	23 48 13.00	+11 30 54.7		107	(3016)	1993 09 22.26111	01 44 01.21	+06 27 23.2	16	303
(4420)	1993 10 16.00435	23 41 15.35	+10 32 28.6		107	(3016)	1993 09 22.27500	01 44 00.75	+06 27 20.4	16	303
(4420)	1993 10 16.03559	23 41 14.43	+10 32 20.4		107	(3016)	1993 09 22.28889	01 44 00.29	+06 27 17.2	16	303
<b>303 Mérida</b>						(3016)	1993 09 23.31389	01 43 25.15	+06 22 40.9	16	303
O. A. Naranjo, Dept. de Física, Universidad de los Andes, Mérida 5101, Venezuela						(3941)	1993 09 22.26111	01 40 17.83	+09 52 16.5	17	303
Observer O. A. Naranjo						(3941)	1993 09 22.27500	01 40 17.37	+09 52 13.6	17	303
1.0-m Schmidt						(3941)	1993 09 22.28889	01 40 16.84	+09 52 10.7	17	303
1985 CS <sub>1</sub>	1993 09 22.26111	01 46 07.27	+07 36 36.2	17	303	(3941)	1993 09 23.31389	01 39 41.32	+09 48 07.8	17	303
1985 CS <sub>1</sub>	1993 09 22.27500	01 46 06.63	+07 36 30.6	17	303	(4474)	1993 09 22.26111	01 38 13.78	+07 21 09.6	17	303
1985 CS <sub>1</sub>	1993 09 22.28889	01 46 06.06	+07 36 27.4	17	303	(4474)	1993 09 22.27500	01 38 13.25	+07 21 07.1	17	303
1985 CS <sub>1</sub>	1993 09 23.31389	01 45 20.79	+07 29 32.6	17	303	(4474)	1993 09 22.28889	01 38 12.72	+07 21 04.5	17	303
1988 TP <sub>1</sub>	1993 09 22.26111	01 48 35.00	+08 15 43.8	16	303	(4474)	1993 09 23.31389	01 37 36.45	+07 16 52.2	17	303
1988 TP <sub>1</sub>	1993 09 22.27500	01 48 34.52	+08 15 42.3	16	303	(4839)	1993 09 22.26111	01 37 02.91	+06 08 49.4	15	303
1988 TP <sub>1</sub>	1993 09 22.28889	01 48 34.17	+08 15 40.9	16	303	(4839)	1993 09 22.27500	01 37 02.43	+06 08 43.4	15	303

(4839)	1993 09 22.28889	01 37 01.92	+06 08 36.1	15	303
(4839)	1993 09 23.31389	01 36 26.73	+06 00 03.2	15	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-Chrétien + CCD

GSC

1993 TO <sub>1</sub>	1993 10 19.57234	02 21 14.53	+07 48 47.4	16.4 V	360
1993 TO <sub>1</sub>	1993 10 19.57569	02 21 14.20	+07 48 50.1		360
1993 TO <sub>1</sub>	1993 10 19.57847	02 21 13.94	+07 48 52.6		360

**364 JCPM Kagoshima Station**

M. Takeishi, Odori 4, Hamatonbetsu Esashigun, Hokkaido 098-57, Japan

Observer M. Mukai

Measurer M. Takeishi

0.25-m  $f/4.2$  Wright-Schmidt telescope

GSC

1993 TC	* 1993 10 08.54132	01 48 58.66	+08 59 12.2	16.5	364
1993 TC	1993 10 08.55521	01 48 57.27	+08 59 21.3		364
1993 TC	1993 10 09.54271	01 47 15.71	+09 11 16.0		364
1993 TC	1993 10 09.55660	01 47 14.22	+09 11 25.3		364
1993 TV <sub>1</sub>	1993 10 10.63021	02 18 47.05	+07 45 30.5	17	364
1993 TV <sub>1</sub>	1993 10 10.64410	02 18 46.20	+07 45 32.4		364
(4189)	1993 10 08.54132	01 52 22.41	+09 56 52.7	17.0	364
(4189)	1993 10 08.55521	01 52 21.71	+09 56 48.6		364
(4189)	1993 10 09.54271	01 51 31.11	+09 48 23.8		364
(4189)	1993 10 09.55660	01 51 30.40	+09 48 14.4		364

**367 Yatsuka**

S. Miyasaka, 3-8-501, 4 Chome, Nagayama, Tama, Tokyo 206, Japan

Observer H. Abe

Measurer S. Miyasaka

0.26-m reflector

PPM

1993 RS	1993 09 25.67782	00 03 48.46	+12 55 56.9		367
1993 RS	1993 09 25.68611	00 03 47.38	+12 56 02.4		367
1993 RS	1993 09 26.72604	00 01 48.48	+13 06 49.6		367
1993 RS	1993 09 26.73344	00 01 47.64	+13 06 52.6		367
1993 TE	* 1993 10 08.53781	01 33 23.96	+07 17 47.1	16.0	367
1993 TE	1993 10 08.56279	01 33 22.85	+07 17 27.8		367
1993 TE	1993 10 09.55054	01 32 46.19	+07 05 16.3		367
1993 TE	1993 10 09.57496	01 32 45.43	+07 04 59.0		367
1993 TE	1993 10 14.73142	01 29 27.93	+06 01 33.0		367
1993 TE	1993 10 14.75653	01 29 26.85	+06 01 15.0		367
1993 TF	* 1993 10 08.55418	01 47 21.79	+07 36 56.0	16.5	367
1993 TF	1993 10 08.57981	01 47 20.43	+07 36 51.0		367
1993 TF	1993 10 09.56688	01 46 32.60	+07 32 27.0		367
1993 TF	1993 10 09.59127	01 46 31.30	+07 32 20.5		367
1993 TF	1993 10 11.55059	01 44 53.65	+07 23 29.0		367
1993 TF	1993 10 11.60809	01 44 50.43	+07 23 14.7		367
1993 TF	1993 10 14.73979	01 42 07.18	+07 08 51.3		367
1993 TF	1993 10 14.76497	01 42 05.74	+07 08 43.7		367

1993 TX	* 1993 10 11.57609	01 50 25.72	+02 01 57.9	14	367
1993 TX	1993 10 11.59956	01 50 24.09	+02 02 06.9		367
1993 TX	1993 10 14.72311	01 47 10.35	+02 18 58.8		367
1993 TX	1993 10 14.74821	01 47 08.64	+02 19 07.7		367
1993 TX	1993 10 16.54710	01 45 15.36	+02 29 18.6		367
1993 TX	1993 10 16.56342	01 45 14.40	+02 29 24.6		367
1993 TU <sub>1</sub>	1993 10 16.58045	02 08 26.05	+07 59 04.8	17.0	367
1993 TU <sub>1</sub>	1993 10 16.59630	02 08 25.09	+07 58 59.9		367
1993 TU <sub>1</sub>	1993 10 17.56256	02 07 31.95	+07 55 10.4		367
1993 TU <sub>1</sub>	1993 10 17.57790	02 07 31.09	+07 55 06.2		367
1993 TV <sub>1</sub>	1993 10 16.58045	02 12 29.21	+08 03 10.9	16.5	367
1993 TV <sub>1</sub>	1993 10 16.59630	02 12 28.18	+08 03 14.0		367
1993 TV <sub>1</sub>	1993 10 17.56256	02 11 23.27	+08 06 08.2		367
(609)	1993 10 11.55059	01 43 51.42	+06 40 30.0		367
(609)	1993 10 11.60809	01 43 48.78	+06 40 13.6		367
(609)	1993 10 14.73979	01 41 30.16	+06 23 29.8		367
(609)	1993 10 14.76497	01 41 29.03	+06 23 21.1		367
(1212)	1993 10 11.57609	01 48 55.21	+02 31 55.3		367
(1212)	1993 10 11.59956	01 48 54.31	+02 31 49.3		367
(1212)	1993 10 14.72311	01 47 03.41	+02 18 05.5		367
(1212)	1993 10 14.74821	01 47 02.51	+02 17 58.9		367
(1212)	1993 10 16.54710	01 45 57.82	+02 10 11.3		367
(1623)	1993 10 11.55059	01 46 38.49	+06 49 29.2		367
(1623)	1993 10 11.60809	01 46 35.80	+06 49 15.3		367
(1623)	1993 10 14.73979	01 44 14.42	+06 34 55.4		367
(1623)	1993 10 14.76497	01 44 13.17	+06 34 48.3		367

**372 Geisei**

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

0.60-m  $f/3.5$  reflector

ACRS

1993 TO <sub>1</sub>	1993 10 19.56666	02 21 15.11	+07 48 44.4	16	372
1993 TO <sub>1</sub>	1993 10 19.63542	02 21 08.43	+07 49 40.5		372

**374 Minami-Oda**

T. Nomura, 1-1-8, Yamate, Tarumi-Ku, Kobe 655, Japan

Observer M. Sugano

Measurer T. Nomura

0.25-m  $f/3.4$  Schmidt camera

GSC

1993 SL <sub>3</sub>	1993 10 09.64340	01 13 39.30	+09 57 23.0	15.5 V	374
1993 SL <sub>3</sub>	1993 10 09.66354	01 13 37.19	+09 57 31.0		374
1993 TC	1993 10 09.55382	01 47 14.54	+09 11 23.2	15.5 V	374

**376 Uenohara**

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

0.30-m reflector + CCD

GSC

1988 XJ <sub>1</sub>	1993 09 14.66725	01 32 01.27	-09 41 32.7		376
1988 XJ <sub>1</sub>	1993 09 14.67587	01 32 01.09	-09 41 35.0		376
1988 XJ <sub>1</sub>	1993 10 09.47095	01 14 18.95	-11 15 42.6		376
1988 XJ <sub>1</sub>	1993 10 09.49352	01 14 17.88	-11 15 45.5		376
1988 YB	1993 10 09.73889	02 28 17.68	+12 52 49.5		376

1988 YB	1993 10 09.75168	02 28 17.24	+12 52 48.4		376
1992 CJ	1993 09 14.58663	23 41 13.52	+03 09 45.1		376
1992 CJ	1993 09 14.60000	23 41 12.90	+03 09 34.5		376
1993 SD <sub>1</sub>	1993 10 09.58484	00 15 10.37	-02 50 13.7	17.0	376
1993 SD <sub>1</sub>	1993 10 10.59155	00 14 21.25	-02 51 22.2		376
1993 SD <sub>1</sub>	1993 10 10.59983	00 14 20.82	-02 51 25.1		376
1993 SF <sub>1</sub>	1993 10 09.60035	00 22 20.99	-02 21 34.7	16.5	376
1993 SF <sub>1</sub>	1993 10 09.62813	00 22 19.49	-02 21 29.9		376
1993 SF <sub>1</sub>	1993 10 10.64433	00 21 29.19	-02 18 32.9		376
1993 SF <sub>1</sub>	1993 10 10.65394	00 21 28.68	-02 18 32.4		376
1993 TB	* 1993 10 09.58484	00 11 23.91	-03 30 56.4	17.5	376
1993 TB	1993 10 09.61354	00 11 22.76	-03 31 03.5		376
1993 TB	1993 10 10.61186	00 10 43.31	-03 34 45.4		376
1993 TB	1993 10 10.62025	00 10 42.94	-03 34 45.8		376
1993 TG	* 1993 10 09.64618	01 59 41.94	+10 08 22.1	18.0	376
1993 TG	1993 10 09.66325	01 59 41.05	+10 08 15.9		376
1993 TG	1993 10 10.76568	01 58 55.66	+10 01 50.6		376
1993 TG	1993 10 10.77882	01 58 55.36	+10 01 46.3		376
1993 TP	1993 10 09.50174	00 18 24.99	-04 46 24.0		376
1993 TP	1993 10 09.51481	00 18 24.39	-04 46 25.9		376

**385 Nihondaira Observatory Oohira station**

T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan  
0.31-m  $f/4.7$  reflector + CCD  
GSC

1986 WE	1993 10 12.48172	23 50 48.14	-11 22 59.3		385
1986 WE	1993 10 12.49045	23 50 47.69	-11 23 00.3		385
1986 WE	1993 10 12.49573	23 50 47.51	-11 23 02.0		385
1989 XC	1993 10 09.46484	22 32 56.65	-14 14 06.9		385
1989 XC	1993 10 09.47339	22 32 56.51	-14 14 07.1		385
1989 XC	1993 10 09.48536	22 32 56.35	-14 14 07.4		385
1990 XP	1993 09 25.71642	02 08 41.26	+11 23 00.0		385
1990 XP	1993 09 25.72163	02 08 41.12	+11 22 58.1		385
1990 XP	1993 09 25.72686	02 08 40.99	+11 22 56.0		385
1990 XP	1993 10 12.53839	01 58 45.68	+09 12 42.2	15.8 V	385
1990 XP	1993 10 12.54203	01 58 45.48	+09 12 40.3		385
1990 XP	1993 10 12.54935	01 58 45.14	+09 12 36.5		385
1991 CY	1993 09 25.63575	00 01 44.10	+15 18 23.4		385
1991 CY	1993 09 25.64368	00 01 43.61	+15 18 20.7		385
1991 CY	1993 09 25.64733	00 01 43.40	+15 18 18.6		385
1991 CY	1993 10 09.50009	23 49 58.11	+14 04 28.4	17.9 V	385
1991 CY	1993 10 09.50691	23 49 57.81	+14 04 26.1		385
1991 CY	1993 10 10.57058	23 49 07.98	+13 58 05.9	17.7 V	385
1991 CY	1993 10 10.58431	23 49 07.32	+13 58 00.9		385
1991 CY	1993 10 10.59175	23 49 06.97	+13 57 57.9		385
1991 DO	1993 09 25.65417	00 48 28.46	+13 16 03.8		385
1991 DO	1993 09 25.65811	00 48 28.28	+13 16 02.7		385
1991 DO	1993 09 25.66197	00 48 28.12	+13 16 01.2		385
1991 DO	1993 10 12.52414	00 33 34.44	+12 20 05.7	18.0 V	385
1991 DO	1993 10 12.52784	00 33 34.21	+12 20 05.1		385
1991 DO	1993 10 12.53145	00 33 34.04	+12 20 04.5		385
1993 RR	1993 09 25.73843	01 55 15.19	+15 19 03.7	17.4 V	385
1993 RR	1993 09 25.74413	01 55 15.05	+15 19 07.5		385

1993 RR	1993 09 25.74941	01 55 14.93	+15 19 09.3		385
1993 SX <sub>3</sub>	* 1993 09 25.67532	00 37 30.28	+15 34 03.6	16 V	385
1993 SX <sub>3</sub>	1993 09 25.68087	00 37 30.00	+15 34 02.2		385
1993 SX <sub>3</sub>	1993 09 25.68639	00 37 29.67	+15 34 01.3		385
1993 SX <sub>3</sub>	1993 10 12.50539	00 22 00.07	+13 59 59.7	17.5 V	385
1993 SX <sub>3</sub>	1993 10 12.51407	00 21 59.57	+13 59 56.2		385
1993 SX <sub>3</sub>	1993 10 12.51810	00 21 59.41	+13 59 55.0		385
1993 TO <sub>1</sub>	1993 10 19.59306	02 21 12.48	+07 49 04.5	16.2 V	385
1993 TO <sub>1</sub>	1993 10 19.59618	02 21 12.15	+07 49 06.9		385
1993 TO <sub>1</sub>	1993 10 19.60382	02 21 11.40	+07 49 13.5		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

0.16-m  $f/3.8$  Wright-Schmidt camera

SAO

(5666)	1990 11 12.58206	03 39 00.24	+20 20 32.2	15.5	399
(5666)	1990 11 12.59792	03 38 59.31	+20 20 27.7		399

**400 Kitami**

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

Observer K. Endate

Measurer K. Watanabe

0.25-m  $f/2.6$  Schmidt camera

GSC

1977 TC <sub>1</sub>	1993 09 19.50972	23 45 24.33	+04 31 58.7	16.0	400
1977 TC <sub>1</sub>	1993 09 19.52361	23 45 23.74	+04 31 53.1		400
1982 SM <sub>6</sub>	1993 09 19.54097	23 48 29.59	-03 49 49.8	16.0	400
1982 SM <sub>6</sub>	1993 09 19.55486	23 48 28.57	-03 49 53.7		400
1989 UL <sub>1</sub>	1993 10 15.62361	02 11 27.10	+08 03 07.7	16.0	400
1989 UL <sub>1</sub>	1993 10 15.63819	02 11 26.27	+08 03 07.5		400
1989 UL <sub>1</sub>	1993 10 16.53403	02 10 31.95	+08 02 44.7	16.0	400
1989 UL <sub>1</sub>	1993 10 16.54861	02 10 31.23	+08 02 43.2		400
1989 WG <sub>7</sub>	1993 10 15.59028	02 36 48.25	+16 28 40.2	17	400
1989 WG <sub>7</sub>	1993 10 15.60694	02 36 47.47	+16 28 36.8		400
1989 WG <sub>7</sub>	1993 10 16.56528	02 36 04.18	+16 24 40.4	17	400
1989 WG <sub>7</sub>	1993 10 16.58194	02 36 03.44	+16 24 37.9		400
1990 BG <sub>1</sub>	1993 10 16.59931	02 33 26.20	+08 46 21.4	17	400
1990 BG <sub>1</sub>	1993 10 16.61667	02 33 25.35	+08 46 14.7		400
1991 GG <sub>1</sub>	1993 09 19.50972	23 57 46.67	+07 05 19.3	16.5	400
1991 GG <sub>1</sub>	1993 09 19.52361	23 57 45.92	+07 05 16.2		400
1992 EM	1993 10 08.61875	00 48 37.98	+17 44 30.9	16.5	400
1992 EM	1993 10 08.63264	00 48 36.73	+17 44 26.7		400
1993 RD	1993 09 19.50972	23 55 56.99	+04 17 56.2	17	400
1993 RD	1993 09 19.52361	23 55 56.01	+04 17 54.7		400
1993 RD	1993 09 21.55556	23 53 55.74	+04 12 16.0	16.5	400
1993 RD	1993 09 21.56875	23 53 55.15	+04 12 13.6		400
1993 RD	1993 10 06.42847	23 40 18.95	+03 27 44.2	17	400
1993 RD	1993 10 06.44514	23 40 18.04	+03 27 39.6		400
1993 RE	1993 09 19.50972	23 57 40.05	+03 15 19.1	16.5	400







1993 SU <sub>1</sub>	* 1993 09 16.61458	01 01 33.34	-02 48 55.4	17	400	1993 SE <sub>2</sub>	1993 09 21.58333	23 42 17.23	-02 51 26.2	16.5	400
1993 SU <sub>1</sub>	1993 09 16.63125	01 01 32.44	-02 48 56.5		400	1993 SE <sub>2</sub>	1993 09 21.59861	23 42 16.58	-02 51 27.7		400
1993 SU <sub>1</sub>	1993 09 18.64722	00 59 48.12	-02 56 45.4	17	400	1993 SF <sub>2</sub>	* 1993 09 19.54097	23 48 31.90	-03 44 00.3	16.5	400
1993 SU <sub>1</sub>	1993 09 18.66319	00 59 47.30	-02 56 46.7		400	1993 SF <sub>2</sub>	1993 09 19.55486	23 48 31.31	-03 44 10.5		400
1993 SV <sub>1</sub>	* 1993 09 16.61458	01 04 39.76	+01 25 20.8	16.5	400	1993 SF <sub>2</sub>	1993 09 21.58333	23 47 14.16	-04 05 58.3	16.5	400
1993 SV <sub>1</sub>	1993 09 16.63125	01 04 39.07	+01 25 17.4		400	1993 SF <sub>2</sub>	1993 09 21.59861	23 47 13.51	-04 06 08.3		400
1993 SV <sub>1</sub>	1993 09 18.64722	01 03 18.74	+01 15 25.3	16.5	400	1993 SG <sub>2</sub>	* 1993 09 19.54097	23 55 38.06	+01 30 39.9	16.5	400
1993 SV <sub>1</sub>	1993 09 18.66319	01 03 18.13	+01 15 18.6		400	1993 SG <sub>2</sub>	1993 09 19.55486	23 55 37.34	+01 30 38.1		400
1993 SV <sub>1</sub>	1993 10 11.56042	00 45 33.82	-00 38 53.6	16.5	400	1993 SG <sub>2</sub>	1993 09 21.58333	23 53 37.64	+01 26 06.0	16.0	400
1993 SV <sub>1</sub>	1993 10 11.57569	00 45 33.06	-00 38 58.0		400	1993 SG <sub>2</sub>	1993 09 21.59861	23 53 36.73	+01 26 01.7		400
1993 SW <sub>1</sub>	* 1993 09 16.61458	01 06 24.95	+00 43 26.0	16.5	400	1993 SG <sub>2</sub>	1993 10 06.46076	23 40 01.42	+00 53 06.6	16.5	400
1993 SW <sub>1</sub>	1993 09 16.63125	01 06 24.64	+00 43 16.1		400	1993 SG <sub>2</sub>	1993 10 06.47431	23 40 00.74	+00 53 03.2		400
1993 SW <sub>1</sub>	1993 09 18.64722	01 05 14.99	+00 18 25.2	16.5	400	1993 SH <sub>2</sub>	* 1993 09 19.54097	23 55 49.09	-00 15 59.4	16.5	400
1993 SW <sub>1</sub>	1993 09 18.66319	01 05 14.17	+00 18 14.2		400	1993 SH <sub>2</sub>	1993 09 19.55486	23 55 48.24	-00 15 59.5		400
1993 SW <sub>1</sub>	1993 10 11.56042	00 48 26.75	-04 05 28.2	16.5	400	1993 SH <sub>2</sub>	1993 09 21.58333	23 53 54.67	-00 22 57.0	16.0	400
1993 SW <sub>1</sub>	1993 10 11.57569	00 48 25.86	-04 05 32.4		400	1993 SH <sub>2</sub>	1993 09 21.59861	23 53 53.92	-00 22 59.6		400
1993 SX <sub>1</sub>	* 1993 09 16.61458	01 06 43.49	-02 39 56.5	16.5	400	1993 SH <sub>2</sub>	1993 10 06.46076	23 40 38.45	-01 10 53.9	17	400
1993 SX <sub>1</sub>	1993 09 16.63125	01 06 42.55	-02 40 04.7		400	1993 SH <sub>2</sub>	1993 10 06.47431	23 40 37.56	-01 10 56.5		400
1993 SX <sub>1</sub>	1993 09 18.64722	01 05 08.46	-02 53 10.1	16.5	400	1993 SJ <sub>2</sub>	1993 09 16.48264	00 30 22.78	+08 34 57.6	17	400
1993 SX <sub>1</sub>	1993 09 18.66319	01 05 07.66	-02 53 15.5		400	1993 SJ <sub>2</sub>	1993 09 16.49861	00 30 21.76	+08 34 53.6		400
1993 SY <sub>1</sub>	* 1993 09 19.50972	23 39 28.81	+05 17 55.7	17	400	1993 SJ <sub>2</sub>	* 1993 09 19.57361	00 28 23.95	+08 20 33.1	17	400
1993 SY <sub>1</sub>	1993 09 19.52361	23 39 28.16	+05 17 51.6		400	1993 SJ <sub>2</sub>	1993 09 19.58819	00 28 23.34	+08 20 29.2		400
1993 SY <sub>1</sub>	1993 09 21.55556	23 38 03.44	+05 02 18.4	17	400	1993 SK <sub>2</sub>	1993 09 16.48264	00 32 30.17	+04 53 14.0	17	400
1993 SY <sub>1</sub>	1993 09 21.56875	23 38 02.70	+05 02 14.6		400	1993 SK <sub>2</sub>	1993 09 16.49861	00 32 29.14	+04 53 23.0		400
1993 SZ <sub>1</sub>	* 1993 09 19.50972	23 40 57.30	+04 22 20.8	17	400	1993 SK <sub>2</sub>	* 1993 09 19.57361	00 29 01.34	+05 03 15.8	16.5	400
1993 SZ <sub>1</sub>	1993 09 19.52361	23 40 56.54	+04 22 16.5		400	1993 SK <sub>2</sub>	1993 09 19.58819	00 29 00.20	+05 03 20.0		400
1993 SZ <sub>1</sub>	1993 09 21.55556	23 39 17.72	+04 04 59.0	17	400	1993 SK <sub>2</sub>	1993 10 11.49792	00 04 30.30	+05 54 13.2	16.5	400
1993 SZ <sub>1</sub>	1993 09 21.56875	23 39 17.05	+04 04 54.1		400	1993 SK <sub>2</sub>	1993 10 11.51319	00 04 29.25	+05 54 13.6		400
1993 SA <sub>2</sub>	* 1993 09 19.50972	23 43 09.11	+07 25 55.3	16.5	400	1993 SL <sub>2</sub>	1993 09 16.48264	00 38 43.55	+09 22 09.7	17	400
1993 SA <sub>2</sub>	1993 09 19.52361	23 43 08.13	+07 25 55.1		400	1993 SL <sub>2</sub>	1993 09 16.49861	00 38 42.55	+09 21 58.7		400
1993 SA <sub>2</sub>	1993 09 21.55556	23 41 01.58	+07 28 55.2	16.5	400	1993 SL <sub>2</sub>	* 1993 09 19.57361	00 36 35.79	+08 57 19.5	17	400
1993 SA <sub>2</sub>	1993 09 21.56875	23 41 00.78	+07 28 55.3		400	1993 SL <sub>2</sub>	1993 09 19.58819	00 36 35.28	+08 57 10.9		400
1993 SA <sub>2</sub>	1993 10 06.42847	23 27 15.76	+07 36 42.1	16.0	400	1993 SP <sub>2</sub>	* 1993 09 19.54097	23 48 48.62	-04 00 02.1	17	400
1993 SA <sub>2</sub>	1993 10 06.44514	23 27 15.25	+07 36 41.3		400	1993 SP <sub>2</sub>	1993 09 19.55486	23 48 47.85	-04 00 08.4		400
1993 SB <sub>2</sub>	* 1993 09 19.50972	23 44 18.76	+03 11 18.7	16.5	400	1993 SP <sub>2</sub>	1993 09 21.58333	23 47 10.26	-04 15 08.4	17	400
1993 SB <sub>2</sub>	1993 09 19.52361	23 44 17.86	+03 11 15.9		400	1993 SP <sub>2</sub>	1993 09 21.59861	23 47 09.28	-04 15 16.9		400
1993 SB <sub>2</sub>	1993 09 21.55556	23 42 13.82	+03 04 16.7	16.5	400	1993 SQ <sub>2</sub>	* 1993 09 19.54097	23 55 07.19	-00 19 28.1	16.5	400
1993 SB <sub>2</sub>	1993 09 21.56875	23 42 13.28	+03 04 15.0		400	1993 SQ <sub>2</sub>	1993 09 19.55486	23 55 06.50	-00 19 39.3		400
1993 SB <sub>2</sub>	1993 10 06.42847	23 28 50.12	+02 12 00.0	16.5	400	1993 SQ <sub>2</sub>	1993 09 21.58333	23 53 45.26	-00 47 36.6	16.0	400
1993 SB <sub>2</sub>	1993 10 06.44514	23 28 49.46	+02 11 56.1		400	1993 SQ <sub>2</sub>	1993 09 21.59861	23 53 44.52	-00 47 50.7		400
1993 SC <sub>2</sub>	* 1993 09 19.50972	23 44 22.78	+01 38 36.1	16.5	400	1993 SR <sub>2</sub>	1993 09 16.59861	00 18 48.41	+02 18 39.8	16.5	400
1993 SC <sub>2</sub>	1993 09 19.52361	23 44 21.98	+01 38 30.9		400	1993 SR <sub>2</sub>	* 1993 09 19.60764	00 16 33.22	+02 01 21.7	16.5	400
1993 SC <sub>2</sub>	1993 09 21.58333	23 42 44.91	+01 24 03.3	16.5	400	1993 SR <sub>2</sub>	1993 09 19.62222	00 16 32.59	+02 01 17.3		400
1993 SC <sub>2</sub>	1993 09 21.59861	23 42 44.13	+01 23 57.5		400	1993 ST <sub>2</sub>	1993 09 13.55139	23 58 39.72	+03 17 55.7	17	400
1993 SD <sub>2</sub>	* 1993 09 19.50972	23 45 43.56	+07 35 47.7	16.5	400	1993 ST <sub>2</sub>	1993 09 13.56528	23 58 39.25	+03 17 45.3		400
1993 SD <sub>2</sub>	1993 09 19.52361	23 45 42.95	+07 35 39.9		400	1993 ST <sub>2</sub>	* 1993 09 19.50972	23 54 43.80	+02 18 16.1	17	400
1993 SD <sub>2</sub>	1993 09 21.55556	23 44 14.30	+07 23 39.6	16.5	400	1993 ST <sub>2</sub>	1993 09 19.52361	23 54 43.04	+02 18 06.3		400
1993 SD <sub>2</sub>	1993 09 21.56875	23 44 13.64	+07 23 34.0		400	1993 ST <sub>2</sub>	1993 09 21.58333	23 53 19.21	+01 56 44.9	17	400
1993 SD <sub>2</sub>	1993 10 06.42847	23 33 55.48	+05 49 08.0	17	400	1993 ST <sub>2</sub>	1993 09 21.59861	23 53 18.50	+01 56 36.8		400
1993 SD <sub>2</sub>	1993 10 06.44514	23 33 54.69	+05 48 58.7		400	1993 SV <sub>2</sub>	* 1993 09 19.50972	23 45 00.20	+04 21 06.9	16.5	400
1993 SE <sub>2</sub>	* 1993 09 19.54097	23 43 59.60	-02 47 29.7	16.5	400	1993 SV <sub>2</sub>	1993 09 19.52361	23 44 59.34	+04 20 59.2		400
1993 SE <sub>2</sub>	1993 09 19.55486	23 43 59.04	-02 47 29.9		400	1993 SV <sub>2</sub>	1993 09 21.55556	23 42 56.83	+04 07 10.3	16.5	400

1993 SV <sub>2</sub>	1993 09 21.56875	23 42 55.89	+04 07 03.4		400	1993 TU	* 1993 10 11.65556	01 37 56.54	+16 48 44.3	16.5	400
1993 SW <sub>2</sub>	* 1993 09 19.54097	23 48 13.37	-03 14 34.2	16.0	400	1993 TU	1993 10 11.66944	01 37 55.68	+16 48 42.4		400
1993 SW <sub>2</sub>	1993 09 19.55486	23 48 13.00	-03 14 47.8		400	1993 TU	1993 10 12.57639	01 36 56.46	+16 45 15.6	17	400
1993 SW <sub>2</sub>	1993 09 21.58333	23 47 07.60	-03 53 32.6	16.5	400	1993 TU	1993 10 12.59028	01 36 55.68	+16 45 11.7		400
1993 SW <sub>2</sub>	1993 09 21.59861	23 47 07.03	-03 53 48.2		400	1993 TV	* 1993 10 11.65556	01 39 15.03	+11 12 42.4	17	400
1993 SX <sub>2</sub>	* 1993 09 19.54097	23 52 27.17	-03 16 50.7	16.5	400	1993 TV	1993 10 11.66944	01 39 14.42	+11 12 39.6		400
1993 SX <sub>2</sub>	1993 09 21.58333	23 50 37.28	-03 19 33.4	17	400	1993 TV	1993 10 12.57639	01 38 30.51	+11 08 10.6	17	400
1993 SX <sub>2</sub>	1993 09 21.59861	23 50 36.70	-03 19 33.9		400	1993 TV	1993 10 12.59028	01 38 29.84	+11 08 02.2		400
1993 SE <sub>3</sub>	1993 09 19.50972	23 57 30.01	+03 28 36.8	17	400	1993 TW	* 1993 10 11.65556	01 43 29.55	+12 24 49.2	16.5	400
1993 SE <sub>3</sub>	1993 09 19.52361	23 57 29.38	+03 28 29.1		400	1993 TW	1993 10 11.66944	01 43 28.85	+12 24 44.9		400
1993 SY <sub>3</sub>	* 1993 09 16.54861	00 51 48.08	+09 55 29.6	17	400	1993 TW	1993 10 12.57639	01 42 43.47	+12 19 49.1	16.5	400
1993 SY <sub>3</sub>	1993 09 16.56597	00 51 47.36	+09 55 23.4		400	1993 TW	1993 10 12.59028	01 42 42.79	+12 19 45.8		400
1993 SY <sub>3</sub>	1993 09 18.61528	00 50 34.85	+09 42 11.4	16.5	400	1993 TY	* 1993 10 11.65556	01 36 41.03	+12 20 15.1	16.5	400
1993 SY <sub>3</sub>	1993 09 18.63125	00 50 34.21	+09 42 03.1		400	1993 TY	1993 10 11.66944	01 36 40.31	+12 20 06.2		400
1993 SY <sub>3</sub>	1993 10 11.53056	00 33 56.20	+06 33 03.0	16.5	400	1993 TY	1993 10 12.57639	01 36 07.48	+12 12 28.2	16.5	400
1993 SY <sub>3</sub>	1993 10 11.54444	00 33 55.66	+06 32 55.4		400	1993 TY	1993 10 12.59028	01 36 06.71	+12 12 21.2		400
1993 SZ <sub>3</sub>	* 1993 09 16.54861	01 06 42.49	+08 16 04.6	16.5	400	1993 TA <sub>1</sub>	* 1993 10 11.62569	01 28 59.16	+06 46 47.2	16.5	400
1993 SZ <sub>3</sub>	1993 09 16.56597	01 06 41.92	+08 15 55.9		400	1993 TA <sub>1</sub>	1993 10 11.64028	01 28 58.66	+06 46 45.2		400
1993 SZ <sub>3</sub>	1993 09 18.61528	01 05 51.45	+07 57 31.2	16.5	400	1993 TA <sub>1</sub>	1993 10 15.52778	01 26 21.98	+06 34 07.5	16.5	400
1993 SZ <sub>3</sub>	1993 09 18.63125	01 05 50.81	+07 57 23.9		400	1993 TA <sub>1</sub>	1993 10 15.54167	01 26 21.37	+06 34 05.6		400
1993 TL	* 1993 10 08.64722	01 03 49.24	+06 29 24.3	16.5	400	1993 TB <sub>1</sub>	* 1993 10 11.62569	01 34 02.78	+09 13 21.4	16.5	400
1993 TL	1993 10 08.66042	01 03 48.60	+06 29 25.6		400	1993 TB <sub>1</sub>	1993 10 11.64028	01 34 02.18	+09 13 16.2		400
1993 TL	1993 10 11.59444	01 01 07.77	+06 26 14.8	16.5	400	1993 TB <sub>1</sub>	1993 10 15.52778	01 30 39.66	+08 46 09.0	16.0	400
1993 TL	1993 10 11.60903	01 01 07.38	+06 26 14.2		400	1993 TB <sub>1</sub>	1993 10 15.54167	01 30 38.74	+08 46 04.8		400
1993 TM	* 1993 10 08.64722	01 10 44.33	+05 05 27.6	17	400	1993 TC <sub>1</sub>	* 1993 10 11.62569	01 38 18.49	+06 13 50.1	15.0	400
1993 TM	1993 10 08.66042	01 10 43.77	+05 05 27.1		400	1993 TC <sub>1</sub>	1993 10 11.64028	01 38 17.55	+06 13 49.4		400
1993 TM	1993 10 11.59444	01 07 38.27	+05 02 22.3	16.5	400	1993 TC <sub>1</sub>	1993 10 15.52778	01 34 19.81	+06 09 29.6	15.0	400
1993 TM	1993 10 11.60903	01 07 37.55	+05 02 19.7		400	1993 TC <sub>1</sub>	1993 10 15.54167	01 34 18.95	+06 09 28.8		400
1993 TN	* 1993 10 08.64722	01 21 44.99	+01 38 05.0	16.5	400	1993 TD <sub>1</sub>	* 1993 10 11.62569	01 40 59.79	+08 20 39.9	16.5	400
1993 TN	1993 10 08.66042	01 21 43.97	+01 37 59.8		400	1993 TD <sub>1</sub>	1993 10 11.64028	01 40 58.84	+08 20 43.5		400
1993 TN	1993 10 11.59444	01 18 58.65	+01 24 00.9	16.5	400	1993 TD <sub>1</sub>	1993 10 15.52778	01 35 55.34	+08 40 04.2	16.5	400
1993 TN	1993 10 11.60903	01 18 58.00	+01 23 57.7		400	1993 TD <sub>1</sub>	1993 10 15.54167	01 35 54.38	+08 40 07.9		400
1993 TO	* 1993 10 08.64722	01 23 58.58	+06 33 48.7	16.5	400	1993 TE <sub>1</sub>	* 1993 10 11.62569	01 44 01.63	+07 59 37.6	17	400
1993 TO	1993 10 08.66042	01 23 57.97	+06 33 54.3		400	1993 TE <sub>1</sub>	1993 10 11.64028	01 44 00.85	+07 59 35.3		400
1993 TO	1993 10 11.59444	01 20 37.08	+06 47 52.8	16.5	400	1993 TE <sub>1</sub>	1993 10 15.52778	01 40 29.98	+07 51 40.1	17	400
1993 TO	1993 10 11.60903	01 20 36.30	+06 47 55.1		400	1993 TE <sub>1</sub>	1993 10 15.54167	01 40 29.09	+07 51 37.7		400
1993 TP	* 1993 10 08.58750	00 19 06.42	-04 45 28.7	16.5	400	1993 TF <sub>1</sub>	* 1993 10 15.55903	01 54 19.26	+17 54 24.2	16.5	400
1993 TP	1993 10 08.60208	00 19 05.71	-04 45 30.4		400	1993 TF <sub>1</sub>	1993 10 15.57361	01 54 18.44	+17 54 18.2		400
1993 TP	1993 10 12.54375	00 16 09.91	-04 48 58.9	16.5	400	1993 TF <sub>1</sub>	1993 10 16.50417	01 53 31.31	+17 47 07.2	16.5	400
1993 TP	1993 10 12.55903	00 16 09.19	-04 48 58.8		400	1993 TF <sub>1</sub>	1993 10 16.51875	01 53 30.54	+17 47 00.9		400
1993 TR	* 1993 10 11.65556	01 31 18.74	+12 16 04.7	17	400	1993 TG <sub>1</sub>	* 1993 10 15.55903	01 54 58.64	+18 37 31.5	16.5	400
1993 TR	1993 10 11.66944	01 31 18.00	+12 16 02.4		400	1993 TG <sub>1</sub>	1993 10 15.57361	01 54 57.78	+18 37 32.2		400
1993 TR	1993 10 12.57639	01 30 34.57	+12 13 03.7	17	400	1993 TG <sub>1</sub>	1993 10 16.50417	01 54 07.89	+18 36 36.6	16.5	400
1993 TR	1993 10 12.59028	01 30 33.83	+12 12 57.3		400	1993 TG <sub>1</sub>	1993 10 16.51875	01 54 07.14	+18 36 36.4		400
1993 TS	* 1993 10 11.65556	01 33 27.23	+14 10 51.1	16.5	400	1993 TH <sub>1</sub>	* 1993 10 15.55903	02 04 29.52	+14 02 59.4	16.5	400
1993 TS	1993 10 11.66944	01 33 26.55	+14 10 54.3		400	1993 TH <sub>1</sub>	1993 10 15.57361	02 04 28.69	+14 03 02.1		400
1993 TS	1993 10 12.57639	01 32 29.42	+14 13 33.5	17	400	1993 TH <sub>1</sub>	1993 10 16.50417	02 03 38.26	+14 03 03.9	16.5	400
1993 TS	1993 10 12.59028	01 32 28.51	+14 13 36.8		400	1993 TH <sub>1</sub>	1993 10 16.51875	02 03 37.35	+14 03 02.3		400
1993 TT	* 1993 10 11.65556	01 37 19.84	+14 58 50.0	16.5	400	1993 TJ <sub>1</sub>	* 1993 10 15.55903	02 09 30.19	+14 14 26.6	16.5	400
1993 TT	1993 10 11.66944	01 37 18.93	+14 58 47.3		400	1993 TJ <sub>1</sub>	1993 10 15.57361	02 09 29.12	+14 14 25.4		400
1993 TT	1993 10 12.57639	01 36 37.09	+14 54 28.6	16.5	400	1993 TJ <sub>1</sub>	1993 10 16.50417	02 08 28.73	+14 14 07.3	16.5	400
1993 TT	1993 10 12.59028	01 36 36.37	+14 54 22.2		400	1993 TJ <sub>1</sub>	1993 10 16.51875	02 08 27.94	+14 14 06.6		400

1993 TK <sub>1</sub>	* 1993 10 15.55903	02 15 38.25	+13 34 11.0	16.0	400	1993 TX <sub>1</sub>	1993 10 15.67153	02 38 05.77	+07 14 20.4		400
1993 TK <sub>1</sub>	1993 10 15.57361	02 15 37.39	+13 34 10.6		400	1993 TX <sub>1</sub>	1993 10 16.59931	02 37 21.91	+07 05 06.7	16.5	400
1993 TK <sub>1</sub>	1993 10 16.50417	02 14 42.71	+13 32 45.5	16.0	400	1993 TX <sub>1</sub>	1993 10 16.61667	02 37 21.06	+07 04 58.2		400
1993 TK <sub>1</sub>	1993 10 16.51875	02 14 41.77	+13 32 45.6		400	1993 TY <sub>1</sub>	* 1993 10 15.59028	02 28 19.96	+19 12 18.2	16.0	400
1993 TL <sub>1</sub>	* 1993 10 15.62361	01 56 38.28	+07 01 01.3	16.5	400	1993 TY <sub>1</sub>	1993 10 15.60694	02 28 18.59	+19 12 18.9		400
1993 TL <sub>1</sub>	1993 10 15.63819	01 56 37.34	+07 00 52.5		400	1993 TY <sub>1</sub>	1993 10 16.56528	02 27 19.73	+19 13 05.6	16.0	400
1993 TL <sub>1</sub>	1993 10 16.53403	01 56 09.66	+06 52 19.2	16.5	400	1993 TY <sub>1</sub>	1993 10 16.58194	02 27 18.57	+19 13 07.1		400
1993 TL <sub>1</sub>	1993 10 16.54861	01 56 09.17	+06 52 11.6		400	1993 TZ <sub>1</sub>	* 1993 10 15.59028	02 31 03.74	+15 48 01.7	16.5	400
1993 TM <sub>1</sub>	* 1993 10 15.62361	02 04 22.52	+07 00 00.5	16.5	400	1993 TZ <sub>1</sub>	1993 10 15.60694	02 31 02.70	+15 47 54.1		400
1993 TM <sub>1</sub>	1993 10 15.63819	02 04 21.68	+06 59 58.9		400	1993 TZ <sub>1</sub>	1993 10 16.56528	02 30 19.64	+15 39 54.6	16.5	400
1993 TM <sub>1</sub>	1993 10 16.53403	02 03 35.21	+06 56 54.8	16.5	400	1993 TZ <sub>1</sub>	1993 10 16.58194	02 30 18.72	+15 39 46.9		400
1993 TM <sub>1</sub>	1993 10 16.54861	02 03 34.41	+06 56 48.5		400	1993 TA <sub>2</sub>	* 1993 10 15.59028	02 32 22.31	+19 17 08.7	16.0	400
1993 TN <sub>1</sub>	* 1993 10 15.62361	02 07 58.13	+05 35 32.7	16.5	400	1993 TA <sub>2</sub>	1993 10 15.60694	02 32 21.62	+19 17 00.4		400
1993 TN <sub>1</sub>	1993 10 15.63819	02 07 57.40	+05 35 27.3		400	1993 TA <sub>2</sub>	1993 10 16.56528	02 31 44.62	+19 10 21.2	16.0	400
1993 TN <sub>1</sub>	1993 10 16.53403	02 07 09.64	+05 30 54.7	16.5	400	1993 TA <sub>2</sub>	1993 10 16.58194	02 31 43.98	+19 10 15.7		400
1993 TN <sub>1</sub>	1993 10 16.54861	02 07 08.90	+05 30 47.6		400	1993 TB <sub>2</sub>	* 1993 10 15.59028	02 32 44.46	+18 51 13.0	16.5	400
1993 TO <sub>1</sub>	* 1993 10 15.64792	02 27 14.26	+06 55 18.2	16	400	1993 TB <sub>2</sub>	1993 10 15.60694	02 32 43.81	+18 51 07.9		400
1993 TO <sub>1</sub>	1993 10 15.66181	02 27 13.01	+06 55 24.2		400	1993 TB <sub>2</sub>	1993 10 16.56528	02 32 13.76	+18 46 33.0	16.5	400
1993 TO <sub>1</sub>	1993 10 15.66458	02 27 12.26	+06 55 31.8		400	1993 TB <sub>2</sub>	1993 10 16.58194	02 32 13.12	+18 46 28.8		400
1993 TO <sub>1</sub>	1993 10 15.67847	02 27 10.97	+06 55 41.2		400	1993 TC <sub>2</sub>	* 1993 10 15.59028	02 34 41.04	+16 34 47.5	16.5	400
1993 TO <sub>1</sub>	1993 10 16.59236	02 25 49.40	+07 08 00.1	16	400	1993 TC <sub>2</sub>	1993 10 15.60694	02 34 40.22	+16 34 46.8		400
1993 TO <sub>1</sub>	1993 10 16.60625	02 25 48.63	+07 08 10.2		400	1993 TC <sub>2</sub>	1993 10 16.56528	02 33 53.02	+16 34 24.5	16.5	400
1993 TO <sub>1</sub>	1993 10 16.60972	02 25 47.61	+07 08 17.2		400	1993 TC <sub>2</sub>	1993 10 16.58194	02 33 52.10	+16 34 23.7		400
1993 TO <sub>1</sub>	1993 10 16.62361	02 25 46.48	+07 08 26.9		400	1993 TD <sub>2</sub>	* 1993 10 15.59028	02 34 48.36	+16 18 45.8	16.5	400
1993 TQ <sub>1</sub>	* 1993 10 15.62361	01 57 02.26	+08 54 34.1	16.5	400	1993 TD <sub>2</sub>	1993 10 15.60694	02 34 47.46	+16 18 41.9		400
1993 TQ <sub>1</sub>	1993 10 15.63819	01 57 01.41	+08 54 28.4		400	1993 TD <sub>2</sub>	1993 10 16.56528	02 34 03.10	+16 15 02.6	16.5	400
1993 TQ <sub>1</sub>	1993 10 16.53403	01 56 17.41	+08 48 26.3	16.5	400	1993 TD <sub>2</sub>	1993 10 16.58194	02 34 02.21	+16 14 58.6		400
1993 TQ <sub>1</sub>	1993 10 16.54861	01 56 16.74	+08 48 21.7		400	1993 TE <sub>2</sub>	* 1993 10 15.59028	02 39 36.84	+20 13 12.2	16.5	400
1993 TR <sub>1</sub>	* 1993 10 15.62361	01 57 49.64	+09 46 15.3	16.5	400	1993 TE <sub>2</sub>	1993 10 15.60694	02 39 35.93	+20 13 12.7		400
1993 TR <sub>1</sub>	1993 10 15.63819	01 57 48.94	+09 46 13.2		400	1993 TE <sub>2</sub>	1993 10 16.56528	02 38 43.00	+20 14 07.8	16.5	400
1993 TR <sub>1</sub>	1993 10 16.54861	01 57 00.78	+09 45 49.1	16.0	400	1993 TE <sub>2</sub>	1993 10 16.58194	02 38 41.99	+20 14 10.3		400
1993 TS <sub>1</sub>	* 1993 10 15.62361	02 02 32.24	+07 55 52.1	17	400	1993 TF <sub>2</sub>	* 1993 10 15.65486	02 30 35.43	+12 21 18.9	17	400
1993 TS <sub>1</sub>	1993 10 15.63819	02 02 31.37	+07 55 46.6		400	1993 TF <sub>2</sub>	1993 10 15.67153	02 30 34.69	+12 21 15.9		400
1993 TS <sub>1</sub>	1993 10 16.53403	02 01 54.89	+07 47 38.9	17	400	1993 TF <sub>2</sub>	1993 10 16.59931	02 29 55.52	+12 18 15.9	17	400
1993 TS <sub>1</sub>	1993 10 16.54861	02 01 54.34	+07 47 33.5		400	1993 TF <sub>2</sub>	1993 10 16.61667	02 29 54.66	+12 18 08.5		400
1993 TT <sub>1</sub>	* 1993 10 15.62361	02 07 22.28	+09 40 48.1	16.5	400	1993 TG <sub>2</sub>	* 1993 10 15.65486	02 33 02.40	+10 52 46.9	16.5	400
1993 TT <sub>1</sub>	1993 10 15.63819	02 07 21.69	+09 40 38.9		400	1993 TG <sub>2</sub>	1993 10 15.67153	02 33 01.67	+10 52 37.8		400
1993 TT <sub>1</sub>	1993 10 16.53403	02 06 42.62	+09 30 44.5	16.5	400	1993 TG <sub>2</sub>	1993 10 16.59931	02 32 24.90	+10 44 35.7	16.5	400
1993 TT <sub>1</sub>	1993 10 16.54861	02 06 41.77	+09 30 34.8		400	1993 TG <sub>2</sub>	1993 10 16.61667	02 32 24.11	+10 44 28.2		400
1993 TU <sub>1</sub>	* 1993 10 15.62361	02 09 17.86	+08 02 52.5	16.0	400	1993 TH <sub>2</sub>	* 1993 10 15.65486	02 40 26.82	+10 49 04.5	17	400
1993 TU <sub>1</sub>	1993 10 15.63819	02 09 16.94	+08 02 46.5		400	1993 TH <sub>2</sub>	1993 10 15.67153	02 40 25.95	+10 49 00.9		400
1993 TU <sub>1</sub>	1993 10 16.53403	02 08 28.60	+07 59 14.1	16.0	400	1993 TH <sub>2</sub>	1993 10 16.59931	02 39 44.43	+10 46 26.6	17	400
1993 TU <sub>1</sub>	1993 10 16.54861	02 08 27.84	+07 59 11.3		400	1993 TH <sub>2</sub>	1993 10 16.61667	02 39 43.68	+10 46 22.9		400
1993 TV <sub>1</sub>	* 1993 10 15.62361	02 13 32.78	+08 00 18.9	15.8	400	1993 TL <sub>2</sub>	* 1993 10 15.55903	01 58 00.97	+15 26 39.2	16.5	400
1993 TV <sub>1</sub>	1993 10 15.63819	02 13 31.67	+08 00 21.8		400	1993 TL <sub>2</sub>	1993 10 15.57361	01 57 59.97	+15 26 36.9		400
1993 TV <sub>1</sub>	1993 10 16.53403	02 12 32.48	+08 03 01.8	15.8	400	1993 TL <sub>2</sub>	1993 10 16.50417	01 57 01.86	+15 24 32.4	16.5	400
1993 TV <sub>1</sub>	1993 10 16.54861	02 12 31.56	+08 03 05.0		400	1993 TL <sub>2</sub>	1993 10 16.51875	01 57 00.94	+15 24 31.0		400
1993 TW <sub>1</sub>	* 1993 10 15.65486	02 27 15.89	+08 51 16.5	16.0	400	1993 TM <sub>2</sub>	* 1993 10 15.62361	02 06 02.76	+08 29 48.9	17	400
1993 TW <sub>1</sub>	1993 10 15.67153	02 27 15.05	+08 51 18.5		400	1993 TM <sub>2</sub>	1993 10 15.63819	02 06 01.88	+08 29 49.4		400
1993 TW <sub>1</sub>	1993 10 16.59931	02 26 22.23	+08 51 07.5	16.0	400	1993 TM <sub>2</sub>	1993 10 16.53403	02 05 09.41	+08 26 59.6	17	400
1993 TW <sub>1</sub>	1993 10 16.61667	02 26 21.31	+08 51 08.3		400	1993 TM <sub>2</sub>	1993 10 16.54861	02 05 08.38	+08 26 57.6		400
1993 TX <sub>1</sub>	* 1993 10 15.65486	02 38 06.76	+07 14 33.6	16.5	400	1993 TN <sub>2</sub>	* 1993 10 15.62361	02 10 51.65	+09 22 55.0	16.5	400

1993 TN <sub>2</sub>	1993 10 15.63819	02 10 50.70	+09 22 55.4		400
1993 TN <sub>2</sub>	1993 10 16.53403	02 09 55.69	+09 22 20.3	16.5	400
1993 TN <sub>2</sub>	1993 10 16.54861	02 09 54.59	+09 22 18.2		400
1993 TO <sub>2</sub>	* 1993 10 15.65486	02 23 30.62	+11 02 14.6	17	400
1993 TO <sub>2</sub>	1993 10 15.67153	02 23 29.94	+11 02 07.6		400
1993 TO <sub>2</sub>	1993 10 16.59931	02 22 53.32	+10 55 00.7	17	400
1993 TO <sub>2</sub>	1993 10 16.61667	02 22 52.65	+10 54 51.4		400
(316)	1993 09 15.55208	00 20 11.90	-00 58 35.6	14.5	400
(316)	1993 09 15.56875	00 20 11.16	-00 58 40.2		400
(496)	1993 10 11.46389	23 50 29.25	+01 33 11.9	15.0	400
(496)	1993 10 11.47917	23 50 28.52	+01 33 04.1		400
(1137)	1993 09 18.64722	00 54 56.48	-02 17 40.8	13.5	400
(1137)	1993 09 18.66319	00 54 55.69	-02 17 45.6		400
(2315)	1993 10 11.56042	00 48 54.27	-00 07 51.4	15.0	400
(2315)	1993 10 11.57569	00 48 53.42	-00 07 52.3		400
(2526)	1993 10 08.64722	01 02 57.17	+06 38 03.3	16.5	400
(2526)	1993 10 08.66042	01 02 56.30	+06 37 58.6		400
(2526)	1993 10 11.59444	01 00 34.71	+06 27 07.5	16.5	400
(2526)	1993 10 11.60903	01 00 33.94	+06 27 04.0		400
(3264)	1993 09 16.58264	00 35 24.64	+02 48 21.8	16.8	400
(3264)	1993 09 16.59861	00 35 23.87	+02 48 14.5		400
(4211)	1993 10 08.64722	01 03 11.73	+06 35 07.6	16.0	400
(4211)	1993 10 08.66042	01 03 10.96	+06 35 03.5		400
(4211)	1993 10 11.59444	01 00 57.42	+06 22 03.6	16.0	400
(4211)	1993 10 11.60903	01 00 57.05	+06 22 00.9		400

**402 Dync Astronomical Observatory**

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

0.25-m  $f/3.4$  Schmidt

GSC

(5387)	1991 04 09.62292	12 34 14.15	-05 53 27.0	16.5	402
(5387)	1991 04 09.63681	12 34 13.30	-05 53 22.9		402

**403 Kani**

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

Observer Y. Mizuno

Measurer T. Furuta

0.20-m  $f/4.0$  hyperboloid astrocamera

GSC

1993 TC <sub>1</sub>	1993 10 14.63125	01 35 14.95	+06 10 29.3	15.5	403
1993 TC <sub>1</sub>	1993 10 14.64259	01 35 14.09	+06 10 27.4		403
1993 TC <sub>1</sub>	1993 10 19.52974	01 30 10.85	+06 05 37.9		403
1993 TC <sub>1</sub>	1993 10 19.54080	01 30 10.23	+06 05 37.1		403

**410 Sengamine**

K. Ito, 4-13-7, Sakuragaoka Higashi Mati, Nishi-ku, Kobe 651-22, Japan

0.20-m  $f/6.0$  reflector + CCD

GSC

1989 SK	1993 09 18.63420	01 54 45.22	+20 19 20.1	16.4 V	410
1989 SK	1993 09 25.71685	01 51 40.47	+20 39 53.9	16.2 V	410
1989 SK	1993 09 25.73560	01 51 39.88	+20 39 56.7		410
1989 SK	1993 09 25.74657	01 51 39.51	+20 39 57.3		410

1989 SK	1993 10 08.60558	01 42 27.85	+20 50 01.8	16.2 V	410
1989 SK	1993 10 08.61134	01 42 27.57	+20 50 01.4		410
1989 SK	1993 10 08.62957	01 42 26.65	+20 50 0.95		410
1989 SK	1993 10 11.52962	01 39 52.40	+20 47 09.4	16.1 V	410
1989 SK	1993 10 11.54108	01 39 51.77	+20 47 07.5		410

**411 Oizumi**

T. Kobayashi, 1717-2 Shimo-Koizumi, Oizumi-machi, Ora-gun, Gunma-ken, 370-05  
Japan

0.16-m  $f/6.3$  reflector + CCD

GSC

(4580)	1993 03 02.52891	10 29 06.20	+04 39 52.6		411
(4580)	1993 03 02.53033	10 29 06.12	+04 39 53.6		411

**413 Siding Spring**

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

Observers C. P. Cass, M. J. Drinkwater, G. J. Garradd, R. H. McNaught,  
Q. A. Parker, A. Savage, D. I. Steel

Measurers R. H. McNaught, G. J. Garradd

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

1931 FC	1993 08 24.67396	21 17 07.22	-20 49 05.1		413
1931 FC	1993 08 24.67919	21 17 06.91	-20 49 05.3		413
1952 SW <sub>1</sub>	1993 07 31.68222	23 53 45.67	-20 27 57.9		413
1952 SW <sub>1</sub>	1993 07 31.69571	23 53 45.42	-20 28 02.1		413
1952 SW <sub>1</sub>	1993 09 03.62896	23 29 33.56	-23 06 09.8		413
1952 SW <sub>1</sub>	1993 09 03.63088	23 29 33.45	-23 06 09.8		413
1967 JN	1993 09 03.61429	00 39 11.25	-11 30 30.4		413
1967 JN	1993 09 03.61579	00 39 11.19	-11 30 30.6		413
1967 JN	1993 09 03.61725	00 39 11.13	-11 30 30.5		413
1978 SO <sub>4</sub>	1993 08 25.79270	22 30 33.79	-15 55 54.3		413
1978 SO <sub>4</sub>	1993 08 25.79459	22 30 33.71	-15 55 54.4		413
1978 SO <sub>4</sub>	1993 08 25.79674	22 30 33.62	-15 55 54.8		413
1981 EK <sub>35</sub>	1993 07 31.72475	20 33 45.96	-18 10 54.1		413
1981 EK <sub>35</sub>	1993 07 31.72697	20 33 45.83	-18 10 54.6		413
1983 PB	1993 07 31.73683	00 42 15.18	-07 16 42.8		413
1983 PB	1993 07 31.73976	00 42 15.32	-07 16 42.9		413
1983 RB	1993 09 23.71303	01 22 35.55	-08 14 23.8		413
1983 RB	1993 09 23.71466	01 22 35.44	-08 14 26.8		413
1983 VQ <sub>1</sub>	1993 08 24.44944	16 33 10.73	-44 30 21.6		413
1984 DA	1993 08 25.82008	00 18 52.37	-05 29 00.1		413
1984 DA	1993 08 25.82205	00 18 52.33	-05 29 02.5		413
1984 KB	1993 09 23.63425	00 31 46.32	+01 03 44.7		413
1984 KB	1993 09 23.63686	00 31 46.08	+01 03 42.8		413
1984 KB	1993 09 24.59243	00 30 20.95	+00 52 26.1		413
1984 KB	1993 09 24.59455	00 30 20.76	+00 52 24.6		413
1988 BN <sub>2</sub>	1993 09 03.65536	01 42 29.79	-29 24 17.9		413
1988 BN <sub>2</sub>	1993 09 03.65822	01 42 29.69	-29 24 19.3		413
1988 BN <sub>2</sub>	1993 10 08.57495	01 06 32.34	-31 50 52.0	17 V	413
1988 BN <sub>2</sub>	1993 10 08.60273	01 06 30.19	-31 50 49.0		413
1988 CX <sub>1</sub>	1993 09 23.69346	01 15 11.14	+12 28 36.0		413
1988 CX <sub>1</sub>	1993 09 23.69611	01 15 10.99	+12 28 35.3		413
1988 CX <sub>1</sub>	1993 09 23.69947	01 15 10.82	+12 28 34.4		413

1988 GL	1993 09 03.63609	00 55 56.48	-17 52 50.1	413	1990 WE	1993 09 23.43612	17 04 59.18	-23 23 33.9	413
1988 GL	1993 09 03.66815	00 55 55.06	-17 53 03.0	413	1991 AO <sub>3</sub>	1993 09 03.61891	00 40 15.67	-10 02 12.5	413
1988 JP	1993 08 25.82438	01 05 03.64	-61 56 16.8	413	1991 AO <sub>3</sub>	1993 09 03.62328	00 40 15.53	-10 02 14.4	413
1988 JP	1993 08 25.82604	01 05 03.64	-61 56 17.6	413	1991 AO <sub>3</sub>	1993 09 03.62491	00 40 15.46	-10 02 14.9	413
1988 JP	1993 08 25.82752	01 05 03.66	-61 56 18.4	413	1991 AO <sub>3</sub>	1993 09 03.62634	00 40 15.41	-10 02 15.4	413
1988 JP	1993 09 03.67730	01 03 05.43	-62 55 20.0	413	1991 FF	1993 08 25.79940	22 52 39.00	-06 49 19.4	413
1988 JP	1993 09 03.67887	01 03 05.37	-62 55 20.4	413	1991 FF	1993 08 25.80192	22 52 38.87	-06 49 19.3	413
1988 JP	1993 09 03.68294	01 03 05.20	-62 55 21.4	413	1991 FG	1993 07 31.75174	00 28 58.95	+11 25 50.0	U 413
1988 RE	1980 01 22.67186	10 29 11.36	-35 29 28.6	413	1991 FG	1993 09 23.67091	00 02 54.72	+08 00 10.9	413
1988 RE	1980 01 22.71909	10 29 09.45	-35 29 43.6	413	1991 FG	1993 09 23.67373	00 02 54.59	+08 00 10.8	413
1988 VP <sub>4</sub>	1993 08 24.55475	19 13 03.49	-17 57 06.8	V 413	1991 VK	1993 08 24.60399	19 55 11.41	-18 38 42.6	p 413
1988 VP <sub>4</sub>	1993 08 24.55959	19 13 03.36	-17 57 07.0	V 413	1991 VK	1993 08 24.60872	19 55 11.11	-18 38 42.4	413
1988 VP <sub>4</sub>	1993 08 24.56444	19 13 03.18	-17 57 07.2	V 413	1991 VK	1993 08 25.66844	19 54 08.99	-18 40 36.2	413
1988 WC	1993 07 31.62422	17 38 37.86	-03 13 45.0	413	1991 VK	1993 08 25.67344	19 54 08.68	-18 40 36.7	413
1988 WC	1993 08 24.51529	17 35 23.95	-04 15 48.2	413	1992 AC	1993 07 31.65799	22 18 36.81	-19 40 19.4	413
1988 WC	1993 08 24.51892	17 35 23.98	-04 15 48.7	413	1992 AC	1993 07 31.66148	22 18 36.64	-19 40 21.5	413
1989 AM	1993 08 25.80831	23 08 57.31	-61 37 23.1	413	1992 AC	1993 08 24.68924	21 54 44.78	-23 20 44.0	413
1989 AM	1993 08 25.81039	23 08 57.13	-61 37 23.8	413	1992 AC	1993 08 24.69234	21 54 44.57	-23 20 45.6	413
1989 AM	1993 08 25.81190	23 08 57.00	-61 37 24.4	413	1992 AC	1993 09 23.59728	21 29 03.59	-26 00 00.4	413
1989 CV	1993 08 25.81425	23 51 07.32	-05 32 06.3	413	1992 AC	1993 09 23.59995	21 29 03.49	-26 00 00.7	413
1989 CV	1993 08 25.81619	23 51 07.26	-05 32 06.6	413	1992 BB	1993 09 23.56486	23 45 29.46	+19 58 29.0	413
1989 CV	1993 08 25.81809	23 51 07.21	-05 32 07.1	413	1992 BB	1993 09 23.56757	23 45 29.29	+19 58 25.1	413
1989 KB	1993 09 03.64037	01 14 55.51	-43 42 43.1	413	1992 BB	1993 09 23.57035	23 45 29.09	+19 58 21.3	413
1989 KB	1993 09 03.64344	01 14 55.40	-43 42 44.8	413	1992 BB	1993 09 23.57434	23 45 28.67	+19 58 15.7	413
1989 NE <sub>1</sub>	1993 09 23.52675	18 17 04.41	-38 48 29.9	413	1992 BB	1993 09 23.57988	23 45 28.39	+19 58 06.8	413
1989 NE <sub>1</sub>	1993 09 23.52889	18 17 04.70	-38 48 29.2	413	1992 BB	1993 09 24.58572	23 44 18.50	+19 33 10.1	413
1989 OL	1977 09 04.50260	21 39 23.64	-37 24 10.5	413	1992 BB	1993 09 24.58821	23 44 18.28	+19 33 06.1	413
1989 OL	1977 09 04.55122	21 39 21.32	-37 24 01.1	b 413	1992 CA	1993 08 25.77876	22 08 00.52	-19 42 32.7	413
1989 OL	1993 07 31.72966	19 00 44.43	-43 52 23.8	413	1992 CA	1993 08 25.78061	22 08 00.42	-19 42 35.8	413
1989 OL	1993 07 31.73376	19 00 44.25	-43 52 23.5	413	1992 CH <sub>1</sub>	1993 09 24.67566	04 37 43.70	-12 07 54.8	20 V 413
1989 RC <sub>1</sub>	1993 07 31.77074	03 40 33.84	+04 46 43.9	413	1992 CH <sub>1</sub>	1993 09 24.67985	04 37 44.06	-12 08 00.4	413
1989 RC <sub>1</sub>	1993 07 31.77321	03 40 34.14	+04 46 44.4	413	1992 CH <sub>1</sub>	1993 09 25.70399	04 39 10.65	-12 29 26.1	413
1989 UL <sub>3</sub>	1993 09 03.60747	00 06 02.34	-25 15 07.8	413	1992 CH <sub>1</sub>	1993 09 25.70875	04 39 10.99	-12 29 32.4	413
1989 UL <sub>3</sub>	1993 09 03.61088	00 06 02.19	-25 15 09.9	413	1992 CH <sub>1</sub>	1993 09 25.71606	04 39 11.59	-12 29 41.4	413
1989 WK <sub>2</sub>	1993 07 31.67448	22 28 29.14	-11 02 50.6	413	1992 FM <sub>1</sub>	1993 07 31.74326	00 28 56.88	+05 01 48.0	413
1989 WK <sub>2</sub>	1993 07 31.67806	22 28 29.02	-11 02 53.0	413	1992 FM <sub>1</sub>	1993 07 31.74756	00 28 56.82	+05 01 50.1	413
1989 WK <sub>2</sub>	1993 08 25.78299	22 10 22.71	-16 07 23.1	413	1992 FR <sub>2</sub>	1993 09 23.60969	01 12 50.85	-03 58 54.2	15.5 V 413
1989 WK <sub>2</sub>	1993 08 25.78560	22 10 22.59	-16 07 25.1	413	1992 FR <sub>2</sub>	1993 09 23.67219	01 12 47.54	-03 59 20.2	413
1989 WK <sub>2</sub>	1993 09 23.61177	21 49 00.56	-21 24 49.6	413	1992 FR <sub>2</sub>	1993 09 24.59865	01 12 03.18	-04 05 42.2	p 413
1989 WK <sub>2</sub>	1993 09 23.61406	21 49 00.50	-21 24 50.8	413	1992 FR <sub>2</sub>	1993 09 24.68198	01 11 58.75	-04 06 16.7	413
1990 KK	1993 08 25.74282	21 09 04.99	-55 21 18.1	413	1993 MF	1993 07 31.66493	22 33 35.84	+36 58 07.8	413
1990 KK	1993 08 25.74505	21 09 04.82	-55 21 18.2	413	1993 MF	1993 07 31.66640	22 33 36.15	+36 58 10.4	413
1990 SK	1993 09 23.42304	16 11 31.84	-40 11 24.0	413	1993 MF	1993 07 31.66847	22 33 36.58	+36 58 14.0	413
1990 SK	1993 09 23.42561	16 11 32.16	-40 11 24.9	413	1993 MF	1993 07 31.67115	22 33 37.13	+36 58 18.7	413
1990 TN	1993 07 31.64236	20 35 33.18	-34 34 43.4	413	1993 ME <sub>1</sub>	1993 08 24.54064	17 48 53.16	+10 18 47.0	413
1990 TN	1993 07 31.64471	20 35 33.01	-34 34 43.9	413	1993 ME <sub>1</sub>	1993 08 24.54300	17 48 53.40	+10 18 46.1	413
1990 TN <sub>4</sub>	1993 09 23.37785	14 48 04.62	-11 37 00.5	413	1993 OV <sub>1</sub>	1993 09 23.58619	21 16 47.56	-01 38 55.3	413
1990 TN <sub>4</sub>	1993 09 23.37992	14 48 04.77	-11 37 01.7	413	1993 OV <sub>1</sub>	1993 09 23.58898	21 16 47.64	-01 38 54.5	413
1990 TN <sub>4</sub>	1993 09 23.38200	14 48 04.94	-11 37 02.7	413	1993 OV <sub>1</sub>	1993 09 23.59250	21 16 47.74	-01 38 53.3	413
1990 VX <sub>2</sub>	1993 08 24.71612	20 55 05.26	-53 06 38.4	413	1993 OW <sub>1</sub>	1993 10 05.44605	21 18 20.36	-42 20 50.4	17.5 V 413
1990 VX <sub>2</sub>	1993 08 24.71863	20 55 05.04	-53 06 38.3	413	1993 OW <sub>1</sub>	1993 10 05.48772	21 18 22.22	-42 20 51.0	413
1990 WE	1993 09 23.43352	17 04 59.04	-23 23 33.8	413	1993 OW <sub>1</sub>	1993 10 06.40523	21 19 07.98	-42 21 43.2	413

1993 OW <sub>1</sub>	1993 10 06.47468	21 19 11.16	-42 21 44.9		413	1993 UC	1993 10 20.63264	00 51 54.11	-25 09 05.8	I 413
1993 OW <sub>1</sub>	1993 10 07.49733	21 20 04.34	-42 22 15.8	17 V	413	1993 UC	1993 10 23.63787	00 47 19.87	-26 26 48.4	413
1993 OW <sub>1</sub>	1993 10 07.55983	21 20 07.34	-42 22 16.3		413	1993 UC	1993 10 25.52944	00 44 27.97	-27 13 24.6	F 413
1993 OZ <sub>2</sub>	1993 09 02.79098	23 24 56.15	-39 44 55.5		413	1993 UC	1993 10 25.54122	00 44 26.87	-27 13 40.5	F 413
1993 OZ <sub>2</sub>	1993 09 23.68294	23 22 30.62	-44 31 29.5		413	4129 T-2	1993 03 29.59987	13 40 00.15	-08 05 10.1	413
1993 OZ <sub>2</sub>	1993 09 23.68481	23 22 30.61	-44 31 30.4		413	4129 T-2	1993 03 29.64501	13 39 57.77	-08 05 06.5	413
1993 RQ	1993 09 23.64600	23 06 11.23	+05 13 34.1		413	(301)	1993 09 21.60891	00 25 43.35	-02 36 46.8	413
1993 RQ	1993 09 23.64836	23 06 11.12	+05 13 35.6		413	(301)	1993 09 21.65058	00 25 41.39	-02 37 02.5	413
1993 RR <sub>2</sub>	1993 09 10.59255	00 52 52.26	-07 10 06.4	15.5 V	413	(312)	1993 09 23.53420	23 44 51.02	-04 20 53.8	413
1993 RR <sub>2</sub>	1993 09 10.63074	00 52 52.38	-07 10 56.4		413	(312)	1993 09 23.59670	23 44 47.52	-04 21 01.1	413
1993 SA	1993 09 24.62667	00 50 57.54	+02 54 30.7		413	(316)	1993 09 14.60172	00 20 50.33	-00 53 38.5	413
1993 SA	1993 09 24.62971	00 50 57.46	+02 54 28.5		413	(869)	1993 09 21.60891	00 21 50.81	-03 42 35.7	413
1993 SA	1993 09 25.61255	00 50 22.08	+02 42 42.1		413	(869)	1993 09 21.65058	00 21 48.75	-03 42 55.0	413
1993 SA	1993 09 25.62206	00 50 21.66	+02 42 36.0		413	(1010)	1993 09 10.59255	00 45 44.14	-01 43 15.9	413
1993 SA	1993 09 25.62479	00 50 21.57	+02 42 33.8		413	(1010)	1993 09 10.63074	00 45 42.88	-01 43 26.4	413
1993 SA	1993 09 25.62839	00 50 21.47	+02 42 30.4		413	(1676)	1993 09 10.59255	00 46 41.05	-04 39 04.8	413
1993 SA	1993 09 26.68194	00 49 42.35	+02 29 48.4		413	(1676)	1993 09 10.63074	00 46 38.99	-04 39 15.6	413
1993 SA	1993 09 26.68576	00 49 42.21	+02 29 45.9		413	(1680)	1993 09 10.59255	00 35 09.82	-03 07 14.5	413
1993 SA	1993 09 26.68924	00 49 42.10	+02 29 43.1		413	(1680)	1993 09 10.63074	00 35 08.17	-03 07 26.2	413
1993 SC	1993 09 23.55521	23 54 47.55	-00 08 34.4		413	(1849)	1993 09 25.55713	01 15 05.30	-02 53 01.5	413
1993 SC	1993 09 23.62404	23 54 47.16	-00 08 37.1		413	(2168)	1993 07 31.69949	19 26 39.09	-24 23 11.4	413
1993 SF <sub>1</sub>	1993 09 10.59255	00 45 22.04	-03 01 22.1		413	(2168)	1993 07 31.70103	19 26 39.01	-24 23 11.4	413
1993 SF <sub>1</sub>	1993 09 10.63074	00 45 20.79	-03 01 20.2		413	(2168)	1993 07 31.70236	19 26 38.94	-24 23 11.2	413
1993 SG <sub>1</sub>	1993 09 14.59478	00 21 49.01	+00 30 57.8		413	(2201)	1993 08 24.68228	21 28 28.56	-18 39 18.4	413
1993 SG <sub>1</sub>	1993 09 14.60867	00 21 48.69	+00 30 46.4		413	(2201)	1993 08 24.68584	21 28 28.25	-18 39 19.8	413
1993 SG <sub>1</sub>	* 1993 09 21.60891	00 19 07.11	-01 35 47.0	15.5 V	413	(2611)	1993 09 21.60891	00 20 19.52	-02 47 24.4	413
1993 SG <sub>1</sub>	1993 09 21.65058	00 19 05.97	-01 36 29.5		413	(2611)	1993 09 21.65058	00 20 17.69	-02 47 35.1	413
1993 SS <sub>2</sub>	* 1993 09 23.60969	01 14 49.00	-03 06 16.4	15 V	413	(3125)	1993 09 23.72414	03 31 57.99	+00 50 46.6	413
1993 SS <sub>2</sub>	1993 09 23.67219	01 14 45.41	-03 06 43.0		413	(3125)	1993 09 23.72792	03 31 57.99	+00 50 45.0	413
1993 SS <sub>2</sub>	1993 09 24.59865	01 13 55.00	-03 13 21.4		p 413	(3343)	1993 07 31.71323	21 32 13.86	-72 32 05.0	413
1993 SS <sub>2</sub>	1993 09 24.68198	01 13 50.13	-03 13 57.0		413	(3343)	1993 07 31.71716	21 32 13.40	-72 32 04.5	413
1993 SS <sub>2</sub>	1993 09 25.55713	01 13 01.87	-03 20 11.5	15.5 V	413	(3343)	1993 09 03.72473	20 54 55.65	-65 17 58.7	413
1993 SS <sub>2</sub>	1993 09 25.61963	01 12 58.15	-03 20 37.8		b 413	(3343)	1993 09 03.72663	20 54 55.65	-65 17 56.3	413
1993 SW <sub>2</sub>	1993 09 12.56697	23 51 50.17	-01 03 09.7		413	(3343)	1993 09 03.72847	20 54 55.65	-65 17 53.9	413
1993 SW <sub>2</sub>	1993 09 12.60516	23 51 48.87	-01 03 50.5		413	(3362)	1993 09 23.72414	03 32 07.23	+00 51 32.0	413
1993 SW <sub>2</sub>	1993 09 23.53420	23 46 05.28	-04 30 28.9		F 413	(3362)	1993 09 23.72792	03 32 06.99	+00 51 26.4	413
1993 SW <sub>2</sub>	1993 09 23.59670	23 46 03.05	-04 31 37.8		F 413	(3753)	1993 08 25.75412	03 33 24.39	-11 31 16.3	413
1993 SW <sub>3</sub>	* 1993 09 24.59865	01 08 10.07	-03 37 38.6	16 V	413	(3753)	1993 08 25.75601	03 33 24.58	-11 31 18.7	413
1993 SW <sub>3</sub>	1993 09 24.68198	01 08 05.21	-03 37 49.9		413	(4183)	1993 08 24.65902	22 08 14.85	-05 00 27.7	17.5 V 413
1993 SW <sub>3</sub>	1993 09 25.55713	01 07 16.96	-03 39 45.6	15.5 V	413	(4183)	1993 08 24.66299	22 08 14.56	-05 00 29.1	413
1993 SW <sub>3</sub>	1993 09 25.61963	01 07 13.18	-03 39 55.4		b 413	(4183)	1993 09 23.60448	21 38 14.28	-07 43 49.4	413
1993 TA	* 1993 10 08.57495	01 22 26.23	-29 06 52.2	15 V	413	(4217)	1993 07 31.70426	19 40 51.23	-59 58 33.9	413
1993 TA	1993 10 08.60273	01 22 25.41	-29 07 34.0		413	(4217)	1993 07 31.70634	19 40 51.00	-59 58 32.4	413
1993 TA	1993 10 09.49890	01 22 02.40	-29 30 34.8		413	(4285)	1993 09 10.59255	00 48 37.09	-04 32 15.7	413
1993 UB	* 1993 10 23.48686	00 51 22.34	-07 53 46.8		413	(4285)	1993 09 10.63074	00 48 35.72	-04 32 35.1	413
1993 UB	1993 10 23.54936	00 51 10.23	-07 49 02.1		V 413	(4341)	1993 07 31.64903	21 00 13.21	-23 57 46.4	413
1993 UB	1993 10 25.51733	00 45 23.07	-05 18 57.7	15.5 V	413	(4341)	1993 07 31.65377	21 00 12.89	-23 57 48.0	p 413
1993 UB	1993 10 25.52020	00 45 22.53	-05 18 44.2	15.5 V	413	(4464)	1993 08 25.80438	22 18 23.57	-44 03 21.8	413
1993 UB	1993 10 25.52389	00 45 21.84	-05 18 27.2		p 413	(4464)	1993 08 25.80625	22 18 23.36	-44 03 20.7	413
1993 UB	1993 10 25.72157	00 44 45.45	-05 03 02.3		413	(4484)	1993 08 25.74701	21 52 22.17	-52 35 13.2	413
1993 UB	1993 10 25.72431	00 44 45.01	-05 02 48.9		413	(4484)	1993 08 25.74877	21 52 22.05	-52 35 13.6	413
1993 UC	* 1993 10 20.59444	00 51 57.37	-25 08 12.9	17.5 V	b 413	(4484)	1993 08 25.75037	21 52 21.93	-52 35 14.1	413

(4484)	1993 09 03.67089	21 42 32.97	-53 02 24.8	413	1983 PB	1993 08 15.72885	00 50 04.54	-07 46 40.3	17.2	474
(4484)	1993 09 03.67287	21 42 32.83	-53 02 25.0	413	1983 PB	1993 08 15.75484	00 50 04.80	-07 46 45.1		474
(4484)	1993 09 03.67490	21 42 32.70	-53 02 25.0	413	1983 PB	1993 09 16.52731	00 37 42.48	-10 19 29.2	17.0	474
(4531)	1993 09 23.48312	18 14 24.41	-50 33 44.7	413	1983 PB	1993 09 16.56991	00 37 40.09	-10 19 40.4		474
(4531)	1993 09 23.48573	18 14 24.78	-50 33 42.6	413	1989 NE <sub>1</sub>	1993 06 26.46354	17 17 26.80	-42 59 00.6	17.2	474
(4953)	1993 07 31.68831	01 58 50.58	-21 05 27.7	413	1989 NE <sub>1</sub>	1993 06 26.48316	17 17 25.34	-42 59 05.2		474
(4953)	1993 07 31.69198	01 58 50.70	-21 05 29.4	413	1989 NE <sub>1</sub>	1993 08 10.49574	17 08 32.46	-42 11 52.7	17.6	474
(4953)	1993 08 24.73111	02 03 44.69	-26 02 51.6	413	1989 NE <sub>1</sub>	1993 08 10.50870	17 08 33.10	-42 11 49.7		474
(4953)	1993 08 24.73404	02 03 44.64	-26 02 54.4	413	1989 NE <sub>1</sub>	1993 08 15.52127	17 13 14.65	-41 53 18.6	17.4	474
(5407)	1993 09 03.71593	04 04 04.10	+06 44 45.1	413	1989 NE <sub>1</sub>	1993 08 15.55171	17 13 16.51	-41 53 11.1		474
(5407)	1993 09 03.71832	04 04 04.18	+06 44 44.8	413	1993 MO	1993 08 10.52670	17 17 01.32	-36 59 09.4	17.0	474
(5407)	1993 09 03.72072	04 04 04.29	+06 44 44.2	413	1993 MO	1993 08 10.53382	17 17 01.96	-36 59 26.9		474
(5642)	1993 08 24.39086	14 17 54.36	-36 01 30.0	413	1993 MO	1993 08 19.41064	17 34 45.30	-42 25 50.1	17.9	474
(5642)	1993 08 24.39377	14 17 54.72	-36 01 29.5	413	1993 MO	1993 08 19.42892	17 34 47.59	-42 26 24.1		474
(5646)	1993 08 24.44316	16 33 06.30	-36 15 01.7	413	1993 MO	1993 09 16.45810	18 57 34.57	-50 28 22.0	18.6	474
(5646)	1993 08 24.44596	16 33 06.65	-36 15 01.1	413	1993 MO	1993 09 16.48206	18 57 39.29	-50 28 29.9		474
(5646)	1993 09 02.48269	16 53 49.67	-35 41 33.8	413	1993 OV <sub>1</sub>	1993 08 10.66704	21 30 02.68	-09 04 59.7	16.5	474
(5646)	1993 09 02.48775	16 53 50.42	-35 41 32.6	413	1993 OV <sub>1</sub>	1993 08 10.67329	21 30 02.27	-09 04 52.8		474
(5649)	1993 08 24.59424	19 46 10.66	-49 39 01.8	413	1993 OV <sub>1</sub>	1993 08 15.68539	21 25 05.44	-07 35 35.8	16.9	474
(5649)	1993 08 24.59721	19 46 10.47	-49 39 00.0	413	1993 OV <sub>1</sub>	1993 08 15.69645	21 25 04.78	-07 35 24.8		474
(5649)	1993 08 24.59983	19 46 10.30	-49 38 58.5	413	1993 UC	1993 10 24.52043	00 45 59.47	-26 48 45.7		474
(5658)	1993 08 25.76938	21 24 01.69	-12 21 32.8	413	1993 UC	1993 10 24.56759	00 45 54.98	-26 49 54.7		474
(5658)	1993 08 25.77101	21 24 01.61	-12 21 33.1	413	1993 UC	1993 10 24.61453	00 45 50.59	-26 51 03.0	17.6	474
(5658)	1993 08 25.77249	21 24 01.54	-12 21 33.4	413	(5645)	1993 08 10.60280	20 03 53.39	-51 08 11.5		474
(5659)	1993 08 25.77471	21 35 36.51	-02 58 16.6	413	(5645)	1993 08 10.62838	20 03 49.29	-51 08 12.3		474
(5659)	1993 08 25.77670	21 35 36.39	-02 58 17.1	413	(5645)	1993 08 15.62394	19 51 05.65	-51 05 19.3	18.9	474
(5678)	1993 08 24.50554	17 15 54.41	-67 30 49.2	413	(5645)	1993 08 15.65258	19 51 01.67	-51 05 14.1		474
(5678)	1993 08 24.50824	17 15 54.58	-67 30 48.0	I 413						
(5678)	1993 09 23.48818	18 15 04.01	-63 21 24.4	413						
(5678)	1993 09 23.49038	18 15 04.35	-63 21 23.2	413						
(5678)	1993 09 23.52141	18 15 09.12	-63 21 04.1	413						
(5678)	1993 09 23.52355	18 15 09.46	-63 21 02.6	413						
(5680)	1993 08 25.76345	21 20 43.48	-18 01 31.4	413						
(5680)	1993 08 25.76549	21 20 43.41	-18 01 31.8	413						
(5680)	1993 08 25.76760	21 20 43.32	-18 01 32.2	413						
(5682)	1993 08 24.42779	15 20 46.41	-12 15 52.0	413						
(5682)	1993 08 24.43060	15 20 46.60	-12 15 52.8	413						
(5682)	1993 09 23.41642	16 08 05.77	-14 57 42.8	413						
(5687)	1993 08 24.43409	16 30 42.72	-12 15 34.8	413						
(5687)	1993 08 24.43669	16 30 42.80	-12 15 35.5	413						
(5687)	1993 08 24.43999	16 30 42.89	-12 15 36.8	413						
(5690)	1993 08 24.41221	14 48 45.60	-45 16 38.8	413						
(5690)	1993 08 24.41611	14 48 45.80	-45 16 38.3	413						
(5692)	1993 08 25.78834	22 26 13.05	-00 47 10.4	413						
(5692)	1993 08 25.79066	22 26 12.95	-00 47 11.6	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

**494 Stakenbridge**

B. G. W. Manning, Moonrakers, Stakenbridge, Churchill, Kidderminster, Worcs.

DY10 3LS, England

0.2-m reflector + CCD

PPM

(4751)	1993 10 10.87477	21 22 00.97	-16 21 57.3	494
(4751)	1993 10 14.88514	21 22 54.15	-16 19 17.2	494
(4751)	1993 10 15.81095	21 23 09.38	-16 18 22.5	494
(4751)	1993 10 15.83271	21 23 09.82	-16 18 20.3	494

**557 Ondřejov**

P. Pravec, Astronomical Institute, Czech Academy of Sciences, CS-25165 Ondřejov, Czech Republic

0.18-m *f*/5.6 Maksutov + CCD

1993 MF	1993 09 18.96546	00 20 58.40	+34 12 03.7	557
1993 MF	1993 09 18.96738	00 20 58.46	+34 12 00.9	557
1993 MF	1993 09 18.96976	00 20 58.52	+34 11 57.2	557
1993 MF	1993 09 18.97236	00 20 58.59	+34 11 53.2	557
1993 MF	1993 09 18.97780	00 20 58.73	+34 11 44.9	557
1993 MF	1993 09 18.98186	00 20 58.80	+34 11 38.2	557
1993 MF	1993 09 18.98323	00 20 58.83	+34 11 36.3	557
(27)	1993 10 07.82569	00 25 02.57	-00 24 06.3	557
(27)	1993 10 07.82773	00 25 02.44	-00 24 08.7	557
(27)	1993 10 07.82833	00 25 02.39	-00 24 08.3	557
(27)	1993 10 07.82894	00 25 02.36	-00 24 08.7	557

(27)	1993 10 07.82954	00 25 02.33	-00 24 09.3	557	1993 RC	1993 09 13.83052	23 57 55.46	+04 42 57.7	589	
(27)	1993 10 07.83014	00 25 02.28	-00 24 08.4	557	1993 RC	1993 09 13.85881	23 57 54.39	+04 42 39.1	589	
(27)	1993 10 07.83074	00 25 02.27	-00 24 09.2	557	1993 RC	1993 09 15.85594	23 56 40.11	+04 22 27.8	589	
(27)	1993 10 07.83196	00 25 02.17	-00 24 09.7	557	1993 RC	1993 09 15.88803	23 56 38.87	+04 22 07.7	589	
(27)	1993 10 07.83256	00 25 02.12	-00 24 09.9	557	1993 RC	1993 09 15.90275	23 56 38.36	+04 21 58.7	589	
<b>565 Bassano Bresciano</b>					1993 RC	1993 09 17.90604	23 55 22.88	+04 01 22.5	589	
U. Quadri, Osservatorio di Bassano Bresciano, Via S. Michele 4, I-25020 Bassano					1993 RC	1993 09 17.92060	23 55 22.35	+04 01 14.0	589	
Brescia (Brescia), Italy					1993 RC	1993 09 21.83493	23 52 54.28	+03 20 25.2	17.5 V 589	
Observers U. Quadri, L. Strabla					1993 RC	1993 09 21.84663	23 52 53.86	+03 20 18.3	589	
0.3-0.4-m <i>f</i> /3.3 Schmidt					1993 RC	1993 09 21.85821	23 52 53.32	+03 20 11.3	589	
AGK3, SAOC					1993 RC	1993 09 21.87509	23 52 52.68	+03 19 58.5	589	
1993 TJ <sub>2</sub>	* 1993 10 15.90001	01 48 19.96	+10 26 59.0	16.5	565	1993 RC	1993 09 22.91139	23 52 13.57	+03 09 05.7	589
1993 TJ <sub>2</sub>	1993 10 15.92256	01 48 18.88	+10 26 55.6	565	1993 RC	1993 10 09.82872	23 42 33.36	+00 15 31.6	589	
1993 TK <sub>2</sub>	* 1993 10 15.90001	01 50 25.96	+13 26 50.1	15.5	565	1993 RC	1993 10 09.84278	23 42 32.84	+00 15 22.8	589
1993 TK <sub>2</sub>	1993 10 15.92256	01 50 24.52	+13 26 49.4	565	1993 RC	1993 10 09.85611	23 42 32.44	+00 15 14.7	589	
<b>568 Mauna Kea Observatory</b>					1993 RH	1993 10 19.83459	23 30 41.22	+01 30 05.2	16.0 V 589	
D. J. Tholen, Institute for Astronomy, 2680 Woodlawn Drive, Honolulu, HI 96822,					1993 RH	1993 10 19.85088	23 30 40.64	+01 30 10.0	589	
U.S.A.					1993 RH	1993 10 19.87605	23 30 39.74	+01 30 17.5	589	
Observer D. J. Tholen					1993 RH	1993 10 20.84372	23 30 08.34	+01 35 09.4	589	
2.2-m reflector + CCD					1993 RH	1993 10 20.85806	23 30 07.85	+01 35 13.9	589	
GSC					1993 RH	1993 10 20.87617	23 30 07.25	+01 35 19.4	589	
(1620)	1993 09 11.61390	06 36 08.34	+36 25 26.4	568	1993 SD	* 1993 09 16.79685	23 53 53.19	+04 45 14.3	589	
<b>589 Santa Lucia Stroncone</b>					1993 SD	1993 09 16.83037	23 53 51.85	+04 44 56.5	589	
A. Vagnozzi, Via Santa Lucia 68, I-05039 Stroncone (Terni), Italy					1993 SD	1993 09 16.83917	23 53 51.43	+04 44 53.2	589	
Observers A. Vagnozzi, V. Risoldi, G. Bernabei, E. Gregori, F. Lombardi					1993 SD	1993 09 16.86575	23 53 50.29	+04 44 39.8	589	
0.50-m <i>f</i> /2.8 Ritchey-Chrétien + CCD					1993 SD	1993 09 16.87809	23 53 49.79	+04 44 34.0	589	
GSC					1993 SD	1993 09 18.95500	23 52 24.25	+04 27 17.9	589	
1993 RB	1993 09 13.78347	23 57 10.82	+04 57 00.9	589	1993 SD	1993 09 18.96648	23 52 23.78	+04 27 12.0	589	
1993 RB	1993 09 13.79721	23 57 09.99	+04 56 59.2	589	1993 SD	1993 09 18.98212	23 52 23.14	+04 27 04.7	589	
1993 RB	1993 09 13.81094	23 57 09.10	+04 56 58.2	589	1993 SD	1993 09 20.82690	23 51 07.22	+04 11 30.0	589	
1993 RB	1993 09 16.79685	23 53 56.34	+04 50 10.0	589	1993 SD	1993 09 20.84104	23 51 06.61	+04 11 22.8	589	
1993 RB	1993 09 16.83917	23 53 53.50	+04 50 03.6	589	1993 SD	1993 09 21.80790	23 50 26.77	+04 03 09.5	589	
1993 RB	1993 09 16.87809	23 53 50.92	+04 49 58.1	589	1993 SD	1993 09 21.81906	23 50 26.32	+04 03 03.2	589	
1993 RB	1993 09 17.81976	23 52 49.58	+04 47 36.5	589	1993 SD	1993 10 09.87267	23 39 06.59	+01 29 51.6	589	
1993 RB	1993 09 17.84693	23 52 47.70	+04 47 33.4	589	1993 SD	1993 10 09.88424	23 39 06.20	+01 29 46.1	589	
1993 RB	1993 09 17.87280	23 52 45.95	+04 47 29.5	589	1993 SD	1993 10 09.92229	23 39 04.96	+01 29 27.8	589	
1993 RB	1993 09 17.88271	23 52 45.28	+04 47 28.0	589	1993 SE	* 1993 09 17.81976	23 52 26.66	+04 51 43.8	589	
1993 RB	1993 09 19.87789	23 50 34.31	+04 42 13.2	17.3 V 589	1993 SE	1993 09 17.83134	23 52 25.95	+04 51 40.1	589	
1993 RB	1993 09 19.88783	23 50 33.56	+04 42 10.8	589	1993 SE	1993 09 17.84693	23 52 25.01	+04 51 35.6	589	
1993 RB	1993 09 19.89945	23 50 32.79	+04 42 08.7	589	1993 SE	1993 09 17.85826	23 52 24.30	+04 51 32.6	589	
1993 RB	1993 09 20.87012	23 49 29.00	+04 39 29.6	589	1993 SE	1993 09 17.87280	23 52 23.41	+04 51 28.3	589	
1993 RB	1993 09 20.88108	23 49 28.28	+04 39 26.4	589	1993 SE	1993 09 17.88271	23 52 22.83	+04 51 25.4	589	
1993 RB	1993 09 20.89869	23 49 27.06	+04 39 24.5	589	1993 SE	1993 09 19.87789	23 50 23.85	+04 41 46.7	17.0 V 589	
1993 RB	1993 09 22.83278	23 47 20.05	+04 33 52.3	589	1993 SE	1993 09 19.88783	23 50 23.20	+04 41 42.8	589	
1993 RB	1993 09 22.84545	23 47 19.21	+04 33 49.8	589	1993 SE	1993 09 19.89945	23 50 22.55	+04 41 40.2	589	
1993 RB	1993 09 22.85792	23 47 18.39	+04 33 47.8	589	1993 SE	1993 09 20.87012	23 49 24.74	+04 36 52.4	589	
1993 RB	1993 10 04.76167	23 34 54.51	+03 56 36.2	589	1993 SE	1993 09 20.88108	23 49 24.06	+04 36 49.1	589	
1993 RB	1993 10 04.77133	23 34 53.94	+03 56 34.6	589	1993 SE	1993 09 20.89869	23 49 23.01	+04 36 43.2	589	
1993 RB	1993 10 04.78066	23 34 53.37	+03 56 33.4	589	1993 SE	1993 09 22.83278	23 47 28.30	+04 27 03.2	589	
1993 RB	1993 10 04.79111	23 34 52.75	+03 56 30.8	589	1993 SE	1993 09 22.84545	23 47 27.54	+04 26 59.5	589	
					1993 SE	1993 09 22.85792	23 47 26.75	+04 26 55.7	589	
					1993 SE	1993 09 23.83244	23 46 29.35	+04 21 59.8	589	



1993 SE	1993 09 23.84233	23 46 28.80	+04 21 56.7	589	1993 SO <sub>2</sub>	1993 10 19.87605	23 29 50.81	+01 33 03.3		589
1993 SE	1993 09 23.85633	23 46 27.97	+04 21 53.1	589	1993 SF <sub>3</sub>	* 1993 09 21.85821	23 52 31.17	+03 21 50.4	18.0 V	589
1993 SE	1993 10 12.80312	23 29 54.94	+02 47 16.8	589	1993 SF <sub>3</sub>	1993 09 21.87509	23 52 30.20	+03 21 45.7		589
1993 SE	1993 10 12.82552	23 29 53.97	+02 47 10.9	589	1993 TH	1993 10 11.91414	00 57 24.55	+11 38 44.3	16.5 V	589
1993 SE	1993 10 12.83799	23 29 53.43	+02 47 06.3	589	1993 TH	1993 10 11.92128	00 57 24.16	+11 38 40.1		589
1993 SE	1993 10 12.84830	23 29 52.99	+02 47 04.4	589	1993 TH	1993 10 11.93087	00 57 23.70	+11 38 34.6		589
1993 SF	* 1993 09 17.84693	23 52 09.11	+04 50 59.3	589	1993 TJ	* 1993 10 10.79042	23 32 10.73	+03 09 11.2	17.5 V	589
1993 SF	1993 09 17.85826	23 52 08.39	+04 50 56.3	589	1993 TJ	1993 10 10.81007	23 32 10.04	+03 09 02.9		589
1993 SF	1993 09 17.87280	23 52 07.44	+04 50 52.4	589	1993 TJ	1993 10 10.83066	23 32 09.34	+03 08 54.7		589
1993 SF	1993 09 17.88271	23 52 06.89	+04 50 50.5	589	1993 TJ	1993 10 11.87257	23 31 36.18	+03 01 47.7		589
1993 SF	1993 09 19.87789	23 50 05.47	+04 42 09.6	17.5 V	589	1993 TJ	1993 10 11.88695	23 31 35.66	+03 01 41.7	589
1993 SF	1993 09 19.88783	23 50 04.74	+04 42 06.3	589	1993 TJ	1993 10 11.89634	23 31 35.34	+03 01 37.9		589
1993 SF	1993 09 19.89945	23 50 04.09	+04 42 03.9	589	1993 TJ	1993 10 18.86998	23 28 20.16	+02 16 14.3		589
1993 SF	1993 09 20.87012	23 49 04.91	+04 37 41.7	589	1993 TJ	1993 10 18.87799	23 28 19.92	+02 16 10.3		589
1993 SF	1993 09 20.88108	23 49 04.20	+04 37 39.4	589	1993 TK	* 1993 10 10.90151	23 37 27.12	+01 25 30.9	17.0 V	589
1993 SF	1993 09 20.89869	23 49 03.07	+04 37 34.3	589	1993 TK	1993 10 10.91214	23 37 26.74	+01 25 30.8		589
1993 SF	1993 09 22.83278	23 47 05.14	+04 28 39.8	589	1993 TK	1993 10 10.92775	23 37 26.13	+01 25 31.4		589
1993 SF	1993 09 22.84545	23 47 04.27	+04 28 35.4	589	1993 TK	1993 10 11.76445	23 36 59.54	+01 26 13.9		589
1993 SF	1993 09 22.85792	23 47 03.49	+04 28 33.0	589	1993 TK	1993 10 11.78160	23 36 59.12	+01 26 14.1		589
1993 SF	1993 09 23.83244	23 46 04.14	+04 23 56.5	589	1993 TK	1993 10 16.87164	23 34 45.07	+01 31 55.8		589
1993 SF	1993 09 23.84233	23 46 03.53	+04 23 54.5	589	1993 TK	1993 10 16.87971	23 34 44.84	+01 31 54.9		589
1993 SF	1993 09 23.85633	23 46 02.61	+04 23 49.7	589	1993 TK	1993 10 16.89943	23 34 44.34	+01 31 58.7		589
1993 SF	1993 10 10.86215	23 30 20.62	+03 01 26.1	589	1993 TJ <sub>2</sub>	1993 10 18.96483	01 45 54.50	+10 17 04.1		589
1993 SF	1993 10 10.87245	23 30 20.14	+03 01 23.4	589	1993 TJ <sub>2</sub>	1993 10 18.97628	01 45 53.97	+10 17 02.8		589
1993 SM <sub>2</sub>	* 1993 09 21.83493	23 52 47.30	+03 21 25.9	17.8 V	589	1993 TK <sub>2</sub>	1993 10 19.93179	01 46 14.03	+13 23 04.9	589
1993 SM <sub>2</sub>	1993 09 21.84663	23 52 46.71	+03 21 18.7	589	1993 TK <sub>2</sub>	1993 10 19.95542	01 46 12.52	+13 23 03.7		589
1993 SM <sub>2</sub>	1993 09 21.85821	23 52 46.12	+03 21 11.9	589	<b>595 Farra d'Isonzo</b>					
1993 SM <sub>2</sub>	1993 09 21.87509	23 52 45.18	+03 21 00.9	589	L. Bittesini, Via dei Conventi 10, I-34070 Farra D'Isonzo (GO), Italy					
1993 SM <sub>2</sub>	1993 09 22.90176	23 51 53.10	+03 10 34.5	589	Observers L. Bittesini, W. Boschin, F. Bressan, G. Lombardi, E. Pettarin,					
1993 SM <sub>2</sub>	1993 09 22.91139	23 51 52.57	+03 10 27.4	589	G. Panterotto, F. Piani, A. Toso					
1993 SN <sub>2</sub>	* 1993 09 21.83493	23 53 21.41	+03 22 29.0	17.8 V	Measurers E. Pettarin, A. Toso					
1993 SN <sub>2</sub>	1993 09 21.84663	23 53 20.72	+03 22 24.9	589	0.4-m f/4.5 reflector + CCD					
1993 SN <sub>2</sub>	1993 09 21.85821	23 53 20.11	+03 22 21.3	589	GSC					
1993 SN <sub>2</sub>	1993 09 21.87509	23 53 19.14	+03 22 14.0	589	1993 OV <sub>1</sub>	1993 09 21.79066	21 15 56.60	-01 47 32.8		595
1993 SN <sub>2</sub>	1993 09 22.90176	23 52 23.29	+03 16 10.5	589	1993 OV <sub>1</sub>	1993 09 21.81618	21 15 57.10	-01 47 25.1		595
1993 SN <sub>2</sub>	1993 09 22.91139	23 52 22.79	+03 16 07.4	589	1993 QP	1993 09 13.95251	23 26 48.91	+29 28 12.8		595
1993 SN <sub>2</sub>	1993 10 10.90151	23 37 34.91	+01 28 48.5	589	1993 QP	1993 09 13.97993	23 26 50.24	+29 28 44.5		595
1993 SN <sub>2</sub>	1993 10 10.91214	23 37 34.40	+01 28 46.8	589	1993 QP	1993 09 15.96771	23 28 43.16	+30 04 33.3		595
1993 SN <sub>2</sub>	1993 10 10.92775	23 37 33.69	+01 28 40.9	589	1993 QP	1993 09 15.98933	23 28 44.08	+30 04 54.5		595
1993 SN <sub>2</sub>	1993 10 11.78160	23 37 00.36	+01 24 04.2	589	1993 RB	1993 09 23.92159	23 46 08.61	+04 30 38.8		595
1993 SN <sub>2</sub>	1993 10 11.80333	23 36 59.47	+01 23 57.4	589	1993 RB	1993 09 23.93495	23 46 07.76	+04 30 35.9		595
1993 SN <sub>2</sub>	1993 10 18.91466	23 33 05.07	+00 49 18.9	589	1993 RB	1993 09 23.99832	23 46 03.44	+04 30 24.8		595
1993 SN <sub>2</sub>	1993 10 18.93504	23 33 04.48	+00 49 12.8	589	1993 SE	1993 09 23.92159	23 46 23.92	+04 21 33.4		595
1993 SN <sub>2</sub>	1993 10 18.94467	23 33 04.17	+00 49 10.4	589	1993 SE	1993 09 23.93495	23 46 23.17	+04 21 29.8		595
1993 SO <sub>2</sub>	* 1993 09 22.83278	23 46 54.87	+04 32 37.4	18.0 V	589	1993 SE	1993 09 23.99832	23 46 19.29	+04 21 09.2	595
1993 SO <sub>2</sub>	1993 09 22.84545	23 46 54.26	+04 32 33.1	589	1993 SF	1993 09 23.92159	23 45 58.40	+04 23 31.5		595
1993 SO <sub>2</sub>	1993 09 22.85792	23 46 53.65	+04 32 26.8	589	1993 SF	1993 09 23.93495	23 45 57.72	+04 23 28.6		595
1993 SO <sub>2</sub>	1993 09 23.83244	23 46 09.85	+04 25 43.9	589	1993 SO <sub>2</sub>	1993 09 23.92159	23 46 05.67	+04 25 05.8		595
1993 SO <sub>2</sub>	1993 09 23.84233	23 46 09.38	+04 25 39.3	589	1993 SO <sub>2</sub>	1993 09 23.93495	23 46 05.09	+04 25 00.9		595
1993 SO <sub>2</sub>	1993 09 23.85633	23 46 08.70	+04 25 32.6	589	1993 SO <sub>2</sub>	1993 09 23.99832	23 46 02.12	+04 24 34.5		595
1993 SO <sub>2</sub>	1993 10 19.83459	23 29 51.89	+01 33 18.3	589	1993 SF <sub>3</sub>	1993 09 23.96804	23 50 36.07	+03 11 40.9	F	595
1993 SO <sub>2</sub>	1993 10 19.85088	23 29 51.52	+01 33 12.5	589	1993 SF <sub>3</sub>	1993 09 24.01485	23 50 33.44	+03 11 26.6	F	595

1993 SG <sub>3</sub>	* 1993 09 19.87766	00 00 48.19	-01 05 32.8	595	1993 SG	* 1993 09 20.88387	01 15 43.71	+11 57 16.5	15.7 V	596
1993 SG <sub>3</sub>	1993 09 19.94233	00 00 44.61	-01 06 01.8	595	1993 SG	1993 09 20.93854	01 15 41.09	+11 57 20.2		596
1993 SG <sub>3</sub>	1993 09 20.92488	23 59 51.38	-01 13 26.8	595	1993 SG	1993 09 21.91641	01 15 01.04	+11 58 31.5		596
1993 SG <sub>3</sub>	1993 09 20.97288	23 59 48.62	-01 13 47.9	595	1993 SG	1993 09 21.93958	01 15 00.08	+11 58 33.0		596
1993 SG <sub>3</sub>	1993 10 04.78760	23 47 34.31	-02 54 19.6	595	1993 SG	1993 09 22.88224	01 14 19.97	+11 59 32.2		596
1993 SG <sub>3</sub>	1993 10 04.81619	23 47 32.97	-02 54 31.7	595	1993 SG	1993 09 22.93462	01 14 17.88	+11 59 34.4		596
1993 SG <sub>3</sub>	1993 10 04.83216	23 47 32.13	-02 54 39.2	595	1993 SG	1993 09 23.89115	01 13 35.47	+12 00 23.5		596
1993 SG <sub>3</sub>	1993 10 15.90035	23 39 18.91	-04 01 42.4	595	1993 SG	1993 09 23.92828	01 13 33.86	+12 00 25.5		596
1993 SG <sub>3</sub>	1993 10 15.91424	23 39 18.21	-04 01 46.5	595	1993 SG	1993 09 25.87304	01 12 03.89	+12 01 30.9		596
1993 SG <sub>3</sub>	1993 10 15.92800	23 39 17.73	-04 01 52.0	595	1993 SG	1993 09 25.91296	01 12 01.61	+12 01 31.9		596
(4431)	1993 09 21.90347	21 16 18.79	-01 00 55.1	595	1993 SG	1993 09 26.86863	01 11 15.68	+12 01 51.6		596
(4431)	1993 09 21.94046	21 16 18.02	-01 01 08.6	595	1993 SG	1993 09 26.91049	01 11 13.52	+12 01 52.4		596
					1993 SG	1993 10 04.76282	01 04 18.51	+11 58 29.5		596
<b>596 Colleverde di Guidonia</b>					1993 SG	1993 10 04.79701	01 04 16.40	+11 58 28.4		596
V. S. Casulli, Via M. Rosa 1, I-00010 Colleverde di Guidonia (RM), Italy					1993 SG	1993 10 04.83597	01 04 14.23	+11 58 27.4		596
0.31-m <i>f</i> /2.8 Baker-Schmidt + CCD					1993 SG	1993 10 04.88709	01 04 11.47	+11 58 25.0		596
GSC					1993 SG	1993 10 07.78783	01 01 27.52	+11 54 45.6		M 596
1929 VS	1993 10 10.90391	03 01 38.49	+17 03 43.6	596	1993 SG	1993 10 07.82576	01 01 25.38	+11 54 44.4		596
1929 VS	1993 10 10.94150	03 01 37.09	+17 03 46.8	596	1993 SG	1993 10 09.84844	00 59 30.12	+11 51 38.3		M 596
1929 VS	1993 10 10.95648	03 01 36.55	+17 03 46.5	596	1993 SG	1993 10 09.87245	00 59 28.85	+11 51 37.6		596
1976 GY <sub>3</sub>	1993 09 10.83967	22 38 17.93	-04 48 35.9	596	1993 SG	1993 10 10.76376	00 58 38.58	+11 50 05.5		596
1976 GY <sub>3</sub>	1993 09 10.85714	22 38 16.90	-04 48 46.0	596	1993 SG	1993 10 10.79362	00 58 36.79	+11 50 00.5		596
1976 GY <sub>3</sub>	1993 09 10.87264	22 38 16.22	-04 48 50.6	596	1993 SG	1993 10 10.82332	00 58 34.71	+11 49 56.2		596
1977 TC <sub>1</sub>	1993 09 15.87424	23 48 06.49	+04 59 54.1	596	1993 SG	1993 10 10.85080	00 58 33.04	+11 49 53.4		596
1977 TC <sub>1</sub>	1993 09 15.89785	23 48 05.37	+04 59 43.7	596	1993 SG	1993 10 10.86957	00 58 31.96	+11 49 52.3		596
1979 SR	1993 09 20.88387	01 16 08.21	+11 56 46.9	596	1993 SG	1993 10 11.80525	00 57 39.01	+11 48 10.1		596
1979 SR	1993 09 20.91181	01 16 07.19	+11 56 37.2	596	1993 SG	1993 10 11.85125	00 57 36.21	+11 48 05.5		596
1979 SR	1993 09 20.93854	01 16 06.26	+11 56 26.9	596	1993 SG	1993 10 11.86514	00 57 35.44	+11 48 05.4		596
1983 RX	1993 09 23.82495	00 22 52.73	+09 07 40.7	596	1993 SG	1993 10 13.83230	00 55 44.81	+11 44 18.4		596
1983 RX	1993 09 23.85208	00 22 50.97	+09 07 34.8	596	1993 SG	1993 10 13.85552	00 55 43.39	+11 44 16.0		596
1983 RX	1993 09 23.86677	00 22 50.05	+09 07 32.3	596	1993 SG	1993 10 13.86441	00 55 42.88	+11 44 13.3		596
1985 TM <sub>1</sub>	1993 10 16.92680	03 24 27.17	+25 40 19.7	596	1993 SG	1993 10 16.82185	00 53 00.50	+11 38 02.1		596
1985 TM <sub>1</sub>	1993 10 16.94502	03 24 26.45	+25 40 32.1	596	1993 SG	1993 10 16.83094	00 52 59.96	+11 38 01.4		596
1985 TM <sub>1</sub>	1993 10 16.94883	03 24 26.10	+25 40 35.7	596	1993 SG	1993 10 16.84617	00 52 59.18	+11 37 59.6		596
1986 RB <sub>5</sub>	1993 10 11.91847	02 56 35.35	+05 29 04.6	596	1993 SG	1993 10 16.85608	00 52 58.51	+11 37 57.2		596
1986 RB <sub>5</sub>	1993 10 11.94466	02 56 34.09	+05 28 56.4	596	1993 SG	1993 10 17.80113	00 52 08.18	+11 35 53.2		596
1986 RB <sub>5</sub>	1993 10 11.95669	02 56 33.56	+05 28 50.5	596	1993 SG	1993 10 17.82105	00 52 07.06	+11 35 53.3		596
1986 XF <sub>1</sub>	1993 09 15.82347	22 49 39.71	-02 36 30.3	596	1993 SG	1993 10 17.83630	00 52 06.19	+11 35 47.4		596
1986 XF <sub>1</sub>	1993 09 15.83626	22 49 38.91	-02 36 32.3	596	1993 SG	1993 10 17.83630	00 52 06.19	+11 35 47.4		596
1986 XF <sub>1</sub>	1993 09 15.85289	22 49 38.19	-02 36 37.2	596	1993 TD	1993 10 10.82332	00 59 07.73	+11 43 13.3	16.0 V	596
1989 UA	1993 10 07.91205	02 24 21.28	+08 06 01.4	596	1993 TD	1993 10 10.85080	00 59 05.93	+11 43 17.8		596
1989 UA	1993 10 07.93597	02 24 20.11	+08 06 02.6	596	1993 TD	1993 10 10.86957	00 59 04.50	+11 43 19.7		596
1990 XP	1993 10 16.87267	01 55 12.66	+08 33 46.5	596	1993 TD	* 1993 10 11.80525	00 58 02.10	+11 44 53.3	16.0 V	596
1990 XP	1993 10 16.88651	01 55 11.92	+08 33 38.9	596	1993 TD	1993 10 11.86514	00 57 57.71	+11 44 59.9		596
1990 XP	1993 10 16.90052	01 55 11.15	+08 33 31.2	596	1993 TD	1993 10 12.78569	00 56 56.39	+11 46 32.8		596
1991 FV	1993 09 20.82591	23 31 16.77	+12 55 33.4	596	1993 TD	1993 10 12.81569	00 56 53.96	+11 46 36.2		596
1991 FV	1993 09 20.85113	23 31 15.72	+12 55 26.7	596	1993 TD	1993 10 12.86812	00 56 50.34	+11 46 43.4		596
1991 FV	1993 09 20.86465	23 31 15.07	+12 55 22.6	596	1993 TD	1993 10 16.82185	00 52 28.38	+11 52 33.0		596
1991 GG <sub>1</sub>	1993 09 19.84382	23 57 29.88	+07 04 29.9	596	1993 TD	1993 10 16.83094	00 52 28.03	+11 52 36.1		596
1991 GG <sub>1</sub>	1993 09 19.86660	23 57 28.64	+07 04 25.0	596	1993 TD	1993 10 16.84617	00 52 26.87	+11 52 34.9		596
1991 GG <sub>1</sub>	1993 09 19.89187	23 57 27.36	+07 04 22.1	596	1993 TD	1993 10 16.85608	00 52 26.17	+11 52 34.7		596
1993 RB	1993 09 11.89854	23 59 09.55	+05 00 48.8	596	1993 TD	1993 10 19.74926	00 49 20.92	+11 56 17.9		596
1993 RB	1993 09 11.90817	23 59 09.05	+05 00 47.5	596	1993 TD	1993 10 19.78933	00 49 18.44	+11 56 20.8		596

1993 TD	1993 10 19.82389	00 49 15.94	+11 56 22.4		596	1981 EK <sub>8</sub>	1993 09 16.41299	00 50 34.47	+15 16 14.3	658
1993 TH	* 1993 10 10.76376	00 58 20.29	+11 49 18.7	16.5 V	596	1981 EK <sub>8</sub>	1993 09 16.41638	00 50 34.29	+15 16 13.8	658
1993 TH	1993 10 10.79362	00 58 19.06	+11 49 03.1		596	1981 EK <sub>8</sub>	1993 09 16.41985	00 50 34.11	+15 16 13.0	658
1993 TH	1993 10 10.82332	00 58 17.08	+11 48 43.3		596	1981 EK <sub>8</sub>	1993 09 16.42303	00 50 33.94	+15 16 12.5	658
1993 TH	1993 10 10.85080	00 58 15.86	+11 48 27.2		596	1981 EC <sub>13</sub>	1993 09 16.38962	00 47 19.06	+14 02 14.5	658
1993 TH	1993 10 10.86957	00 58 14.99	+11 48 16.2		596	1981 EC <sub>13</sub>	1993 09 16.39238	00 47 18.96	+14 02 14.5	658
1993 TQ <sub>1</sub>	1993 10 16.87267	01 56 00.68	+08 46 05.6	16.4 V	596	1981 EC <sub>13</sub>	1993 09 16.39565	00 47 18.80	+14 02 14.1	658
1993 TQ <sub>1</sub>	1993 10 16.88651	01 55 59.91	+08 46 01.6		596	1981 EC <sub>13</sub>	1993 09 20.42245	00 44 19.54	+13 52 55.3	658
1993 TQ <sub>1</sub>	1993 10 16.90052	01 55 59.10	+08 45 57.3		596	1981 EC <sub>13</sub>	1993 09 20.42786	00 44 19.29	+13 52 54.4	658
1993 TQ <sub>1</sub>	1993 10 17.89273	01 55 09.33	+08 39 10.7		596	1981 EC <sub>13</sub>	1993 09 20.43244	00 44 19.06	+13 52 53.7	658
1993 TQ <sub>1</sub>	1993 10 18.87315	01 54 19.67	+08 32 31.8		596	1983 RB	1993 09 16.47303	01 29 33.12	-04 09 51.0	658
1993 TQ <sub>1</sub>	1993 10 18.89340	01 54 18.40	+08 32 26.8		596	1983 RB	1993 09 16.47569	01 29 32.96	-04 09 56.5	658
1993 TQ <sub>1</sub>	1993 10 19.84120	01 53 30.06	+08 25 57.0		596	1983 RB	1993 09 20.40972	01 25 54.48	-06 27 27.6	658
1993 TQ <sub>1</sub>	1993 10 19.89155	01 53 27.37	+08 25 39.9		596	1983 RB	1993 09 20.41363	01 25 54.24	-06 27 35.5	658
<b>597 Springe</b>						1983 RB	1993 09 20.41707	01 25 54.02	-06 27 42.6	658
N. Ehring, Detmoldstrasse 8, D-30171 Hannover, Germany						1989 UY <sub>3</sub>	1993 09 16.34757	22 44 08.63	+23 54 01.2	658
(96)	1993 08 23.90677	23 07 41.58	+03 31 05.1		597	1989 UY <sub>3</sub>	1993 09 16.35102	22 44 08.47	+23 53 59.8	658
(96)	1993 08 23.92403	23 07 40.78	+03 31 04.6		597	1989 UY <sub>3</sub>	1993 09 16.35455	22 44 08.27	+23 53 58.1	658
(174)	1993 08 23.93766	22 39 22.03	-05 31 19.9		597	1991 GZ <sub>9</sub>	1993 09 16.36993	23 39 31.84	+09 09 19.5	658
(174)	1993 08 23.94583	22 39 21.60	-05 31 20.4		597	1991 GZ <sub>9</sub>	1993 09 16.37264	23 39 31.71	+09 09 18.8	658
(335)	1993 08 23.96515	22 55 16.93	-08 21 07.0		597	1991 GZ <sub>9</sub>	1993 09 16.37546	23 39 31.56	+09 09 18.1	658
(335)	1993 08 23.96876	22 55 16.77	-08 21 08.9		597	1991 RC	1993 09 16.16536	17 16 34.40	-07 08 51.2	658
(568)	1993 08 19.86910	20 52 26.68	+09 56 12.9		597	1991 RC	1993 09 16.16919	17 16 35.74	-07 08 59.2	658
(568)	1993 08 19.87802	20 52 26.26	+09 56 10.9		597	1993 KC	1993 09 16.18970	17 36 43.46	+10 39 22.8	658
(709)	1993 08 19.89677	22 46 14.84	-01 56 40.8		597	1993 KC	1993 09 16.19153	17 36 43.74	+10 39 21.9	658
(709)	1993 08 19.90734	22 46 14.23	-01 56 39.5		597	1993 KC	1993 09 16.19344	17 36 44.03	+10 39 20.7	658
<b>657 Victoria, Climenhaga Observatory</b>						1993 KC	1993 09 20.18300	17 46 55.20	+10 04 54.0	658
J. B. Tatum, Dept. of Physics, University of Victoria, P.O. Box 1700, Victoria, BC V8W 2Y2, Canada						1993 KC	1993 09 20.18677	17 46 55.84	+10 04 51.7	658
Observers J. B. Tatum, D. D. Balam						1993 KC	1993 09 20.19110	17 46 56.42	+10 04 49.1	658
Measurer D. D. Balam						1993 ME <sub>1</sub>	1993 09 16.20050	18 30 57.78	+08 33 49.7	658
0.5-m reflector + CCD						1993 ME <sub>1</sub>	1993 09 16.20464	18 30 58.32	+08 33 48.4	658
1990 SM <sub>28</sub>	1993 09 09.35775	00 20 28.64	+07 37 17.6		657	1993 ME <sub>1</sub>	1993 09 16.20774	18 30 58.70	+08 33 47.0	658
1990 SM <sub>28</sub>	1993 09 09.36069	00 20 28.48	+07 37 16.6		657	1993 OV <sub>1</sub>	1993 09 16.22596	21 13 58.23	-02 16 01.5	658
1990 SM <sub>28</sub>	1993 09 09.36406	00 20 28.32	+07 37 16.0		657	1993 OV <sub>1</sub>	1993 09 16.22946	21 13 58.28	-02 16 00.5	658
1991 CY	1993 09 09.34169	00 15 34.84	+16 10 25.9		657	1993 OV <sub>1</sub>	1993 09 16.23581	21 13 58.36	-02 15 58.3	658
1991 CY	1993 09 09.34498	00 15 34.69	+16 10 26.0		657	1993 OV <sub>1</sub>	1993 09 21.20957	21 15 41.13	-01 50 19.4	658
1991 CY	1993 09 09.34853	00 15 34.48	+16 10 24.9		657	1993 OV <sub>1</sub>	1993 09 21.21319	21 15 41.23	-01 50 18.4	658
1993 OV <sub>1</sub>	1993 09 09.20062	21 13 05.92	-02 59 45.1		657	1993 OV <sub>1</sub>	1993 09 21.21664	21 15 41.30	-01 50 17.6	658
1993 OV <sub>1</sub>	1993 09 09.20392	21 13 05.90	-02 59 42.0		657	1993 PB	1993 09 20.23127	20 07 44.39	-07 00 03.4	658
1993 OV <sub>1</sub>	1993 09 09.20709	21 13 05.90	-02 59 41.1		657	1993 PB	1993 09 20.23642	20 07 44.17	-07 00 02.3	658
1993 OV <sub>1</sub>	1993 09 09.21200	21 13 05.95	-02 59 40.3		657	1993 PB	1993 09 20.24144	20 07 44.05	-07 00 01.1	658
1993 RR	1993 09 24.39936	01 55 38.23	+15 07 10.5		657	1993 PB	1993 09 21.17709	20 07 12.80	-06 56 44.9	658
1993 RR	1993 09 24.40897	01 55 38.18	+15 07 15.3		657	1993 PB	1993 09 21.18147	20 07 12.69	-06 56 44.1	658
<b>658 Dominion Astrophysical Observatory, Victoria</b>						1993 PB	1993 09 21.18564	20 07 12.50	-06 56 42.9	658
J. B. Tatum, Dept. of Physics, University of Victoria, P.O. Box 1700, Victoria, BC V8W 2Y2, Canada						1993 PE	1993 09 16.24161	21 04 01.76	-10 27 25.7	658
Observers D. D. Balam, J. B. Tatum, G. C. L. Aikman						1993 PE	1993 09 16.24513	21 04 01.70	-10 27 26.2	658
Measurer D. D. Balam						1993 PE	1993 09 16.24907	21 04 01.62	-10 27 26.7	658
1.82-m Plaskett telescope + CCD						1993 PE	1993 09 20.24604	21 03 14.51	-10 35 46.6	658
GSC						1993 PE	1993 09 20.27389	21 03 14.24	-10 35 49.7	658
					1993 PE	1993 09 20.27855	21 03 14.20	-10 35 50.3	658	
					1993 PE	1993 09 21.19382	21 03 08.03	-10 37 30.4	658	
					1993 PE	1993 09 21.19792	21 03 08.00	-10 37 30.8	658	



(4216)	1993 09 09.40148	00 19 57.86	+05 31 26.5	17.2 R	664
(4216)	1993 09 09.40510	00 19 57.68	+05 31 25.0	17.1 R	664
(4216)	1993 09 09.40872	00 19 57.47	+05 31 23.5	17.2 R	664
(4216)	1993 09 09.41854	00 19 57.00	+05 31 19.7	17.1 R	664
(4216)	1993 09 09.42223	00 19 56.79	+05 31 18.1	17.2 R	664
(4216)	1993 09 09.42591	00 19 56.62	+05 31 16.6	17.2 R	664
(4216)	1993 09 09.42992	00 19 56.42	+05 31 15.0	17.2 R	664
(4216)	1993 09 09.43374	00 19 56.23	+05 31 13.4	17.2 R	664
(4216)	1993 09 09.43742	00 19 56.06	+05 31 11.9	17.2 R	664
(4216)	1993 09 09.44112	00 19 55.85	+05 31 11.2	17.0 R	I 664
(4216)	1993 09 09.44481	00 19 55.68	+05 31 08.6	17.0 R	I 664
(4216)	1993 09 09.48569	00 19 53.64	+05 30 52.3	17.2 R	664
(4216)	1993 09 09.49163	00 19 53.34	+05 30 49.8	17.2 R	664
(4216)	1993 09 09.49531	00 19 53.16	+05 30 48.3	17.2 R	664
(4216)	1993 09 09.49920	00 19 52.96	+05 30 46.7	17.2 R	I 664
(4216)	1993 09 09.50288	00 19 52.78	+05 30 45.1	17.1 R	I 664
(4216)	1993 09 09.50677	00 19 52.60	+05 30 43.5	17.1 R	I 664
(4216)	1993 09 09.51046	00 19 52.42	+05 30 42.1	17.1 R	I 664
(4216)	1993 09 09.51431	00 19 52.22	+05 30 40.5	17.1 R	I 664
(4216)	1993 09 09.51797	00 19 52.03	+05 30 39.2	17.0 R	I 664

**670 Camarillo**

J. E. Rogers, 441 Rowland Avenue, Camarillo, CA 93010, U.S.A.  
0.25-m Schmidt-Cassegrain + CCD  
GSC

1993 RR <sub>2</sub>	1993 10 06.20625	00 48 33.62	-14 12 55.0		670
1993 RR <sub>2</sub>	1993 10 06.21736	00 48 33.36	-14 12 59.9		670
1993 RR <sub>2</sub>	1993 10 06.24138	00 48 32.87	-14 13 15.7		670
1993 RR <sub>2</sub>	1993 10 06.26424	00 48 32.44	-14 13 28.6		670
(27)	1993 10 03.16467	00 29 27.20	+00 03 33.8	10.1 V	670
(27)	1993 10 03.18064	00 29 26.27	+00 03 27.7		670
(27)	1993 10 03.19800	00 29 25.26	+00 03 21.3		670
(27)	1993 10 03.22231	00 29 23.78	+00 03 12.4		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

1993 MF	1993 09 19.36838	00 21 11.90	+34 01 48.5	13.7	674
1993 MF	1993 09 19.37787	00 21 12.11	+34 01 33.8	13.9	674
1993 MF	1993 09 19.38229	00 21 12.25	+34 01 26.6	13.7	674
1993 MF	1993 09 19.38981	00 21 12.44	+34 01 14.7	13.7	674
1993 MF	1993 09 19.39668	00 21 12.54	+34 01 03.8	13.9	674
1993 MF	1993 09 19.40355	00 21 12.68	+34 00 53.5	14.1	674
1993 MF	1993 09 19.40833	00 21 12.84	+34 00 45.6	13.9	674
1993 MF	1993 09 19.44884	00 21 13.72	+33 59 42.3	13.7	674
1993 MF	1993 09 19.46528	00 21 14.13	+33 59 15.1	13.8	674

**675 Palomar**

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

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

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9 = 3 + 6

Observers J. Alu (2, S), T. Gehrels (4, L), E. F. Helin (2, S), H. E. Holt (3, S),  
K. Lawrence (2, S), C. M. Olmstead (3, S), D. Williams (3, S)

Measurers J. Alu (2), B. M. Cudnik (3), K. Lawrence (2), B. A. Skiff (9), C. J. van  
Houten (4), I. van Houten-Groeneveld (4), A. Wisse (4)

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

1951 PS	* 1951 08 06.39444	23 22 45.74	-06 59 42.8	17.5	6 675
1951 PS	1951 08 06.41875	23 22 45.29	-06 59 52.1		6 675
1954 GQ	* 1954 04 02.29132	12 06 55.07	-04 38 16.9	18.0	6 675
1954 GQ	1954 04 02.31458	12 06 53.72	-04 38 04.4		6 675
1978 VV <sub>9</sub>	1993 09 12.23125	21 37 49.49	-10 50 16.4	17.0	2 675
1978 VV <sub>9</sub>	1993 09 12.26649	21 37 48.60	-10 50 19.0		2 675
1978 VV <sub>9</sub>	1993 09 14.18403	21 36 47.56	-10 56 00.5		2 675
1978 VV <sub>9</sub>	1993 09 14.21128	21 36 46.54	-10 56 06.0		2 675
1979 MB <sub>2</sub>	1951 08 06.39444	23 27 40.82	-05 52 30.6		6 675
1979 MB <sub>2</sub>	1951 08 06.41875	23 27 40.39	-05 52 36.9		6 675
1980 LY	1993 09 13.16493	21 37 28.09	-21 31 51.2	16.5	2 675
1980 LY	1993 09 13.19601	21 37 27.09	-21 31 54.0		2 675
1980 LY	1993 09 15.19861	21 36 40.15	-21 34 20.8		2 675
1980 LY	1993 09 15.22222	21 36 39.51	-21 34 20.6		2 675
1981 SJ	1951 08 06.39444	23 20 27.03	-03 42 19.0		6 675
1981 SJ	1951 08 06.41875	23 20 26.70	-03 42 19.9		6 675
1985 RM <sub>6</sub>	1951 08 06.39444	23 19 02.08	-04 09 45.8		6 675
1985 RM <sub>6</sub>	1951 08 06.41875	23 19 01.62	-04 09 51.2		6 675
1985 UC	1993 09 14.24288	22 15 53.63	-29 24 39.5	16.0	2 675
1985 UC	1993 09 14.26840	22 15 52.10	-29 24 22.3		2 675
1985 UC	1993 09 16.21146	22 14 07.62	-29 02 11.6		2 675
1985 UC	1993 09 16.24497	22 14 05.79	-29 01 46.8		2 675
1986 JS	1993 08 20.31615	21 17 56.09	-18 48 40.9	15.0	2 675
1986 JS	1993 08 22.34444	21 16 18.80	-19 05 01.3		2 675
1986 PD <sub>1</sub>	1992 01 09.40313	07 12 38.57	+07 47 44.4	17.0	2 675
1986 PD <sub>1</sub>	1992 01 09.42535	07 12 37.18	+07 47 58.2		2 675
1986 RQ	1993 09 12.35694	23 47 43.12	+10 57 00.6	15.0	2 675
1986 RQ	1993 09 12.37969	23 47 42.18	+10 56 46.1		2 675
1986 RQ	1993 09 13.36563	23 47 00.40	+10 46 06.4	15.0	2 675
1986 RQ	1993 09 13.39948	23 46 58.77	+10 45 44.3		2 675
1986 RQ	1993 09 14.33941	23 46 18.88	+10 35 24.9		2 675
1986 RQ	1993 09 14.36302	23 46 17.73	+10 35 09.7		2 675
1986 RQ	1993 09 16.27847	23 44 55.24	+10 13 20.3		2 675
1986 RQ	1993 09 16.30052	23 44 54.23	+10 13 08.5		2 675
1988 CX <sub>1</sub>	1954 04 02.29132	12 14 13.30	-06 37 45.9		6 675
1988 CX <sub>1</sub>	1954 04 02.31458	12 14 12.17	-06 37 36.4		6 675
1989 GH <sub>4</sub>	1951 08 06.39444	23 22 12.73	-06 48 05.8		6 675
1989 GH <sub>4</sub>	1951 08 06.41875	23 22 11.85	-06 48 07.2		6 675
1989 LN <sub>1</sub>	* 1989 06 03.21771	13 02 12.07	-09 53 51.6	16.5	2 675
1989 LN <sub>1</sub>	1989 06 03.24514	13 02 12.31	-09 53 58.3		2 675
1989 LN <sub>1</sub>	1989 06 05.19288	13 02 43.90	-10 00 16.4		2 675
1989 LN <sub>1</sub>	1989 06 05.21562	13 02 44.27	-10 00 21.1		2 675

1989 PK	1993 09 15.15608	20 44 12.38	-15 06 59.6	16.0	2 675	1993 QN	1993 09 15.42569	23 29 43.89	+49 29 22.7		2 675
1989 PK	1993 09 15.17969	20 44 11.95	-15 06 34.3		2 675	1993 QO	1993 09 12.18819	21 17 06.29	+04 36 32.5	15.5	2 675
1989 PK	1993 09 16.13872	20 44 00.51	-14 49 16.7		2 675	1993 QO	1993 09 12.21545	21 17 04.31	+04 36 46.6		2 675
1989 TJ <sub>1</sub>	1951 08 06.39444	23 14 03.33	-03 55 49.4		6 675	1993 QO	1993 09 14.16563	21 14 52.32	+04 54 31.7		2 675
1989 TJ <sub>1</sub>	1951 08 06.41875	23 14 02.71	-03 55 51.3		6 675	1993 QO	1993 09 14.20017	21 14 49.95	+04 54 50.7		2 675
1989 TJ <sub>1</sub>	1954 04 02.31458	12 18 25.47	-04 11 58.6		6 675	1993 QP	1993 09 12.39323	23 25 18.76	+28 56 48.6	16.5	2 675
1990 XF	1993 09 14.29809	22 43 11.48	+06 14 34.9	15.5	2 675	1993 QP	1993 09 12.41632	23 25 19.82	+28 57 20.2		2 675
1990 XF	1993 09 14.32066	22 43 10.41	+06 14 28.0		2 675	1993 QP	1993 09 15.35573	23 28 08.15	+29 54 07.4		2 675
1990 XF	1993 09 16.23767	22 41 30.94	+06 06 00.3		2 675	1993 QP	1993 09 15.38021	23 28 09.19	+29 54 33.2		2 675
1991 CM <sub>3</sub>	1951 08 06.39444	23 19 55.90	-07 49 08.1		6 675	1993 QS	1993 09 12.23125	21 56 54.97	-10 04 44.5	15.5	2 675
1991 CM <sub>3</sub>	1951 08 06.41875	23 19 55.19	-07 49 14.9		6 675	1993 QS	1993 09 12.26649	21 56 54.42	-10 05 16.0		2 675
1991 DX	1993 08 19.40747	22 50 41.63	+00 15 32.8	16.5	2 675	1993 QS	1993 09 14.18403	21 56 28.95	-10 35 20.1		2 675
1991 DX	1993 08 19.43212	22 50 40.54	+00 15 20.5		2 675	1993 QS	1993 09 14.21128	21 56 28.48	-10 35 44.6		2 675
1991 DX	1993 08 21.36302	22 49 20.02	-00 00 42.6		2 675	1993 QT	1993 09 12.25052	22 21 44.90	-10 07 01.3	15.5	2 675
1991 DX	1993 08 21.38542	22 49 19.05	-00 00 54.0		2 675	1993 QT	1993 09 12.28160	22 21 42.11	-10 06 41.7		2 675
1991 FV	1993 09 13.36563	23 37 01.39	+13 31 18.1	15.0	2 675	1993 QT	1993 09 15.20486	22 17 34.74	-09 37 13.4		2 675
1991 FV	1993 09 13.39948	23 36 59.81	+13 31 10.0		2 675	1993 QT	1993 09 15.22847	22 17 32.84	-09 36 59.0		2 675
1991 FV	1993 09 16.27847	23 34 46.73	+13 18 21.3		2 675	1993 QW	1993 09 13.35938	23 38 02.96	-16 40 34.1	16.5	2 675
1991 FV	1993 09 16.30052	23 34 45.58	+13 18 15.7		2 675	1993 QW	1993 09 13.38594	23 38 02.00	-16 41 21.3		2 675
1991 UB <sub>2</sub>	1954 04 02.29132	11 57 38.50	-08 41 21.3		6 675	1993 QW	1993 09 15.39774	23 36 58.98	-17 38 41.1		2 675
1991 UB <sub>2</sub>	1954 04 02.31458	11 57 37.26	-08 41 10.3		6 675	1993 QW	1993 09 15.41979	23 36 58.16	-17 39 19.0		2 675
1992 BW	1993 09 13.15330	19 59 02.78	-14 57 17.2	16.5	2 675	1993 QY	1993 09 12.30660	22 57 05.68	-16 49 53.9	15.5	2 675
1992 BW	1993 09 13.18368	19 59 02.22	-14 56 56.5		2 675	1993 QY	1993 09 12.32899	22 57 04.84	-16 50 33.1		2 675
1992 BW	1993 09 15.13646	19 58 41.51	-14 34 24.7		2 675	1993 QY	1993 09 15.31163	22 55 27.73	-18 17 14.3		2 675
1993 FR <sub>2</sub>	1951 08 06.39444	23 10 13.94	-03 41 54.4		6 675	1993 QY	1993 09 15.33646	22 55 26.80	-18 17 56.2		2 675
1993 FR <sub>2</sub>	1951 08 06.41875	23 10 13.07	-03 42 01.4		6 675	1993 QZ	1993 09 14.23576	21 58 29.74	-08 53 04.4	16.0	2 675
1993 MF	1989 05 02.24583	13 25 03.55	-17 14 39.7	16.5	2 675	1993 QZ	1993 09 14.26146	21 58 29.03	-08 53 32.2		2 675
1993 MF	1989 05 02.27431	13 25 01.41	-17 14 20.4		2 675	1993 QZ	1993 09 16.18056	21 57 46.36	-09 32 02.8		2 675
1993 MF	1989 05 04.18108	13 22 39.12	-16 50 16.5		2 675	1993 QZ	1993 09 16.20434	21 57 45.80	-09 32 29.1		2 675
1993 MF	1989 05 04.20521	13 22 37.13	-16 49 56.7		2 675	1993 QA <sub>1</sub>	1993 09 13.16493	21 40 05.22	-23 42 13.6	16.5	2 675
1993 MF	1989 06 03.21771	12 58 57.11	-10 43 26.3	16.5	2 675	1993 QA <sub>1</sub>	1993 09 13.19601	21 40 04.28	-23 42 23.6		2 675
1993 MF	1989 06 03.24479	12 58 56.70	-10 43 09.8		2 675	1993 QA <sub>1</sub>	1993 09 15.19861	21 39 14.81	-23 54 01.3		2 675
1993 MF	1989 06 05.19288	12 58 39.20	-10 24 45.7		2 675	1993 QA <sub>1</sub>	1993 09 15.22222	21 39 14.28	-23 54 09.3		2 675
1993 MF	1989 06 05.21562	12 58 39.07	-10 24 35.2		2 675	1993 QB <sub>1</sub>	1993 09 13.16493	21 40 03.17	-20 56 58.8	16.5	2 675
1993 OC	1993 08 19.31007	20 06 41.08	-07 32 53.6	16.0	2 675	1993 QB <sub>1</sub>	1993 09 13.19601	21 40 02.26	-20 56 59.4		2 675
1993 OC	1993 08 19.33438	20 06 39.49	-07 32 37.2		2 675	1993 QB <sub>1</sub>	1993 09 15.19861	21 39 18.48	-20 58 38.2		2 675
1993 OC	1993 08 21.26406	20 04 48.77	-07 11 32.0		2 675	1993 QB <sub>1</sub>	1993 09 15.22222	21 39 17.84	-20 58 37.5		2 675
1993 OD	1993 08 19.31007	20 05 37.96	-09 28 55.6	15.5	2 675	1993 QD <sub>1</sub>	1993 09 14.17830	21 36 48.56	-16 15 12.4	16.5	2 675
1993 OD	1993 08 19.33438	20 05 35.90	-09 28 39.5		2 675	1993 QD <sub>1</sub>	1993 09 14.20573	21 36 47.38	-16 14 57.8		2 675
1993 OD	1993 08 21.26406	20 03 03.08	-09 06 45.1		2 675	1993 QE <sub>1</sub>	1993 09 14.24288	22 00 19.13	-26 14 39.8	16.0	2 675
1993 OD	1993 08 21.28628	20 03 01.41	-09 06 28.6		2 675	1993 QE <sub>1</sub>	1993 09 14.26840	22 00 18.22	-26 14 49.8		2 675
1993 OC <sub>2</sub>	1993 09 12.23125	21 45 24.98	-12 10 22.7	16.5	2 675	1993 QE <sub>1</sub>	1993 09 16.21146	21 59 26.45	-26 25 52.9		2 675
1993 OC <sub>2</sub>	1993 09 12.26649	21 45 22.80	-12 10 06.4		2 675	1993 QE <sub>1</sub>	1993 09 16.24497	21 59 25.60	-26 26 04.6		2 675
1993 OC <sub>2</sub>	1993 09 14.18403	21 43 13.15	-11 57 21.7		2 675	1993 QB <sub>3</sub>	1993 09 13.16493	21 27 03.44	-21 55 51.5	15.5	2 675
1993 OC <sub>2</sub>	1993 09 14.21128	21 43 11.26	-11 57 12.3		2 675	1993 QB <sub>3</sub>	1993 09 13.19601	21 27 02.25	-21 56 29.4		2 675
1993 PC <sub>6</sub>	1993 09 12.24132	22 00 20.20	-14 54 22.3	16.0	2 675	1993 QB <sub>3</sub>	1993 09 15.19306	21 26 18.31	-22 35 39.3	16.0	2 675
1993 PC <sub>6</sub>	1993 09 12.27413	22 00 19.28	-14 55 08.5		2 675	1993 QB <sub>3</sub>	1993 09 15.19861	21 26 17.97	-22 35 45.6		2 675
1993 PC <sub>6</sub>	1993 09 14.24931	21 59 38.39	-15 40 55.4		2 675	1993 QB <sub>3</sub>	1993 09 15.21615	21 26 17.74	-22 36 05.9		2 675
1993 PC <sub>6</sub>	1993 09 14.27448	21 59 37.72	-15 41 30.8		2 675	1993 QB <sub>3</sub>	1993 09 15.22222	21 26 17.71	-22 36 10.3		2 675
1993 QN	1993 09 12.39931	23 35 19.40	+48 41 20.4	16.0	2 675	1993 QB <sub>3</sub>	1993 09 16.15573	21 26 00.29	-22 53 56.3		2 675
1993 QN	1993 09 12.42205	23 35 16.93	+48 41 44.5		2 675	1993 QE <sub>5</sub>	* 1993 08 19.31007	20 03 33.24	-07 03 12.8	16.5	2 675
1993 QN	1993 09 15.40347	23 29 46.54	+49 29 04.0		2 675	1993 QE <sub>5</sub>	1993 08 19.33438	20 03 31.38	-07 02 58.3		2 675

1993 QE <sub>5</sub>	1993 08 21.26406	20 01 20.63	-06 45 41.5		2 675	1993 RY <sub>2</sub>	1993 09 15.20486	22 18 35.68	-12 32 28.1		2 675
1993 QE <sub>5</sub>	1993 08 21.28628	20 01 19.02	-06 45 30.6		2 675	1993 RY <sub>2</sub>	1993 09 15.22847	22 18 35.01	-12 32 49.7		2 675
1993 QF <sub>5</sub>	* 1993 08 20.23559	21 11 02.09	+02 40 42.9	16.5	2 675	1993 RA <sub>3</sub>	* 1993 09 14.29809	22 40 47.52	+05 29 10.9	16.0	2 675
1993 QF <sub>5</sub>	1993 08 20.26146	21 11 01.05	+02 40 16.8		2 675	1993 RA <sub>3</sub>	1993 09 14.32066	22 40 46.61	+05 28 55.7		2 675
1993 QF <sub>5</sub>	1993 08 22.27535	21 09 52.12	+02 05 46.1		2 675	1993 RA <sub>3</sub>	1993 09 16.23767	22 39 35.13	+05 07 33.7		2 675
1993 QF <sub>5</sub>	1993 08 22.30382	21 09 51.19	+02 05 17.1		2 675	1993 RB <sub>3</sub>	* 1993 09 14.29809	22 45 54.60	+04 14 08.1	16.0	2 675
1993 RT	* 1993 09 14.34531	00 06 00.67	-11 23 17.7	16.0	2 675	1993 RB <sub>3</sub>	1993 09 14.32066	22 45 53.28	+04 14 01.5		2 675
1993 RT	1993 09 14.36892	00 05 59.42	-11 23 37.1		2 675	1993 RB <sub>3</sub>	1993 09 16.23767	22 44 19.79	+04 05 06.9		2 675
1993 RT	1993 09 16.31997	00 04 36.68	-11 48 01.7		2 675	1993 RC <sub>3</sub>	* 1993 09 14.41406	00 40 50.92	-02 24 51.0	16.5	2 675
1993 RT	1993 09 16.34878	00 04 35.36	-11 48 23.0		2 675	1993 RC <sub>3</sub>	1993 09 14.43559	00 40 50.51	-02 25 09.8		2 675
1993 RU	* 1993 09 14.34531	00 07 54.58	-11 24 34.4	16.0	2 675	1993 RC <sub>3</sub>	1993 09 16.38941	00 40 14.66	-02 56 31.4		2 675
1993 RU	1993 09 14.36892	00 07 53.67	-11 25 09.3		2 675	1993 RC <sub>3</sub>	1993 09 16.41892	00 40 13.98	-02 57 01.0		2 675
1993 RU	1993 09 16.31997	00 06 41.01	-12 10 36.7		2 675	1993 RD <sub>3</sub>	* 1993 09 12.35694	23 55 09.87	+08 17 47.6	16.0	2 675
1993 RU	1993 09 16.34878	00 06 39.83	-12 11 15.9		2 675	1993 RD <sub>3</sub>	1993 09 12.37969	23 55 09.31	+08 17 24.1		2 675
1993 RV	* 1993 09 14.34531	23 45 25.41	-13 36 54.5	16.0	2 675	1993 RD <sub>3</sub>	1993 09 14.33941	23 54 23.02	+07 43 51.0		2 675
1993 RV	1993 09 14.36892	23 45 24.25	-13 37 13.7		2 675	1993 RD <sub>3</sub>	1993 09 14.36302	23 54 22.56	+07 43 26.3		2 675
1993 RV	1993 09 16.31997	23 44 02.26	-14 04 16.7		2 675	1993 RE <sub>3</sub>	* 1993 09 14.32795	23 00 58.63	+11 17 32.7	16.0	2 675
1993 RV	1993 09 16.34878	23 44 00.92	-14 04 39.6		2 675	1993 RE <sub>3</sub>	1993 09 14.35104	23 00 57.87	+11 17 17.4		2 675
1993 RK <sub>2</sub>	* 1993 09 13.36563	23 29 37.37	+09 34 26.2	16.5	2 675	1993 RE <sub>3</sub>	1993 09 16.29340	22 59 58.60	+10 54 13.2		2 675
1993 RK <sub>2</sub>	1993 09 13.39948	23 29 35.12	+09 34 38.2		2 675	1993 RF <sub>3</sub>	* 1993 09 14.32795	23 07 38.92	+12 15 33.1	16.0	2 675
1993 RK <sub>2</sub>	1993 09 16.27847	23 26 43.61	+09 47 16.1		2 675	1993 RF <sub>3</sub>	1993 09 14.35104	23 07 38.03	+12 15 16.3		2 675
1993 RK <sub>2</sub>	1993 09 16.30052	23 26 42.27	+09 47 17.9		2 675	1993 RF <sub>3</sub>	1993 09 16.29340	23 06 33.79	+11 50 28.7		2 675
1993 RL <sub>2</sub>	* 1993 09 14.29219	22 38 43.30	-17 25 36.0	16.5	2 675	1993 RK <sub>3</sub>	* 1993 09 12.23125	21 41 23.72	-10 43 38.5	16.5	2 675
1993 RL <sub>2</sub>	1993 09 14.31493	22 38 41.06	-17 25 16.3		2 675	1993 RK <sub>3</sub>	1993 09 12.26649	21 41 22.27	-10 43 50.8		2 675
1993 RL <sub>2</sub>	1993 09 16.21892	22 35 45.87	-17 01 03.3		2 675	1993 RK <sub>3</sub>	1993 09 14.18403	21 40 10.46	-10 54 18.4		2 675
1993 RL <sub>2</sub>	1993 09 16.25087	22 35 42.79	-17 00 40.3		2 675	1993 RK <sub>3</sub>	1993 09 14.21182	21 40 09.42	-10 54 28.3		2 675
1993 RM <sub>2</sub>	* 1993 09 14.37535	00 01 01.10	+15 34 37.7	16.0	2 675	1993 RL <sub>3</sub>	* 1993 09 13.20608	21 32 30.39	-03 33 32.6	16.5	2 675
1993 RM <sub>2</sub>	1993 09 14.39358	00 01 00.38	+15 34 14.8		2 675	1993 RL <sub>3</sub>	1993 09 14.14774	21 32 01.74	-03 34 25.0		2 675
1993 RM <sub>2</sub>	1993 09 16.32535	23 59 53.95	+14 56 01.7		2 675	1993 RL <sub>3</sub>	1993 09 14.17170	21 32 00.87	-03 34 25.5		2 675
1993 RM <sub>2</sub>	1993 09 16.35434	23 59 52.83	+14 55 26.0		2 675	1993 RM <sub>3</sub>	* 1993 09 14.46372	01 56 02.65	-13 00 43.9	16.0	2 675
1993 RN <sub>2</sub>	* 1993 09 15.30556	22 56 47.68	+12 40 22.2	16.5	2 675	1993 RM <sub>3</sub>	1993 09 14.48837	01 56 02.60	-13 01 00.1		2 675
1993 RN <sub>2</sub>	1993 09 15.33021	22 56 46.39	+12 39 53.4		2 675	1993 RM <sub>3</sub>	1993 09 15.48351	01 56 03.53	-13 11 44.6		2 675
1993 RN <sub>2</sub>	1993 09 16.23125	22 56 00.00	+12 22 05.7		2 675	1993 RN <sub>3</sub>	* 1993 09 14.46372	02 03 30.13	-13 02 19.9	16.5	2 675
1993 RQ <sub>2</sub>	* 1993 09 12.25868	22 39 01.03	-23 00 47.0	16.5	2 675	1993 RN <sub>3</sub>	1993 09 14.48837	02 03 29.28	-13 02 26.1		2 675
1993 RQ <sub>2</sub>	1993 09 12.28941	22 38 58.45	-23 00 25.0		2 675	1993 RN <sub>3</sub>	1993 09 15.48351	02 02 53.33	-13 07 10.0		2 675
1993 RQ <sub>2</sub>	1993 09 15.31840	22 34 56.85	-22 24 31.7		2 675	1993 RO <sub>3</sub>	* 1993 09 14.28073	22 32 12.86	-03 32 57.1		2 675
1993 RR <sub>2</sub>	* 1993 09 14.38733	00 53 09.59	-08 32 26.3	16.0	2 675	1993 RO <sub>3</sub>	1993 09 14.30347	22 32 11.88	-03 33 11.1		2 675
1993 RR <sub>2</sub>	1993 09 14.40590	00 53 09.63	-08 32 50.1		2 675	1993 RO <sub>3</sub>	1993 09 16.17448	22 31 05.62	-03 51 30.5		2 675
1993 RR <sub>2</sub>	1993 09 16.38368	00 53 06.84	-09 13 40.3		2 675	1993 RO <sub>3</sub>	1993 09 16.19774	22 31 04.80	-03 51 41.2		2 675
1993 RR <sub>2</sub>	1993 09 16.41285	00 53 06.62	-09 14 15.7		2 675	1993 SL <sub>3</sub>	* 1993 09 19.39184	01 44 14.12	+07 07 38.8	16.0	3 675
1993 RR <sub>2</sub>	1993 09 18.32934	00 52 57.11	-09 52 20.6	17.0	3 675	1993 SL <sub>3</sub>	1993 09 23.45990	01 38 50.08	+07 44 36.9		3 675
1993 RR <sub>2</sub>	1993 09 22.33854	00 52 18.91	-11 06 26.4		3 675	1993 SR <sub>3</sub>	* 1993 09 18.34513	01 31 13.90	+08 44 14.8	16.2	3 675
1993 RW <sub>2</sub>	* 1993 09 12.25052	22 24 36.91	-08 41 08.6	15.5	2 675	1993 SR <sub>3</sub>	1993 09 22.40902	01 29 42.11	+07 47 51.1		3 675
1993 RW <sub>2</sub>	1993 09 12.28160	22 24 35.88	-08 41 25.5		2 675	1993 SS <sub>3</sub>	* 1993 09 18.34513	01 32 26.02	+05 36 22.5	17.2	3 675
1993 RW <sub>2</sub>	1993 09 15.20486	22 22 54.61	-09 07 29.1		2 675	1993 SS <sub>3</sub>	1993 09 22.41597	01 30 36.79	+03 59 55.9		3 675
1993 RW <sub>2</sub>	1993 09 15.22847	22 22 53.72	-09 07 41.3		2 675	1993 ST <sub>3</sub>	* 1993 09 18.32934	00 37 34.38	-07 04 37.1	16.2	3 675
1993 RX <sub>2</sub>	* 1993 09 12.25052	22 19 51.71	-13 47 54.6	16.5	2 675	1993 ST <sub>3</sub>	1993 09 22.33854	00 34 10.99	-07 11 15.6		3 675
1993 RX <sub>2</sub>	1993 09 12.28160	22 19 50.17	-13 48 16.9		2 675	1993 SU <sub>3</sub>	* 1993 09 18.32934	00 55 02.48	-09 25 51.1	16.5	3 675
1993 RX <sub>2</sub>	1993 09 15.20486	22 17 40.41	-14 22 50.9		2 675	1993 SU <sub>3</sub>	1993 09 22.33854	00 52 38.89	-10 14 40.0		3 675
1993 RX <sub>2</sub>	1993 09 15.22847	22 17 39.26	-14 23 09.6		2 675	1993 SV <sub>3</sub>	* 1993 09 18.32934	01 01 15.66	-05 43 27.5	16.8	3 675
1993 RY <sub>2</sub>	* 1993 09 12.25052	22 20 02.93	-11 54 23.9	16.0	2 675	1993 SV <sub>3</sub>	1993 09 22.33854	00 54 57.34	-04 59 58.7		3 675
1993 RY <sub>2</sub>	1993 09 12.28160	22 20 01.88	-11 54 48.1		2 675	1993 TC	1993 10 13.37135	01 40 37.23	+09 56 15.0	15.5	9 675

1993 TC	1993 10 13.41493	01 40 32.54	+09 56 44.7		9 675	1279 T-2	1973 09 19.19948	00 25 49.40	+02 22 55.9		4 675
1993 TC	1993 10 15.28611	01 37 17.73	+10 18 02.8		9 675	1279 T-2	1973 09 19.23785	00 25 47.45	+02 22 42.0		4 675
3526 P-L	* 1960 10 17.23681	00 29 39.11	+15 34 50.7	17.0	4 675	1279 T-2	1973 09 19.25006	00 25 46.94	+02 22 37.1		4 675
3526 P-L	1960 10 22.12083	00 25 54.11	+15 20 02.0		4 675	1279 T-2	1973 09 20.22847	00 25 00.39	+02 16 19.1		4 675
3526 P-L	1960 10 22.17778	00 25 51.58	+15 19 51.8		4 675	1279 T-2	1973 09 20.30278	00 24 56.61	+02 15 51.7		4 675
3526 P-L	1960 10 22.29097	00 25 46.33	+15 19 31.5		4 675	1279 T-2	1973 09 24.34688	00 21 37.25	+01 48 55.3		4 675
3526 P-L	1960 10 24.30972	00 24 20.21	+15 13 12.1		4 675	1279 T-2	1973 09 24.38750	00 21 35.08	+01 48 40.5		4 675
3526 P-L	1960 10 25.20486	00 23 43.48	+15 10 22.5		4 675	1279 T-2	1973 09 24.41597	00 21 33.57	+01 48 28.7		4 675
3526 P-L	1960 10 25.32778	00 23 38.31	+15 09 59.6		4 675	1279 T-2	1973 09 24.45434	00 21 31.49	+01 48 13.9		4 675
3526 P-L	1960 10 26.28264	00 23 00.31	+15 06 58.5		4 675	1279 T-2	1973 09 25.24375	00 20 52.08	+01 42 49.3		4 675
3526 P-L	1960 10 26.37951	00 22 56.27	+15 06 39.1		4 675	1279 T-2	1973 09 25.28125	00 20 50.15	+01 42 38.5		4 675
4040 P-L	* 1960 09 24.37573	00 29 23.06	+09 40 20.8	18.1	4 675	1279 T-2	1973 09 25.30729	00 20 48.89	+01 42 25.9		4 675
4040 P-L	1960 09 25.42780	00 28 34.97	+09 31 44.1		4 675	1279 T-2	1973 09 25.34601	00 20 46.66	+01 42 12.1		4 675
4040 P-L	1960 09 26.30558	00 27 55.17	+09 24 28.4		4 675	1279 T-2	* 1973 09 29.25330	00 17 27.21	+01 15 30.2	17.9	4 675
4040 P-L	1960 09 28.36808	00 26 20.61	+09 07 07.9		4 675	1279 T-2	1973 09 29.31806	00 17 23.72	+01 15 03.4		4 675
4040 P-L	1960 10 17.27085	00 13 23.42	+06 25 14.8		4 675	1279 T-2	1973 09 30.21007	00 16 38.40	+01 09 01.2		4 675
4040 P-L	1960 10 22.22293	00 10 55.46	+05 46 45.9		4 675	1279 T-2	1973 09 30.27431	00 16 34.90	+01 08 33.8		4 675
4040 P-L	1960 10 24.35836	00 10 01.57	+05 31 12.3		4 675	1279 T-2	1973 10 04.28958	00 13 12.68	+00 41 42.7		4 675
4040 P-L	1960 10 26.32573	00 09 17.97	+05 17 30.7		4 675	1279 T-2	1973 10 04.35208	00 13 09.41	+00 41 19.2		4 675
4121 P-L	* 1960 09 24.37573	00 35 31.86	+07 07 10.1	17.8	4 675	1279 T-2	1973 10 05.31684	00 12 22.31	+00 35 02.3		4 675
4121 P-L	1960 09 25.42780	00 34 50.41	+06 58 51.9		4 675	1279 T-2	1973 10 05.37917	00 12 19.04	+00 34 37.6		4 675
4121 P-L	1960 09 26.30558	00 34 15.83	+06 51 52.2		4 675	2144 T-2	1973 09 19.19948	00 42 01.63	+05 36 34.3		4 675
4121 P-L	1960 09 28.36808	00 32 53.26	+06 35 12.4		4 675	2144 T-2	1973 09 19.25006	00 41 58.88	+05 36 23.7		4 675
4121 P-L	1960 10 17.30420	00 20 50.03	+03 59 46.4		4 675	2144 T-2	1973 09 20.26458	00 41 04.31	+05 32 49.8		4 675
4121 P-L	1960 10 17.31529	00 20 49.63	+03 59 41.5		4 675	2144 T-2	1973 09 24.36181	00 37 17.92	+05 17 47.2		4 675
4121 P-L	1960 10 22.26809	00 18 17.73	+03 22 23.8		4 675	2144 T-2	1973 09 24.42847	00 37 14.05	+05 17 31.3		4 675
4121 P-L	1960 10 24.35836	00 17 21.03	+03 07 37.5		4 675	2144 T-2	1973 09 25.25642	00 36 27.93	+05 14 18.8		4 675
4121 P-L	1960 10 25.30351	00 16 57.31	+03 01 06.0		4 675	2144 T-2	1973 09 25.32031	00 36 24.28	+05 14 04.2		4 675
4121 P-L	1960 10 26.32573	00 16 32.62	+02 54 12.6		4 675	2144 T-2	1973 09 29.26632	00 32 40.12	+04 58 30.7		4 675
4121 P-L	1960 10 26.35766	00 16 31.83	+02 53 58.6		4 675	2144 T-2	* 1973 09 29.33073	00 32 36.25	+04 58 14.7	18.4	4 675
1047 T-1	1971 03 24.38924	12 00 11.76	-06 42 50.5		4 675	2144 T-2	1973 09 30.22257	00 31 45.68	+04 54 37.1		4 675
1047 T-1	1971 03 25.27326	11 59 24.32	-06 35 27.8		4 675	2144 T-2	1973 09 30.28785	00 31 41.85	+04 54 20.2		4 675
1047 T-1	* 1971 03 25.31562	11 59 21.98	-06 35 05.6	16.6	4 675	2144 T-2	1973 10 04.30208	00 27 54.35	+04 38 01.1		4 675
1047 T-1	1971 03 26.26771	11 58 31.29	-06 27 09.5		4 675	2144 T-2	1973 10 04.36476	00 27 50.76	+04 37 45.9		4 675
1047 T-1	1971 03 27.32500	11 57 34.92	-06 18 11.7		4 675	2144 T-2	1973 10 05.32917	00 26 56.75	+04 33 50.2		4 675
3344 T-1	1971 03 26.29653	12 44 16.68	-02 35 04.0		4 675	2144 T-2	1973 10 05.39132	00 26 53.30	+04 33 35.5		4 675
3344 T-1	* 1971 03 26.33611	12 44 14.39	-02 34 44.7	19.3	4 675	5211 T-2	1973 09 19.29705	00 17 07.64	+13 16 40.4		4 675
3344 T-1	1971 03 27.33854	12 43 18.81	-02 26 45.1		4 675	5211 T-2	1973 09 20.21458	00 16 27.56	+13 10 57.4		4 675
3344 T-1	1971 04 02.43993	12 37 38.05	-01 38 10.7		4 675	5211 T-2	1973 09 20.29253	00 16 24.15	+13 10 28.6		4 675
1265 T-2	1973 09 20.22847	00 24 09.60	+03 34 39.1		4 675	5211 T-2	1973 09 24.40035	00 13 20.63	+12 43 09.4		4 675
1265 T-2	1973 09 24.34688	00 20 40.32	+03 10 19.7		4 675	5211 T-2	1973 09 24.47986	00 13 16.91	+12 42 35.8		4 675
1265 T-2	1973 09 24.41597	00 20 36.76	+03 09 54.4		4 675	5211 T-2	* 1973 09 25.29375	00 12 40.35	+12 36 49.7	17.3	4 675
1265 T-2	1973 09 25.24375	00 19 54.09	+03 04 54.4		4 675	5211 T-2	1973 09 25.35903	00 12 37.28	+12 36 22.0		4 675
1265 T-2	1973 09 25.30729	00 19 50.81	+03 04 33.1		4 675	5211 T-2	1973 09 29.24062	00 09 40.36	+12 07 28.7		4 675
1265 T-2	* 1973 09 29.25330	00 16 26.05	+02 40 27.8	19.2	4 675	5211 T-2	1973 09 29.30486	00 09 37.29	+12 06 59.1		4 675
1265 T-2	1973 09 29.31806	00 16 22.55	+02 40 03.8		4 675	5211 T-2	1973 09 30.19722	00 08 56.73	+12 00 03.7		4 675
1265 T-2	1973 09 30.21007	00 15 36.34	+02 34 37.6		4 675	5211 T-2	1973 09 30.35295	00 08 49.33	+11 58 50.7		4 675
1265 T-2	1973 09 30.27431	00 15 32.83	+02 34 13.6		4 675	3137 T-3	1977 10 07.27031	01 31 27.02	+07 56 33.8		4 675
1265 T-2	1973 10 04.28958	00 12 06.01	+02 09 39.7		4 675	3137 T-3	1977 10 11.28819	01 27 51.43	+07 53 39.0		4 675
1265 T-2	1973 10 04.35208	00 12 02.74	+02 09 14.9		4 675	3137 T-3	1977 10 11.35642	01 27 47.59	+07 53 36.1		4 675
1265 T-2	1973 10 05.31684	00 11 13.87	+02 03 27.2		4 675	3137 T-3	1977 10 12.28681	01 26 57.09	+07 52 51.0		4 675
1279 T-2	1973 09 19.18611	00 25 49.96	+02 23 00.7		4 675	3137 T-3	1977 10 12.35347	01 26 53.29	+07 52 48.1		4 675



3137 T-3	* 1977 10 16.27309	01 23 18.14	+07 49 39.2	17.1	4 675	(3791)	1951 08 06.39444	23 11 42.82	-05 03 40.9	6 675
3137 T-3	1977 10 16.33872	01 23 14.35	+07 49 35.3		4 675	(3791)	1951 08 06.41875	23 11 42.08	-05 03 44.3	6 675
3137 T-3	1977 10 17.27552	01 22 22.87	+07 48 51.7		4 675	(4204)	1954 04 02.29132	11 58 28.03	-04 33 53.8	6 675
3137 T-3	1977 10 17.34236	01 22 19.03	+07 48 48.0		4 675	(4204)	1954 04 02.31458	11 58 26.83	-04 33 42.7	6 675
3137 T-3	1977 10 21.39792	01 18 37.92	+07 45 42.6		4 675	(4243)	1993 09 15.21615	21 04 35.72	-21 15 14.7	16.0 2 675
3137 T-3	1977 10 21.45799	01 18 34.62	+07 45 39.5		4 675	(4243)	1993 09 16.15573	21 04 14.48	-21 12 34.1	2 675
3137 T-3	1977 10 22.39844	01 17 44.15	+07 44 57.3		4 675	(4265)	1951 08 06.39444	23 24 08.86	-07 26 12.9	6 675
3137 T-3	1977 10 22.45920	01 17 40.80	+07 44 54.8		4 675	(4265)	1951 08 06.41875	23 24 08.64	-07 26 19.8	6 675
(101)	1951 08 06.39444	23 32 01.68	-06 02 37.7		6 675	(4380)	1954 04 02.29132	11 54 54.25	-04 02 50.8	6 675
(101)	1951 08 06.41875	23 32 01.02	-06 02 35.7		6 675	(4380)	1954 04 02.31458	11 54 52.99	-04 02 47.7	6 675
(168)	1954 04 02.29132	12 11 36.69	-03 51 26.2		6 675	(4492)	1951 08 06.39444	23 22 02.70	-07 58 39.4	6 675
(168)	1954 04 02.31458	12 11 35.82	-03 51 20.4		6 675	(4492)	1951 08 06.41875	23 22 01.90	-07 58 38.6	6 675
(549)	1954 04 02.29132	12 02 26.16	-06 55 47.0		6 675	(4683)	1951 08 06.39444	23 19 17.07	-04 10 00.4	6 675
(1120)	1951 08 06.39444	23 15 44.71	-03 36 33.3		6 675	(4752)	1951 08 06.39444	23 24 29.23	-06 59 05.5	6 675
(1120)	1951 08 06.41875	23 15 44.37	-03 36 40.0		6 675	(4752)	1951 08 06.41875	23 24 28.65	-06 59 09.5	6 675
(1230)	1954 04 02.31458	12 20 14.47	-05 58 28.0		6 675	(4782)	1951 08 06.39444	23 18 31.12	-04 39 56.7	6 675
(1233)	1954 04 02.29132	11 57 48.61	-09 27 15.0		6 675	(4782)	1951 08 06.41875	23 18 30.44	-04 40 01.9	6 675
(1233)	1954 04 02.31458	11 57 47.34	-09 27 07.9		6 675	(5408)	1954 04 02.29132	12 13 18.33	-04 24 07.9	6 675
(1299)	1993 09 12.23125	21 44 48.58	-10 49 36.4	15.0	2 675	(5408)	1954 04 02.31458	12 13 17.16	-04 23 55.0	6 675
(1299)	1993 09 12.26649	21 44 47.24	-10 49 50.6		2 675	(5688)	1993 09 13.15885	20 20 53.17	-19 25 04.0	16.0 2 675
(1299)	1993 09 14.18403	21 43 38.35	-11 02 08.3		2 675	(5688)	1993 09 15.16806	20 20 42.96	-19 29 15.2	2 675
(1299)	1993 09 14.21182	21 43 37.30	-11 02 21.2		2 675					
(1535)	1954 04 02.29132	11 55 55.25	-09 03 44.7		6 675					
(1535)	1954 04 02.31458	11 55 54.18	-09 03 37.0		6 675					
(1581)	1951 08 06.39444	23 29 24.17	-06 16 53.8		6 675					
(1581)	1951 08 06.41875	23 29 23.57	-06 16 58.3		6 675					
(1608)	1951 08 06.39444	23 27 31.95	-07 21 06.7		6 675					
(1608)	1951 08 06.41875	23 27 31.40	-07 21 06.1		6 675					
(1641)	1951 08 06.39444	23 21 13.66	-03 03 22.2		6 675					
(1641)	1951 08 06.41875	23 21 12.90	-03 03 22.2		6 675					
(1986)	1951 08 06.39444	23 22 09.96	-04 37 02.2		6 675					
(1986)	1951 08 06.41875	23 22 09.53	-04 37 07.0		6 675					
(2011)	1954 04 02.29132	11 59 22.04	-04 41 51.1		6 675					
(2011)	1954 04 02.31458	11 59 20.72	-04 41 45.1		6 675					
(2142)	1951 08 06.39444	23 23 14.76	-04 03 13.8		6 675					
(2142)	1951 08 06.41875	23 23 14.10	-04 03 19.0		6 675					
(2354)	1951 08 06.39444	23 08 36.89	-03 19 38.4		6 675					
(2354)	1951 08 06.41875	23 08 36.26	-03 19 43.2		6 675					
(2388)	1951 08 06.39444	23 21 45.95	-03 25 53.9		6 675					
(2388)	1951 08 06.41875	23 21 45.12	-03 25 58.9		6 675					
(2405)	1951 08 06.39444	23 31 36.57	-04 44 40.2		6 675					
(2405)	1951 08 06.41875	23 31 35.99	-04 44 44.1		6 675					
(2836)	1951 08 06.39444	23 20 32.93	-07 59 11.4		6 675					
(2836)	1951 08 06.41875	23 20 32.02	-07 59 10.6		6 675					
(2859)	1951 08 06.39444	23 13 30.19	-03 49 17.0		6 675					
(2859)	1951 08 06.41875	23 13 29.37	-03 49 23.8		6 675					
(3100)	1951 08 06.39444	23 25 32.52	-07 37 01.3		6 675					
(3100)	1951 08 06.41875	23 25 31.75	-07 37 05.7		6 675					
(3334)	1951 08 06.39444	23 30 58.34	-08 00 18.4		6 675					
(3334)	1951 08 06.41875	23 30 57.74	-08 00 23.6		6 675					
(3580)	1951 08 06.39444	23 23 12.83	-04 47 24.1		6 675					
(3580)	1951 08 06.41875	23 23 12.08	-04 47 28.1		6 675					

**689 U.S. Naval Observatory, Flagstaff Station**

J. A. DeYoung, U.S. Naval Observatory, Washington, DC 20392-5420, U.S.A.

Observers: J. R. Rohde, D. Pascu, J. A. DeYoung

Measurer: J. A. DeYoung

1.55-m astrometric reflector + CCD

GSC

1992 QB <sub>1</sub>	1993 09 15.36115	00 05 20.18	+00 39 26.6	689
1992 QB <sub>1</sub>	1993 09 15.37501	00 05 20.12	+00 39 26.2	689
1992 QB <sub>1</sub>	1993 09 15.38814	00 05 20.04	+00 39 26.2	689
1992 QB <sub>1</sub>	1993 09 16.42959	00 05 15.32	+00 38 54.3	689

**691 Kitt Peak, Steward Observatory**

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

Observers T. Gehrels, R. Jedicke, J. V. Scotti

0.91-m Spacewatch telescope

GSC

1976 DJ <sub>1</sub>	1992 01 27.28209	09 30 55.11	+17 51 27.2	18.1 V	691
1976 DJ <sub>1</sub>	1992 01 27.33212	09 30 53.12	+17 51 40.5		691
1978 SE <sub>3</sub>	1992 04 07.15389	11 27 09.60	+01 03 34.9	18.6 V	691
1978 SE <sub>3</sub>	1992 04 07.17869	11 27 08.49	+01 03 44.0		691
1978 SE <sub>3</sub>	1992 04 07.20636	11 27 07.29	+01 03 53.8		691
1979 MP <sub>3</sub>	1993 09 16.20989	22 28 13.54	-04 27 30.3	17.4 V	691
1979 MP <sub>3</sub>	1993 09 16.24177	22 28 11.90	-04 27 43.4		691
1979 MP <sub>3</sub>	1993 09 16.27790	22 28 10.08	-04 27 57.7		691
1981 EO <sub>4</sub>	1993 08 15.33514	21 06 45.24	-09 46 08.4	17.6 V	691
1981 EO <sub>4</sub>	1993 08 15.35579	21 06 44.22	-09 46 07.4		691
1981 EH <sub>9</sub>	1993 09 16.20436	22 20 14.17	-04 46 11.2		691
1981 EH <sub>9</sub>	1993 09 16.23624	22 20 12.53	-04 46 21.7	19.5 V	691
1981 EH <sub>9</sub>	1993 09 16.27236	22 20 10.71	-04 46 33.1		691
1981 EH <sub>24</sub>	1993 09 18.39024	00 53 53.55	+04 20 42.6		691

1981 EH <sub>24</sub>	1993 09 18.42383	00 53 52.09	+04 20 35.2	18.8 V	691	1989 TA <sub>16</sub>	1993 09 14.32016	22 47 37.59	-03 34 04.8		691
1981 EH <sub>24</sub>	1993 09 18.45777	00 53 50.58	+04 20 27.4		691	1990 SA <sub>2</sub>	1992 02 27.44207	11 46 45.41	+01 52 13.8	19.1 V	691
1981 EL <sub>24</sub>	1993 09 15.27616	23 42 54.59	-00 35 42.1		691	1990 SA <sub>2</sub>	1992 02 27.46620	11 46 44.07	+01 52 20.8		691
1981 EL <sub>24</sub>	1993 09 15.30856	23 42 52.98	-00 35 50.9	17.0 V	691	1990 SA <sub>2</sub>	1992 02 27.52008	11 46 41.23	+01 52 37.5		691
1981 EL <sub>24</sub>	1993 09 15.34065	23 42 51.42	-00 36 00.2		691	1990 TT <sub>12</sub>	1992 02 26.12740	09 26 43.08	+16 27 59.7	18.1 V	691
1981 EL <sub>24</sub>	1993 09 20.16216	23 39 03.73	-00 58 59.5	17.2 V	691	1990 TT <sub>12</sub>	1992 02 26.14922	09 26 42.01	+16 28 03.9		691
1981 EL <sub>24</sub>	1993 09 20.19519	23 39 02.13	-00 59 08.8		691	1990 TT <sub>12</sub>	1992 02 26.17057	09 26 41.03	+16 28 07.7		691
1981 EL <sub>24</sub>	1993 09 20.22748	23 39 00.57	-00 59 18.1		691	1991 AP <sub>1</sub>	1993 09 14.16074	21 17 58.48	-15 45 14.5		691
1981 ET <sub>27</sub>	1993 09 20.17337	23 55 14.93	-01 09 30.5	18.6 V	691	1991 AP <sub>1</sub>	1993 09 14.17077	21 17 58.10	-15 45 15.8	18.0 V	691
1981 ET <sub>27</sub>	1993 09 20.20641	23 55 13.41	-01 09 42.3		691	1991 AP <sub>1</sub>	1993 09 14.19001	21 17 57.36	-15 45 18.3		691
1981 ET <sub>27</sub>	1993 09 20.23869	23 55 11.90	-01 09 53.0		691	1991 DX	1993 09 16.21090	22 29 40.65	-04 15 40.8		691
1981 EG <sub>28</sub>	1993 09 19.37280	01 28 05.20	+09 26 00.7	16.6 V	691	1991 DX	1993 09 16.24278	22 29 39.24	-04 16 00.6	17.0 V	691
1981 EG <sub>28</sub>	1993 09 19.40618	01 28 04.01	+09 25 47.7		691	1991 DX	1993 09 16.27891	22 29 37.65	-04 16 22.8		691
1981 EG <sub>28</sub>	1993 09 19.43927	01 28 02.87	+09 25 34.4		691	1991 GQ <sub>2</sub>	1993 09 14.27631	23 24 43.75	-03 18 20.6	17.7 V	691
1981 EQ <sub>33</sub>	1992 02 27.20945	11 23 40.44	-03 16 36.3	20.6 V	691	1991 GQ <sub>2</sub>	1993 09 14.31096	23 24 42.16	-03 18 32.0		691
1981 EQ <sub>33</sub>	1992 02 27.21699	11 23 40.05	-03 16 34.2		691	1991 GQ <sub>2</sub>	1993 09 14.34583	23 24 40.63	-03 18 42.3		691
1981 EQ <sub>33</sub>	1992 02 27.22408	11 23 39.68	-03 16 33.0		691	1991 WH	1991 11 11.43233	03 50 19.08	+20 02 00.6		691
1981 EK <sub>35</sub>	1993 06 22.41219	20 58 50.62	-16 45 52.9	18.3 V	691	1991 WH	1991 11 11.45396	03 50 17.94	+20 01 57.0	17.5 V	691
1981 EK <sub>35</sub>	1993 06 22.43461	20 58 50.21	-16 45 53.7		691	1991 WH	1991 11 11.47584	03 50 16.81	+20 01 53.5		691
1981 EK <sub>35</sub>	1993 06 22.45709	20 58 49.78	-16 45 54.6		691	1992 FN	1993 09 14.27204	23 18 33.68	-03 37 01.2		691
1981 FL	1993 09 14.25217	22 49 52.66	-03 13 28.2		691	1992 FN	1993 09 14.30668	23 18 31.58	-03 37 16.3	17.4 V	691
1981 FL	1993 09 14.28682	22 49 50.82	-03 13 44.6		691	1992 FN	1993 09 14.34154	23 18 29.52	-03 37 30.2		691
1981 FL	1993 09 14.32168	22 49 49.06	-03 14 01.3	18.4 V	691	1992 FH <sub>3</sub>	* 1992 03 25.25586	12 31 40.74	-04 48 11.5	18.7 V	691
1982 SE <sub>1</sub>	1993 09 18.15410	21 33 39.09	-09 44 20.6	17.0 V	691	1992 FH <sub>3</sub>	1992 03 25.27539	12 31 39.60	-04 48 07.0		691
1982 SE <sub>1</sub>	1993 09 18.18968	21 33 38.09	-09 44 26.3		691	1992 GA	1993 09 16.12962	21 28 55.90	-07 50 43.7	18.3 V	691
1982 SE <sub>1</sub>	1993 09 18.22347	21 33 37.15	-09 44 31.0		691	1992 GA	1993 09 16.14965	21 28 55.16	-07 50 45.1		691
1982 SM <sub>6</sub>	1993 09 14.37407	23 53 43.50	-03 41 29.2	16.3 V	691	1992 GA	1993 09 16.17050	21 28 54.33	-07 50 47.6		691
1982 SM <sub>6</sub>	1993 09 14.40873	23 53 41.35	-03 41 32.4		691	1992 SY <sub>5</sub>	1992 09 28.27397	22 49 56.25	-09 33 48.3		691
1982 SM <sub>6</sub>	1993 09 14.44305	23 53 39.20	-03 41 36.2		691	1992 SY <sub>5</sub>	1992 09 28.30656	22 49 55.09	-09 33 55.4	18.8 V	691
1982 XQ <sub>1</sub>	1993 09 19.38810	01 50 10.17	+09 25 36.4		691	1992 SD <sub>6</sub>	1992 09 28.27482	22 51 29.25	-09 43 31.3		691
1982 XQ <sub>1</sub>	1993 09 19.42147	01 50 09.18	+09 25 29.8	18.1 V	691	1992 SD <sub>6</sub>	1992 09 28.29666	22 51 28.26	-09 43 37.2	20.5 V	691
1982 XQ <sub>1</sub>	1993 09 19.45456	01 50 08.16	+09 25 22.9		691	1992 SM <sub>6</sub>	1992 09 29.30803	23 00 17.45	-09 32 06.7		691
1984 YY <sub>1</sub>	1992 02 09.39746	09 17 52.98	+19 40 13.8	18.9 V	691	1992 SM <sub>6</sub>	1992 09 29.31578	23 00 17.04	-09 32 06.9	19.8 V	691
1984 YY <sub>1</sub>	1992 02 09.42368	09 17 51.05	+19 40 20.3		691	1992 SM <sub>20</sub>	1992 09 29.13384	23 30 36.05	-07 29 33.0	18.6 V	691
1984 YY <sub>1</sub>	1992 02 09.45395	09 17 48.96	+19 40 27.1		691	1992 SM <sub>20</sub>	1992 09 29.15220	23 30 35.22	-07 29 37.7		691
1987 RY	1993 09 14.35991	23 33 17.53	-03 31 00.6		691	1992 SM <sub>20</sub>	1992 09 29.17076	23 30 34.31	-07 29 43.9		691
1987 RY	1993 09 14.39459	23 33 15.97	-03 31 10.4	16.4 V	691	1992 SU <sub>21</sub>	1992 09 29.13103	23 26 32.27	-07 41 02.2		691
1987 RY	1993 09 14.42891	23 33 14.42	-03 31 20.6		691	1992 SU <sub>21</sub>	1992 09 29.14939	23 26 31.58	-07 41 05.1	16.8 V	691
1987 RC <sub>1</sub>	1993 09 20.17852	00 02 40.65	-00 56 56.4		691	1992 SU <sub>21</sub>	1992 09 29.16795	23 26 30.92	-07 41 07.6		691
1987 RC <sub>1</sub>	1993 09 20.21155	00 02 39.14	-00 57 05.5		691	1992 SW <sub>21</sub>	1992 09 29.12986	23 24 51.11	-07 22 22.0		691
1987 RC <sub>1</sub>	1993 09 20.24384	00 02 37.66	-00 57 14.2	16.2 V	691	1992 SW <sub>21</sub>	1992 09 29.14822	23 24 50.09	-07 22 22.9		691
1988 XC	1993 09 15.35917	00 19 42.44	+00 41 19.3		691	1992 SW <sub>21</sub>	1992 09 29.16677	23 24 49.10	-07 22 24.8	19.1 V	691
1988 XC	1993 09 15.39137	00 19 40.91	+00 41 12.5	17.3 V	691	1992 SX <sub>21</sub>	1992 09 28.13110	23 27 08.35	-08 11 16.9	18.9 V	691
1988 XC	1993 09 15.42400	00 19 39.38	+00 41 05.9		691	1992 SX <sub>21</sub>	1992 09 28.17148	23 27 06.53	-08 11 25.7		691
1989 EJ <sub>1</sub>	1993 09 09.28777	22 40 22.45	-07 43 29.8	16.7 V	691	1992 SZ <sub>21</sub>	1992 09 29.13125	23 26 51.48	-07 22 29.7		691
1989 EJ <sub>1</sub>	1993 09 09.32095	22 40 20.56	-07 43 45.8		691	1992 SZ <sub>21</sub>	1992 09 29.14961	23 26 50.64	-07 22 31.3	18.2 V	691
1989 EJ <sub>1</sub>	1993 09 09.35589	22 40 18.59	-07 44 03.2		691	1992 SZ <sub>21</sub>	1992 09 29.16817	23 26 49.79	-07 22 32.6		691
1989 TA <sub>16</sub>	1992 04 07.23740	12 30 58.84	-05 55 27.6	19.7 V	691	1992 SA <sub>22</sub>	1992 09 29.13133	23 26 58.70	-07 46 51.8		691
1989 TA <sub>16</sub>	1992 04 07.26181	12 30 57.58	-05 55 18.5		691	1992 SA <sub>22</sub>	1992 09 29.14969	23 26 57.86	-07 46 55.5	17.7 V	691
1989 TA <sub>16</sub>	1992 04 07.28618	12 30 56.28	-05 55 09.5		691	1992 SA <sub>22</sub>	1992 09 29.16825	23 26 57.04	-07 46 58.6		691
1989 TA <sub>16</sub>	1993 09 14.25065	22 47 40.95	-03 33 42.2	17.4 V	691	1992 SB <sub>22</sub>	1992 09 29.13196	23 27 52.80	-07 36 00.5	18.4 V	691
1989 TA <sub>16</sub>	1993 09 14.28530	22 47 39.28	-03 33 52.9		691	1992 SB <sub>22</sub>	1992 09 29.15032	23 27 52.07	-07 36 05.8		691

1992 SB <sub>22</sub>	1992 09 29.16888	23 27 51.35	-07 36 10.6		691	1993 OU <sub>1</sub>	1993 06 12.45283	21 45 18.70	-09 47 42.6		691
1992 WS <sub>8</sub>	1992 11 28.29221	04 22 56.06	+22 33 52.3	17.1 V	691	1993 OU <sub>1</sub>	1993 07 24.26083	21 38 57.46	-10 44 24.5		691
1992 WS <sub>8</sub>	1992 11 28.32111	04 22 54.27	+22 33 48.4		691	1993 OU <sub>1</sub>	1993 07 24.32546	21 38 55.29	-10 44 41.3	18.4 V	691
1992 WS <sub>8</sub>	1992 11 28.35252	04 22 52.35	+22 33 44.1		691	1993 OL <sub>3</sub>	1993 07 19.30118	19 56 27.97	-20 11 18.8	17.4 V	691
1993 AM	1993 01 26.22742	08 07 13.84	+20 49 20.6	17.2 V	691	1993 OL <sub>3</sub>	1993 07 19.32735	19 56 26.25	-20 11 20.1		691
1993 AM	1993 01 26.26187	08 07 11.51	+20 49 14.9		691	1993 OL <sub>3</sub>	1993 07 19.37543	19 56 23.21	-20 11 22.3		691
1993 AM	1993 01 26.29612	08 07 09.20	+20 49 09.4		691	1993 OA <sub>4</sub>	1993 07 19.30380	20 00 14.34	-20 09 26.8	17.2 V	691
1993 BS <sub>2</sub>	1993 01 21.34852	08 50 47.91	+19 58 25.7		691	1993 OA <sub>4</sub>	1993 07 19.32997	20 00 12.94	-20 09 32.4		691
1993 BS <sub>2</sub>	1993 01 21.38224	08 50 45.69	+19 58 41.2	16.0 V	691	1993 OA <sub>4</sub>	1993 07 19.37806	20 00 10.38	-20 09 42.6		691
1993 BS <sub>2</sub>	1993 01 21.41605	08 50 43.44	+19 58 56.8		691	1993 OD <sub>4</sub>	1993 07 19.30421	20 00 50.23	-20 04 47.9		691
1993 BT <sub>4</sub>	1993 01 29.21180	09 26 16.13	+17 47 24.3		691	1993 OD <sub>4</sub>	1993 07 19.33038	20 00 48.83	-20 04 56.1	18.8 V	691
1993 BT <sub>4</sub>	1993 01 29.22370	09 26 15.54	+17 47 27.6	18.0 V	691	1993 OD <sub>4</sub>	1993 07 19.37847	20 00 46.26	-20 05 11.3		691
1993 BT <sub>4</sub>	1993 01 29.23509	09 26 14.99	+17 47 30.8		691	1993 OK <sub>4</sub>	1993 07 19.30483	20 01 43.39	-20 08 48.0		691
1993 BT <sub>4</sub>	1993 01 29.28563	09 26 12.56	+17 47 45.1		691	1993 OK <sub>4</sub>	1993 07 19.33100	20 01 42.04	-20 08 51.7	18.7 V	691
1993 BT <sub>4</sub>	1993 01 29.29701	09 26 11.99	+17 47 48.1	18.2 V	691	1993 OK <sub>4</sub>	1993 07 19.37909	20 01 39.56	-20 08 58.0		691
1993 BT <sub>4</sub>	1993 01 29.30901	09 26 11.40	+17 47 51.6		691	1993 OM <sub>4</sub>	1993 07 19.30509	20 02 06.06	-20 12 27.0		691
1993 BZ <sub>4</sub>	1993 01 29.40837	09 27 24.61	+16 22 57.8		691	1993 OM <sub>4</sub>	1993 07 19.33126	20 02 04.51	-20 12 33.5	18.2 V	691
1993 BZ <sub>4</sub>	1993 01 29.42019	09 27 23.95	+16 23 02.4	18.4 V	691	1993 OM <sub>4</sub>	1993 07 19.37934	20 02 01.71	-20 12 44.9		691
1993 BZ <sub>4</sub>	1993 01 29.43216	09 27 23.36	+16 23 07.3		691	1993 OC <sub>5</sub>	1993 07 19.33324	20 04 55.82	-20 08 24.5	18.4 V	691
1993 BJ <sub>14</sub>	1993 02 26.25394	09 08 16.45	+10 56 25.5		691	1993 OC <sub>5</sub>	1993 07 19.38132	20 04 52.81	-20 08 26.1		691
1993 BJ <sub>14</sub>	1993 02 26.27228	09 08 15.69	+10 56 29.4	20.1 V	691	1993 OH <sub>5</sub>	1993 07 19.30730	20 05 17.25	-19 45 16.8	17.9 V	691
1993 BJ <sub>14</sub>	1993 02 26.29070	09 08 14.93	+10 56 33.0		691	1993 OH <sub>5</sub>	1993 07 19.33347	20 05 15.92	-19 45 21.1		691
1993 BF <sub>15</sub>	1993 01 22.37622	09 08 47.89	+20 23 47.7	17.2 V	691	1993 OH <sub>5</sub>	1993 07 19.38156	20 05 13.47	-19 45 28.7		691
1993 BF <sub>15</sub>	1993 01 22.41015	09 08 45.74	+20 23 53.9		691	1993 OD <sub>6</sub>	1993 07 19.30953	20 08 30.82	-20 11 17.2		691
1993 BF <sub>15</sub>	1993 01 22.44395	09 08 43.65	+20 24 00.4		691	1993 OD <sub>6</sub>	1993 07 19.33570	20 08 29.11	-20 11 19.1	17.4 V	691
1993 DR <sub>2</sub>	1993 01 29.28351	09 23 09.56	+18 12 32.3		691	1993 OD <sub>6</sub>	1993 07 19.38378	20 08 26.04	-20 11 21.4		691
1993 DR <sub>2</sub>	1993 01 29.29489	09 23 08.93	+18 12 33.4	18.0 V	691	1993 OG <sub>6</sub>	1993 07 19.31008	20 09 18.51	-19 43 38.3	17.5 V	691
1993 DR <sub>2</sub>	1993 01 29.30690	09 23 08.29	+18 12 34.8		691	1993 OG <sub>6</sub>	1993 07 19.33625	20 09 16.94	-19 43 41.2		691
1993 FA <sub>2</sub>	1993 02 26.40397	12 47 37.88	+04 30 00.7		691	1993 OG <sub>6</sub>	1993 07 19.38433	20 09 14.07	-19 43 46.3		691
1993 FA <sub>2</sub>	1993 02 26.41727	12 47 37.56	+04 30 04.5	17.7 V	691	1993 PC	1993 09 19.18222	21 12 01.79	-15 58 56.9	20.5 V	691
1993 FA <sub>2</sub>	1993 02 26.43009	12 47 37.25	+04 30 08.3		691	1993 PC	1993 09 19.19106	21 12 01.09	-15 58 58.4		691
1993 GA <sub>1</sub>	1993 03 28.24761	12 33 22.21	-03 48 33.3	18.3 V	691	1993 PC	1993 09 19.20033	21 12 00.22	-15 58 59.6		691
1993 GA <sub>1</sub>	1993 03 28.27477	12 33 20.41	-03 48 28.3		691	1993 PC <sub>5</sub>	1993 09 09.26609	22 09 04.45	-07 50 31.2	16.7 V	691
1993 GA <sub>1</sub>	1993 03 28.30182	12 33 18.72	-03 48 19.7		691	1993 PC <sub>5</sub>	1993 09 09.29927	22 09 03.20	-07 50 47.5		691
1993 HM <sub>4</sub>	1993 04 20.30810	13 10 20.14	+00 54 18.2		691	1993 PC <sub>5</sub>	1993 09 09.33423	22 09 01.90	-07 51 04.2		691
1993 HM <sub>4</sub>	1993 04 20.33970	13 10 18.36	+00 54 21.5		691	1993 PM <sub>5</sub>	1993 09 18.17232	21 59 57.75	-10 10 48.9		691
1993 HM <sub>4</sub>	1993 04 21.18700	13 09 31.81	+00 55 30.0		691	1993 PM <sub>5</sub>	1993 09 18.24169	21 59 54.98	-10 11 17.0	18.3 V	691
1993 HM <sub>4</sub>	1993 04 21.19899	13 09 31.13	+00 55 30.8	20.6 V	691	1993 PO <sub>5</sub>	1993 09 16.19493	22 06 37.22	-04 40 55.5	18.9 V	691
1993 HN <sub>4</sub>	1993 04 20.30859	13 11 02.41	+00 30 03.2	20.7 V	691	1993 PO <sub>5</sub>	1993 09 16.22681	22 06 36.01	-04 41 01.1		691
1993 HN <sub>4</sub>	1993 04 20.34019	13 11 00.54	+00 30 06.9		691	1993 PO <sub>5</sub>	1993 09 16.26294	22 06 34.72	-04 41 07.9		691
1993 HV <sub>4</sub>	1993 04 20.30881	13 11 21.93	+00 26 12.5	20.4 V	691	1993 PB <sub>6</sub>	1993 09 10.32413	22 14 30.75	-08 02 26.9	18.4 V	691
1993 HV <sub>4</sub>	1993 04 20.34042	13 11 20.40	+00 26 14.9		691	1993 PB <sub>6</sub>	1993 09 10.33220	22 14 30.39	-08 02 29.7		691
1993 HK <sub>5</sub>	1993 04 28.19099	14 09 32.51	-14 09 35.4	20.5 V	691	1993 PB <sub>6</sub>	1993 09 10.34115	22 14 30.01	-08 02 33.2		691
1993 HK <sub>5</sub>	1993 04 28.20252	14 09 31.73	-14 09 33.1		691	1993 PJ <sub>7</sub>	1993 09 09.28875	22 41 46.75	-07 44 13.1	17.1 V	691
1993 KY	1993 05 25.30314	14 52 08.27	-10 37 14.7		691	1993 PJ <sub>7</sub>	1993 09 09.32192	22 41 45.15	-07 44 20.5		691
1993 KY	1993 05 25.34193	14 52 06.17	-10 37 07.7	19.5 V	691	1993 PJ <sub>7</sub>	1993 09 09.35687	22 41 43.53	-07 44 29.0		691
1993 KY	1993 05 25.37385	14 52 04.53	-10 37 02.3		691	1993 QU <sub>1</sub>	1993 09 09.37568	23 00 40.52	-07 39 33.3	16.4 V	691
1993 OM <sub>1</sub>	1993 08 13.19875	21 22 09.91	-10 02 38.3		691	1993 QU <sub>1</sub>	1993 09 09.41121	23 00 39.22	-07 39 56.7		691
1993 OM <sub>1</sub>	1993 08 13.23118	21 22 07.87	-10 02 35.1	20.7 V	691	1993 QU <sub>1</sub>	1993 09 09.44394	23 00 38.05	-07 40 17.9		691
1993 OM <sub>1</sub>	1993 08 13.26479	21 22 05.73	-10 02 31.8		691	1993 QN <sub>2</sub>	1993 09 14.25521	22 54 16.13	-03 33 44.4	17.9 V	691
1993 OU <sub>1</sub>	1993 06 12.40422	21 45 17.93	-09 47 46.9		691	1993 QN <sub>2</sub>	1993 09 14.28986	22 54 14.37	-03 33 53.4		691
1993 OU <sub>1</sub>	1993 06 12.42937	21 45 18.32	-09 47 44.9	20.0 V	691	1993 QW <sub>3</sub>	1993 09 14.26502	23 08 25.57	-03 35 58.3		691

1993 QW <sub>3</sub>	1993 09 14.29966	23 08 23.50	-03 35 59.8	18.3 V	691	1993 RY	1993 09 14.23092	22 13 39.18	-08 38 27.3	691
1993 QW <sub>3</sub>	1993 09 14.33452	23 08 21.43	-03 36 01.7		691	1993 RZ	* 1993 09 09.27238	22 18 09.35	-07 50 41.1	691
1993 QY <sub>3</sub>	1993 09 10.24008	23 19 04.92	-07 03 45.2		691	1993 RZ	1993 09 09.30556	22 18 07.50	-07 50 48.7	691
1993 QY <sub>3</sub>	1993 09 10.27394	23 19 03.46	-07 04 02.8		691	1993 RZ	1993 09 09.34050	22 18 05.58	-07 50 56.6	20.2 V 691
1993 QY <sub>3</sub>	1993 09 10.31079	23 19 01.86	-07 04 23.0	18.6 V	691	1993 RZ	1993 09 10.32563	22 17 14.02	-07 54 53.8	20.0 V 691
1993 RA	1993 09 18.17834	22 08 39.06	-09 47 07.2	20.5 V	691	1993 RZ	1993 09 10.33371	22 17 13.66	-07 54 55.3	691
1993 RA	1993 09 18.21391	22 08 36.42	-09 47 36.9	20.5 V	691	1993 RZ	1993 09 10.34265	22 17 13.07	-07 54 58.0	691
1993 RA	1993 09 18.24768	22 08 33.85	-09 48 06.8	20.1 V	691	1993 RA <sub>1</sub>	* 1993 09 09.27244	22 18 14.29	-07 47 40.0	19.9 V 691
1993 RA	1993 09 19.21210	22 07 26.62	-10 01 53.7	20.1 V	691	1993 RA <sub>1</sub>	1993 09 09.30561	22 18 12.68	-07 47 51.6	691
1993 RA	1993 09 19.22198	22 07 25.86	-10 02 01.9	19.7 V	691	1993 RA <sub>1</sub>	1993 09 09.34057	22 18 10.99	-07 48 03.2	691
1993 RA	1993 09 19.23149	22 07 25.19	-10 02 09.8	20.0 V	691	1993 RA <sub>1</sub>	1993 09 10.32578	22 17 26.94	-07 53 45.2	19.8 V 691
1993 RH	1993 09 20.17579	23 58 44.31	-00 42 37.5	14.1 V	691	1993 RA <sub>1</sub>	1993 09 10.33386	22 17 26.56	-07 53 47.3	691
1993 RH	1993 09 20.20881	23 58 41.94	-00 42 29.2		691	1993 RA <sub>1</sub>	1993 09 10.34280	22 17 26.18	-07 53 50.8	691
1993 RH	1993 09 20.24109	23 58 39.63	-00 42 21.0		691	1993 RB <sub>1</sub>	* 1993 09 09.27248	22 18 17.51	-07 46 50.4	16.2 V 691
1993 RQ	* 1993 09 16.30206	23 12 33.61	+03 54 17.6	17.8 V	691	1993 RB <sub>1</sub>	1993 09 09.30565	22 18 16.04	-07 47 07.0	691
1993 RQ	1993 09 16.33513	23 12 31.60	+03 54 39.9	18.0 V	691	1993 RB <sub>1</sub>	1993 09 09.34061	22 18 14.48	-07 47 24.6	691
1993 RQ	1993 09 16.36777	23 12 29.57	+03 55 02.8	18.1 V	691	1993 RB <sub>1</sub>	1993 09 10.32588	22 17 35.11	-07 55 38.5	16.3 V 691
1993 RQ	1993 09 18.12444	23 10 52.66	+04 15 06.9	18.1 V	691	1993 RB <sub>1</sub>	1993 09 10.33395	22 17 34.77	-07 55 42.4	691
1993 RQ	1993 09 18.13335	23 10 52.13	+04 15 13.1	18.2 V	691	1993 RB <sub>1</sub>	1993 09 10.34290	22 17 34.40	-07 55 46.9	691
1993 RQ	1993 09 18.14210	23 10 51.62	+04 15 19.1	18.2 V	691	1993 RC <sub>1</sub>	* 1993 09 09.27297	22 19 00.31	-07 51 16.4	18.4 V 691
1993 RQ	1993 09 20.12776	23 09 05.39	+04 37 05.0	18.4 V	691	1993 RC <sub>1</sub>	1993 09 09.30615	22 18 58.65	-07 51 26.4	691
1993 RQ	1993 09 20.13685	23 09 04.91	+04 37 10.8	18.4 V	691	1993 RC <sub>1</sub>	1993 09 09.34110	22 18 56.88	-07 51 37.1	691
1993 RQ	1993 09 20.14601	23 09 04.41	+04 37 16.6	18.3 V	691	1993 RC <sub>1</sub>	1993 09 10.18660	22 18 17.03	-07 55 58.4	19.3 V 691
1993 RR	* 1993 09 16.43815	01 56 32.01	+13 52 59.6	17.9 V	691	1993 RC <sub>1</sub>	1993 09 10.19566	22 18 16.57	-07 56 01.6	691
1993 RR	1993 09 16.46625	01 56 31.95	+13 53 15.8	17.9 V	691	1993 RC <sub>1</sub>	1993 09 10.20456	22 18 16.14	-07 56 04.3	691
1993 RR	1993 09 16.49390	01 56 31.90	+13 53 31.6	17.8 V	691	1993 RD <sub>1</sub>	* 1993 09 09.27362	22 19 56.42	-07 42 41.9	20.2 V 691
1993 RR	1993 09 17.46713	01 56 33.07	+14 02 52.5	17.8 V	691	1993 RD <sub>1</sub>	1993 09 09.30679	22 19 54.57	-07 42 51.3	691
1993 RR	1993 09 17.47639	01 56 33.03	+14 02 57.8	17.8 V	691	1993 RD <sub>1</sub>	1993 09 09.34174	22 19 52.57	-07 43 02.4	691
1993 RR	1993 09 17.48650	01 56 33.00	+14 03 03.4	17.8 V	691	1993 RD <sub>1</sub>	1993 09 10.32686	22 19 00.03	-07 48 03.8	19.6 V 691
1993 RR	1993 09 19.30087	01 56 29.78	+14 20 17.0	17.7 V	691	1993 RD <sub>1</sub>	1993 09 10.33493	22 18 59.58	-07 48 06.5	691
1993 RR	1993 09 19.30945	01 56 29.72	+14 20 21.8	17.7 V	691	1993 RD <sub>1</sub>	1993 09 10.34387	22 18 58.84	-07 48 12.7	691
1993 RR	1993 09 19.31852	01 56 29.64	+14 20 27.0	17.7 V	691	1993 RE <sub>1</sub>	* 1993 09 09.27365	22 19 58.83	-07 36 59.6	19.9 V 691
1993 RR	1993 09 20.28878	01 56 24.54	+14 29 32.7	17.7 V	691	1993 RE <sub>1</sub>	1993 09 09.30682	22 19 57.25	-07 37 07.5	691
1993 RR	1993 09 20.29745	01 56 24.45	+14 29 37.7	17.7 V	691	1993 RE <sub>1</sub>	1993 09 09.34177	22 19 55.63	-07 37 13.5	691
1993 RR	1993 09 20.30639	01 56 24.34	+14 29 42.7	17.7 V	691	1993 RE <sub>1</sub>	1993 09 10.32702	22 19 14.19	-07 40 40.6	19.8 V 691
1993 RW	* 1993 09 09.26484	22 07 16.06	-07 44 56.9	19.6 V	691	1993 RE <sub>1</sub>	1993 09 10.33510	22 19 13.84	-07 40 42.3	691
1993 RW	1993 09 09.29802	22 07 15.07	-07 45 27.8		691	1993 RE <sub>1</sub>	1993 09 10.34404	22 19 13.41	-07 40 44.7	691
1993 RW	1993 09 09.33298	22 07 13.94	-07 46 02.9		691	1993 RF <sub>1</sub>	* 1993 09 09.27560	22 22 47.98	-07 51 08.4	691
1993 RW	1993 09 18.17502	22 03 51.64	-09 59 55.4	20.5 V	691	1993 RF <sub>1</sub>	1993 09 09.30878	22 22 46.46	-07 51 24.7	19.8 V 691
1993 RW	1993 09 18.21062	22 03 50.94	-10 00 25.4		691	1993 RF <sub>1</sub>	1993 09 09.34373	22 22 44.92	-07 51 43.2	691
1993 RW	1993 09 18.24440	22 03 50.29	-10 00 53.6		691	1993 RF <sub>1</sub>	1993 09 10.32898	22 22 03.74	-08 00 07.4	20.2 V 691
1993 RX	* 1993 09 09.27047	22 15 23.52	-07 58 51.1	17.4 V	691	1993 RF <sub>1</sub>	1993 09 10.33706	22 22 03.41	-08 00 12.0	691
1993 RX	1993 09 09.30365	22 15 22.08	-07 59 03.1		691	1993 RF <sub>1</sub>	1993 09 10.34600	22 22 02.99	-08 00 16.3	691
1993 RX	1993 09 09.33860	22 15 20.61	-07 59 16.0		691	1993 RG <sub>1</sub>	* 1993 09 09.27561	22 22 48.44	-07 56 49.0	691
1993 RX	1993 09 10.32419	22 14 42.33	-08 05 12.9	17.9 V	691	1993 RG <sub>1</sub>	1993 09 09.30878	22 22 46.72	-07 56 58.5	19.0 V 691
1993 RX	1993 09 10.33227	22 14 41.97	-08 05 15.4		691	1993 RG <sub>1</sub>	1993 09 09.34373	22 22 45.08	-07 57 06.1	691
1993 RX	1993 09 10.34121	22 14 41.63	-08 05 18.4		691	1993 RG <sub>1</sub>	1993 09 10.18925	22 22 06.27	-08 00 39.5	20.3 V 691
1993 RY	* 1993 09 09.27216	22 17 49.91	-07 57 51.0		691	1993 RG <sub>1</sub>	1993 09 10.19830	22 22 05.78	-08 00 41.5	691
1993 RY	1993 09 09.30533	22 17 48.08	-07 58 07.7		691	1993 RG <sub>1</sub>	1993 09 10.20721	22 22 05.37	-08 00 43.4	691
1993 RY	1993 09 09.34028	22 17 46.13	-07 58 25.8	20.0 V	691	1993 RH <sub>1</sub>	* 1993 09 14.15993	21 16 42.87	-15 50 58.3	17.3 V 691
1993 RY	1993 09 14.20528	22 13 40.47	-08 38 15.5		691	1993 RH <sub>1</sub>	1993 09 14.16996	21 16 42.40	-15 50 58.0	691
1993 RY	1993 09 14.21562	22 13 39.94	-08 38 20.3	20.7 V	691	1993 RH <sub>1</sub>	1993 09 14.18921	21 16 41.60	-15 50 55.8	691

1993 RH <sub>1</sub>	1993 09 19.18338	21 13 42.34	-15 41 42.1	17.3 V	691	1993 RR <sub>1</sub>	1993 09 15.34199	23 44 47.72	-00 52 57.3		691
1993 RH <sub>1</sub>	1993 09 19.19223	21 13 42.04	-15 41 40.8		691	1993 RR <sub>1</sub>	1993 09 20.16215	23 39 02.58	-00 44 39.3	19.4 V	691
1993 RH <sub>1</sub>	1993 09 19.20150	21 13 41.75	-15 41 39.6		691	1993 RR <sub>1</sub>	1993 09 20.19517	23 39 00.18	-00 44 36.1		691
1993 RJ <sub>1</sub>	* 1993 09 15.27064	23 34 56.69	-00 28 36.5		691	1993 RR <sub>1</sub>	1993 09 20.22745	23 38 57.84	-00 44 32.1		691
1993 RJ <sub>1</sub>	1993 09 15.30304	23 34 54.84	-00 28 49.7		691	1993 RS <sub>1</sub>	* 1993 09 15.27838	23 46 06.97	-00 35 33.8	20.6 V	691
1993 RJ <sub>1</sub>	1993 09 15.33513	23 34 53.01	-00 29 03.8	19.8 V	691	1993 RS <sub>1</sub>	1993 09 15.31078	23 46 05.30	-00 35 41.0		691
1993 RJ <sub>1</sub>	1993 09 20.15624	23 30 30.88	-01 03 50.1	19.9 V	691	1993 RS <sub>1</sub>	1993 09 15.34287	23 46 03.60	-00 35 47.8		691
1993 RJ <sub>1</sub>	1993 09 20.18927	23 30 29.10	-01 04 03.8		691	1993 RS <sub>1</sub>	1993 09 20.16414	23 41 54.84	-00 53 40.4		691
1993 RJ <sub>1</sub>	1993 09 20.22155	23 30 27.28	-01 04 17.6		691	1993 RS <sub>1</sub>	1993 09 20.19717	23 41 53.09	-00 53 47.9	20.6 V	691
1993 RK <sub>1</sub>	* 1993 09 15.27335	23 38 50.82	-00 31 37.4	20.0 V	691	1993 RS <sub>1</sub>	1993 09 20.22945	23 41 51.39	-00 53 54.2		691
1993 RK <sub>1</sub>	1993 09 15.30575	23 38 49.13	-00 31 43.0		691	1993 RT <sub>1</sub>	* 1993 09 15.27896	23 46 57.30	-00 36 52.5		691
1993 RK <sub>1</sub>	1993 09 15.33784	23 38 47.55	-00 31 48.2		691	1993 RT <sub>1</sub>	1993 09 15.31136	23 46 55.74	-00 36 57.3	20.0 V	691
1993 RK <sub>1</sub>	1993 09 20.15925	23 34 51.06	-00 44 50.7		691	1993 RT <sub>1</sub>	1993 09 15.34345	23 46 54.12	-00 37 01.9		691
1993 RK <sub>1</sub>	1993 09 20.19228	23 34 49.45	-00 44 55.1		691	1993 RT <sub>1</sub>	1993 09 20.16485	23 42 56.75	-00 48 03.6		691
1993 RK <sub>1</sub>	1993 09 20.22456	23 34 47.84	-00 45 00.0	19.9 V	691	1993 RT <sub>1</sub>	1993 09 20.19788	23 42 55.08	-00 48 07.8		691
1993 RL <sub>1</sub>	* 1993 09 15.27399	23 39 46.38	-00 46 46.0	18.5 V	691	1993 RT <sub>1</sub>	1993 09 20.23017	23 42 53.48	-00 48 12.4	20.5 V	691
1993 RL <sub>1</sub>	1993 09 15.30638	23 39 44.26	-00 46 47.0		691	1993 RU <sub>1</sub>	* 1993 09 15.27917	23 47 15.40	-00 26 47.1		691
1993 RL <sub>1</sub>	1993 09 15.33847	23 39 42.16	-00 46 48.1		691	1993 RU <sub>1</sub>	1993 09 15.31157	23 47 13.78	-00 26 57.9	20.2 V	691
1993 RL <sub>1</sub>	1993 09 20.15921	23 34 48.15	-00 49 33.0	18.5 V	691	1993 RU <sub>1</sub>	1993 09 15.34366	23 47 12.02	-00 27 08.8		691
1993 RL <sub>1</sub>	1993 09 20.19224	23 34 46.07	-00 49 33.8		691	1993 RU <sub>1</sub>	1993 09 20.16511	23 43 18.84	-00 51 53.6		691
1993 RL <sub>1</sub>	1993 09 20.22452	23 34 44.04	-00 49 34.9		691	1993 RU <sub>1</sub>	1993 09 20.19814	23 43 17.21	-00 52 04.1	20.7 V	691
1993 RM <sub>1</sub>	* 1993 09 15.27442	23 40 24.00	-00 36 42.4		691	1993 RU <sub>1</sub>	1993 09 20.23042	23 43 15.65	-00 52 14.9		691
1993 RM <sub>1</sub>	1993 09 15.30682	23 40 22.43	-00 36 51.2	18.7 V	691	1993 RV <sub>1</sub>	* 1993 09 15.27993	23 48 20.96	-00 31 59.0		691
1993 RM <sub>1</sub>	1993 09 15.33891	23 40 20.84	-00 37 00.0		691	1993 RV <sub>1</sub>	1993 09 15.31233	23 48 19.65	-00 32 13.2		691
1993 RM <sub>1</sub>	1993 09 20.16044	23 36 34.91	-00 59 17.0	18.8 V	691	1993 RV <sub>1</sub>	1993 09 15.34442	23 48 18.29	-00 32 28.0	20.4 V	691
1993 RM <sub>1</sub>	1993 09 20.19348	23 36 33.26	-00 59 26.0		691	1993 RV <sub>1</sub>	1993 09 20.16628	23 45 00.35	-01 09 06.8		691
1993 RM <sub>1</sub>	1993 09 20.22576	23 36 31.77	-00 59 35.1		691	1993 RV <sub>1</sub>	1993 09 20.19931	23 44 58.97	-01 09 22.2	20.3 V	691
1993 RN <sub>1</sub>	* 1993 09 15.27458	23 40 37.87	-00 33 47.7		691	1993 RV <sub>1</sub>	1993 09 20.23160	23 44 57.60	-01 09 37.1		691
1993 RN <sub>1</sub>	1993 09 15.30698	23 40 36.22	-00 33 52.8		691	1993 RW <sub>1</sub>	* 1993 09 15.28028	23 48 51.36	-00 35 04.9	20.6 V	691
1993 RN <sub>1</sub>	1993 09 15.33907	23 40 34.59	-00 33 57.9	16.7 V	691	1993 RW <sub>1</sub>	1993 09 15.31268	23 48 49.86	-00 35 17.6		691
1993 RN <sub>1</sub>	1993 09 20.16048	23 36 37.62	-00 46 52.9	16.6 V	691	1993 RW <sub>1</sub>	1993 09 15.34477	23 48 48.29	-00 35 30.3		691
1993 RN <sub>1</sub>	1993 09 20.19351	23 36 35.97	-00 46 57.8		691	1993 RW <sub>1</sub>	1993 09 20.16628	23 45 00.07	-01 07 50.5		691
1993 RN <sub>1</sub>	1993 09 20.22579	23 36 34.37	-00 47 03.1		691	1993 RW <sub>1</sub>	1993 09 20.19931	23 44 58.33	-01 08 02.8		691
1993 RO <sub>1</sub>	* 1993 09 15.27544	23 41 52.57	-00 43 01.6		691	1993 RW <sub>1</sub>	1993 09 20.23159	23 44 56.72	-01 08 16.6	20.3 V	691
1993 RO <sub>1</sub>	1993 09 15.30784	23 41 50.43	-00 43 07.8	19.4 V	691	1993 RX <sub>1</sub>	* 1993 09 15.28041	23 49 03.13	-00 25 55.7		691
1993 RO <sub>1</sub>	1993 09 15.33992	23 41 48.32	-00 43 14.4		691	1993 RX <sub>1</sub>	1993 09 15.31282	23 49 01.58	-00 26 06.2		691
1993 RO <sub>1</sub>	1993 09 20.16060	23 36 48.02	-00 59 31.2		691	1993 RX <sub>1</sub>	1993 09 15.34491	23 48 59.91	-00 26 18.3	20.7 V	691
1993 RO <sub>1</sub>	1993 09 20.19362	23 36 45.92	-00 59 37.5	19.6 V	691	1993 RX <sub>1</sub>	1993 09 20.16633	23 45 04.52	-00 54 57.6	20.4 V	691
1993 RO <sub>1</sub>	1993 09 20.22590	23 36 43.85	-00 59 44.1		691	1993 RX <sub>1</sub>	1993 09 20.19936	23 45 02.86	-00 55 09.1		691
1993 RP <sub>1</sub>	* 1993 09 15.27650	23 43 23.73	-00 45 21.6	19.6 V	691	1993 RX <sub>1</sub>	1993 09 20.23164	23 45 01.25	-00 55 21.0		691
1993 RP <sub>1</sub>	1993 09 15.30890	23 43 22.11	-00 45 31.0		691	1993 SH	* 1993 09 16.30124	23 11 21.91	+04 15 20.7	19.7 V	691
1993 RP <sub>1</sub>	1993 09 15.34099	23 43 20.54	-00 45 41.2		691	1993 SH	1993 09 16.33431	23 11 20.43	+04 15 11.9		691
1993 RP <sub>1</sub>	1993 09 20.16249	23 39 32.07	-01 10 24.4	19.7 V	691	1993 SH	1993 09 16.36696	23 11 18.99	+04 15 04.2		691
1993 RP <sub>1</sub>	1993 09 20.19552	23 39 30.45	-01 10 34.5		691	1993 SH	1993 09 18.12386	23 10 02.69	+04 07 54.9		691
1993 RP <sub>1</sub>	1993 09 20.22780	23 39 28.89	-01 10 45.0		691	1993 SH	1993 09 18.13277	23 10 02.26	+04 07 52.9	20.1 V	691
1993 RQ <sub>1</sub>	* 1993 09 15.27734	23 44 36.86	-00 31 54.6	20.5 V	691	1993 SH	1993 09 18.14152	23 10 01.90	+04 07 50.9		691
1993 RQ <sub>1</sub>	1993 09 15.30974	23 44 34.98	-00 32 07.2		691	1993 SJ	* 1993 09 16.43598	01 53 24.53	+14 03 20.7	19.8 V	691
1993 RQ <sub>1</sub>	1993 09 20.16291	23 40 08.55	-01 06 03.5	20.5 V	691	1993 SJ	1993 09 16.46408	01 53 23.59	+14 03 26.0		691
1993 RQ <sub>1</sub>	1993 09 20.19594	23 40 06.69	-01 06 17.4		691	1993 SJ	1993 09 16.49171	01 53 22.60	+14 03 30.9		691
1993 RQ <sub>1</sub>	1993 09 20.22822	23 40 04.84	-01 06 31.5		691	1993 SJ	1993 09 17.46468	01 52 50.42	+14 06 41.2	19.6 V	691
1993 RR <sub>1</sub>	* 1993 09 15.27752	23 44 52.52	-00 53 04.2		691	1993 SJ	1993 09 17.47393	01 52 50.05	+14 06 42.5		691
1993 RR <sub>1</sub>	1993 09 15.30991	23 44 50.09	-00 53 00.6	19.4 V	691	1993 SJ	1993 09 17.48405	01 52 49.69	+14 06 43.9		691

1993 SK	* 1993 09 16.43745	01 55 31.68	+13 53 48.0	20.0 V	691	1993 SS	1993 09 19.22152	22 06 46.25	-10 08 24.9	691
1993 SK	1993 09 16.46554	01 55 30.56	+13 53 54.7		691	1993 SS	1993 09 19.23103	22 06 45.89	-10 08 27.1	691
1993 SK	1993 09 16.49318	01 55 29.49	+13 54 01.4		691	1993 ST	* 1993 09 18.17799	22 08 08.64	-09 49 33.7	691
1993 SK	1993 09 17.46597	01 54 52.98	+13 57 53.3	20.0 V	691	1993 ST	1993 09 18.21357	22 08 07.17	-09 49 42.2	691
1993 SK	1993 09 17.47523	01 54 52.61	+13 57 55.5		691	1993 ST	1993 09 18.24735	22 08 05.70	-09 49 51.2	19.6 V 691
1993 SK	1993 09 17.48534	01 54 52.17	+13 57 58.3		691	1993 ST	1993 09 19.21210	22 07 26.97	-09 54 02.8	691
1993 SL	* 1993 09 16.43986	01 59 00.54	+13 50 50.7	19.6 V	691	1993 ST	1993 09 19.22198	22 07 26.55	-09 54 05.4	691
1993 SL	1993 09 16.46795	01 58 59.41	+13 50 55.7		691	1993 ST	1993 09 19.23150	22 07 26.16	-09 54 07.9	19.0 V 691
1993 SL	1993 09 16.49559	01 58 58.31	+13 51 00.7		691	1993 SU	* 1993 09 18.17802	22 08 10.89	-09 44 39.9	691
1993 SL	1993 09 17.46837	01 58 20.59	+13 53 55.9		691	1993 SU	1993 09 18.21360	22 08 09.44	-09 44 40.4	691
1993 SL	1993 09 17.47762	01 58 20.20	+13 53 57.6	19.5 V	691	1993 SU	1993 09 18.24738	22 08 08.05	-09 44 42.0	20.5 V 691
1993 SL	1993 09 17.48773	01 58 19.79	+13 53 59.2		691	1993 SU	1993 09 19.21214	22 07 30.25	-09 45 17.3	691
1993 SM	* 1993 09 18.17471	22 03 24.77	-09 50 13.1	19.0 V	691	1993 SU	1993 09 19.22202	22 07 29.85	-09 45 16.0	20.2 V 691
1993 SM	1993 09 18.21030	22 03 23.51	-09 50 24.3		691	1993 SU	1993 09 19.23154	22 07 29.39	-09 45 17.4	691
1993 SM	1993 09 18.24408	22 03 22.39	-09 50 35.2		691	1993 SV	* 1993 09 18.17894	22 09 31.26	-09 47 35.7	18.6 V 691
1993 SM	1993 09 19.20920	22 02 52.54	-09 55 47.8		691	1993 SV	1993 09 18.21453	22 09 30.21	-09 47 56.5	691
1993 SM	1993 09 19.21909	22 02 52.20	-09 55 51.1	19.0 V	691	1993 SV	1993 09 18.24832	22 09 29.17	-09 48 17.2	691
1993 SM	1993 09 19.22860	22 02 51.84	-09 55 54.2		691	1993 SV	1993 09 19.21321	22 09 03.05	-09 57 56.1	18.3 V 691
1993 SN	* 1993 09 18.17554	22 04 36.46	-09 52 08.1		691	1993 SV	1993 09 19.22310	22 09 02.76	-09 58 01.8	691
1993 SN	1993 09 18.21112	22 04 35.05	-09 52 20.2		691	1993 SV	1993 09 19.23261	22 09 02.50	-09 58 07.4	691
1993 SN	1993 09 18.24491	22 04 33.74	-09 52 31.6	19.7 V	691	1993 SW	* 1993 09 19.29945	01 54 27.33	+14 33 26.9	18.9 V 691
1993 SN	1993 09 19.20969	22 03 58.41	-09 57 57.1	19.4 V	691	1993 SW	1993 09 19.30803	01 54 27.03	+14 33 29.9	691
1993 SN	1993 09 19.21958	22 03 58.06	-09 58 00.6		691	1993 SW	1993 09 19.31710	01 54 26.70	+14 33 33.1	691
1993 SN	1993 09 19.22909	22 03 57.67	-09 58 04.1		691	1993 SW	1993 09 20.28703	01 53 53.06	+14 39 08.7	19.0 V 691
1993 SO	* 1993 09 18.17605	22 05 20.56	-09 52 21.6	17.5 V	691	1993 SW	1993 09 20.29569	01 53 52.72	+14 39 11.8	691
1993 SO	1993 09 18.21164	22 05 19.39	-09 52 39.7		691	1993 SW	1993 09 20.30464	01 53 52.39	+14 39 14.8	691
1993 SO	1993 09 18.24542	22 05 18.32	-09 52 57.3		691	1993 SX	* 1993 09 19.30013	01 55 25.58	+14 25 54.1	691
1993 SO	1993 09 19.21029	22 04 50.50	-10 01 09.3	17.2 V	691	1993 SX	1993 09 19.30871	01 55 25.29	+14 25 52.9	20.2 V 691
1993 SO	1993 09 19.22018	22 04 50.21	-10 01 14.3		691	1993 SX	1993 09 19.31777	01 55 24.95	+14 25 51.8	691
1993 SO	1993 09 19.22969	22 04 49.90	-10 01 19.1		691	1993 SX	1993 09 20.28772	01 54 52.37	+14 23 29.7	691
1993 SP	* 1993 09 18.17655	22 06 03.96	-10 02 54.1		691	1993 SX	1993 09 20.29638	01 54 52.04	+14 23 28.8	20.9 V 691
1993 SP	1993 09 18.21213	22 06 02.31	-10 03 07.7	20.1 V	691	1993 SX	1993 09 20.30532	01 54 51.72	+14 23 27.0	691
1993 SP	1993 09 18.24591	22 06 00.73	-10 03 22.3		691	1993 SY	* 1993 09 19.30327	01 59 58.00	+14 11 51.5	691
1993 SP	1993 09 19.21063	22 05 19.64	-10 10 01.0		691	1993 SY	1993 09 19.31185	01 59 57.69	+14 11 54.2	691
1993 SP	1993 09 19.22051	22 05 19.20	-10 10 05.4	19.9 V	691	1993 SY	1993 09 19.32092	01 59 57.41	+14 11 58.1	20.5 V 691
1993 SP	1993 09 19.23003	22 05 18.80	-10 10 08.8		691	1993 SY	1993 09 20.29087	01 59 25.31	+14 17 54.6	691
1993 SQ	* 1993 09 18.17656	22 06 04.64	-09 43 51.0		691	1993 SY	1993 09 20.29953	01 59 24.97	+14 17 57.3	20.6 V 691
1993 SQ	1993 09 18.21214	22 06 03.13	-09 43 54.7		691	1993 SY	1993 09 20.30847	01 59 24.48	+14 17 59.6	691
1993 SQ	1993 09 18.24592	22 06 01.68	-09 43 59.0	20.8 V	691	1993 SG <sub>3</sub>	1993 09 20.17703	00 00 31.97	-01 07 46.0	18.5 V 691
1993 SQ	1993 09 19.21068	22 05 24.00	-09 45 56.1		691	1993 SG <sub>3</sub>	1993 09 20.21006	00 00 30.12	-01 08 01.2	691
1993 SQ	1993 09 19.22056	22 05 23.60	-09 45 57.2	20.8 V	691	1993 SG <sub>3</sub>	1993 09 20.24234	00 00 28.32	-01 08 15.7	691
1993 SQ	1993 09 19.23008	22 05 23.20	-09 45 58.4		691	1993 TZ	* 1993 10 15.23721	01 47 12.51	+14 49 42.1	18.7 V 691
1993 SR	* 1993 09 18.17668	22 06 15.50	-10 06 54.6	20.4 V	691	1993 TZ	1993 10 15.28048	01 48 13.10	+14 50 25.7	19.2 V 691
1993 SR	1993 09 18.21227	22 06 14.20	-10 07 01.2		691	1993 TZ	1993 10 15.32107	01 49 10.92	+14 51 00.7	19.3 V 691
1993 SR	1993 09 18.24605	22 06 13.00	-10 07 07.4		691	1993 TZ	1993 10 15.35686	01 50 02.66	+14 51 29.4	19.4 V 691
1993 SR	1993 09 19.21087	22 05 40.13	-10 10 04.6	19.9 V	691	1993 TZ	1993 10 15.36724	01 50 17.58	+14 51 37.1	19.1 V 691
1993 SR	1993 09 19.22075	22 05 39.84	-10 10 06.1		691	1993 TZ	1993 10 15.37781	01 50 33.23	+14 51 44.3	19.3 V 691
1993 SR	1993 09 19.23027	22 05 39.47	-10 10 08.2		691	1993 TZ	1993 10 16.20920	02 16 32.32	+14 59 28.5	18.9 V 691
1993 SS	* 1993 09 18.17749	22 07 25.23	-10 04 08.7		691	1993 TZ	1993 10 16.22278	02 17 01.07	+14 59 34.4	20.5 V 691
1993 SS	1993 09 18.21307	22 07 23.81	-10 04 17.0	17.8 V	691	1993 TZ	1993 10 16.47842	02 26 24.86	+14 59 31.6	18.8 V 691
1993 SS	1993 09 18.24685	22 07 22.43	-10 04 25.7		691	1993 TZ	1993 10 16.48714	02 26 45.59	+14 59 26.4	19.1 V 691
1993 SS	1993 09 19.21164	22 06 46.63	-10 08 22.5	17.6 V	691	1993 TZ	1993 10 16.49577	02 27 05.74	+14 59 22.0	18.8 V 691

1993 TP <sub>2</sub>	* 1993 10 09.46694	03 03 46.15	+22 26 17.4	18.1 V	691	1993 TT <sub>2</sub>	1993 10 20.32331	01 45 21.52	+14 22 32.1	19.5 V	691
1993 TP <sub>2</sub>	1993 10 09.48703	03 03 45.81	+22 26 20.1	18.1 V	691	1993 TT <sub>2</sub>	1993 10 21.20502	01 44 25.57	+14 15 29.1	19.8 V	691
1993 TP <sub>2</sub>	1993 10 09.50676	03 03 45.48	+22 26 22.7	18.0 V	691	1993 TT <sub>2</sub>	1993 10 24.29544	01 41 11.23	+13 50 43.4	20.0 V	691
1993 TP <sub>2</sub>	1993 10 12.35929	03 02 57.98	+22 32 33.1	18.0 V	691	1993 TT <sub>2</sub>	1993 10 24.30307	01 41 10.74	+13 50 39.5	19.9 V	691
1993 TP <sub>2</sub>	1993 10 12.39030	03 02 57.21	+22 32 36.4	18.2 V	691	1993 TT <sub>2</sub>	1993 10 24.31114	01 41 10.15	+13 50 35.3	19.6 V	691
1993 TP <sub>2</sub>	1993 10 12.42123	03 02 56.44	+22 32 39.7	18.0 V	691	1993 TT <sub>2</sub>	1993 10 24.40688	01 41 04.10	+13 49 48.9	19.9 V	691
1993 TP <sub>2</sub>	1993 10 21.32141	02 58 25.83	+22 40 23.3	17.3 V	691	1993 TT <sub>2</sub>	1993 10 24.41662	01 41 03.44	+13 49 44.1	20.0 V	691
1993 TP <sub>2</sub>	1993 10 21.34215	02 58 24.91	+22 40 23.2	17.4 V	691	1993 TT <sub>2</sub>	1993 10 24.42454	01 41 02.94	+13 49 40.3	20.1 V	691
1993 TP <sub>2</sub>	1993 10 21.36025	02 58 24.11	+22 40 23.1	17.3 V	691	1993 UA	* 1993 10 21.41449	02 39 25.96	+22 01 37.9	17.6 V	691
1993 TP <sub>2</sub>	1993 10 24.43436	02 56 14.71	+22 38 58.9	17.3 V	691	1993 UA	1993 10 21.43421	02 39 51.36	+22 08 40.0	17.5 V	691
1993 TP <sub>2</sub>	1993 10 24.44260	02 56 14.32	+22 38 58.3	17.2 V	691	1993 UA	1993 10 21.47046	02 40 38.07	+22 21 17.7	17.7 V	691
1993 TP <sub>2</sub>	1993 10 24.45041	02 56 13.93	+22 38 57.9	17.2 V	691	1993 UA	1993 10 21.47842	02 40 48.33	+22 24 01.3	17.5 V	691
1993 TQ <sub>2</sub>	* 1993 10 11.44295	02 45 44.07	+20 29 37.6	20.1 V	691	1993 UA	1993 10 21.51063	02 41 30.28	+22 34 47.7	17.6 V	691
1993 TQ <sub>2</sub>	1993 10 11.46830	02 45 44.26	+20 30 06.0	19.6 V	691	1993 UA	1993 10 21.51871	02 41 40.80	+22 37 27.2	17.5 V	691
1993 TQ <sub>2</sub>	1993 10 11.49330	02 45 44.49	+20 30 32.2	19.6 V	691	1993 UA	1993 10 22.20202	02 55 55.89	+25 50 09.0	17.9 V	691
1993 TQ <sub>2</sub>	1993 10 16.36607	02 46 33.45	+22 05 26.0	19.6 V	691	1993 UA	1993 10 22.21018	02 56 02.98	+25 52 06.3	18.1 V	691
1993 TQ <sub>2</sub>	1993 10 16.37500	02 46 33.40	+22 05 37.0	19.6 V	691	1993 UA	1993 10 22.21900	02 56 10.59	+25 54 13.3	18.1 V	691
1993 TQ <sub>2</sub>	1993 10 16.38378	02 46 33.36	+22 05 46.9	21.4 V	691	1993 UA	1993 10 22.47552	02 59 30.36	+26 48 28.7	17.9 V	691
1993 TQ <sub>2</sub>	1993 10 20.36622	02 46 33.78	+23 29 26.7	19.1 V	691	1993 UA	1993 10 22.48364	02 59 36.66	+26 49 59.7	18.1 V	691
1993 TQ <sub>2</sub>	1993 10 20.38323	02 46 33.60	+23 29 47.9	18.9 V	691	1993 UA	1993 10 22.49194	02 59 43.09	+26 51 29.5	18.0 V	691
1993 TQ <sub>2</sub>	1993 10 20.40033	02 46 33.38	+23 30 10.7	19.0 V	691	1993 UA	1993 10 24.46562	03 19 51.53	+31 04 52.2	18.9 V	691
1993 TQ <sub>2</sub>	1993 10 24.34663	02 46 00.35	+24 58 41.6	18.9 V	691	1993 UA	1993 10 24.47419	03 19 54.37	+31 05 29.9	19.1 V	691
1993 TQ <sub>2</sub>	1993 10 24.35469	02 46 00.17	+24 58 52.9	18.8 V	691	1993 UA	1993 10 24.48365	03 19 57.55	+31 06 11.7	19.1 V	691
1993 TR <sub>2</sub>	* 1993 10 12.33922	02 23 13.78	+20 10 18.7	20.1 V	691	2765 P-L	1991 10 08.30401	00 58 15.30	+06 13 55.4	18.6 V	691
1993 TR <sub>2</sub>	1993 10 12.37100	02 23 11.20	+20 11 20.3	20.3 V	691	2765 P-L	1991 10 08.32561	00 58 14.16	+06 13 49.4		691
1993 TR <sub>2</sub>	1993 10 12.40260	02 23 08.62	+20 12 20.2	20.1 V	691	4028 P-L	1993 09 18.28982	22 01 00.78	-03 09 41.0		691
1993 TR <sub>2</sub>	1993 10 16.32877	02 18 02.29	+22 13 20.2	20.4 V	691	4028 P-L	1993 09 18.32335	22 00 59.63	-03 09 54.8		691
1993 TR <sub>2</sub>	1993 10 16.33863	02 18 01.36	+22 13 37.6	20.2 V	691	4028 P-L	1993 09 18.35687	22 00 58.14	-03 10 10.1	18.2 V	691
1993 TR <sub>2</sub>	1993 10 16.34752	02 18 00.59	+22 13 53.5	20.3 V	691	4529 P-L	1992 03 26.20450	11 50 34.23	+00 48 49.1		691
1993 TR <sub>2</sub>	1993 10 21.31061	02 11 08.33	+24 31 18.0	20.3 V	691	4529 P-L	1992 03 26.22460	11 50 33.33	+00 48 53.5		691
1993 TR <sub>2</sub>	1993 10 21.33208	02 11 06.35	+24 31 51.3	20.5 V	691	4529 P-L	1992 03 26.24549	11 50 32.43	+00 48 58.4	19.8 V	691
1993 TR <sub>2</sub>	1993 10 21.35012	02 11 04.67	+24 32 18.7	20.2 V	691	6541 P-L	1992 04 08.46158	15 43 32.44	-10 14 22.1	20.1 V	691
1993 TR <sub>2</sub>	1993 10 24.32114	02 06 55.26	+25 45 25.3	19.8 V	691	6541 P-L	1992 04 08.48426	15 43 32.04	-10 14 18.9		691
1993 TR <sub>2</sub>	1993 10 24.32919	02 06 54.56	+25 45 37.0	20.4 V	691	6541 P-L	1992 04 08.50741	15 43 31.62	-10 14 15.7		691
1993 TR <sub>2</sub>	1993 10 24.33740	02 06 53.81	+25 45 48.0	19.7 V	691	1181 T-1	1993 09 15.26724	23 30 02.31	-00 37 45.9	17.4 V	691
1993 TS <sub>2</sub>	* 1993 10 15.24770	01 26 03.21	+14 16 23.5	19.3 V	691	1181 T-1	1993 09 15.29965	23 30 00.75	-00 37 54.1		691
1993 TS <sub>2</sub>	1993 10 15.28771	01 26 00.47	+14 15 53.8	19.4 V	691	1181 T-1	1993 09 15.33174	23 29 59.20	-00 38 02.0		691
1993 TS <sub>2</sub>	1993 10 15.32769	01 25 57.71	+14 15 24.8	19.3 V	691	1210 T-2	1993 09 10.22721	23 00 29.92	-06 42 06.8	16.9 V	691
1993 TS <sub>2</sub>	1993 10 16.23535	01 25 00.81	+14 04 34.4	19.4 V	691	1210 T-2	1993 09 10.26106	23 00 27.81	-06 42 16.0		691
1993 TS <sub>2</sub>	1993 10 16.26938	01 24 58.50	+14 04 10.0	19.4 V	691	1210 T-2	1993 09 10.29791	23 00 25.48	-06 42 25.4		691
1993 TS <sub>2</sub>	1993 10 16.30669	01 24 56.00	+14 03 43.5	19.3 V	691	1269 T-2	1993 09 14.27094	23 16 58.37	-03 21 31.6	17.8 V	691
1993 TS <sub>2</sub>	1993 10 20.22863	01 20 58.70	+13 17 24.8	19.4 V	691	1269 T-2	1993 09 14.30559	23 16 56.67	-03 21 41.6		691
1993 TS <sub>2</sub>	1993 10 20.23677	01 20 58.19	+13 17 19.3	19.5 V	691	1269 T-2	1993 09 14.34045	23 16 55.04	-03 21 51.4		691
1993 TS <sub>2</sub>	1993 10 20.24485	01 20 57.65	+13 17 13.7	19.3 V	691	2137 T-2	1992 10 23.23776	01 47 57.21	+11 24 01.0	17.5 V	691
1993 TS <sub>2</sub>	1993 10 24.27139	01 17 15.32	+12 31 23.6	18.7 V	691	2137 T-2	1992 10 23.26437	01 47 55.52	+11 23 50.2		691
1993 TS <sub>2</sub>	1993 10 24.27936	01 17 14.99	+12 31 19.4	18.8 V	691	2137 T-2	1992 10 23.29336	01 47 53.67	+11 23 38.2		691
1993 TS <sub>2</sub>	1993 10 24.28727	01 17 14.51	+12 31 12.5	18.5 V	691	(244)	1993 09 16.44297	02 03 30.13	+14 05 46.2	14.0 V	691
1993 TT <sub>2</sub>	* 1993 10 15.35731	01 50 41.48	+15 01 27.4	20.6 V	691	(244)	1993 09 16.47107	02 03 29.84	+14 05 41.6		691
1993 TT <sub>2</sub>	1993 10 15.36750	01 50 40.80	+15 01 22.7	20.6 V	691	(244)	1993 09 16.49872	02 03 29.56	+14 05 37.6		691
1993 TT <sub>2</sub>	1993 10 15.37789	01 50 40.08	+15 01 17.4	21.0 V	691	(1050)	1993 09 15.25962	23 19 01.79	-00 44 48.2	14.6 V	691
1993 TT <sub>2</sub>	1993 10 20.25725	01 45 25.99	+14 23 03.3	19.5 V	691	(1050)	1993 09 15.29201	23 18 59.65	-00 44 47.4		691
1993 TT <sub>2</sub>	1993 10 20.29085	01 45 23.70	+14 22 47.5	19.5 V	691	(1050)	1993 09 15.32410	23 18 57.53	-00 44 46.5		691

(1552)	1993 09 16.43640	01 54 00.95	+13 47 59.0		691	1993 SU <sub>2</sub>	1993 09 19.21728	00 27 13.59	+27 07 38.9	693
(1552)	1993 09 16.46450	01 54 00.11	+13 48 01.7	15.9 V	691	1993 SU <sub>2</sub>	1993 09 19.25794	00 27 11.35	+27 07 41.0	693
(1552)	1993 09 16.49214	01 53 59.27	+13 48 04.2		691	<b>801 Oak Ridge</b>				
(1783)	1993 09 18.28911	21 59 58.47	-03 01 05.6		691	R. E. McCrosky, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A.				
(1783)	1993 09 18.32263	21 59 57.23	-03 01 21.1	16.8 V	691	Observers R. E. McCrosky, C.-Y. Shao				
(1783)	1993 09 18.35616	21 59 56.07	-03 01 35.9		691	1.5-m reflector + CCD				
(1977)	1993 09 15.25745	23 15 54.19	-00 33 45.6		691	GSC				
(1977)	1993 09 15.28985	23 15 52.42	-00 33 51.3	14.9 V	691	1929 VS	1993 09 14.32201	03 06 10.44	+15 57 37.8	801
(1977)	1993 09 15.32194	23 15 50.67	-00 33 56.4		691	1929 VS	1993 09 14.35868	03 06 10.92	+15 57 45.4	801
(2749)	1993 09 14.16425	21 23 02.36	-15 33 29.1	17.8 V	691	1929 VS	1993 09 19.34241	03 07 03.69	+16 15 00.7	801
(2749)	1993 09 14.17428	21 23 02.05	-15 33 30.6		691	1929 VS	1993 09 19.38848	03 07 03.87	+16 15 09.7	801
(2749)	1993 09 14.19353	21 23 01.45	-15 33 33.2		691	1929 VS	1993 10 13.27437	03 00 09.38	+17 06 24.8	801
(3045)	1993 09 18.39888	01 06 22.29	+04 31 52.0	15.6 V	691	1929 VS	1993 10 13.29954	03 00 08.32	+17 06 26.3	801
(3045)	1993 09 18.43247	01 06 20.95	+04 31 45.8		691	1930 UX	1993 10 12.30064	05 06 59.38	+30 26 52.7	801
(3045)	1993 09 18.46642	01 06 19.61	+04 31 39.5		691	1930 UX	1993 10 12.31921	05 07 00.07	+30 26 58.1	801
(3046)	1993 09 16.30316	23 14 09.00	+03 57 15.9	17.0 V	691	1931 VS	1993 09 12.33169	02 02 08.20	+01 34 22.0	801
(3046)	1993 09 16.33624	23 14 07.64	+03 56 57.1		691	1931 VS	1993 09 12.36501	02 02 07.45	+01 34 25.9	801
(3046)	1993 09 16.36889	23 14 06.28	+03 56 39.0		691	1931 VS	1993 09 19.31552	01 58 56.42	+01 47 41.0	801
(3207)	1993 09 19.38830	01 50 28.00	+09 37 57.6		691	1931 VS	1993 09 19.33603	01 58 55.66	+01 47 43.0	801
(3207)	1993 09 19.42168	01 50 27.00	+09 37 50.0	16.8 V	691	1931 VS	1993 10 12.24231	01 38 42.40	+02 32 45.0	801
(3207)	1993 09 19.45477	01 50 26.00	+09 37 42.3		691	1931 VS	1993 10 12.25664	01 38 41.41	+02 32 47.0	801
(3653)	1993 09 14.26438	23 07 30.17	-03 14 03.4	16.0 V	691	1931 VS	1993 10 19.27354	01 30 45.06	+02 51 48.4	801
(3653)	1993 09 14.29902	23 07 28.21	-03 14 20.8		691	1931 VS	1993 10 19.28464	01 30 44.29	+02 51 50.8	801
(3653)	1993 09 14.33389	23 07 26.36	-03 14 39.9		691	1934 GA	1993 10 12.30272	05 34 59.78	+19 41 38.9	801
(3861)	1993 09 16.20600	22 22 36.51	-04 44 21.1	17.0 V	691	1934 GA	1993 10 12.32356	05 35 00.15	+19 41 47.6	801
(3861)	1993 09 16.23788	22 22 35.12	-04 44 34.3		691	1934 GA	1993 10 14.37855	05 35 35.06	+19 56 38.4	801
(3861)	1993 09 16.27401	22 22 33.48	-04 44 47.6		691	1950 DE	1993 09 19.30412	01 30 54.08	-01 46 53.3	801
(4030)	1993 09 15.26995	23 33 56.98	-00 31 20.7	15.7 V	691	1950 DE	1993 09 19.32722	01 30 53.42	-01 47 02.8	801
(4030)	1993 09 15.30235	23 33 55.00	-00 31 26.5		691	1950 DE	1993 09 20.25378	01 30 24.58	-01 52 59.9	801
(4030)	1993 09 15.33444	23 33 53.02	-00 31 32.0		691	1950 DE	1993 10 14.20616	01 15 21.35	-04 22 38.3	801
(4030)	1993 09 20.15545	23 29 10.09	-00 45 39.9		691	1950 DE	1993 10 14.22157	01 15 20.68	-04 22 43.0	801
(4030)	1993 09 20.18848	23 29 08.11	-00 45 45.1	16.1 V	691	1950 DE	1993 10 19.24090	01 11 57.28	-04 49 33.9	801
(4030)	1993 09 20.22077	23 29 06.14	-00 45 50.8		691	1950 DE	1993 10 19.25517	01 11 56.64	-04 49 38.4	801
(4109)	1993 09 09.28592	22 37 41.86	-07 50 50.2		691	1965 UA	1993 09 12.14468	22 45 15.55	-11 24 24.6	801
(4109)	1993 09 09.31909	22 37 40.10	-07 51 02.6	15.2 V	691	1965 UA	1993 09 12.16795	22 45 14.25	-11 24 23.9	801
(4109)	1993 09 09.35404	22 37 38.26	-07 51 16.0		691	1965 UA	1993 09 14.15458	22 43 32.98	-11 23 18.0	801
(4876)	1993 09 19.37099	01 25 24.46	+09 43 26.2	17.0 V	691	1965 UA	1993 09 14.17021	22 43 32.14	-11 23 17.5	801
(4876)	1993 09 19.43747	01 25 21.98	+09 43 11.6		691	1971 SS <sub>1</sub>	1993 09 19.28602	01 19 29.03	+06 10 32.6	801
<b>693 University of Arizona, Catalina Station</b>						1971 SS <sub>1</sub>	1993 09 19.30676	01 19 28.33	+06 10 28.4	801
C. Hergenrother, Lunar and Planetary Laboratory, University of Arizona, Tucson, AZ 85721, U.S.A.						1971 SS <sub>1</sub>	1993 09 20.22462	01 18 57.35	+06 07 18.4	801
Observers C. Hergenrother, Y. Shirley						1971 SS <sub>1</sub>	1993 09 20.24638	01 18 56.58	+06 07 13.2	801
Measurer C. Hergenrother						1971 SS <sub>1</sub>	1993 10 12.20725	01 03 19.23	+04 36 12.2	801
0.4-m <i>f</i> /3 Schmidt						1971 SS <sub>1</sub>	1993 10 12.22240	01 03 18.49	+04 36 08.3	801
1989 LW	1993 09 19.23954	00 53 09.77	+32 19 29.0	16.5	693	1971 SS <sub>1</sub>	1993 10 19.20340	00 57 55.27	+04 06 28.8	801
1989 LW	1993 09 19.28166	00 53 08.08	+32 18 54.2		693	1971 SS <sub>1</sub>	1993 10 19.22628	00 57 54.18	+04 06 23.5	801
1993 MC	1993 08 12.27292	18 59 00.72	+00 03 18.2	16.5	693	1971 UN <sub>1</sub>	1993 09 12.12196	22 30 33.68	-08 20 24.3	801
1993 MC	1993 08 12.30191	18 59 00.12	+00 03 04.6		693	1971 UN <sub>1</sub>	1993 09 12.14071	22 30 32.89	-08 20 30.3	801
1993 MF	1993 09 19.22953	00 21 08.51	+34 05 24.3	13.0	693	1971 UN <sub>1</sub>	1993 09 20.09470	22 25 18.77	-08 56 10.5	801
1993 MF	1993 09 19.27163	00 21 09.47	+34 04 18.1		693	1971 UN <sub>1</sub>	1993 09 20.11500	22 25 18.01	-08 56 16.9	801
1993 SU <sub>2</sub>	* 1993 09 18.39211	00 27 58.14	+27 06 56.7	16.5	693	1971 UT <sub>1</sub>	1993 09 12.08968	21 56 47.78	-11 24 56.8	801
						1971 UT <sub>1</sub>	1993 09 12.10875	21 56 47.10	-11 25 01.7	801



1971 UT <sub>1</sub>	1993 09 20.05208	21 53 00.62	-11 55 33.0	801	1978 PX <sub>2</sub>	1993 10 14.20244	01 15 44.20	+10 55 38.5	801
1971 UT <sub>1</sub>	1993 09 20.07848	21 52 59.96	-11 55 38.1	801	1978 PX <sub>2</sub>	1993 10 19.23817	01 11 12.41	+10 35 14.9	801
1974 SJ <sub>3</sub>	1993 10 12.36351	04 28 07.29	+39 36 50.6	801	1978 PX <sub>2</sub>	1993 10 19.25286	01 11 11.58	+10 35 11.4	801
1974 SJ <sub>3</sub>	1993 10 12.38558	04 28 06.99	+39 37 02.1	801	1978 SO <sub>4</sub>	1993 09 12.11090	22 18 56.17	-16 30 57.0	801
1976 GY <sub>3</sub>	1993 09 12.13583	22 37 07.87	-04 58 45.7	801	1978 SO <sub>4</sub>	1993 09 12.13074	22 18 55.42	-16 30 58.6	801
1976 GY <sub>3</sub>	1993 09 12.14925	22 37 07.12	-04 58 51.9	801	1979 SR	1993 09 15.22461	01 19 04.02	+12 34 39.6	801
1976 GY <sub>3</sub>	1993 09 14.12051	22 35 22.93	-05 14 12.4	I 801	1979 SR	1993 09 15.25083	01 19 03.26	+12 34 30.1	801
1976 GY <sub>3</sub>	1993 09 14.13792	22 35 22.01	-05 14 19.9	801	1979 SR	1993 09 19.28094	01 17 01.74	+12 08 10.0	801
1976 QZ <sub>1</sub>	1993 10 12.08065	23 00 23.40	-17 39 29.6	801	1979 SR	1993 09 19.30144	01 17 01.03	+12 08 01.1	801
1976 QZ <sub>1</sub>	1993 10 12.10553	23 00 22.72	-17 39 24.0	801	1980 BJ <sub>4</sub>	1993 10 14.38218	04 38 10.52	+21 57 39.9	801
1976 QZ <sub>1</sub>	1993 10 14.06801	22 59 39.01	-17 32 21.1	801	1980 BJ <sub>4</sub>	1993 10 19.33223	04 36 50.01	+21 59 01.9	801
1976 QZ <sub>1</sub>	1993 10 14.12138	22 59 37.81	-17 32 08.1	801	1980 BJ <sub>4</sub>	1993 10 19.36817	04 36 49.13	+21 58 59.9	801
1976 SW <sub>3</sub>	1993 10 13.30968	04 18 06.14	+14 58 17.4	801	1980 UL <sub>1</sub>	1993 09 12.01431	18 22 34.33	-14 04 47.5	801
1976 SW <sub>3</sub>	1993 10 13.36308	04 18 05.60	+14 58 05.5	801	1981 DF <sub>2</sub>	1993 09 13.29619	00 55 32.68	+20 58 47.0	b 801
1976 SZ <sub>9</sub>	1993 09 12.15792	23 10 49.43	-08 03 04.7	801	1981 DF <sub>2</sub>	1993 09 13.34159	00 55 31.34	+20 58 46.3	b 801
1976 SZ <sub>9</sub>	1993 09 12.17453	23 10 48.65	-08 03 08.1	801	1981 DF <sub>2</sub>	1993 09 19.26659	00 52 31.97	+20 51 58.1	801
1976 SZ <sub>9</sub>	1993 09 14.16687	23 09 15.07	-08 09 43.4	801	1981 EA <sub>9</sub>	1993 09 20.08177	22 04 32.93	-08 32 57.1	801
1976 SZ <sub>9</sub>	1993 09 14.18110	23 09 14.34	-08 09 46.2	801	1981 EA <sub>9</sub>	1993 09 20.10071	22 04 32.28	-08 32 53.3	801
1977 TC <sub>1</sub>	1993 09 14.23613	23 49 18.36	+05 11 51.3	801	1981 EA <sub>9</sub>	1993 10 19.98025	22 05 47.33	-06 06 37.3	801
1977 TC <sub>1</sub>	1993 09 14.25185	23 49 17.61	+05 11 44.6	801	1981 EX <sub>13</sub>	1993 09 12.22876	23 42 32.71	+07 34 51.3	801
1977 TC <sub>1</sub>	1993 09 19.20102	23 45 37.81	+04 34 26.4	801	1981 EX <sub>13</sub>	1993 09 12.24331	23 42 32.06	+07 34 44.7	801
1977 TC <sub>1</sub>	1993 09 19.21543	23 45 37.11	+04 34 19.6	801	1981 EX <sub>13</sub>	1993 09 14.20426	23 41 09.43	+07 20 30.1	I 801
1977 TS <sub>3</sub>	1993 09 14.19257	23 28 51.35	-10 00 09.4	801	1981 EX <sub>13</sub>	1993 09 14.23145	23 41 08.31	+07 20 19.8	801
1977 TS <sub>3</sub>	1993 09 14.20847	23 28 50.63	-10 00 14.9	801	1981 ED <sub>21</sub>	1993 09 12.33495	02 08 15.51	+20 57 09.6	801
1977 TS <sub>3</sub>	1993 09 20.16647	23 24 38.84	-10 33 21.3	801	1981 ED <sub>21</sub>	1993 09 12.35546	02 08 15.54	+20 57 20.6	801
1977 TS <sub>3</sub>	1993 09 20.18431	23 24 38.08	-10 33 26.7	801	1981 ED <sub>21</sub>	1993 09 14.30920	02 08 18.08	+21 14 19.9	801
1977 TS <sub>3</sub>	1993 10 12.08378	23 12 42.64	-11 47 14.5	801	1981 ED <sub>21</sub>	1993 09 14.32990	02 08 17.99	+21 14 30.9	801
1977 TS <sub>3</sub>	1993 10 12.12493	23 12 41.74	-11 47 18.0	801	1981 KJ	1993 09 14.26478	00 20 27.61	-14 23 20.4	I 801
1977 UP	1993 09 13.29885	00 59 35.48	+06 55 34.2	b 801	1981 KJ	1993 09 20.17914	00 15 10.55	-14 32 38.5	801
1977 UP	1993 09 13.31683	00 59 34.73	+06 55 33.2	b 801	1981 KJ	1993 09 20.19345	00 15 09.73	-14 32 39.4	801
1977 UP	1993 09 15.19685	00 58 18.58	+06 54 14.2	801	1981 RQ <sub>2</sub>	1993 09 12.00890	18 01 11.59	-11 41 49.8	801
1977 UP	1993 09 15.21889	00 58 17.58	+06 54 13.1	801	1981 RQ <sub>2</sub>	1993 09 12.02470	18 01 12.56	-11 41 51.2	801
1977 UP	1993 10 14.15667	00 31 38.56	+05 44 21.3	801	1981 SN	1993 10 13.31289	04 20 12.36	+19 53 53.0	801
1977 UP	1993 10 14.17152	00 31 37.71	+05 44 18.8	801	1981 SN	1993 10 13.36574	04 20 12.00	+19 53 40.6	801
1977 UP	1993 10 19.16065	00 27 25.55	+05 30 56.2	801	1981 SN	1993 10 19.33013	04 19 03.45	+19 29 53.4	801
1977 UP	1993 10 19.17868	00 27 24.65	+05 30 53.6	801	1981 SN	1993 10 19.36019	04 19 02.79	+19 29 45.7	801
1977 UO <sub>5</sub>	1993 09 12.14277	22 43 06.96	-12 02 42.3	801	1982 BS	1993 09 15.35898	03 39 54.26	+37 10 25.3	I 801
1977 UO <sub>5</sub>	1993 09 12.16047	22 43 06.14	-12 02 47.0	801	1982 BS	1993 09 15.37390	03 39 54.74	+37 10 32.3	I 801
1977 UO <sub>5</sub>	1993 09 20.09767	22 37 20.53	-12 33 10.2	801	1982 BS	1993 09 20.31793	03 43 20.69	+37 49 20.6	801
1977 UO <sub>5</sub>	1993 09 20.11821	22 37 19.68	-12 33 16.1	801	1982 BS	1993 09 20.35280	03 43 21.92	+37 49 36.4	801
1978 NN <sub>1</sub>	1993 09 15.31037	02 46 25.09	+05 15 18.9	801	1982 FF <sub>3</sub>	1993 09 15.03450	20 43 42.92	-16 02 24.8	W 801
1978 NN <sub>1</sub>	1993 09 15.33422	02 46 24.91	+05 15 10.8	801	1982 FF <sub>3</sub>	1993 09 15.08521	20 43 41.90	-16 02 29.0	801
1978 NN <sub>1</sub>	1993 09 20.30897	02 45 38.82	+04 45 54.5	801	1982 PR	1993 09 14.07698	21 41 24.43	-15 21 07.1	801
1978 NN <sub>1</sub>	1993 09 20.35690	02 45 38.08	+04 45 36.7	801	1982 PR	1993 09 14.10581	21 41 23.52	-15 21 10.9	801
1978 NN <sub>1</sub>	1993 10 14.26100	02 32 43.78	+02 07 09.2	801	1982 PR	1993 09 20.04572	21 38 41.14	-15 31 04.7	801
1978 NN <sub>1</sub>	1993 10 14.27704	02 32 43.00	+02 07 03.1	801	1982 PR	1993 09 20.07594	21 38 40.36	-15 31 06.3	801
1978 NN <sub>1</sub>	1993 10 19.29490	02 28 36.53	+01 35 24.9	801	1982 ST	1993 10 13.35031	07 06 14.44	+49 33 45.6	801
1978 PX <sub>2</sub>	1993 09 12.32348	01 37 52.18	+11 59 18.7	801	1982 ST	1993 10 13.35632	07 06 15.22	+49 33 48.8	801
1978 PX <sub>2</sub>	1993 09 12.37333	01 37 51.27	+11 59 21.1	801	1982 SE <sub>1</sub>	1993 09 12.08007	21 36 42.35	-09 28 58.3	801
1978 PX <sub>2</sub>	1993 09 15.22962	01 36 56.58	+12 00 44.0	801	1982 SE <sub>1</sub>	1993 09 15.06253	21 35 06.94	-09 36 49.8	801
1978 PX <sub>2</sub>	1993 09 15.26125	01 36 55.76	+12 00 44.0	801	1982 SE <sub>1</sub>	1993 09 15.08105	21 35 06.34	-09 36 52.8	801
1978 PX <sub>2</sub>	1993 10 14.18588	01 15 45.16	+10 55 42.5	801	1982 SO <sub>4</sub>	1993 09 12.28151	00 32 52.64	-01 00 25.0	801

1982 SO <sub>4</sub>	1993 09 12.30326	00 32 51.50	-01 00 25.4	801	1984 SO <sub>5</sub>	1993 09 14.27709	01 13 20.69	+01 51 13.3	801
1982 SO <sub>4</sub>	1993 09 19.23723	00 26 33.78	-01 05 10.9	801	1984 SO <sub>5</sub>	1993 09 14.29470	01 13 20.11	+01 51 06.9	801
1982 SO <sub>4</sub>	1993 09 19.25409	00 26 32.74	-01 05 12.5	801	1984 SO <sub>5</sub>	1993 09 20.21028	01 10 01.90	+01 13 19.0	801
1982 SO <sub>4</sub>	1993 10 12.16021	00 02 05.40	-01 11 56.7	801	1984 SO <sub>5</sub>	1993 09 20.22696	01 10 01.26	+01 13 12.6	801
1982 SO <sub>4</sub>	1993 10 12.18325	00 02 03.94	-01 11 55.6	801	1984 SO <sub>5</sub>	1993 10 14.16626	00 52 05.70	-01 25 20.8	801
1982 SO <sub>4</sub>	1993 10 19.13362	23 55 41.58	-01 02 57.4	801	1984 SO <sub>5</sub>	1993 10 14.18118	00 52 04.98	-01 25 25.8	801
1982 SO <sub>4</sub>	1993 10 19.14611	23 55 40.92	-01 02 56.1	801	1984 SO <sub>5</sub>	1993 10 19.19178	00 48 18.66	-01 52 47.3	801
1982 UH	1993 09 14.28441	01 37 13.67	+14 17 12.8	801	1984 SO <sub>5</sub>	1993 10 19.22404	00 48 17.18	-01 52 56.6	801
1982 UH	1993 09 14.33765	01 37 12.82	+14 17 11.2	801	1984 UT	1993 09 12.23201	23 45 37.46	+21 49 44.7	801
1982 UH	1993 09 20.23744	01 35 18.74	+14 10 21.5	801	1984 UT	1993 09 12.24617	23 45 36.78	+21 49 39.9	801
1982 UH	1993 09 20.26358	01 35 18.01	+14 10 19.0	801	1984 UT	1993 09 15.10273	23 43 27.98	+21 32 15.5	801
1982 UH	1993 10 12.23639	01 20 21.43	+12 40 38.1	801	1984 UT	1993 09 15.11743	23 43 27.29	+21 32 09.8	801
1982 UH	1993 10 12.25035	01 20 20.68	+12 40 33.0	801	1984 UT	1993 10 12.10190	23 24 20.40	+17 05 13.3	801
1982 UH	1993 10 19.24595	01 14 22.46	+11 56 52.0	801	1984 UT	1993 10 12.12167	23 24 19.74	+17 04 58.7	801
1982 UH	1993 10 19.25999	01 14 21.71	+11 56 46.1	801	1984 UX <sub>2</sub>	1993 10 12.35106	04 15 09.13	+31 17 51.2	801
1982 UV <sub>1</sub>	1993 10 14.27022	03 15 51.88	+13 32 28.9	801	1984 UX <sub>2</sub>	1993 10 12.37123	04 15 08.67	+31 17 59.3	801
1982 UV <sub>1</sub>	1993 10 14.29273	03 15 51.10	+13 32 25.1	801	1984 UX <sub>2</sub>	1993 10 14.30916	04 14 24.44	+31 30 32.8	801
1982 UM <sub>6</sub>	1993 09 12.32572	01 43 21.86	+11 45 45.1	801	1984 UX <sub>2</sub>	1993 10 14.33255	04 14 23.81	+31 30 41.7	801
1982 UM <sub>6</sub>	1993 09 12.36264	01 43 21.04	+11 45 45.3	801	1985 RQ	1993 10 12.08701	23 20 45.00	-07 42 51.3	801
1982 UM <sub>6</sub>	1993 09 15.23569	01 42 13.84	+11 45 29.6	801	1985 RQ	1993 10 12.10851	23 20 44.51	-07 42 43.0	801
1982 UM <sub>6</sub>	1993 09 15.26480	01 42 13.01	+11 45 28.8	801	1985 TM <sub>1</sub>	1993 09 12.35201	03 22 56.18	+19 59 20.0	801
1982 UM <sub>6</sub>	1993 10 14.24296	01 19 10.91	+10 28 29.7	w 801	1985 TM <sub>1</sub>	1993 09 12.37012	03 22 56.85	+19 59 31.0	801
1982 UM <sub>6</sub>	1993 10 19.24826	01 14 26.35	+10 07 26.1	801	1985 TM <sub>1</sub>	1993 09 15.35341	03 24 46.05	+20 30 02.9	801
1982 UM <sub>6</sub>	1993 10 19.26275	01 14 25.52	+10 07 22.3	801	1985 TM <sub>1</sub>	1993 09 15.37116	03 24 46.62	+20 30 13.5	801
1983 RB	1993 09 12.32088	01 32 53.82	-01 35 25.4	r 801	1985 TM <sub>1</sub>	1993 10 14.28426	03 25 59.46	+25 16 30.1	801
1983 RB	1993 09 12.32859	01 32 53.44	-01 35 43.0	r 801	1985 TM <sub>1</sub>	1993 10 14.30022	03 25 58.91	+25 16 38.7	801
1983 RB	1993 09 14.28187	01 31 23.81	-02 49 21.9	801	1985 UF <sub>3</sub>	1993 09 12.04142	20 42 57.45	-02 39 22.0	801
1983 RB	1993 09 14.28961	01 31 23.37	-02 49 39.1	801	1985 UF <sub>3</sub>	1993 09 12.06531	20 42 57.13	-02 39 36.0	801
1983 RB	1993 10 12.21936	01 03 48.91	-15 25 17.6	801	1985 UF <sub>3</sub>	1993 09 14.04644	20 42 35.10	-02 58 57.7	801
1983 RB	1993 10 12.22786	01 03 48.39	-15 25 25.3	801	1985 UF <sub>3</sub>	1993 10 12.00662	20 50 01.02	-06 44 58.2	801
1983 RB	1993 10 14.17851	01 02 06.53	-15 53 21.3	801	1985 YH	1993 10 13.28992	03 48 09.18	+33 06 03.9	801
1983 RB	1993 10 14.18860	01 02 05.90	-15 53 30.2	801	1985 YH	1993 10 13.32920	03 48 08.05	+33 06 03.7	801
1983 RX	1993 09 12.28341	00 34 12.71	+09 43 20.0	801	1985 YH	1993 10 19.31656	03 44 53.94	+33 02 26.5	801
1983 RX	1993 09 12.30561	00 34 11.46	+09 43 17.6	801	1985 YH	1993 10 19.34064	03 44 53.00	+33 02 24.7	801
1983 RX	1993 09 19.24189	00 27 33.94	+09 24 41.3	801	1986 AJ	1993 09 19.36484	02 54 50.11	+46 52 29.0	801
1983 RX	1993 09 19.25991	00 27 32.82	+09 24 37.9	801	1986 AJ	1993 09 19.38314	02 54 50.53	+46 52 43.7	801
1983 RM <sub>3</sub>	1993 09 12.14752	22 45 47.84	-01 31 53.5	801	1986 AJ	1993 09 20.37385	02 55 15.18	+47 05 40.3	801
1983 RM <sub>3</sub>	1993 09 12.16575	22 45 46.65	-01 31 57.0	801	1986 GU	1993 10 19.38936	06 24 56.38	+15 03 58.5	801
1983 RM <sub>3</sub>	1993 09 14.13131	22 43 42.72	-01 38 32.6	801	1986 GU	1993 10 19.40439	06 24 56.90	+15 04 06.0	801
1983 RM <sub>3</sub>	1993 09 14.14632	22 43 41.73	-01 38 34.9	801	1986 PK <sub>6</sub>	1993 09 15.13551	00 30 38.98	+10 50 55.7	801
1983 RX <sub>3</sub>	1993 09 14.27398	01 08 57.23	+00 28 03.0	801	1986 PK <sub>6</sub>	1993 09 15.15148	00 30 38.10	+10 50 50.7	801
1983 RX <sub>3</sub>	1993 09 14.28660	01 08 56.84	+00 27 53.5	801	1986 PK <sub>6</sub>	1993 09 19.23933	00 26 48.99	+10 27 38.2	801
1983 RX <sub>3</sub>	1993 09 20.20634	01 05 43.14	-00 49 16.5	801	1986 PK <sub>6</sub>	1993 09 19.25581	00 26 48.00	+10 27 32.2	801
1983 RX <sub>3</sub>	1993 09 20.22229	01 05 42.53	-00 49 29.1	801	1986 QQ	1993 09 12.18233	23 23 51.16	-05 19 22.6	801
1983 RX <sub>3</sub>	1993 10 12.19701	00 50 44.03	-05 16 22.5	801	1986 QQ	1993 09 12.19715	23 23 50.21	-05 19 26.0	801
1983 RX <sub>3</sub>	1993 10 12.21279	00 50 43.36	-05 16 32.1	801	1986 QQ	1993 09 20.14433	23 15 38.88	-05 50 57.6	801
1983 RX <sub>3</sub>	1993 10 14.17572	00 49 25.43	-05 36 08.9	801	1986 QQ	1993 09 20.15955	23 15 37.90	-05 51 01.3	801
1983 RX <sub>3</sub>	1993 10 14.19311	00 49 24.71	-05 36 19.2	801	1986 RQ	1993 09 14.23860	23 46 23.14	+10 36 31.3	801
1984 FN	1993 10 12.29131	03 52 30.37	+14 50 51.1	801	1986 RQ	1993 09 14.25457	23 46 22.42	+10 36 20.6	801
1984 FN	1993 10 12.30773	03 52 29.82	+14 51 00.6	801	1986 RQ	1993 09 19.19869	23 42 48.85	+09 38 45.6	801
1984 SG <sub>1</sub>	1993 09 12.05431	21 32 48.32	-10 47 21.5	801	1986 RQ	1993 09 19.21005	23 42 48.33	+09 38 37.5	801
1984 SG <sub>1</sub>	1993 09 12.07561	21 32 47.56	-10 47 25.3	801	1986 RQ	1993 10 12.12786	23 29 51.47	+04 49 47.1	801

1986 RQ	1993 10 12.14447	23 29 51.11	+04 49 35.1	801	1988 RE	1993 09 12.38932	03 39 53.88	+20 21 01.0	801
1986 RR <sub>2</sub>	1993 09 12.34947	03 13 58.26	+12 03 43.1	801	1988 RE	1993 09 14.34639	03 41 08.79	+19 23 36.3	801
1986 RR <sub>2</sub>	1993 09 12.36767	03 13 59.13	+12 03 39.3	801	1988 RE	1993 09 14.35414	03 41 09.11	+19 23 23.5	801
1986 RR <sub>2</sub>	1993 09 14.32703	03 15 30.58	+11 56 51.1	801	1988 TA <sub>1</sub>	1993 09 12.17225	22 55 40.25	+03 17 31.9	801
1986 RR <sub>2</sub>	1993 09 14.34403	03 15 31.27	+11 56 47.6	801	1988 TA <sub>1</sub>	1993 09 20.13679	22 50 23.61	+02 16 39.4	801
1986 RR <sub>2</sub>	1993 10 13.28388	03 19 56.31	+09 02 27.1	801	1988 TA <sub>1</sub>	1993 09 20.15144	22 50 23.03	+02 16 32.6	801
1986 RR <sub>2</sub>	1993 10 13.30733	03 19 55.62	+09 02 16.1	801	1988 TA <sub>1</sub>	1993 10 12.04234	22 40 11.31	-00 24 50.4	801
1986 RV <sub>2</sub>	1993 10 12.27965	01 55 35.03	+09 19 43.0	801	1988 TA <sub>1</sub>	1993 10 12.06933	22 40 10.89	-00 25 00.8	801
1986 TN <sub>1</sub>	1993 09 12.18462	23 19 29.22	+14 35 25.9	801	1988 TA <sub>1</sub>	1993 10 14.06103	22 39 42.07	-00 37 46.4	801
1986 TN <sub>1</sub>	1993 09 12.19958	23 19 28.40	+14 35 20.0	801	1988 TA <sub>1</sub>	1993 10 14.08921	22 39 41.74	-00 37 57.0	801
1986 TN <sub>1</sub>	1993 09 19.19586	23 13 21.55	+13 40 16.6	801	1988 TP <sub>1</sub>	1993 09 19.31221	01 50 04.46	+08 25 17.9	801
1986 TN <sub>1</sub>	1993 09 19.20699	23 13 20.95	+13 40 10.8	801	1988 TP <sub>1</sub>	1993 09 19.33354	01 50 03.76	+08 25 12.6	801
1986 TN <sub>1</sub>	1993 10 12.07727	22 57 35.47	+10 00 59.1	801	1988 TP <sub>1</sub>	1993 09 20.25670	01 49 37.06	+08 22 18.4	801
1986 TN <sub>1</sub>	1993 10 12.09442	22 57 34.97	+10 00 48.9	801	1988 TP <sub>1</sub>	1993 09 20.28045	01 49 36.30	+08 22 14.3	801
1986 XF <sub>1</sub>	1993 09 12.15086	22 52 47.59	-02 20 08.0	801	1988 TP <sub>1</sub>	1993 10 14.25310	01 32 58.17	+06 44 41.1	801
1986 XF <sub>1</sub>	1993 09 12.16931	22 52 46.56	-02 20 12.9	801	1988 VD <sub>1</sub>	1993 09 15.35581	03 31 19.52	+30 39 37.0	r 801
1986 XF <sub>1</sub>	1993 09 14.15789	22 51 03.72	-02 29 04.0	801	1988 VD <sub>1</sub>	1993 09 15.38012	03 31 19.70	+30 39 47.6	r 801
1986 XF <sub>1</sub>	1993 09 14.17500	22 51 02.80	-02 29 08.5	801	1988 VD <sub>1</sub>	1993 09 20.31472	03 31 36.99	+31 14 17.6	801
1987 PL	1993 10 13.31804	04 24 00.78	+32 08 30.2	801	1988 VD <sub>1</sub>	1993 09 20.34988	03 31 36.93	+31 14 32.2	801
1987 PL	1993 10 13.36804	04 23 59.90	+32 08 33.2	801	1988 VD <sub>1</sub>	1993 10 13.27868	03 23 32.93	+33 24 15.3	801
1987 QW <sub>2</sub>	1993 10 14.08523	23 13 50.75	-06 24 40.4	801	1988 VD <sub>1</sub>	1993 10 13.30236	03 23 31.89	+33 24 21.2	801
1987 QW <sub>2</sub>	1993 10 14.12736	23 13 49.76	-06 24 44.4	801	1988 XU <sub>1</sub>	1993 10 13.32431	04 48 07.95	+15 48 55.8	801
1987 RY	1993 10 14.07058	23 15 14.38	-05 22 09.8	801	1988 XU <sub>1</sub>	1993 10 13.38163	04 48 07.26	+15 48 55.9	801
1987 RY	1993 10 14.12409	23 15 13.07	-05 22 16.9	801	1988 XU <sub>1</sub>	1993 10 19.33773	04 46 36.99	+15 49 49.1	801
1987 ST <sub>1</sub>	1993 10 14.38943	05 36 30.69	+31 08 17.7	801	1988 XU <sub>1</sub>	1993 10 19.37564	04 46 36.23	+15 49 49.3	801
1987 ST <sub>1</sub>	1993 10 19.35398	05 38 03.47	+31 11 04.5	801	1989 AK	1993 09 19.31881	02 24 19.62	+07 52 04.2	r 801
1987 ST <sub>1</sub>	1993 10 19.41431	05 38 04.22	+31 11 05.9	801	1989 AK	1993 09 19.37295	02 24 18.99	+07 51 57.2	r 801
1987 SJ <sub>3</sub>	1993 10 13.34752	06 54 27.74	+48 50 22.8	801	1989 AK	1993 10 12.27209	02 13 45.01	+06 40 35.0	801
1987 SJ <sub>3</sub>	1993 10 13.35316	06 54 28.33	+48 50 28.2	801	1989 AK	1993 10 12.28751	02 13 44.34	+06 40 31.5	801
1988 BB <sub>4</sub>	1993 09 20.11197	22 43 02.28	+02 40 42.1	801	1989 AK	1993 10 19.28275	02 08 27.74	+06 14 22.1	801
1988 BB <sub>4</sub>	1993 09 20.12711	22 43 01.42	+02 40 35.4	801	1989 AK	1993 10 19.29747	02 08 27.05	+06 14 18.7	801
1988 BJ <sub>4</sub>	1993 09 14.24370	00 17 37.59	-01 34 51.3	801	1989 AQ	1993 09 15.25581	01 50 08.86	+08 32 23.3	801
1988 BJ <sub>4</sub>	1993 09 14.25912	00 17 36.83	-01 34 59.2	801	1989 AQ	1993 09 15.28409	01 50 08.24	+08 32 19.4	801
1988 BJ <sub>4</sub>	1993 09 20.17200	00 12 48.75	-02 25 33.6	801	1989 AQ	1993 09 20.25153	01 48 10.84	+08 19 42.6	801
1988 BJ <sub>4</sub>	1993 09 20.18598	00 12 48.00	-02 25 40.5	801	1989 AQ	1993 09 20.27516	01 48 10.17	+08 19 38.4	801
1988 BJ <sub>4</sub>	1993 10 12.14154	23 55 08.54	-05 12 50.8	801	1989 AQ	1993 10 14.23929	01 32 47.51	+06 51 47.8	801
1988 BJ <sub>4</sub>	1993 10 12.15749	23 55 07.88	-05 12 56.4	801	1989 AQ	1993 10 14.25498	01 32 46.75	+06 51 43.6	801
1988 BJ <sub>4</sub>	1993 10 14.13615	23 53 52.47	-05 24 01.7	801	1989 CV	1993 09 12.21694	23 41 01.11	-06 28 18.0	801
1988 BJ <sub>4</sub>	1993 10 14.15328	23 53 51.77	-05 24 06.6	801	1989 CV	1993 09 12.23582	23 41 00.36	-06 28 21.5	801
1988 LB	1993 09 14.30351	02 06 56.53	+30 44 12.6	801	1989 GT <sub>4</sub>	1993 09 12.11874	22 28 38.10	-06 29 44.1	801
1988 LB	1993 09 14.34059	02 06 55.68	+30 44 17.4	801	1989 GT <sub>4</sub>	1993 09 12.13303	22 28 37.47	-06 29 50.4	801
1988 LB	1993 09 20.26869	02 04 18.42	+30 53 46.9	801	1989 GT <sub>4</sub>	1993 09 14.11714	22 27 19.30	-06 44 11.9	801
1988 LB	1993 09 20.29567	02 04 17.51	+30 53 49.2	801	1989 GT <sub>4</sub>	1993 09 14.13477	22 27 18.54	-06 44 19.1	801
1988 QD <sub>1</sub>	1993 09 12.33822	04 12 26.55	+31 09 12.1	801	1989 JF	1993 10 14.25788	03 02 25.96	+21 51 30.4	801
1988 QD <sub>1</sub>	1993 09 12.35984	04 12 27.39	+31 09 11.1	801	1989 JF	1993 10 14.27231	03 02 25.15	+21 51 29.3	801
1988 QD <sub>1</sub>	1993 09 20.37017	04 16 39.84	+31 03 12.7	801	1989 KA	1993 09 12.08567	21 55 51.25	-04 51 22.0	801
1988 QD <sub>1</sub>	1993 09 20.39825	04 16 40.45	+31 03 11.1	801	1989 KA	1993 09 12.10084	21 55 50.57	-04 51 28.2	801
1988 QD <sub>1</sub>	1993 10 12.33341	04 16 30.67	+30 00 13.6	801	1989 KA	1993 09 20.06993	21 50 51.52	-05 40 15.8	801
1988 QD <sub>1</sub>	1993 10 12.36103	04 16 29.93	+30 00 05.9	801	1989 LM	1993 09 12.25502	00 27 44.36	+12 39 56.8	801
1988 QD <sub>1</sub>	1993 10 14.31705	04 15 38.22	+29 50 44.7	801	1989 LM	1993 09 12.26853	00 27 43.62	+12 39 53.8	801
1988 QD <sub>1</sub>	1993 10 14.34139	04 15 37.47	+29 50 37.5	801	1989 LM	1993 09 20.19066	00 20 20.92	+12 06 10.6	801
1988 RE	1993 09 12.38447	03 39 53.69	+20 21 09.3	801	1989 LM	1993 09 20.20416	00 20 20.10	+12 06 06.3	801

1989 LM	1993 10 19.12883	23 54 53.52	+08 58 38.6	801	1989 UG <sub>3</sub>	1993 09 20.18816	00 13 21.51	-08 03 26.9	801
1989 LM	1993 10 19.14382	23 54 52.94	+08 58 32.7	801	1989 WC	1993 09 20.26153	01 39 57.97	+13 13 13.4	801
1989 NO	1993 09 14.31891	02 49 47.81	+19 53 52.4	801	1989 WC	1993 10 12.23822	01 24 00.85	+11 49 36.1	801
1989 NO	1993 09 14.36812	02 49 47.27	+19 53 58.9	801	1989 WC	1993 10 12.25240	01 24 00.09	+11 49 31.6	801
1989 NO	1993 09 19.36950	02 48 34.41	+20 03 07.3	801	1989 WM <sub>3</sub>	1993 09 15.27890	01 52 15.13	-03 34 02.5	r 801
1989 NR	1993 10 13.33981	05 44 32.00	+35 40 14.5	801	1989 WM <sub>3</sub>	1993 09 19.30938	01 50 05.57	-03 39 37.5	801
1989 NR	1993 10 13.37487	05 44 33.06	+35 40 22.2	801	1989 WM <sub>3</sub>	1993 09 19.33087	01 50 04.76	-03 39 39.1	801
1989 NR	1993 10 19.37308	05 47 06.82	+36 01 41.6	801	1989 WM <sub>3</sub>	1993 10 12.24038	01 30 10.88	-03 56 30.8	801
1989 NR	1993 10 19.40934	05 47 07.39	+36 01 49.7	801	1989 WM <sub>3</sub>	1993 10 12.25426	01 30 09.97	-03 56 30.4	801
1989 PK	1993 10 12.00929	20 53 07.64	-07 50 43.4	801	1989 WM <sub>3</sub>	1993 10 19.25078	01 22 40.74	-03 49 15.2	801
1989 PK	1993 10 12.02296	20 53 08.26	-07 50 31.5	801	1989 WM <sub>3</sub>	1993 10 19.26825	01 22 39.60	-03 49 13.1	801
1989 PK	1993 10 14.02618	20 54 49.83	-07 21 33.9	801	1989 XF	1993 10 13.32679	04 48 35.93	+10 08 16.1	801
1989 RZ	1993 10 13.38523	07 49 53.92	+49 08 23.8	801	1989 XF	1993 10 13.39678	04 48 36.09	+10 08 07.3	801
1989 RZ	1993 10 13.39325	07 49 55.50	+49 08 24.7	801	1989 YB	1993 09 12.37892	03 42 02.52	+29 18 18.5	801
1989 RC <sub>1</sub>	1993 10 12.30487	05 37 20.37	+03 45 07.5	801	1989 YB	1993 09 12.39081	03 42 03.44	+29 18 22.8	801
1989 RC <sub>1</sub>	1993 10 12.32157	05 37 20.96	+03 45 04.9	801	1989 YB	1993 09 14.34847	03 44 31.01	+29 30 01.2	801
1989 RC <sub>1</sub>	1993 10 19.36558	05 40 53.37	+03 27 40.9	801	1989 YB	1993 09 14.36051	03 44 31.86	+29 30 05.4	801
1989 RC <sub>1</sub>	1993 10 19.39950	05 40 54.03	+03 27 36.6	801	1989 YF <sub>5</sub>	1993 10 13.33197	05 25 21.31	+34 53 06.2	801
1989 SE	1993 10 12.07197	22 53 59.19	-09 05 19.8	801	1989 YF <sub>5</sub>	1993 10 13.40166	05 25 21.95	+34 53 07.7	801
1989 SE	1993 10 12.09778	22 53 58.88	-09 05 08.3	801	1990 BX	1993 10 13.32135	04 45 40.55	+13 42 02.2	801
1989 SK	1993 09 14.30031	01 55 50.36	+20 02 01.8	801	1990 BX	1993 10 13.39902	04 45 40.30	+13 41 54.1	801
1989 SK	1993 09 14.33284	01 55 49.93	+20 02 10.2	801	1990 BX	1993 10 19.33463	04 44 57.57	+13 29 18.6	801
1989 SK	1993 09 20.25922	01 54 11.11	+20 24 53.8	801	1990 BX	1993 10 19.38266	04 44 56.89	+13 29 12.1	801
1989 SK	1993 09 20.28906	01 54 10.37	+20 24 59.7	801	1990 BN <sub>2</sub>	1993 10 14.36072	05 49 48.20	+15 11 28.7	801
1989 TT <sub>1</sub>	1993 10 13.33632	05 20 13.34	+21 25 01.1	801	1990 BN <sub>2</sub>	1993 10 14.39271	05 49 49.07	+15 11 32.4	801
1989 TT <sub>1</sub>	1993 10 13.37213	05 20 14.21	+21 24 55.2	801	1990 HM <sub>1</sub>	1993 10 14.29503	03 47 46.57	+11 58 46.1	801
1989 TT <sub>1</sub>	1993 10 19.34750	05 22 16.79	+21 07 24.8	801	1990 HM <sub>1</sub>	1993 10 14.32509	03 47 45.74	+11 58 45.0	801
1989 TT <sub>1</sub>	1993 10 19.38638	05 22 17.20	+21 07 17.6	801	1990 QM <sub>2</sub>	1993 10 12.34372	05 25 07.92	-11 01 28.6	801
1989 TL <sub>15</sub>	1993 09 19.24498	00 40 45.37	+06 14 57.4	801	1990 QM <sub>2</sub>	1993 10 12.35512	05 25 08.28	-11 01 40.9	801
1989 TL <sub>15</sub>	1993 09 19.26350	00 40 44.50	+06 14 53.5	801	1990 SM <sub>28</sub>	1993 09 14.24110	00 16 17.49	+07 13 42.7	801
1989 TL <sub>15</sub>	1993 09 20.20182	00 40 00.57	+06 11 07.9	801	1990 SM <sub>28</sub>	1993 09 14.25678	00 16 16.63	+07 13 37.6	801
1989 TL <sub>15</sub>	1993 09 20.21941	00 39 59.68	+06 11 02.9	801	1990 SM <sub>28</sub>	1993 09 19.21293	00 11 38.72	+06 45 15.0	801
1989 UA	1993 09 15.30329	02 35 53.66	+07 50 14.2	801	1990 SM <sub>28</sub>	1993 09 19.22956	00 11 37.73	+06 45 09.0	801
1989 UA	1993 09 15.34366	02 35 53.20	+07 50 17.8	801	1990 SM <sub>28</sub>	1993 10 12.13932	23 50 18.32	+04 07 29.1	801
1989 UA	1993 10 13.26635	02 19 36.25	+08 06 46.5	801	1990 SM <sub>28</sub>	1993 10 12.15321	23 50 17.63	+04 07 23.6	801
1989 UA	1993 10 13.28137	02 19 35.36	+08 06 46.5	801	1990 SM <sub>28</sub>	1993 10 19.11731	23 45 31.07	+03 23 06.8	801
1989 UA	1993 10 19.29311	02 13 38.55	+08 07 22.1	801	1990 TN <sub>1</sub>	1993 09 19.35676	03 39 38.11	+43 58 58.6	801
1989 UA	1993 10 19.30569	02 13 37.72	+08 07 21.9	801	1990 TN <sub>1</sub>	1993 09 19.37995	03 39 38.81	+43 59 17.7	801
1989 UL <sub>1</sub>	1993 09 14.31476	02 32 16.46	+07 58 39.2	801	1990 UW	1993 09 12.11541	22 22 47.39	-09 26 19.9	801
1989 UL <sub>1</sub>	1993 09 14.36508	02 32 15.68	+07 58 42.6	801	1990 UW	1993 09 12.12808	22 22 46.64	-09 26 23.0	801
1989 UL <sub>1</sub>	1993 09 20.29090	02 30 23.64	+08 03 56.7	801	1990 UW	1993 09 14.11312	22 20 56.41	-09 33 41.6	801
1989 UL <sub>1</sub>	1993 09 20.32051	02 30 22.84	+08 03 58.3	801	1990 UW	1993 09 14.12851	22 20 55.52	-09 33 45.2	801
1989 UL <sub>1</sub>	1993 10 12.27027	02 14 45.14	+08 04 29.5	801	1990 VF <sub>3</sub>	1993 09 12.26680	00 30 45.93	-05 52 52.0	801
1989 UL <sub>1</sub>	1993 10 12.28170	02 14 44.48	+08 04 29.2	801	1990 VF <sub>3</sub>	1993 09 12.27947	00 30 45.38	-05 52 57.7	801
1989 UL <sub>1</sub>	1993 10 19.27925	02 07 42.16	+08 01 38.2	801	1990 VF <sub>3</sub>	1993 09 20.19767	00 24 20.84	-06 50 39.0	801
1989 UL <sub>1</sub>	1993 10 19.29141	02 07 41.37	+08 01 38.0	801	1990 VF <sub>3</sub>	1993 09 20.21243	00 24 20.05	-06 50 45.2	801
1989 UT <sub>2</sub>	1993 09 15.20736	01 14 52.77	+19 10 16.3	801	1990 VG <sub>3</sub>	1993 10 14.16169	00 50 26.76	-04 52 14.8	E 801
1989 UT <sub>2</sub>	1993 09 15.23241	01 14 51.99	+19 10 09.7	801	1990 VG <sub>3</sub>	1993 10 14.17338	00 50 26.13	-04 52 18.1	801
1989 UT <sub>2</sub>	1993 09 19.27709	01 12 17.34	+18 45 48.2	801	1990 VG <sub>3</sub>	1993 10 19.17297	00 46 24.21	-05 13 13.7	801
1989 UG <sub>3</sub>	1993 09 14.24619	00 18 08.98	-07 28 08.4	801	1990 VG <sub>3</sub>	1993 10 19.18934	00 46 23.44	-05 13 17.1	801
1989 UG <sub>3</sub>	1993 09 14.26171	00 18 08.23	-07 28 12.9	801	1990 XF	1993 09 20.10451	22 38 17.03	+05 48 10.3	801
1989 UG <sub>3</sub>	1993 09 20.17515	00 13 22.21	-08 03 21.9	801	1990 XF	1993 09 20.12414	22 38 16.05	+05 48 05.3	801

1990 XF	1993 10 12.03826	22 24 28.66	+04 03 47.3	801	1991 DX	1993 09 14.14135	22 31 09.53	-03 54 17.9	801
1990 XF	1993 10 12.06694	22 24 27.94	+04 03 39.7	801	1991 DX	1993 10 14.04897	22 17 47.07	-08 18 16.8	801
1990 XM	1993 09 15.24877	01 45 44.21	+05 56 16.2	801	1991 DX	1993 10 19.03926	22 17 40.83	-08 47 54.4	801
1990 XM	1993 09 15.27581	01 45 43.77	+05 56 09.9	801	1991 DX	1993 10 19.08168	22 17 40.88	-08 48 09.4	801
1990 XM	1993 09 20.24850	01 44 15.65	+05 36 14.7	801	1991 FU	1993 09 14.27152	00 56 27.47	+23 56 24.8	801
1990 XM	1993 09 20.27311	01 44 14.99	+05 36 08.5	801	1991 FU	1993 09 14.29198	00 56 26.59	+23 56 26.9	801
1990 XP	1993 09 14.31275	02 10 28.76	+12 20 34.1	801	1991 FU	1993 09 15.15988	00 55 46.57	+23 57 45.3	801
1990 XP	1993 09 14.36289	02 10 28.76	+12 20 22.7	801	1991 FU	1993 09 15.18149	00 55 45.55	+23 57 47.2	801
1990 XP	1993 09 20.27127	02 10 06.01	+11 54 04.0	801	1991 FU	1993 10 14.15481	00 28 32.01	+23 03 41.8	801
1990 XP	1993 09 20.30183	02 10 05.63	+11 53 54.5	801	1991 FU	1993 10 14.16822	00 28 31.27	+23 03 37.8	801
1990 XP	1993 10 12.26500	01 58 58.12	+09 15 06.2	801	1991 FU	1993 10 19.16502	00 23 54.78	+22 37 40.1	801
1990 XP	1993 10 12.27779	01 58 57.50	+09 14 59.4	801	1991 FU	1993 10 19.18051	00 23 53.94	+22 37 34.8	801
1990 XP	1993 10 19.27743	01 53 08.87	+08 11 55.8	801	1991 FV	1993 09 12.18792	23 37 55.85	+13 36 08.1	801
1990 XP	1993 10 19.28929	01 53 08.22	+08 11 49.2	801	1991 FV	1993 09 12.20392	23 37 55.09	+13 36 04.4	801
1991 AF	1993 09 13.30986	01 04 25.67	+16 00 28.5	b 801	1991 FV	1993 09 14.19494	23 36 23.21	+13 27 45.3	801
1991 AF	1993 09 13.34486	01 04 24.49	+16 00 22.6	b 801	1991 FV	1993 09 14.21133	23 36 22.44	+13 27 41.0	801
1991 AF	1993 09 15.18509	01 03 18.93	+15 55 14.6	801	1991 GG <sub>1</sub>	1993 10 12.13652	23 39 44.69	+05 58 22.0	801
1991 AF	1993 09 15.20156	01 03 18.27	+15 55 11.3	801	1991 GG <sub>1</sub>	1993 10 12.15535	23 39 43.88	+05 58 18.4	801
1991 AN	1993 09 15.36267	03 46 13.55	+20 40 06.3	801	1991 GG <sub>1</sub>	1993 10 19.10109	23 35 22.51	+05 37 52.3	801
1991 AN	1993 09 15.37681	03 46 14.34	+20 40 11.7	801	1991 GG <sub>1</sub>	1993 10 19.11471	23 35 21.97	+05 37 50.7	801
1991 AN	1993 10 14.29853	03 58 16.19	+23 24 57.9	801	1992 CJ	1993 09 12.22595	23 43 22.91	+03 29 38.2	801
1991 AN	1993 10 14.33451	03 58 15.75	+23 25 08.5	801	1992 CJ	1993 09 12.23987	23 43 22.13	+03 29 30.8	801
1991 AN	1993 10 19.32630	03 56 54.16	+23 47 21.2	801	1992 CJ	1993 09 20.16896	23 36 06.91	+02 21 06.5	801
1991 AN	1993 10 19.35652	03 56 53.35	+23 47 29.3	801	1992 CJ	1993 09 20.18209	23 36 06.14	+02 20 59.2	801
1991 CK	1993 09 14.35093	03 58 16.49	+24 50 26.1	801	1992 EM	1993 09 12.28890	01 15 22.49	+18 20 37.8	801
1991 CK	1993 09 14.37101	03 58 17.68	+24 50 35.1	801	1992 EM	1993 09 12.31113	01 15 21.41	+18 20 39.8	801
1991 CK	1993 09 20.36766	04 04 00.81	+25 34 51.5	801	1992 EM	1993 09 19.27398	01 09 21.97	+18 26 25.6	801
1991 CK	1993 09 20.37961	04 04 01.37	+25 34 56.7	801	1992 EM	1993 09 19.29326	01 09 20.83	+18 26 25.6	801
1991 CK	1993 10 12.35299	04 13 40.90	+27 52 58.2	801	1992 EU <sub>1</sub>	1993 09 14.20085	23 19 14.14	-15 04 40.1	801
1991 CK	1993 10 12.38788	04 13 40.73	+27 53 09.2	801	1992 EU <sub>1</sub>	1993 09 20.14810	23 13 39.15	-15 42 28.8	801
1991 CK	1993 10 19.32815	04 12 26.78	+28 26 38.0	w 801	1992 EU <sub>1</sub>	1993 09 20.16213	23 13 38.37	-15 42 33.3	801
1991 CK	1993 10 19.35821	04 12 26.17	+28 26 45.4	w 801	1992 EU <sub>1</sub>	1993 10 14.11821	22 56 37.29	-17 00 27.4	801
1991 CO	1993 10 13.34269	05 48 41.96	+30 01 06.2	801	1992 FN	1993 09 12.17998	23 20 35.06	-03 22 49.7	801
1991 CO	1993 10 13.37772	05 48 43.01	+30 01 09.7	801	1992 FN	1993 09 12.19354	23 20 34.30	-03 22 55.9	801
1991 CO	1993 10 19.37962	05 51 39.33	+30 09 44.2	801	1992 FN	1993 09 14.18432	23 18 38.83	-03 36 25.9	801
1991 CO	1993 10 19.41168	05 51 40.09	+30 09 45.4	801	1992 FN	1993 09 14.19764	23 18 38.06	-03 36 32.1	801
1991 CL <sub>1</sub>	1993 09 15.31508	03 03 34.99	+21 06 28.4	801	1992 FV	1993 09 15.29431	02 12 47.33	+06 43 52.3	801
1991 CL <sub>1</sub>	1993 09 15.34019	03 03 35.42	+21 06 32.5	801	1992 FV	1993 09 15.32684	02 12 46.48	+06 43 44.8	801
1991 CL <sub>1</sub>	1993 09 19.33904	03 04 38.71	+21 16 14.2	I 801	1992 FV	1993 09 20.27800	02 10 21.47	+06 22 56.2	801
1991 CL <sub>1</sub>	1993 09 19.38640	03 04 39.05	+21 16 20.8	801	1992 FV	1993 09 20.29867	02 10 20.75	+06 22 51.2	801
1991 CL <sub>1</sub>	1993 10 13.27047	02 59 41.85	+21 23 34.8	801	1992 FV	1993 10 12.26319	01 51 54.14	+04 26 31.3	801
1991 CL <sub>1</sub>	1993 10 13.29273	02 59 40.98	+21 23 32.5	801	1992 FV	1993 10 12.27395	01 51 53.45	+04 26 27.8	801
1991 CO <sub>3</sub>	1993 09 13.30506	00 41 00.19	+47 52 47.3	b 801	1992 FV	1993 10 19.27575	01 44 28.47	+03 48 32.8	801
1991 CO <sub>3</sub>	1993 09 13.32443	00 40 59.31	+47 52 57.6	b 801	1992 FV	1993 10 19.28667	01 44 27.76	+03 48 29.3	801
1991 CO <sub>3</sub>	1993 09 15.16718	00 39 23.88	+48 09 17.5	801	1992 FR <sub>2</sub>	1993 09 14.27985	01 19 14.35	-02 54 15.7	801
1991 CO <sub>3</sub>	1993 09 15.17508	00 39 23.43	+48 09 21.7	801	1992 FR <sub>2</sub>	1993 09 14.29741	01 19 13.71	-02 54 22.7	801
1991 CO <sub>3</sub>	1993 10 14.21338	00 05 21.86	+48 46 56.9	801	1992 FR <sub>2</sub>	1993 09 15.22159	01 18 42.11	-03 00 43.6	801
1991 CO <sub>3</sub>	1993 10 14.23174	00 05 20.51	+48 46 49.6	801	1992 FR <sub>2</sub>	1993 09 15.23895	01 18 41.45	-03 00 50.7	801
1991 CO <sub>3</sub>	1993 10 19.21453	23 59 49.23	+48 08 01.7	801	1992 HJ	1993 10 14.26463	02 36 02.88	+07 03 29.0	801
1991 CO <sub>3</sub>	1993 10 19.23115	23 59 48.16	+48 07 52.5	801	1992 HJ	1993 10 14.28019	02 36 02.01	+07 03 24.2	801
1991 DX	1993 09 12.12568	22 32 38.83	-03 33 21.0	801	1992 HJ	1993 10 19.29991	02 31 20.27	+06 36 35.7	801
1991 DX	1993 09 12.13856	22 32 38.23	-03 33 29.0	801	1992 HJ	1993 10 19.31069	02 31 19.60	+06 36 32.0	801

1992 HL	1993 09 12.29190	01 21 22.47	+07 05 45.0	801	1993 OC <sub>2</sub>	1993 10 14.03125	21 28 56.81	-08 23 09.0	801
1992 HL	1993 09 12.31434	01 21 21.72	+07 05 33.0	801	1993 OC <sub>2</sub>	1993 10 19.02120	21 29 58.62	-07 45 00.8	801
1992 HL	1993 09 20.21573	01 16 36.83	+05 50 38.9	I 801	1993 OC <sub>2</sub>	1993 10 19.07309	21 29 59.34	-07 44 37.5	801
1992 LU	1993 09 12.17736	23 17 03.70	-02 06 55.0	801	1993 PE	1993 10 14.01380	21 09 13.11	-10 47 19.0	801
1992 LU	1993 09 12.19044	23 17 03.08	-02 07 02.7	801	1993 PE	1993 10 14.03514	21 09 14.10	-10 47 21.8	801
1992 LU	1993 09 20.15603	23 11 02.03	-03 24 21.9	801	1993 QO	1993 10 13.99997	21 03 22.41	+08 20 18.4	801
1992 MA	1993 10 12.20266	00 58 41.00	+06 19 35.4	801	1993 QO	1993 10 14.02854	21 03 22.88	+08 20 28.4	801
1992 MA	1993 10 12.21682	00 58 40.32	+06 19 30.8	801	1993 QO	1993 10 19.01273	21 05 32.27	+08 49 18.3	801
1992 MA	1993 10 19.19551	00 53 28.38	+05 46 09.7	801	1993 QO	1993 10 19.05826	21 05 33.69	+08 49 34.1	801
1992 OP <sub>7</sub>	1993 09 14.32416	03 12 39.72	+30 23 48.7	801	1993 QP	1993 09 12.21267	23 25 09.13	+28 52 56.2	801
1992 OP <sub>7</sub>	1993 09 14.35634	03 12 40.06	+30 23 58.7	801	1993 QP	1993 09 12.22054	23 25 09.46	+28 53 06.0	801
1992 OP <sub>7</sub>	1993 09 19.34859	03 13 18.26	+30 47 59.0	801	1993 QP	1993 09 15.09916	23 27 55.10	+29 49 28.8	801
1992 OP <sub>7</sub>	1993 09 19.38988	03 13 18.32	+30 48 10.0	801	1993 QP	1993 09 15.11278	23 27 55.75	+29 49 43.8	801
1992 OP <sub>7</sub>	1993 10 13.27669	03 06 31.03	+31 56 13.9	801	1993 QP	1993 10 14.15110	23 57 23.36	+31 24 00.4	801
1992 OP <sub>7</sub>	1993 10 13.30464	03 06 29.96	+31 56 15.3	801	1993 QP	1993 10 14.16419	23 57 24.11	+31 23 54.5	801
1993 MF	1993 09 12.25275	00 16 07.50	+36 52 16.8	801	1993 QP	1993 10 19.16330	00 03 20.19	+30 39 53.3	801
1993 MF	1993 09 12.26201	00 16 07.87	+36 52 04.5	801	1993 QP	1993 10 19.17653	00 03 21.08	+30 39 45.5	801
1993 MF	1993 09 15.12938	00 18 28.58	+35 46 49.1	801	1993 QY	1993 09 12.15595	22 57 10.72	-16 45 29.2	801
1993 MF	1993 09 15.13980	00 18 28.93	+35 46 34.8	801	1993 QY	1993 09 12.17064	22 57 10.20	-16 45 54.7	801
1993 MF	1993 10 19.18539	00 31 55.22	+20 34 07.2	801	1993 QY	1993 09 14.16436	22 56 04.70	-17 44 09.7	801
1993 MF	1993 10 19.19387	00 31 55.39	+20 33 55.2	801	1993 QY	1993 09 14.17214	22 56 04.45	-17 44 21.8	801
1993 MG <sub>1</sub>	1993 09 12.03714	20 04 20.67	+02 18 34.9	801	1993 QY	1993 10 14.05833	22 48 55.45	-28 37 44.1	801
1993 MG <sub>1</sub>	1993 09 12.05800	20 04 21.38	+02 18 35.6	801	1993 QY	1993 10 14.07383	22 48 55.60	-28 37 56.2	801
1993 MG <sub>1</sub>	1993 09 13.03375	20 04 57.99	+02 18 58.7	801	1993 QZ	1993 10 14.01922	21 59 47.89	-16 28 45.2	801
1993 MG <sub>1</sub>	1993 09 13.04591	20 04 58.42	+02 18 59.1	801	1993 QZ	1993 10 14.03846	21 59 48.46	-16 28 56.2	801
1993 MG <sub>1</sub>	1993 10 11.98895	20 35 08.79	+02 19 30.9	801	1993 QZ	1993 10 19.02718	22 02 43.88	-17 12 27.6	801
1993 MG <sub>1</sub>	1993 10 12.00131	20 35 09.77	+02 19 31.0	801	1993 QZ	1993 10 19.07850	22 02 45.78	-17 12 51.8	801
1993 MG <sub>1</sub>	1993 10 13.99744	20 37 55.93	+02 20 29.3	801	1993 RR <sub>2</sub>	1993 10 12.17726	00 46 58.67	-14 57 04.9	801
1993 MG <sub>1</sub>	1993 10 14.00780	20 37 56.77	+02 20 29.6	801	1993 RR <sub>2</sub>	1993 10 12.20512	00 46 58.16	-14 57 14.2	801
1993 MG <sub>1</sub>	1993 10 19.95715	20 46 35.77	+02 25 08.6	801	1993 RR <sub>2</sub>	1993 10 14.15887	00 46 32.83	-15 06 59.2	801
1993 MG <sub>1</sub>	1993 10 19.96757	20 46 36.63	+02 25 10.4	801	1993 RR <sub>2</sub>	1993 10 14.19539	00 46 32.22	-15 07 06.9	801
1993 MS <sub>1</sub>	1993 09 12.04313	20 40 47.53	-00 36 11.2	801	4018 P-L	1993 09 15.24380	01 43 45.06	+13 45 24.2	801
1993 MS <sub>1</sub>	1993 09 12.06711	20 40 47.09	-00 36 21.2	801	4018 P-L	1993 09 15.27311	01 43 44.44	+13 45 28.5	801
1993 MS <sub>1</sub>	1993 09 13.03623	20 40 31.60	-00 43 05.0	801	4018 P-L	1993 09 20.24347	01 41 46.18	+13 55 50.4	801
1993 MS <sub>1</sub>	1993 09 13.04884	20 40 31.39	-00 43 10.3	801	4018 P-L	1993 10 14.22775	01 23 19.60	+13 52 36.1	801
1993 MS <sub>1</sub>	1993 10 11.99662	20 44 22.72	-03 29 25.7	801	4018 P-L	1993 10 14.24627	01 23 18.47	+13 52 34.1	801
1993 MS <sub>1</sub>	1993 10 12.01998	20 44 23.40	-03 29 31.2	801	6034 P-L	1993 09 12.04637	20 42 52.39	-07 33 14.1	801
1993 MS <sub>1</sub>	1993 10 18.98596	20 48 22.79	-03 55 22.7	801	6034 P-L	1993 09 12.07009	20 42 52.35	-07 33 24.5	801
1993 MS <sub>1</sub>	1993 10 19.00413	20 48 23.48	-03 55 26.1	801	6034 P-L	1993 09 15.03817	20 43 00.20	-07 54 44.1	801
1993 OD	1993 09 12.03944	19 46 46.06	-05 38 13.7	801	6034 P-L	1993 09 15.06707	20 43 00.28	-07 54 55.8	801
1993 OD	1993 09 12.06324	19 46 45.71	-05 38 02.0	801	6643 P-L	1993 10 12.05834	22 40 41.16	-13 38 14.5	801
1993 OD	1993 09 15.03117	19 46 22.99	-05 14 49.6	801	6643 P-L	1993 10 12.09125	22 40 40.46	-13 38 09.8	801
1993 OD	1993 09 15.05498	19 46 22.86	-05 14 39.4	801	6643 P-L	1993 10 14.09187	22 40 06.65	-13 31 39.0	801
1993 OD	1993 10 13.99450	20 02 26.08	-01 59 51.5	801	9540 P-L	1993 09 12.25756	00 24 47.50	+01 22 49.8	801
1993 OD	1993 10 14.00539	20 02 26.79	-01 59 47.8	801	9540 P-L	1993 09 12.27252	00 24 46.78	+01 22 46.0	801
1993 OD	1993 10 18.98080	20 08 09.97	-01 27 29.1	801	9540 P-L	1993 09 19.23222	00 19 06.08	+00 54 56.8	801
1993 OD	1993 10 18.99553	20 08 11.06	-01 27 24.1	f 801	9540 P-L	1993 09 19.24745	00 19 05.27	+00 54 52.7	801
1993 OP	1993 10 11.98381	20 33 00.60	+14 17 27.7	801	2170 T-2	1993 09 20.05516	21 20 30.30	-03 10 57.7	801
1993 OP	1993 10 12.00419	20 33 01.31	+14 17 24.4	801	4053 T-2	1993 10 14.25035	02 52 33.01	+12 13 24.3	801
1993 OP	1993 10 18.98274	20 38 12.44	+14 01 10.0	801	4053 T-2	1993 10 14.26752	02 52 32.27	+12 13 19.9	801
1993 OP	1993 10 18.99801	20 38 13.31	+14 01 07.5	801	4053 T-2	1993 10 19.30347	02 49 00.27	+11 53 11.1	801
1993 OC <sub>2</sub>	1993 10 14.00278	21 28 56.71	-08 23 22.4	W 801	4053 T-2	1993 10 19.32419	02 48 59.29	+11 53 06.7	801

2158 T-3	1993 09 12.25981	00 29 01.51	+06 36 54.0	I 801	1989 SR <sub>2</sub>	1993 07 20.20903	19 55 11.05	-22 20 11.4	809
2158 T-3	1993 09 12.27522	00 29 00.70	+06 36 51.5	801	1989 SR <sub>2</sub>	1993 07 20.22222	19 55 10.33	-22 20 13.8	809
(577)	1993 10 12.13932	23 50 14.70	+04 09 56.7	801	1989 SR <sub>2</sub>	1993 07 24.16042	19 51 45.50	-22 33 00.3	809
(577)	1993 10 12.15321	23 50 14.15	+04 09 53.7	801	1990 VL <sub>2</sub>	1993 07 20.19583	19 38 17.68	-19 59 38.0	18.3 809
(1459)	1993 09 19.34471	03 11 04.24	+12 14 48.2	801	1990 VL <sub>2</sub>	1993 07 20.20903	19 38 16.87	-19 59 40.6	809
(1459)	1993 09 19.39245	03 11 03.92	+12 15 02.8	801	1990 VL <sub>2</sub>	1993 07 20.22222	19 38 16.07	-19 59 43.0	809
(1459)	1993 10 12.28354	03 01 01.90	+14 06 28.8	801	1990 VL <sub>2</sub>	1993 07 24.16042	19 34 29.81	-20 13 13.4	809
(1459)	1993 10 12.29598	03 01 01.30	+14 06 32.3	801	1991 AF <sub>1</sub>	1993 07 24.16042	19 38 34.69	-22 28 15.9	18.2 809
(1926)	1993 09 15.29895	02 25 45.99	-05 09 54.1	801	1992 SW <sub>21</sub>	1992 09 03.27222	23 50 51.69	-06 22 55.0	809
(1926)	1993 09 15.33084	02 25 45.33	-05 10 04.6	801	1993 NF	1993 07 20.19583	19 53 55.24	-18 34 37.1	18.0 809
(1926)	1993 09 20.30667	02 23 48.07	-05 37 55.3	801	1993 NF	1993 07 20.20903	19 53 54.54	-18 34 48.3	809
(2337)	1993 10 12.29850	05 07 18.35	+29 15 39.0	801	1993 NF	1993 07 20.22222	19 53 53.88	-18 35 00.1	809
(2337)	1993 10 12.31098	05 07 18.60	+29 15 46.2	801	1993 NF	1993 07 24.16042	19 50 45.97	-19 32 22.1	809
(2337)	1993 10 19.34470	05 09 01.21	+30 27 26.5	801	1993 OB <sub>3</sub>	1993 07 20.19583	19 52 57.67	-19 26 06.0	18.3 809
(2337)	1993 10 19.36234	05 09 01.28	+30 27 37.3	801	1993 OB <sub>3</sub>	1993 07 20.20903	19 52 56.91	-19 26 09.0	809
(4055)	1993 10 12.33749	04 15 36.91	-21 00 43.7	801	1993 OB <sub>3</sub>	1993 07 20.22222	19 52 56.19	-19 26 11.3	809
(4055)	1993 10 12.34612	04 15 36.66	-21 00 57.6	801	1993 OC <sub>3</sub>	1993 07 20.19583	19 53 05.94	-22 04 54.1	18.2 809
(4055)	1993 10 14.30519	04 14 43.92	-21 53 05.0	801	1993 OC <sub>3</sub>	1993 07 20.20903	19 53 05.09	-22 04 54.5	809
(4055)	1993 10 14.31427	04 14 43.64	-21 53 18.6	801	1993 OC <sub>3</sub>	1993 07 20.22222	19 53 04.15	-22 04 53.5	809
(4177)	1993 09 12.24891	23 51 21.30	+16 24 39.9	801	1993 OC <sub>3</sub>	1993 07 24.16042	19 49 15.85	-22 05 03.1	809
(4177)	1993 09 12.26391	23 51 20.80	+16 24 31.3	801	1993 OD <sub>3</sub>	1993 07 20.19583	19 53 19.80	-19 32 53.1	18.3 809
(4177)	1993 09 19.20355	23 47 33.39	+15 13 12.9	801	1993 OD <sub>3</sub>	1993 07 20.20903	19 53 19.05	-19 32 57.0	809
(4177)	1993 09 19.22698	23 47 32.56	+15 12 57.4	801	1993 OD <sub>3</sub>	1993 07 20.22222	19 53 18.41	-19 33 00.8	809
(4177)	1993 10 12.13417	23 36 36.09	+10 21 04.3	801	1993 OD <sub>3</sub>	1993 07 24.16042	19 50 06.69	-19 53 13.4	809
(4177)	1993 10 12.14674	23 36 35.83	+10 20 54.2	801	1993 OE <sub>3</sub>	1993 07 20.19583	19 54 25.48	-21 28 03.4	18.0 809
(4177)	1993 10 19.10795	23 34 52.35	+08 50 02.2	801	1993 OE <sub>3</sub>	1993 07 20.20903	19 54 24.53	-21 28 01.1	809
(4177)	1993 10 19.12037	23 34 52.20	+08 49 52.7	801	1993 OE <sub>3</sub>	1993 07 20.22222	19 54 23.64	-21 27 59.8	809
(5661)	1993 09 12.25109	00 14 45.84	+16 42 01.0	801	1993 OE <sub>3</sub>	1993 07 24.16042	19 50 13.56	-21 19 27.6	809
(5661)	1993 09 12.27048	00 14 45.00	+16 42 01.0	801	1993 OF <sub>3</sub>	1993 07 20.19583	19 54 57.28	-21 59 06.0	18.3 809
(5661)	1993 09 15.12484	00 12 43.12	+16 41 14.4	801	1993 OF <sub>3</sub>	1993 07 20.20903	19 54 56.37	-21 59 08.6	809
(5661)	1993 09 15.14233	00 12 42.36	+16 41 13.8	801	1993 OF <sub>3</sub>	1993 07 20.22222	19 54 55.47	-21 59 09.6	809
(5679)	1993 09 15.04694	21 06 21.29	-14 48 00.2	801	1993 OF <sub>3</sub>	1993 07 24.16042	19 51 05.66	-22 06 11.5	809
(5679)	1993 09 15.07471	21 06 20.68	-14 48 04.7	801	1993 OH <sub>3</sub>	1993 07 20.19583	19 55 18.48	-20 31 28.6	18.4 809
					1993 OH <sub>3</sub>	1993 07 20.20903	19 55 17.57	-20 31 26.9	809
<b>809 European Southern Observatory</b>					1993 OH <sub>3</sub>	1993 07 20.22222	19 55 16.60	-20 31 26.1	809
E. W. Elst, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180 Brussels, Belgium					1993 OH <sub>3</sub>	1993 07 24.16042	19 51 04.82	-20 23 07.6	809
Observers E. W. Elst, G. Pizarro, O. Pizarro					1993 OJ <sub>3</sub>	1993 07 20.19583	19 55 24.43	-21 01 19.8	18.1 809
Measurers E. W. Elst, J. P. Olivier					1993 OJ <sub>3</sub>	1993 07 20.20903	19 55 23.50	-21 01 18.2	809
1.0-m Schmidt					1993 OJ <sub>3</sub>	1993 07 20.22222	19 55 22.58	-21 01 17.1	809
1981 EU <sub>18</sub>	1993 07 20.19583	19 55 22.81	-20 57 54.8	18.0 809	1993 OJ <sub>3</sub>	1993 07 24.16042	19 51 10.33	-20 53 46.6	809
1981 EU <sub>18</sub>	1993 07 20.20903	19 55 22.04	-20 57 56.9	809	1993 OL <sub>3</sub>	1993 07 20.19583	19 55 33.63	-20 12 06.5	18.2 809
1981 EU <sub>18</sub>	1993 07 20.22222	19 55 21.37	-20 57 58.2	809	1993 OL <sub>3</sub>	1993 07 20.20903	19 55 32.81	-20 12 06.9	809
1981 EU <sub>18</sub>	1993 07 24.16042	19 52 06.67	-21 07 02.8	809	1993 OL <sub>3</sub>	1993 07 20.22222	19 55 31.98	-20 12 07.8	809
1981 EL <sub>36</sub>	1993 07 20.19583	19 55 29.91	-19 26 58.4	18.2 809	1993 OL <sub>3</sub>	1993 07 24.16042	19 51 33.24	-20 16 02.0	809
1981 EL <sub>36</sub>	1993 07 20.20903	19 55 29.13	-19 26 59.0	809	1993 ON <sub>3</sub>	1993 07 20.19583	19 56 00.79	-21 59 15.8	18.3 809
1981 EL <sub>36</sub>	1993 07 20.22222	19 55 28.29	-19 26 59.4	809	1993 ON <sub>3</sub>	1993 07 20.20903	19 55 59.91	-21 59 16.4	809
1981 EL <sub>36</sub>	1993 07 24.16042	19 51 45.16	-19 30 08.4	809	1993 ON <sub>3</sub>	1993 07 20.22222	19 55 59.11	-21 59 16.4	809
1989 GT <sub>3</sub>	1993 07 20.19583	19 51 22.95	-19 52 06.1	18.0 809	1993 ON <sub>3</sub>	1993 07 24.16042	19 52 15.38	-22 01 56.8	809
1989 GT <sub>3</sub>	1993 07 20.20903	19 51 22.02	-19 52 08.0	809	1993 OO <sub>3</sub>	1993 07 20.19583	19 56 08.36	-20 52 00.3	18.0 809
1989 GT <sub>3</sub>	1993 07 20.22222	19 51 21.17	-19 52 09.7	809	1993 OO <sub>3</sub>	1993 07 20.20903	19 56 07.45	-20 52 02.3	809
1989 GT <sub>3</sub>	1993 07 24.16042	19 47 15.20	-20 00 37.9	809	1993 OO <sub>3</sub>	1993 07 20.22222	19 56 06.59	-20 52 03.2	809
1989 SR <sub>2</sub>	1993 07 20.19583	19 55 11.81	-22 20 08.0	18.2 809	1993 OO <sub>3</sub>	1993 07 24.16042	19 52 02.49	-20 59 06.2	809

1993 OP <sub>3</sub>	1993 07 20.19583	19 56 28.60	-22 45 32.1	18.5	809	1993 OM <sub>7</sub>	1993 07 24.16042	19 49 14.11	-18 32 39.8	809
1993 OP <sub>3</sub>	1993 07 20.20903	19 56 27.76	-22 45 33.0		809	1993 OM <sub>7</sub>	1993 07 24.16458	19 49 13.11	-18 32 30.8	809
1993 OP <sub>3</sub>	1993 07 20.22222	19 56 26.83	-22 45 34.9		809	1993 OM <sub>7</sub>	1993 07 24.16944	19 49 12.36	-18 32 23.6	809
1993 OP <sub>3</sub>	1993 07 24.16042	19 52 28.93	-22 50 51.8		809	1993 OM <sub>7</sub>	1993 07 24.17361	19 49 11.73	-18 32 18.4	809
1993 OQ <sub>3</sub>	1993 07 20.19583	19 56 42.93	-21 10 23.0	18.4	809	1993 OM <sub>7</sub>	1993 07 24.17778	19 49 10.73	-18 32 10.3	809
1993 OQ <sub>3</sub>	1993 07 20.20903	19 56 42.24	-21 10 26.5		809	1993 OM <sub>7</sub>	1993 07 24.20972	19 49 04.75	-18 31 14.7	809
1993 OQ <sub>3</sub>	1993 07 20.22222	19 56 41.55	-21 10 28.6		809	1993 OM <sub>7</sub>	1993 07 24.21389	19 49 04.00	-18 31 07.1	809
1993 OQ <sub>3</sub>	1993 07 24.16042	19 53 31.67	-21 22 41.9		809	1993 OM <sub>7</sub>	1993 07 24.21806	19 49 03.19	-18 30 58.3	809
1993 OR <sub>3</sub>	1993 07 20.19583	19 56 47.67	-19 39 55.7	18.3	809	1993 OM <sub>7</sub>	1993 07 24.22292	19 49 02.26	-18 30 51.7	809
1993 OR <sub>3</sub>	1993 07 20.20903	19 56 46.83	-19 39 58.2		809	1993 OM <sub>7</sub>	1993 07 24.22708	19 49 01.53	-18 30 44.2	809
1993 OR <sub>3</sub>	1993 07 20.22222	19 56 45.98	-19 40 02.4		809	1993 OM <sub>7</sub>	1993 07 24.23125	19 49 00.73	-18 30 37.2	809
1993 OS <sub>3</sub>	1993 07 20.19583	19 56 57.70	-21 13 50.6	18.3	809	1993 OM <sub>7</sub>	1993 07 24.23611	19 48 59.85	-18 30 29.9	809
1993 OS <sub>3</sub>	1993 07 20.20903	19 56 56.83	-21 13 49.5		809	1993 OM <sub>7</sub>	1993 07 24.24028	19 48 59.11	-18 30 23.5	809
1993 OS <sub>3</sub>	1993 07 20.22222	19 56 55.96	-21 13 49.3		809	1993 OM <sub>7</sub>	1993 07 24.24444	19 48 58.14	-18 30 13.6	809
1993 OS <sub>3</sub>	1993 07 24.16042	19 52 44.89	-21 08 53.9		809	1993 ON <sub>7</sub>	1993 07 20.19583	19 56 24.39	-18 31 18.1	18.2 809
1993 OT <sub>3</sub>	1993 07 20.19583	19 57 30.14	-19 38 25.9	18.4	809	1993 ON <sub>7</sub>	1993 07 20.20903	19 56 23.52	-18 31 17.1	809
1993 OT <sub>3</sub>	1993 07 20.20903	19 57 29.22	-19 38 29.3		809	1993 ON <sub>7</sub>	1993 07 20.22222	19 56 22.72	-18 31 16.7	809
1993 OT <sub>3</sub>	1993 07 20.22222	19 57 28.25	-19 38 32.6		809	1993 ON <sub>7</sub>	* 1993 07 20.24375	19 56 21.39	-18 31 15.3	18.2 809
1993 OT <sub>3</sub>	1993 07 24.16042	19 53 04.14	-19 55 20.7		809	1993 ON <sub>7</sub>	1993 07 20.25694	19 56 20.53	-18 31 14.1	809
1993 OV <sub>3</sub>	1993 07 20.19583	19 58 15.12	-20 17 47.9	18.1	809	1993 ON <sub>7</sub>	1993 07 20.27014	19 56 19.73	-18 31 14.2	809
1993 OV <sub>3</sub>	1993 07 20.20903	19 58 14.51	-20 17 50.9		809	1993 ON <sub>7</sub>	1993 07 24.16042	19 52 29.79	-18 27 04.9	809
1993 OV <sub>3</sub>	1993 07 20.22222	19 58 13.94	-20 17 54.0		809	1993 ON <sub>7</sub>	1993 07 24.22708	19 52 25.92	-18 26 58.5	18.5 809
1993 OV <sub>3</sub>	1993 07 24.16042	19 55 31.87	-20 34 34.0		809	1993 OO <sub>7</sub>	* 1993 07 20.24375	19 57 35.63	-18 36 33.0	18.0 809
1993 OW <sub>3</sub>	1993 07 20.19583	19 58 35.45	-19 27 39.4	17.8	809	1993 OO <sub>7</sub>	1993 07 20.25694	19 57 34.79	-18 36 31.6	809
1993 OW <sub>3</sub>	1993 07 20.20903	19 58 34.69	-19 27 43.2		809	1993 OO <sub>7</sub>	1993 07 20.27014	19 57 33.91	-18 36 31.4	809
1993 OW <sub>3</sub>	1993 07 20.22222	19 58 33.93	-19 27 47.3		809	1993 OO <sub>7</sub>	1993 07 24.22708	19 53 30.96	-18 33 01.1	809
1993 OW <sub>3</sub>	1993 07 24.16042	19 55 09.06	-19 48 43.2		809	1993 OP <sub>7</sub>	* 1993 07 20.24375	20 06 12.49	-19 28 12.2	18.0 809
1993 OZ <sub>3</sub>	1993 07 20.19583	19 59 19.97	-22 01 03.2	18.4	809	1993 OP <sub>7</sub>	1993 07 20.25694	20 06 11.79	-19 28 21.5	809
1993 OZ <sub>3</sub>	1993 07 20.20903	19 59 19.11	-22 01 06.7		809	1993 OP <sub>7</sub>	1993 07 20.27014	20 06 11.09	-19 28 30.5	809
1993 OZ <sub>3</sub>	1993 07 20.22222	19 59 18.32	-22 01 09.5		809	1993 OP <sub>7</sub>	1993 07 24.22708	20 02 57.15	-20 12 49.4	18.2 809
1993 OZ <sub>3</sub>	1993 07 24.16042	19 55 34.00	-22 15 07.9		809	1993 OQ <sub>7</sub>	* 1993 07 20.24375	20 10 07.46	-21 16 09.3	18.5 809
1993 OB <sub>4</sub>	1993 07 20.19583	19 59 40.24	-21 00 00.3	18.3	809	1993 OQ <sub>7</sub>	1993 07 20.25694	20 10 06.65	-21 16 11.4	809
1993 OB <sub>4</sub>	1993 07 20.20903	19 59 39.38	-21 00 00.5		809	1993 OQ <sub>7</sub>	1993 07 20.27014	20 10 05.81	-21 16 13.8	809
1993 OB <sub>4</sub>	1993 07 20.22222	19 59 38.48	-21 00 01.8		809	1993 OQ <sub>7</sub>	1993 07 24.22708	20 05 47.34	-21 29 01.8	18.7 809
1993 OB <sub>4</sub>	1993 07 24.16042	19 55 37.04	-21 04 38.8		809	1993 OR <sub>7</sub>	* 1993 07 20.19583	19 38 12.59	-19 09 10.9	18.3 809
1993 OC <sub>4</sub>	1993 07 20.19583	19 59 42.93	-21 29 56.7	18.1	809	1993 OR <sub>7</sub>	1993 07 20.20903	19 38 11.90	-19 09 12.8	809
1993 OC <sub>4</sub>	1993 07 20.20903	19 59 42.05	-21 29 56.9		809	1993 OR <sub>7</sub>	1993 07 20.22222	19 38 11.26	-19 09 14.3	809
1993 OC <sub>4</sub>	1993 07 20.22222	19 59 41.05	-21 29 57.9		809	1993 OR <sub>7</sub>	1993 07 24.16042	19 35 07.24	-19 19 15.8	809
1993 OC <sub>4</sub>	1993 07 24.16042	19 55 28.51	-21 31 55.7		809	1993 OS <sub>7</sub>	* 1993 07 20.19583	19 38 27.81	-21 20 57.1	18.0 809
1993 OM <sub>7</sub>	* 1993 07 20.23958	20 01 09.98	-20 20 52.3	18.0	809	1993 OS <sub>7</sub>	1993 07 20.20903	19 38 26.98	-21 21 03.4	809
1993 OM <sub>7</sub>	1993 07 20.24375	20 01 09.26	-20 20 46.0		809	1993 OS <sub>7</sub>	1993 07 20.22222	19 38 26.21	-21 21 10.1	809
1993 OM <sub>7</sub>	1993 07 20.24792	20 01 08.41	-20 20 39.2		809	1993 OS <sub>7</sub>	1993 07 24.16042	19 34 49.97	-21 53 17.3	809
1993 OM <sub>7</sub>	1993 07 20.25278	20 01 07.37	-20 20 30.3		809	1993 OT <sub>7</sub>	* 1993 07 20.19583	19 38 41.92	-20 01 51.7	18.3 809
1993 OM <sub>7</sub>	1993 07 20.25694	20 01 06.70	-20 20 24.8		809	1993 OT <sub>7</sub>	1993 07 20.20903	19 38 41.24	-20 01 53.7	809
1993 OM <sub>7</sub>	1993 07 20.26111	20 01 05.82	-20 20 16.6		809	1993 OT <sub>7</sub>	1993 07 20.22222	19 38 40.49	-20 01 56.2	809
1993 OM <sub>7</sub>	1993 07 20.26597	20 01 04.70	-20 20 08.6		809	1993 OT <sub>7</sub>	1993 07 24.16042	19 35 29.73	-20 13 36.2	809
1993 OM <sub>7</sub>	1993 07 20.27014	20 01 04.05	-20 20 02.2		809	1993 OU <sub>7</sub>	* 1993 07 20.19583	19 39 03.47	-18 58 18.8	18.2 809
1993 OM <sub>7</sub>	1993 07 20.27431	20 01 03.25	-20 19 55.4		809	1993 OU <sub>7</sub>	1993 07 20.20903	19 39 02.70	-18 58 21.2	809
1993 OM <sub>7</sub>	1993 07 24.14306	19 49 17.22	-18 33 07.5	18.5	809	1993 OU <sub>7</sub>	1993 07 20.22222	19 39 01.95	-18 58 23.3	809
1993 OM <sub>7</sub>	1993 07 24.14722	19 49 16.51	-18 33 01.5		809	1993 OU <sub>7</sub>	1993 07 24.16042	19 35 30.59	-19 09 16.7	809
1993 OM <sub>7</sub>	1993 07 24.15139	19 49 15.81	-18 32 54.8		809	1993 OV <sub>7</sub>	* 1993 07 20.19583	19 39 08.05	-19 49 47.9	19.2 809
1993 OM <sub>7</sub>	1993 07 24.15625	19 49 14.66	-18 32 45.4		809	1993 OV <sub>7</sub>	1993 07 20.20903	19 39 07.29	-19 49 49.9	809



1993 OV <sub>7</sub>	1993 07 20.22222	19 39 06.52	-19 49 50.0		809	1993 OJ <sub>8</sub>	1993 07 20.22222	19 41 58.30	-18 52 19.2		809
1993 OV <sub>7</sub>	1993 07 24.16042	19 35 41.99	-20 01 49.7		809	1993 OJ <sub>8</sub>	1993 07 24.16042	19 38 23.51	-19 00 22.2		809
1993 OW <sub>7</sub>	* 1993 07 20.19583	19 39 48.34	-20 15 14.6	18.1	809	1993 OK <sub>8</sub>	* 1993 07 20.19583	19 42 10.25	-18 55 30.9	18.5	809
1993 OW <sub>7</sub>	1993 07 20.20903	19 39 47.56	-20 15 19.2		809	1993 OK <sub>8</sub>	1993 07 20.20903	19 42 09.36	-18 55 32.4		809
1993 OW <sub>7</sub>	1993 07 20.22222	19 39 46.78	-20 15 23.8		809	1993 OK <sub>8</sub>	1993 07 20.22222	19 42 08.46	-18 55 34.5		809
1993 OW <sub>7</sub>	1993 07 24.16042	19 36 18.62	-20 40 51.3		809	1993 OK <sub>8</sub>	1993 07 24.16042	19 38 04.84	-19 04 39.5		809
1993 OX <sub>7</sub>	* 1993 07 20.19583	19 39 51.99	-18 18 59.3	18.2	809	1993 OL <sub>8</sub>	* 1993 07 20.19583	19 42 26.82	-20 32 22.4	18.3	809
1993 OX <sub>7</sub>	1993 07 20.20903	19 39 51.22	-18 19 05.8		809	1993 OL <sub>8</sub>	1993 07 20.20903	19 42 26.16	-20 32 30.9		809
1993 OX <sub>7</sub>	1993 07 20.22222	19 39 50.44	-18 19 14.1		809	1993 OL <sub>8</sub>	1993 07 20.22222	19 42 25.47	-20 32 39.0		809
1993 OX <sub>7</sub>	1993 07 24.16042	19 36 12.71	-18 50 10.4		809	1993 OL <sub>8</sub>	1993 07 24.16042	19 39 21.03	-21 13 32.1		809
1993 OY <sub>7</sub>	* 1993 07 20.19583	19 39 54.17	-18 19 07.6	18.1	809	1993 OM <sub>8</sub>	* 1993 07 20.19583	19 42 41.33	-18 17 54.5	18.2	809
1993 OY <sub>7</sub>	1993 07 20.20903	19 39 53.32	-18 19 11.5		809	1993 OM <sub>8</sub>	1993 07 20.20903	19 42 40.57	-18 17 56.1		809
1993 OY <sub>7</sub>	1993 07 20.22222	19 39 52.49	-18 19 15.1		809	1993 OM <sub>8</sub>	1993 07 20.22222	19 42 39.90	-18 17 57.6		809
1993 OY <sub>7</sub>	1993 07 24.16042	19 35 51.52	-18 36 57.7		809	1993 OM <sub>8</sub>	1993 07 24.16042	19 39 25.27	-18 26 30.8		809
1993 OZ <sub>7</sub>	* 1993 07 20.19583	19 40 20.21	-21 22 26.8	18.5	809	1993 ON <sub>8</sub>	* 1993 07 20.19583	19 42 52.24	-22 10 09.0	18.4	809
1993 OZ <sub>7</sub>	1993 07 20.20903	19 40 19.39	-21 22 27.8		809	1993 ON <sub>8</sub>	1993 07 20.20903	19 42 51.33	-22 10 12.3		809
1993 OZ <sub>7</sub>	1993 07 20.22222	19 40 18.63	-21 22 29.3		809	1993 ON <sub>8</sub>	1993 07 20.22222	19 42 50.49	-22 10 15.2		809
1993 OZ <sub>7</sub>	1993 07 24.16042	19 36 45.62	-21 28 17.9		809	1993 ON <sub>8</sub>	1993 07 24.16042	19 38 50.27	-22 26 28.8		809
1993 OA <sub>8</sub>	* 1993 07 20.19583	19 40 29.88	-22 12 25.0	18.4	809	1993 OO <sub>8</sub>	* 1993 07 20.19583	19 42 53.10	-18 11 22.5	18.1	809
1993 OA <sub>8</sub>	1993 07 20.20903	19 40 29.07	-22 12 23.5		809	1993 OO <sub>8</sub>	1993 07 20.20903	19 42 52.30	-18 11 27.9		809
1993 OA <sub>8</sub>	1993 07 20.22222	19 40 28.19	-22 12 22.0		809	1993 OO <sub>8</sub>	1993 07 20.22222	19 42 51.57	-18 11 34.0		809
1993 OA <sub>8</sub>	1993 07 24.16042	19 36 33.79	-22 04 24.8		809	1993 OO <sub>8</sub>	1993 07 24.16042	19 39 37.55	-18 39 01.2		809
1993 OB <sub>8</sub>	* 1993 07 20.19583	19 40 32.26	-22 38 38.0	18.3	809	1993 OP <sub>8</sub>	* 1993 07 20.19583	19 42 54.41	-18 16 47.8	18.1	809
1993 OB <sub>8</sub>	1993 07 20.20903	19 40 31.49	-22 38 39.6		809	1993 OP <sub>8</sub>	1993 07 20.20903	19 42 53.59	-18 16 47.2		809
1993 OB <sub>8</sub>	1993 07 20.22222	19 40 30.78	-22 38 40.7		809	1993 OP <sub>8</sub>	1993 07 20.22222	19 42 52.77	-18 16 45.7		809
1993 OB <sub>8</sub>	1993 07 24.16042	19 37 09.80	-22 45 14.9		809	1993 OP <sub>8</sub>	1993 07 24.16042	19 39 01.83	-18 11 43.1		809
1993 OC <sub>8</sub>	* 1993 07 20.19583	19 40 55.78	-21 19 28.0	18.5	809	1993 OQ <sub>8</sub>	* 1993 07 20.19583	19 42 55.57	-21 50 58.9	18.2	809
1993 OC <sub>8</sub>	1993 07 20.20903	19 40 54.99	-21 19 33.2		809	1993 OQ <sub>8</sub>	1993 07 20.20903	19 42 54.70	-21 51 02.2		809
1993 OC <sub>8</sub>	1993 07 20.22222	19 40 53.99	-21 19 39.4		809	1993 OQ <sub>8</sub>	1993 07 20.22222	19 42 53.86	-21 51 05.0		809
1993 OC <sub>8</sub>	1993 07 24.16042	19 36 46.90	-21 47 21.5		809	1993 OQ <sub>8</sub>	1993 07 24.16042	19 38 59.04	-22 06 35.3		809
1993 OD <sub>8</sub>	* 1993 07 20.19583	19 40 57.35	-19 59 47.6	18.1	809	1993 OR <sub>8</sub>	* 1993 07 20.19583	19 43 18.97	-19 42 06.1	18.5	809
1993 OD <sub>8</sub>	1993 07 20.20903	19 40 56.40	-19 59 47.9		809	1993 OR <sub>8</sub>	1993 07 20.20903	19 43 18.28	-19 42 07.9		809
1993 OD <sub>8</sub>	1993 07 20.22222	19 40 55.50	-19 59 47.4		809	1993 OR <sub>8</sub>	1993 07 20.22222	19 43 17.59	-19 42 10.9		809
1993 OD <sub>8</sub>	1993 07 24.16042	19 36 53.39	-19 59 00.6		809	1993 OR <sub>8</sub>	1993 07 24.16042	19 39 57.81	-19 53 09.4		809
1993 OE <sub>8</sub>	* 1993 07 20.19583	19 41 19.64	-22 57 18.6	18.3	809	1993 OS <sub>8</sub>	* 1993 07 20.19583	19 43 27.48	-22 50 11.9	18.3	809
1993 OE <sub>8</sub>	1993 07 20.20903	19 41 18.73	-22 57 16.3		809	1993 OS <sub>8</sub>	1993 07 20.20903	19 43 26.72	-22 50 13.3		809
1993 OE <sub>8</sub>	1993 07 20.22222	19 41 17.86	-22 57 14.8		809	1993 OS <sub>8</sub>	1993 07 20.22222	19 43 26.03	-22 50 13.6		809
1993 OE <sub>8</sub>	1993 07 24.16042	19 37 24.94	-22 46 48.5		809	1993 OS <sub>8</sub>	1993 07 24.16042	19 40 01.73	-22 53 40.0		809
1993 OF <sub>8</sub>	* 1993 07 20.19583	19 41 21.97	-20 31 56.9	18.5	809	1993 OT <sub>8</sub>	* 1993 07 20.19583	19 43 31.69	-19 43 20.3	18.3	809
1993 OF <sub>8</sub>	1993 07 20.20903	19 41 21.12	-20 31 55.3		809	1993 OT <sub>8</sub>	1993 07 20.20903	19 43 30.93	-19 43 22.8		809
1993 OF <sub>8</sub>	1993 07 20.22222	19 41 20.26	-20 31 55.3		809	1993 OT <sub>8</sub>	1993 07 20.22222	19 43 30.30	-19 43 25.2		809
1993 OF <sub>8</sub>	1993 07 24.16042	19 37 23.29	-20 26 29.7		809	1993 OT <sub>8</sub>	1993 07 24.16042	19 40 14.73	-19 55 25.8		809
1993 OG <sub>8</sub>	* 1993 07 20.19583	19 41 45.70	-20 56 42.3	18.4	809	1993 OU <sub>8</sub>	* 1993 07 20.19583	19 43 39.05	-19 46 48.1	18.3	809
1993 OG <sub>8</sub>	1993 07 20.20903	19 41 44.99	-20 56 45.3		809	1993 OU <sub>8</sub>	1993 07 20.20903	19 43 38.22	-19 46 51.0		809
1993 OG <sub>8</sub>	1993 07 20.22222	19 41 44.21	-20 56 47.9		809	1993 OU <sub>8</sub>	1993 07 20.22222	19 43 37.34	-19 46 54.3		809
1993 OG <sub>8</sub>	1993 07 24.16042	19 38 17.80	-21 11 27.8		809	1993 OU <sub>8</sub>	1993 07 24.16042	19 40 09.61	-20 03 50.6		809
1993 OH <sub>8</sub>	* 1993 07 20.19583	19 41 58.43	-22 50 10.0	18.4	809	1993 OV <sub>8</sub>	* 1993 07 20.19583	19 43 47.66	-22 44 54.8	18.3	809
1993 OH <sub>8</sub>	1993 07 20.20903	19 41 57.98	-22 50 10.2		809	1993 OV <sub>8</sub>	1993 07 20.20903	19 43 47.01	-22 44 57.2		809
1993 OH <sub>8</sub>	1993 07 20.22222	19 41 57.56	-22 50 11.0		809	1993 OV <sub>8</sub>	1993 07 20.22222	19 43 46.20	-22 45 00.0		809
1993 OH <sub>8</sub>	1993 07 24.16042	19 40 35.96	-22 57 57.4		809	1993 OV <sub>8</sub>	1993 07 24.16042	19 40 37.80	-22 55 38.9		809
1993 OJ <sub>8</sub>	* 1993 07 20.19583	19 41 59.88	-18 52 15.8	18.2	809	1993 OW <sub>8</sub>	* 1993 07 20.19583	19 43 52.77	-22 47 38.1	18.0	809
1993 OJ <sub>8</sub>	1993 07 20.20903	19 41 59.07	-18 52 17.7		809	1993 OW <sub>8</sub>	1993 07 20.20903	19 43 51.80	-22 47 37.7		809

1993 OW <sub>8</sub>	1993 07 20.22222	19 43 50.80	-22 47 37.6		809	1993 OK <sub>9</sub>	1993 07 20.22222	19 45 30.40	-20 07 21.5		809
1993 OW <sub>8</sub>	1993 07 24.16042	19 39 25.98	-22 45 56.1		809	1993 OK <sub>9</sub>	1993 07 24.16042	19 41 17.50	-20 19 13.2		809
1993 OX <sub>8</sub>	* 1993 07 20.19583	19 44 07.64	-19 58 20.6	18.2	809	1993 OL <sub>9</sub>	* 1993 07 20.19583	19 45 34.35	-19 46 47.5	18.5	809
1993 OX <sub>8</sub>	1993 07 20.20903	19 44 06.96	-19 58 26.3		809	1993 OL <sub>9</sub>	1993 07 20.20903	19 45 33.79	-19 46 48.9		809
1993 OX <sub>8</sub>	1993 07 20.22222	19 44 06.29	-19 58 32.1		809	1993 OL <sub>9</sub>	1993 07 20.22222	19 45 33.11	-19 46 50.0		809
1993 OX <sub>8</sub>	1993 07 24.16042	19 41 15.56	-20 26 44.2		809	1993 OL <sub>9</sub>	1993 07 24.16042	19 42 06.92	-19 54 37.0		809
1993 OY <sub>8</sub>	* 1993 07 20.19583	19 44 30.41	-21 10 49.8	18.3	809	1993 OM <sub>9</sub>	* 1993 07 20.19583	19 45 38.87	-22 57 11.7	18.5	809
1993 OY <sub>8</sub>	1993 07 20.20903	19 44 29.46	-21 10 51.2		809	1993 OM <sub>9</sub>	1993 07 20.20903	19 45 38.07	-22 57 13.6		809
1993 OY <sub>8</sub>	1993 07 20.22222	19 44 28.55	-21 10 52.7		809	1993 OM <sub>9</sub>	1993 07 20.22222	19 45 37.29	-22 57 13.5		809
1993 OY <sub>8</sub>	1993 07 24.16042	19 40 20.50	-21 18 28.8		809	1993 OM <sub>9</sub>	1993 07 24.16042	19 41 48.25	-23 03 17.6		809
1993 OZ <sub>8</sub>	* 1993 07 20.19583	19 44 37.61	-18 05 01.2	18.4	809	1993 ON <sub>9</sub>	* 1993 07 20.19583	19 45 41.40	-20 13 18.6	18.2	809
1993 OZ <sub>8</sub>	1993 07 20.20903	19 44 36.89	-18 05 03.2		809	1993 ON <sub>9</sub>	1993 07 20.20903	19 45 40.62	-20 13 19.4		809
1993 OZ <sub>8</sub>	1993 07 20.22222	19 44 36.22	-18 05 04.9		809	1993 ON <sub>9</sub>	1993 07 20.22222	19 45 39.70	-20 13 20.4		809
1993 OZ <sub>8</sub>	1993 07 24.16042	19 41 29.67	-18 14 13.6		809	1993 ON <sub>9</sub>	1993 07 24.16042	19 42 08.72	-20 19 47.4		809
1993 OA <sub>9</sub>	* 1993 07 20.19583	19 44 39.64	-19 04 48.6	18.3	809	1993 OO <sub>9</sub>	* 1993 07 20.19583	19 45 47.95	-18 03 37.2	18.5	809
1993 OA <sub>9</sub>	1993 07 20.20903	19 44 38.75	-19 04 51.9		809	1993 OO <sub>9</sub>	1993 07 20.20903	19 45 47.12	-18 03 40.5		809
1993 OA <sub>9</sub>	1993 07 20.22222	19 44 37.89	-19 04 54.9		809	1993 OO <sub>9</sub>	1993 07 20.22222	19 45 46.34	-18 03 43.5		809
1993 OA <sub>9</sub>	1993 07 24.16042	19 40 52.59	-19 19 00.4		809	1993 OO <sub>9</sub>	1993 07 24.16042	19 42 11.09	-18 20 18.2		809
1993 OB <sub>9</sub>	* 1993 07 20.19583	19 44 47.08	-20 05 50.3	18.4	809	1993 OP <sub>9</sub>	* 1993 07 20.19583	19 45 55.39	-21 07 28.4	18.5	809
1993 OB <sub>9</sub>	1993 07 20.20903	19 44 46.23	-20 05 50.7		809	1993 OP <sub>9</sub>	1993 07 20.20903	19 45 54.56	-21 07 28.2		809
1993 OB <sub>9</sub>	1993 07 20.22222	19 44 45.31	-20 05 52.0		809	1993 OP <sub>9</sub>	1993 07 20.22222	19 45 53.76	-21 07 29.0		809
1993 OB <sub>9</sub>	1993 07 24.16042	19 40 27.50	-20 11 11.3		809	1993 OP <sub>9</sub>	1993 07 24.16042	19 42 31.55	-21 07 11.1		809
1993 OC <sub>9</sub>	* 1993 07 20.19583	19 44 54.11	-22 02 45.6	18.3	809	1993 OQ <sub>9</sub>	* 1993 07 20.19583	19 46 02.83	-20 03 50.7	18.2	809
1993 OC <sub>9</sub>	1993 07 20.20903	19 44 53.18	-22 02 48.0		809	1993 OQ <sub>9</sub>	1993 07 20.20903	19 46 01.88	-20 03 48.7		809
1993 OC <sub>9</sub>	1993 07 20.22222	19 44 52.29	-22 02 50.4		809	1993 OQ <sub>9</sub>	1993 07 20.22222	19 46 00.99	-20 03 47.8		809
1993 OC <sub>9</sub>	1993 07 24.16042	19 40 38.66	-22 15 39.6		809	1993 OQ <sub>9</sub>	1993 07 24.16042	19 41 39.05	-19 55 55.6		809
1993 OD <sub>9</sub>	* 1993 07 20.19583	19 44 57.55	-21 48 07.3	18.6	809	1993 OR <sub>9</sub>	* 1993 07 20.19583	19 46 13.00	-19 02 46.3	18.2	809
1993 OD <sub>9</sub>	1993 07 20.20903	19 44 56.81	-21 48 11.8		809	1993 OR <sub>9</sub>	1993 07 20.20903	19 46 12.26	-19 02 48.7		809
1993 OD <sub>9</sub>	1993 07 20.22222	19 44 55.98	-21 48 16.9		809	1993 OR <sub>9</sub>	1993 07 20.22222	19 46 11.56	-19 02 51.1		809
1993 OD <sub>9</sub>	1993 07 24.16042	19 41 26.51	-22 01 09.2		809	1993 OR <sub>9</sub>	1993 07 24.16042	19 42 52.51	-19 14 14.9		809
1993 OE <sub>9</sub>	* 1993 07 20.19583	19 45 13.98	-21 27 25.9	18.3	809	1993 OS <sub>9</sub>	* 1993 07 20.19583	19 46 28.69	-20 55 56.0	18.3	809
1993 OE <sub>9</sub>	1993 07 20.20903	19 45 13.01	-21 27 27.4		809	1993 OS <sub>9</sub>	1993 07 20.20903	19 46 27.82	-20 56 01.2		809
1993 OE <sub>9</sub>	1993 07 20.22222	19 45 12.15	-21 27 27.9		809	1993 OS <sub>9</sub>	1993 07 20.22222	19 46 27.03	-20 56 07.0		809
1993 OE <sub>9</sub>	1993 07 24.16042	19 40 57.42	-21 31 56.3		809	1993 OS <sub>9</sub>	1993 07 24.16042	19 42 40.10	-21 22 03.9		809
1993 OF <sub>9</sub>	* 1993 07 20.19583	19 45 23.17	-22 46 35.8	18.0	809	1993 OT <sub>9</sub>	* 1993 07 20.19583	19 47 01.28	-22 39 48.2	18.4	809
1993 OF <sub>9</sub>	1993 07 20.20903	19 45 22.43	-22 46 35.0		809	1993 OT <sub>9</sub>	1993 07 20.20903	19 47 00.44	-22 39 53.4		809
1993 OF <sub>9</sub>	1993 07 20.22222	19 45 21.68	-22 46 34.7		809	1993 OT <sub>9</sub>	1993 07 20.22222	19 46 59.59	-22 39 57.4		809
1993 OF <sub>9</sub>	1993 07 24.16042	19 41 49.39	-22 43 49.5		809	1993 OT <sub>9</sub>	1993 07 24.16042	19 43 04.80	-23 00 39.3		809
1993 OG <sub>9</sub>	* 1993 07 20.19583	19 45 24.24	-18 20 06.6	18.5	809	1993 OU <sub>9</sub>	* 1993 07 20.19583	19 47 20.30	-21 05 05.3	18.4	809
1993 OG <sub>9</sub>	1993 07 20.20903	19 45 23.36	-18 20 11.5		809	1993 OU <sub>9</sub>	1993 07 20.20903	19 47 19.54	-21 05 10.7		809
1993 OG <sub>9</sub>	1993 07 20.22222	19 45 22.53	-18 20 16.0		809	1993 OU <sub>9</sub>	1993 07 20.22222	19 47 18.85	-21 05 16.3		809
1993 OG <sub>9</sub>	1993 07 24.16042	19 41 22.70	-18 44 41.5		809	1993 OU <sub>9</sub>	1993 07 24.16042	19 43 53.09	-21 33 51.4		809
1993 OH <sub>9</sub>	* 1993 07 20.19583	19 45 26.77	-18 19 23.5	18.3	809	1993 OV <sub>9</sub>	* 1993 07 20.19583	19 47 21.46	-21 22 22.3	18.8	809
1993 OH <sub>9</sub>	1993 07 20.20903	19 45 25.92	-18 19 27.1		809	1993 OV <sub>9</sub>	1993 07 20.20903	19 47 20.72	-21 22 22.9		809
1993 OH <sub>9</sub>	1993 07 20.22222	19 45 25.17	-18 19 29.1		809	1993 OV <sub>9</sub>	1993 07 20.22222	19 47 19.93	-21 22 24.5		809
1993 OH <sub>9</sub>	1993 07 24.16042	19 41 40.95	-18 35 44.9		809	1993 OV <sub>9</sub>	1993 07 24.16042	19 43 45.66	-21 23 09.9		809
1993 OJ <sub>9</sub>	* 1993 07 20.19583	19 45 27.57	-18 34 02.7	18.5	809	1993 OW <sub>9</sub>	* 1993 07 20.19583	19 47 23.12	-22 18 45.1	18.5	809
1993 OJ <sub>9</sub>	1993 07 20.20903	19 45 26.77	-18 34 07.3		809	1993 OW <sub>9</sub>	1993 07 20.20903	19 47 22.34	-22 18 49.8		809
1993 OJ <sub>9</sub>	1993 07 20.22222	19 45 26.00	-18 34 11.1		809	1993 OW <sub>9</sub>	1993 07 20.22222	19 47 21.59	-22 18 54.5		809
1993 OJ <sub>9</sub>	1993 07 24.16042	19 41 59.85	-18 54 59.5		809	1993 OW <sub>9</sub>	1993 07 24.16042	19 43 48.51	-22 41 07.8		809
1993 OK <sub>9</sub>	* 1993 07 20.19583	19 45 31.84	-20 07 17.1	18.2	809	1993 OX <sub>9</sub>	* 1993 07 20.19583	19 47 26.64	-21 45 18.1	18.3	809
1993 OK <sub>9</sub>	1993 07 20.20903	19 45 31.15	-20 07 18.7		809	1993 OX <sub>9</sub>	1993 07 20.20903	19 47 25.59	-21 45 19.0		809

1993 OX <sub>9</sub>	1993 07 20.22222	19 47 24.78	-21 45 20.8		809	1993 OL <sub>10</sub>	1993 07 20.22222	19 52 02.59	-22 29 04.6		809
1993 OX <sub>9</sub>	1993 07 24.16042	19 43 04.08	-21 50 33.0		809	1993 OL <sub>10</sub>	1993 07 24.16042	19 47 52.12	-22 44 11.0		809
1993 OY <sub>9</sub>	* 1993 07 20.19583	19 47 49.32	-22 14 19.1	18.2	809	1993 OM <sub>10</sub>	* 1993 07 20.19583	19 52 16.77	-19 24 18.7	18.4	809
1993 OY <sub>9</sub>	1993 07 20.20903	19 47 48.62	-22 14 19.5		809	1993 OM <sub>10</sub>	1993 07 20.20903	19 52 16.08	-19 24 20.7		809
1993 OY <sub>9</sub>	1993 07 20.22222	19 47 47.86	-22 14 19.0		809	1993 OM <sub>10</sub>	1993 07 20.22222	19 52 15.38	-19 24 22.8		809
1993 OY <sub>9</sub>	1993 07 24.16042	19 44 15.81	-22 13 26.9		809	1993 OM <sub>10</sub>	1993 07 24.16042	19 49 01.67	-19 34 40.0		809
1993 OZ <sub>9</sub>	* 1993 07 20.19583	19 48 29.92	-19 18 20.8	18.3	809	1993 ON <sub>10</sub>	* 1993 07 20.19583	19 52 17.29	-21 41 24.0	18.5	809
1993 OZ <sub>9</sub>	1993 07 20.20903	19 48 29.22	-19 18 22.0		809	1993 ON <sub>10</sub>	1993 07 20.20903	19 52 16.18	-21 41 15.6		809
1993 OZ <sub>9</sub>	1993 07 20.22222	19 48 28.36	-19 18 22.9		809	1993 ON <sub>10</sub>	1993 07 20.22222	19 52 15.00	-21 41 06.6		809
1993 OZ <sub>9</sub>	1993 07 24.16042	19 44 51.24	-19 23 25.1		809	1993 ON <sub>10</sub>	1993 07 24.16042	19 46 26.67	-20 58 00.7		809
1993 OA <sub>10</sub>	* 1993 07 20.19583	19 48 30.10	-22 56 19.4	17.9	809	1993 OO <sub>10</sub>	* 1993 07 20.19583	19 52 24.83	-20 51 02.6	18.1	809
1993 OA <sub>10</sub>	1993 07 20.20903	19 48 29.19	-22 56 18.6		809	1993 OO <sub>10</sub>	1993 07 20.20903	19 52 24.15	-20 51 04.6		809
1993 OA <sub>10</sub>	1993 07 20.22222	19 48 28.27	-22 56 17.8		809	1993 OO <sub>10</sub>	1993 07 20.22222	19 52 23.46	-20 51 06.6		809
1993 OA <sub>10</sub>	1993 07 24.16042	19 44 20.93	-22 53 38.4		809	1993 OO <sub>10</sub>	1993 07 24.16042	19 49 05.71	-21 01 54.8		809
1993 OB <sub>10</sub>	* 1993 07 20.19583	19 48 31.71	-21 01 22.6	18.3	809	1993 OP <sub>10</sub>	* 1993 07 20.19583	19 52 46.56	-22 29 11.4	18.3	809
1993 OB <sub>10</sub>	1993 07 20.20903	19 48 30.85	-21 01 21.7		809	1993 OP <sub>10</sub>	1993 07 20.20903	19 52 45.75	-22 29 14.7		809
1993 OB <sub>10</sub>	1993 07 20.22222	19 48 30.02	-21 01 20.2		809	1993 OP <sub>10</sub>	1993 07 20.22222	19 52 45.02	-22 29 17.8		809
1993 OB <sub>10</sub>	1993 07 24.16042	19 44 26.79	-20 57 42.6		809	1993 OP <sub>10</sub>	1993 07 24.16042	19 49 04.99	-22 44 51.8		809
1993 OC <sub>10</sub>	* 1993 07 20.19583	19 48 50.29	-22 09 48.3	18.7	809	1993 OQ <sub>10</sub>	* 1993 07 20.19583	19 52 50.61	-18 23 39.2	18.5	809
1993 OC <sub>10</sub>	1993 07 20.20903	19 48 49.44	-22 09 52.6		809	1993 OQ <sub>10</sub>	1993 07 20.20903	19 52 49.73	-18 23 41.7		809
1993 OC <sub>10</sub>	1993 07 20.22222	19 48 48.55	-22 09 58.5		809	1993 OQ <sub>10</sub>	1993 07 20.22222	19 52 49.09	-18 23 41.8		809
1993 OC <sub>10</sub>	1993 07 24.16042	19 44 44.79	-22 29 05.6		809	1993 OQ <sub>10</sub>	1993 07 24.16042	19 49 13.79	-18 32 36.1		809
1993 OD <sub>10</sub>	* 1993 07 20.19583	19 48 52.28	-23 04 20.4	18.5	809	1993 OR <sub>10</sub>	* 1993 07 20.19583	19 52 59.90	-21 03 36.4	18.5	809
1993 OD <sub>10</sub>	1993 07 20.20903	19 48 51.60	-23 04 23.4		809	1993 OR <sub>10</sub>	1993 07 20.20903	19 52 59.12	-21 03 37.9		809
1993 OD <sub>10</sub>	1993 07 20.22222	19 48 50.98	-23 04 27.3		809	1993 OR <sub>10</sub>	1993 07 20.22222	19 52 58.27	-21 03 40.9		809
1993 OD <sub>10</sub>	1993 07 24.16042	19 45 38.43	-23 21 23.9		809	1993 OR <sub>10</sub>	1993 07 24.16042	19 49 01.82	-21 17 59.6		809
1993 OE <sub>10</sub>	* 1993 07 20.19583	19 49 12.73	-18 55 45.2	18.5	809	1993 OS <sub>10</sub>	* 1993 07 20.19583	19 53 21.39	-18 19 25.0	18.0	809
1993 OE <sub>10</sub>	1993 07 20.20903	19 49 11.92	-18 55 47.5		809	1993 OS <sub>10</sub>	1993 07 20.20903	19 53 20.57	-18 19 25.3		809
1993 OE <sub>10</sub>	1993 07 20.22222	19 49 11.25	-18 55 48.9		809	1993 OS <sub>10</sub>	1993 07 20.22222	19 53 19.84	-18 19 26.1		809
1993 OE <sub>10</sub>	1993 07 24.16042	19 45 48.58	-19 07 34.1		809	1993 OS <sub>10</sub>	1993 07 24.16042	19 49 42.52	-18 23 50.4		809
1993 OF <sub>10</sub>	* 1993 07 20.19583	19 50 27.51	-19 25 58.6	18.5	809	1993 OT <sub>10</sub>	* 1993 07 20.19583	19 53 24.09	-20 30 59.6	18.6	809
1993 OF <sub>10</sub>	1993 07 20.20903	19 50 26.74	-19 25 56.7		809	1993 OT <sub>10</sub>	1993 07 20.20903	19 53 23.46	-20 31 02.5		809
1993 OF <sub>10</sub>	1993 07 20.22222	19 50 26.06	-19 25 55.3		809	1993 OT <sub>10</sub>	1993 07 20.22222	19 53 22.89	-20 31 03.4		809
1993 OF <sub>10</sub>	1993 07 24.16042	19 46 12.38	-19 18 51.8		809	1993 OT <sub>10</sub>	1993 07 24.16042	19 50 38.43	-20 43 12.6		809
1993 OG <sub>10</sub>	* 1993 07 20.19583	19 50 39.11	-21 16 30.5	18.2	809	1993 OU <sub>10</sub>	* 1993 07 20.19583	19 53 55.06	-23 00 39.0	18.2	809
1993 OG <sub>10</sub>	1993 07 20.20903	19 50 38.22	-21 16 31.6		809	1993 OU <sub>10</sub>	1993 07 20.20903	19 53 54.30	-23 00 41.5		809
1993 OG <sub>10</sub>	1993 07 20.22222	19 50 37.32	-21 16 32.6		809	1993 OU <sub>10</sub>	1993 07 20.22222	19 53 53.59	-23 00 43.1		809
1993 OG <sub>10</sub>	1993 07 24.16042	19 46 37.44	-21 23 02.3		809	1993 OU <sub>10</sub>	1993 07 24.16042	19 50 36.47	-23 11 15.4		809
1993 OH <sub>10</sub>	* 1993 07 20.19583	19 51 30.75	-22 27 32.2	18.4	809	1993 OV <sub>10</sub>	* 1993 07 20.19583	19 53 56.26	-18 38 11.6	18.4	809
1993 OH <sub>10</sub>	1993 07 20.20903	19 51 29.96	-22 27 33.0		809	1993 OV <sub>10</sub>	1993 07 20.20903	19 53 55.61	-18 38 12.8		809
1993 OH <sub>10</sub>	1993 07 20.22222	19 51 29.16	-22 27 34.1		809	1993 OV <sub>10</sub>	1993 07 20.22222	19 53 54.98	-18 38 13.5		809
1993 OH <sub>10</sub>	1993 07 24.16042	19 47 45.31	-22 30 51.5		809	1993 OV <sub>10</sub>	1993 07 24.16042	19 51 07.68	-18 44 05.6		809
1993 OJ <sub>10</sub>	* 1993 07 20.19583	19 51 41.24	-20 54 18.9	18.3	809	1993 OW <sub>10</sub>	* 1993 07 20.19583	19 54 14.49	-21 58 57.7	18.5	809
1993 OJ <sub>10</sub>	1993 07 20.20903	19 51 40.36	-20 54 15.6		809	1993 OW <sub>10</sub>	1993 07 20.20903	19 54 13.60	-21 59 01.5		809
1993 OJ <sub>10</sub>	1993 07 20.22222	19 51 39.53	-20 54 12.8		809	1993 OW <sub>10</sub>	1993 07 20.22222	19 54 12.70	-21 59 05.4		809
1993 OJ <sub>10</sub>	1993 07 24.16042	19 47 37.47	-20 38 27.7		809	1993 OW <sub>10</sub>	1993 07 24.16042	19 50 15.59	-22 16 00.3		809
1993 OK <sub>10</sub>	* 1993 07 20.19583	19 51 59.75	-19 02 11.4	17.9	809	1993 OX <sub>10</sub>	* 1993 07 20.19583	19 54 14.60	-19 49 11.0	18.5	809
1993 OK <sub>10</sub>	1993 07 20.20903	19 51 58.85	-19 02 10.9		809	1993 OX <sub>10</sub>	1993 07 20.20903	19 54 13.83	-19 49 13.3		809
1993 OK <sub>10</sub>	1993 07 20.22222	19 51 57.90	-19 02 10.3		809	1993 OX <sub>10</sub>	1993 07 20.22222	19 54 13.11	-19 49 14.5		809
1993 OK <sub>10</sub>	1993 07 24.16042	19 47 33.08	-19 00 33.9		809	1993 OX <sub>10</sub>	1993 07 24.16042	19 50 51.18	-19 59 44.8		809
1993 OL <sub>10</sub>	* 1993 07 20.19583	19 52 04.38	-22 28 58.4	18.3	809	1993 OY <sub>10</sub>	* 1993 07 20.19583	19 54 58.51	-20 51 35.8	18.3	809
1993 OL <sub>10</sub>	1993 07 20.20903	19 52 03.35	-22 29 01.3		809	1993 OY <sub>10</sub>	1993 07 20.20903	19 54 57.83	-20 51 38.8		809

1993 OY <sub>10</sub>	1993 07 20.22222	19 54 57.12	-20 51 41.8		809	(2656)	1993 07 20.22222	19 48 15.60	-23 03 39.0		809	
1993 OY <sub>10</sub>	1993 07 24.16042	19 51 42.81	-21 05 06.1		809	(2656)	1993 07 24.16042	19 44 04.39	-23 19 26.2		809	
1993 OZ <sub>10</sub>	* 1993 07 20.19583	19 55 07.66	-22 41 51.7	19.0	809	(2733)	1993 07 20.19583	19 53 06.54	-19 27 37.9	18.0	809	
1993 OZ <sub>10</sub>	1993 07 20.20903	19 55 06.80	-22 41 51.9		809	(2733)	1993 07 20.20903	19 53 05.63	-19 27 43.0		809	
1993 OZ <sub>10</sub>	1993 07 20.22222	19 55 05.91	-22 41 51.0		809	(2733)	1993 07 20.22222	19 53 04.87	-19 27 47.9		809	
1993 OZ <sub>10</sub>	1993 07 24.16042	19 51 06.81	-22 42 18.1		809	(2733)	1993 07 24.16042	19 49 07.88	-19 53 12.0		809	
1993 OA <sub>11</sub>	* 1993 07 20.19583	19 55 33.31	-18 27 46.8	18.3	809	(2891)	1993 07 20.19583	19 53 40.06	-21 12 22.9	17.9	809	
1993 OA <sub>11</sub>	1993 07 20.20903	19 55 32.39	-18 27 49.0		809	(2891)	1993 07 20.20903	19 53 39.36	-21 12 26.8		809	
1993 OA <sub>11</sub>	1993 07 20.22222	19 55 31.62	-18 27 50.6		809	(2891)	1993 07 20.22222	19 53 38.71	-21 12 30.3		809	
1993 OA <sub>11</sub>	1993 07 24.16042	19 51 34.10	-18 37 33.9		809	(2891)	1993 07 24.16042	19 50 37.18	-21 30 48.9		809	
1993 OB <sub>11</sub>	* 1993 07 20.19583	19 55 39.24	-20 03 35.1	18.0	809	(3082)	1993 07 20.19583	19 50 58.87	-20 34 03.0	17.8	809	
1993 OB <sub>11</sub>	1993 07 20.20903	19 55 38.31	-20 03 39.7		809	(3082)	1993 07 20.20903	19 50 58.11	-20 34 08.6		809	
1993 OB <sub>11</sub>	1993 07 20.22222	19 55 37.46	-20 03 44.9		809	(3082)	1993 07 20.22222	19 50 57.34	-20 34 14.4		809	
1993 OB <sub>11</sub>	1993 07 24.16042	19 51 35.42	-20 30 13.7		809	(3082)	1993 07 24.16042	19 47 20.11	-21 03 03.9		809	
1993 OC <sub>11</sub>	* 1993 07 20.19583	19 56 57.06	-21 31 20.4	18.6	809	(3236)	1993 07 20.19583	19 43 06.21	-19 25 40.3	18.0	809	
1993 OC <sub>11</sub>	1993 07 20.20903	19 56 56.31	-21 31 22.0		809	(3236)	1993 07 20.20903	19 43 05.27	-19 25 42.1		809	
1993 OC <sub>11</sub>	1993 07 20.22222	19 56 55.66	-21 31 23.8		809	(3236)	1993 07 20.22222	19 43 04.36	-19 25 43.9		809	
1993 OC <sub>11</sub>	1993 07 24.16042	19 53 41.20	-21 41 28.2		809	(3236)	1993 07 24.16042	19 38 44.22	-19 36 08.4		809	
1993 OD <sub>11</sub>	* 1993 07 20.19583	19 57 07.38	-20 52 22.7	18.6	809	(3549)	1993 07 20.19583	19 56 03.07	-18 17 04.1	18.1	809	
1993 OD <sub>11</sub>	1993 07 20.20903	19 57 06.69	-20 52 28.2		809	(3549)	1993 07 20.20903	19 56 02.37	-18 17 05.0		809	
1993 OD <sub>11</sub>	1993 07 20.22222	19 57 05.96	-20 52 36.1		809	(3549)	1993 07 20.22222	19 56 01.57	-18 17 05.4		809	
1993 OD <sub>11</sub>	1993 07 24.16042	19 53 58.11	-21 23 00.0		809	(4242)	1993 07 20.19583	19 38 57.59	-21 59 58.4	18.0	809	
1993 OE <sub>11</sub>	* 1993 07 20.19583	19 57 47.49	-21 40 39.2	18.4	809	(4242)	1993 07 20.20903	19 38 56.84	-21 59 59.4		809	
1993 OE <sub>11</sub>	1993 07 20.20903	19 57 46.73	-21 40 43.9		809	(4242)	1993 07 20.22222	19 38 56.17	-22 00 00.7		809	
1993 OE <sub>11</sub>	1993 07 20.22222	19 57 46.00	-21 40 47.1		809	(4242)	1993 07 24.16042	19 35 41.66	-22 07 21.0		809	
1993 OE <sub>11</sub>	1993 07 24.16042	19 54 20.51	-22 00 36.2		809	(4641)	1993 07 20.19583	19 48 48.97	-21 52 54.0	17.8	809	
1993 OF <sub>11</sub>	* 1993 07 20.19583	19 57 48.11	-21 33 27.0	19.0	809	(4641)	1993 07 20.20903	19 48 48.01	-21 52 56.6		809	
1993 OF <sub>11</sub>	1993 07 20.20903	19 57 47.47	-21 33 27.3		809	(4641)	1993 07 20.22222	19 48 47.11	-21 52 59.5		809	
1993 OF <sub>11</sub>	1993 07 20.22222	19 57 46.84	-21 33 25.3		809	(4641)	1993 07 24.16042	19 44 23.81	-22 08 10.3		809	
1993 OF <sub>11</sub>	1993 07 24.16042	19 54 27.89	-21 32 34.6		809	(5141)	1993 07 20.19583	19 57 53.58	-19 05 38.0	18.0	809	
1993 OG <sub>11</sub>	* 1993 07 20.19583	19 58 26.62	-19 31 14.6	18.7	809	(5141)	1993 07 20.20903	19 57 52.85	-19 05 40.3		809	
1993 OG <sub>11</sub>	1993 07 20.20903	19 58 25.80	-19 31 17.7		809	(5141)	1993 07 20.22222	19 57 52.14	-19 05 42.9		809	
1993 OG <sub>11</sub>	1993 07 20.22222	19 58 25.04	-19 31 19.6		809	(5141)	1993 07 24.16042	19 54 29.92	-19 19 20.6		809	
1993 OG <sub>11</sub>	1993 07 24.16042	19 54 17.79	-19 50 31.9		809							
9511 P-L	1993 07 20.19583	19 56 47.59	-19 47 54.2	18.1	809							
9511 P-L	1993 07 20.20903	19 56 46.86	-19 47 56.5		809							
9511 P-L	1993 07 20.22222	19 56 46.19	-19 47 57.8		809							
9511 P-L	1993 07 24.16042	19 53 34.96	-19 57 45.6		809							
(15)	1993 07 24.16042	19 40 43.11	-20 22 36.5	9.0	809							
(548)	1993 07 20.19583	19 42 37.67	-22 06 17.2	17.3	809							
(548)	1993 07 20.20903	19 42 36.76	-22 06 20.4		809							
(548)	1993 07 20.22222	19 42 35.85	-22 06 23.7		809							
(548)	1993 07 24.16042	19 38 20.82	-22 22 33.2		809							
(832)	1993 07 20.19583	19 58 34.87	-19 33 35.2	17.9	809							
(832)	1993 07 20.20903	19 58 34.09	-19 33 36.6		809							
(832)	1993 07 20.22222	19 58 33.37	-19 33 38.7		809							
(2548)	1993 07 20.19583	19 59 01.42	-22 01 18.0	17.5	809							
(2548)	1993 07 20.20903	19 59 00.41	-22 01 14.7		809							
(2548)	1993 07 20.22222	19 58 59.46	-22 01 10.0		809							
(2548)	1993 07 24.16042	19 54 29.33	-21 41 43.1		809							
(2656)	1993 07 20.19583	19 48 17.39	-23 03 33.0	18.0	809							
(2656)	1993 07 20.20903	19 48 16.42	-23 03 35.6		809							
							<b>816 Rand Observatory</b>					
							G. R. Viscome, 100 Sentinel Road, Lake Placid, NY 12946, U.S.A.					
							0.37-m <i>f</i> /6 reflector + telecompressor + CCD					
							GSC					
					809	1993 MF	1993 08 08.14154	23 00 46.00	+39 47 34.9	13.4	816	
					809	1993 MF	1993 08 08.14411	23 00 46.51	+39 47 37.8	13.4	816	
					809	1993 MF	1993 08 08.24130	23 01 05.46	+39 49 21.2	13.6	816	
					809	1993 MF	1993 08 08.24346	23 01 05.88	+39 49 23.4	13.6	816	
					809	1993 MF	1993 08 22.15027	23 42 13.44	+41 24 13.1		816	
					809	1993 MF	1993 08 22.21781	23 42 22.46	+41 24 07.5		816	
					809	1993 MF	1993 08 27.10960	23 53 13.81	+40 58 56.4		816	
					809	1993 MF	1993 08 27.11354	23 53 14.28	+40 58 55.2	13.7	816	
					809	1993 MF	1993 09 14.21495	00 17 46.10	+36 08 12.3		816	
					809	1993 MF	1993 09 14.22514	00 17 46.47	+36 07 58.2		816	
					809	1993 MF	1993 09 15.14350	00 18 29.10	+35 46 28.7		816	
					809	1993 MF	1993 09 15.15010	00 18 29.34	+35 46 19.5		816	
					809	(654)	1993 08 27.08968	21 01 55.35	+04 16 17.6		816	
					809	(654)	1993 08 27.09065	21 01 55.29	+04 16 17.5		816	
					809	(1109)	1993 07 21.11066	17 04 05.87	-22 37 58.2		816	

(1109)	1993 07 21.11826	17 04 05.75	-22 37 57.7	816
(1222)	1993 08 27.16151	22 30 08.95	+27 44 06.8	816
(1222)	1993 08 27.17157	22 30 08.48	+27 44 05.0	816
(3940)	1993 07 24.10748	17 04 37.53	+13 52 02.4	816
(3940)	1993 07 24.11139	17 04 37.47	+13 51 59.9	816
(3940)	1993 07 25.12941	17 04 28.42	+13 40 59.5	816
(3940)	1993 07 25.13938	17 04 28.29	+13 40 53.0	816
(4357)	1993 07 18.19476	19 38 08.01	-05 11 31.8	816
(4357)	1993 07 18.21008	19 38 07.22	-05 11 33.9	816
(4357)	1993 07 24.15523	19 33 30.52	-05 28 13.6	816
(4357)	1993 07 24.15678	19 33 30.42	-05 28 14.1	816
(4729)	1993 07 18.22319	20 38 42.25	-14 57 24.7	816
(4729)	1993 07 18.22990	20 38 41.89	-14 57 25.4	816

**868 Hidaka Observatory**

S. Shirai, 13-2, Nishi-Kagaya 2 Chome, Suminoe-Ku, Osaka, 559 Japan

Observer S. Shirai

Measurer S. Hayakawa

0.25-m  $f/3.4$  hyperboloid astrocamera

GSC

1993 TQ	* 1993 10 09.56569	02 08 13.16	+01 37 33.2	16.0	868
1993 TQ	1993 10 09.59094	02 08 11.78	+01 37 30.5		868
1993 TQ	1993 10 10.58764	02 07 20.72	+01 35 53.6		868
1993 TQ	1993 10 10.61439	02 07 19.58	+01 35 51.6		868

**871 Akou**

K. Kawanishi, 2045-1, Kariya, Akou, Hyogo-Ken 678-02, Japan

0.33-m  $f/3.3$  reflector + CCD

GSC

1993 TO <sub>1</sub>	1993 10 19.64302	02 21 07.58	+07 49 45.8	15.8 V	871
1993 TO <sub>1</sub>	1993 10 19.64649	02 21 07.46	+07 49 49.7		871
1993 TO <sub>1</sub>	1993 10 19.64937	02 21 07.00	+07 49 51.9		871
1993 TO <sub>1</sub>	1993 10 19.65389	02 21 06.50	+07 49 54.8		871

**894 Otomo**

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

0.25-m  $f/3.4$  reflector

PPM

1982 SM <sub>6</sub>	1993 09 14.67743	23 53 25.33	-03 42 01.2	16.5	894
1982 SM <sub>6</sub>	1993 09 14.69063	23 53 24.49	-03 42 01.1		894
1993 OW <sub>3</sub>	1993 07 15.70451	20 02 24.95	-19 04 19.6	16.3	894
1993 OW <sub>3</sub>	1993 07 15.71771	20 02 24.37	-19 04 24.1		894
1993 RE	1993 09 14.73300	00 01 41.33	+03 41 09.7	17.0	894
1993 RE	1993 09 14.74688	00 01 40.66	+03 41 06.6		894
1993 RH	1993 09 14.76007	00 04 57.47	-01 05 52.1	15.0	894
1993 RH	1993 09 14.77396	00 04 56.52	-01 05 49.7		894
1993 RH	1993 09 25.69802	23 52 22.18	-00 19 07.9		894
1993 RH	1993 09 25.70972	23 52 21.41	-00 19 05.8		894
1993 RA <sub>2</sub>	1993 09 14.67743	23 52 45.36	-02 17 58.9	16.7	894
1993 RA <sub>2</sub>	1993 09 14.69063	23 52 44.88	-02 18 05.9		894
1993 RU <sub>2</sub>	* 1993 09 14.70660	23 49 29.89	+03 55 43.6	15.0	894
1993 RU <sub>2</sub>	1993 09 14.71979	23 49 29.29	+03 55 35.6		894

1993 RU <sub>2</sub>	1993 09 25.67535	23 42 04.91	+02 02 03.5		894
1993 RU <sub>2</sub>	1993 09 25.68611	23 42 04.55	+02 01 56.9		894
1993 TP <sub>1</sub>	* 1993 10 10.62604	00 55 27.35	+01 55 22.2	16.0	894
1993 TP <sub>1</sub>	1993 10 10.63924	00 55 26.42	+01 55 22.9		894
1993 TP <sub>1</sub>	1993 10 18.63854	00 47 41.05	+02 00 53.0	16.0	894
1993 TP <sub>1</sub>	1993 10 18.65804	00 47 39.73	+02 00 53.5		894
(240)	1993 10 10.62604	00 56 07.26	+01 53 28.0		894
(240)	1993 10 10.63924	00 56 06.59	+01 53 24.5		894
(240)	1993 10 18.63854	00 49 37.89	+01 13 03.7		894
(240)	1993 10 18.65804	00 49 36.99	+01 12 58.1		894
(312)	1993 09 14.67743	23 53 02.94	-04 00 28.8		894
(312)	1993 09 14.69063	23 53 02.20	-04 00 30.5		894
(396)	1993 09 14.73300	00 01 32.98	+04 23 00.9		894
(396)	1993 09 14.74688	00 01 32.27	+04 22 55.5		894
(3251)	1993 09 14.76007	00 05 06.39	-00 10 24.8		894
(3251)	1993 09 14.77396	00 05 05.85	-00 10 29.9		894
(5089)	1993 09 14.70660	23 51 08.98	+03 21 24.6		894
(5089)	1993 09 14.71979	23 51 08.20	+03 21 24.3		894

**896 Yatsugatake South Base Observatory**

O. Muramatsu, 119-1, 2-8 Sakurazutsumi, Musashino, Tokyo 180, Japan

Observer Y. Kushida

Measurer O. Muramatsu

0.25-m  $f/3.4$  reflector

GSC

(4063)	1993 05 26.65312	17 12 15.33	-08 33 53.3	16.5	W 896
(4063)	1993 05 26.68368	17 12 14.39	-08 33 54.9	16.5	W 896

**900 Kiryuu Observatory, Ohtsu**

Y. Ikari, Katsube 626, Moriyama, Shiga-Ken, 524 Japan

0.26-m  $f/2.9$  reflector + CCD

GSC

1993 RS	1993 09 27.56116	00 00 13.74	+13 15 17.4		900
1993 RS	1993 09 27.57981	00 00 11.49	+13 15 27.8	15.5 V	900
1993 RS	1993 10 04.54977	23 47 12.84	+14 18 51.6		900
1993 RS	1993 10 04.55571	23 47 12.20	+14 18 53.0		900
1993 TC	1993 10 13.61366	01 40 12.11	+09 59 02.7		900
1993 TC	1993 10 13.63123	01 40 10.21	+09 59 14.8	15.5 V	900

**950 La Palma**

A. Fitzsimmons, Physics Department, Queen's University, Belfast BT7 1NN, Northern Ireland

Observers A. Fitzsimmons, D. O'Ceallaigh, I. P. Williams

2.5-m Isaac Newton telescope + CCD

1992 QB <sub>1</sub>	1993 09 16.9417	00 05 13.02	+00 38 42.3		950
1992 QB <sub>1</sub>	1993 09 17.0772	00 05 12.42	+00 38 38.6		950
1992 QB <sub>1</sub>	1993 09 23.0103	00 04 45.43	+00 35 47.2	22.4 R	950
1992 QB <sub>1</sub>	1993 09 23.1550	00 04 44.78	+00 35 42.6	22.3 R	950
1993 RO	1993 09 20.0877	23 21 53.2	-04 04 29		950
1993 SB	* 1993 09 16.9708	23 54 12.34	-00 29 40.9		950
1993 SB	1993 09 17.1034	23 54 11.49	-00 29 45.4		950
1993 SB	1993 09 18.0133	23 54 06.47	-00 30 16.7		950
1993 SB	1993 09 18.1502	23 54 05.77	-00 30 22.3		950

1993 SB	1993 09 18.9420	23 54 01.31	-00 30 48.1		950	(6)	1989 02 24.80423	08 01 02.17	+17 51 52.9	975
1993 SB	1993 09 19.9982	23 53 55.46	-00 31 28.1		950	(6)	1989 02 24.81384	08 01 01.84	+17 51 56.1	975
1993 SB	1993 09 20.9737	23 53 49.99	-00 32 02.3	22.7 R	950	(6)	1989 03 03.79418	07 58 44.70	+18 40 57.6	975
1993 SB	1993 09 22.9511	23 53 38.91	-00 33 12.8		950	(6)	1989 03 03.79823	07 58 44.66	+18 40 59.7	975
1993 SC	* 1993 09 17.9845	23 55 17.77	-00 05 29.4		950	(6)	1989 03 03.80231	07 58 44.53	+18 41 02.1	975
1993 SC	1993 09 18.1750	23 55 16.72	-00 05 36.0		950	(6)	1989 03 03.80709	07 58 44.47	+18 41 03.2	975
1993 SC	1993 09 18.9667	23 55 12.45	-00 06 02.2		950	(6)	1989 03 03.81119	07 58 44.49	+18 41 04.6	975
1993 SC	1993 09 19.9487	23 55 07.22	-00 06 34.4		950	(6)	1989 03 03.81523	07 58 44.43	+18 41 07.1	975
1993 SC	1993 09 20.0330	23 55 06.64	-00 06 37.5		950	(7)	1989 02 23.83516	09 09 07.05	+07 35 10.7	975
1993 SC	1993 09 20.1416	23 55 06.16	-00 06 40.8		950	(7)	1989 02 23.83844	09 09 07.01	+07 35 10.9	975
1993 SC	1993 09 20.9996	23 55 01.34	-00 07 10.1	21.6 R	950	(7)	1989 02 23.84189	09 09 06.75	+07 35 12.2	975
1993 SC	1993 09 21.0351	23 55 01.32	-00 07 10.8		950	(7)	1989 02 23.84733	09 09 06.45	+07 35 14.7	975
1993 SC	1993 09 21.1858	23 55 00.48	-00 07 15.8	21.8 R	950	(7)	1989 02 23.85123	09 09 06.28	+07 35 13.7	975
1993 SC	1993 09 22.9830	23 54 50.73	-00 08 15.5	21.5 R	950	(7)	1989 02 23.85547	09 09 05.97	+07 35 16.6	975
1993 SC	1993 09 23.1257	23 54 49.95	-00 08 20.5	22.1 R	950	(7)	1989 03 03.82497	09 03 12.09	+08 10 01.6	975

**975 Valencia**

A. López G., Observatorio Astronómico de Valencia, Avda. Blasco Ibáñez 13,  
E-46010 Valencia, Spain

Observers A. López G., J. M. Martínez G., A. Ortiz G.

0.25-m  $f/15$  refractor

PPM

(3)	1989 04 16.85962	09 49 05.23	+11 19 16.8		975	(7)	1989 03 03.85156	09 03 10.96	+08 10 08.6	975
(3)	1989 04 16.86439	09 49 05.33	+11 19 17.3		975	(7)	1989 03 03.85529	09 03 10.72	+08 10 09.7	975
(3)	1989 04 16.86998	09 49 05.46	+11 19 19.7		975	(7)	1989 05 04.86356	09 17 07.82	+09 19 58.9	975
(3)	1989 04 16.87461	09 49 05.57	+11 19 20.2		975	(7)	1989 05 04.86888	09 17 08.07	+09 19 58.3	975
(3)	1989 04 16.87987	09 49 05.61	+11 19 21.2		975	(7)	1989 05 04.87467	09 17 08.46	+09 19 59.1	975
(3)	1989 04 16.88479	09 49 05.70	+11 19 22.2		975	(7)	1989 05 04.88002	09 17 08.81	+09 19 57.8	975
(3)	1989 04 28.85402	09 53 59.91	+11 45 10.8		975	(7)	1989 05 04.88566	09 17 09.04	+09 19 58.2	975
(3)	1989 04 28.85859	09 53 59.86	+11 45 10.9		975	(7)	1989 05 04.89102	09 17 09.31	+09 19 57.5	975
(3)	1989 04 28.87543	09 54 00.46	+11 45 10.4		975	(15)	1989 10 10.80425	21 38 21.17	+01 15 31.5	975
(3)	1989 04 28.88014	09 54 00.26	+11 45 08.7		975	(15)	1989 10 10.80818	21 38 21.10	+01 15 31.3	975
(3)	1989 04 28.88469	09 54 00.53	+11 45 08.2		975	(15)	1989 10 10.81186	21 38 21.14	+01 15 30.8	975
(3)	1989 04 28.88996	09 54 00.61	+11 45 09.3		975	(15)	1989 10 10.81773	21 38 21.06	+01 15 32.5	975
(3)	1989 04 28.89476	09 54 00.78	+11 45 12.0		975	(15)	1989 10 10.82146	21 38 21.15	+01 15 31.2	975
(3)	1989 04 28.89933	09 54 00.84	+11 45 09.1		975	(15)	1989 10 10.82508	21 38 21.03	+01 15 31.0	975
(3)	1989 05 04.91706	09 57 31.80	+11 49 32.5		975	(15)	1989 10 30.81479	21 45 23.42	+01 03 34.9	975
(3)	1989 05 04.92207	09 57 32.15	+11 49 32.8		975	(15)	1989 10 30.82101	21 45 23.63	+01 03 34.7	975
(4)	1989 10 10.77062	18 51 13.84	-26 01 53.1		975	(15)	1989 10 30.84112	21 45 24.42	+01 03 37.0	975
(4)	1989 10 10.77410	18 51 14.11	-26 01 53.4		975	(15)	1989 10 30.84514	21 45 24.58	+01 03 37.1	975
(4)	1989 10 10.77826	18 51 14.47	-26 01 53.2		975	(15)	1989 10 30.84896	21 45 24.74	+01 03 37.2	975
(4)	1989 10 10.78208	18 51 14.86	-26 01 53.1		975	(15)	1989 10 31.79518	21 46 01.89	+01 04 11.9	975
(4)	1989 10 10.78631	18 51 15.25	-26 01 53.1		975	(15)	1989 10 31.79923	21 46 02.04	+01 04 12.3	975
(4)	1989 10 10.79001	18 51 15.58	-26 01 53.1		975	(15)	1989 10 31.80331	21 46 02.21	+01 04 12.0	975
(4)	1989 10 31.76194	19 26 52.75	-25 25 29.4		975	(15)	1989 10 31.80823	21 46 02.41	+01 04 11.8	975
(4)	1989 10 31.76581	19 26 53.16	-25 25 28.8		975	(15)	1989 10 31.81263	21 46 02.60	+01 04 12.2	975
(4)	1989 10 31.76966	19 26 53.57	-25 25 27.8		975	(15)	1989 10 31.81691	21 46 02.77	+01 04 11.8	975
(4)	1989 10 31.77420	19 26 54.09	-25 25 27.5		975	(15)	1989 11 07.80925	21 51 19.64	+01 12 10.1	975
(4)	1989 10 31.77790	19 26 54.43	-25 25 27.1		975	(15)	1989 11 07.81793	21 51 20.00	+01 12 11.2	975
(4)	1989 10 31.78193	19 26 54.85	-25 25 26.7		975	(15)	1989 11 07.82213	21 51 20.10	+01 12 11.1	975
(6)	1989 02 24.78728	08 01 02.51	+17 51 43.5		975	(15)	1989 11 07.82630	21 51 20.46	+01 12 11.7	975
(6)	1989 02 24.79144	08 01 02.46	+17 51 45.7		975	(15)	1989 11 07.83020	21 51 20.64	+01 12 12.1	975
(6)	1989 02 24.79538	08 01 02.30	+17 51 46.9		975	(15)				

## ORBITAL ELEMENTS

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## Periodic Comet Helin-Lawrence (1993l)

Epoch 1993 June 22.0 TT = JDT 2449160.5

$T$ 1993 June 30.39583 TT		Nakano	
$q$	(2000.0)	P	Q
$n$	0.10425623	$\omega$ 163.73903	-0.24156382 +0.95510745
$a$	4.4709660	$\Omega$ 92.03683	-0.90833400 -0.16036814
$e$	0.3088433	$i$ 9.88210	-0.34143266 -0.24910203
$P$	9.45		

From 64 observations 1993 Apr. 21–Oct. 10, mean residual 1".09.

## Periodic Comet Urata-Niijima (1993q)

Epoch 1993 Aug. 1.0 TT = JDT 2449200.5

$T$ 1993 July 13.57827 TT		Marsden	
$q$	(2000.0)	P	Q
$n$	0.14833112	$\omega$ 21.48225	+0.61332912 -0.75948608
$a$	3.5343905	$\Omega$ 31.91260	+0.65168193 +0.33151828
$e$	0.5878653	$i$ 24.21407	+0.44624887 +0.55971111
$P$	6.64		

From 71 observations 1986–1993, mean residual 0".83.

## Comet Spacewatch (1992h)

Epoch 1993 Sept. 10.0 TT = JDT 2449240.5

$T$ 1993 Sept. 5.55024 TT		Nakano	
$q$	(2000.0)	P	Q
$z$	+0.0000212	$\omega$ 83.40119	-0.32726734 +0.88654705
	$\pm 0.0000036$	$\Omega$ 203.32377	+0.10375428 +0.37768056
$e$	0.9999363	$i$ 124.31848	+0.93921837 +0.26719230

From 154 observations 1992 May 1–1993 Sept. 26, mean residual 0".71.

## Periodic Comet West-Kohoutek-Ikemura (1993o)

Epoch 1994 Jan. 8.0 TT = JDT 2449360.5

$T$ 1993 Dec. 25.34762 TT		Nakano	
$q$	(2000.0)	P	Q
$n$	0.15364423	$\omega$ 359.97715	+0.10195938 -0.85676691
$a$	3.4524326	$\Omega$ 84.16767	+0.91278127 -0.12147041
$e$	0.5432835	$i$ 30.54099	+0.39551819 +0.50119398
$P$	6.41		

From 58 observations 1975–1993, mean residual 1".20. Nongravitational parameters

$$A_1 = -0.05 \pm 0.04, A_2 = -0.0993 \pm 0.0012.$$

## Comet Mueller (1993a)

Epoch 1994 Jan. 8.0 TT = JDT 2449360.5

$T$ 1994 Jan. 12.89417 TT		Nakano	
$q$	(2000.0)	P	Q
$z$	-0.0009959	$\omega$ 130.66695	+0.78249548 +0.40401006
	$\pm 0.0000026$	$\Omega$ 144.72281	-0.26794514 -0.46837386
$e$	1.0019295	$i$ 124.87827	+0.56205536 -0.78574919

From 286 observations 1992 Nov. 26–1993 Oct. 19, mean residual 0".83.

## Comet Mueller (1993p)

$T$  1994 Mar. 26.30852 TT

$q$ 0.9671264		(2000.0)		Marsden	
		P	Q		
	$\omega$ 261.05122	+0.21209962	-0.94973642		
	$\Omega$ 193.79179	+0.18541365	-0.19222091		
$e$ 1.0	$i$ 105.02089	-0.95949754	-0.24708673		

From 201 observations 1993 Aug. 16–Oct. 19.

## One-opposition minor planets

Planet	$H$	Epoch	$M$	$\omega$	$\Omega$	$i$	$e$	$a$	Arc	O	N	C
1992 SY <sub>5</sub>	14.5	920915	304.20	298.87	112.19	1.57	0.0903	2.9511	2	7	E	W
1992 SD <sub>6</sub>	16.0	920915	188.97	60.27	100.08	1.62	0.1854	2.4014	2	8	E	W
1992 SM <sub>6</sub>	16.0	920915	46.34	293.52	2.77	9.49	0.0617	2.6827	3	8	W	
1992 SM <sub>20</sub>	15.5	920915	347.63	278.22	91.24	2.23	0.1391	2.5869	7	9	W	
1992 SU <sub>21</sub>	12.0	920915	307.01	49.63	17.32	6.85	0.2099	3.9216	7	9	E	W
1992 SW <sub>21</sub>	15.5	920915	63.12	265.22	12.06	6.99	0.1102	2.3408	26	0	W	
1992 SX <sub>21</sub>	15.5	920915	331.74	351.26	44.90	3.21	0.2224	2.7676	6	8	W	
1992 SZ <sub>21</sub>	13.5	920915	103.82	230.36	6.24	11.98	0.1091	3.0318	7	9	W	
1992 SA <sub>22</sub>	14.0	920915	101.29	212.37	26.79	4.87	0.1092	2.7476	7	9	W	
1992 SB <sub>22</sub>	14.0	920915	23.00	204.54	120.64	3.05	0.0865	3.0655	7	9	W	
1992 SN <sub>24</sub>	15.5	920915	354.06	126.70	235.53	5.88	0.1474	2.3744	7	7	W	
1992 SQ <sub>24</sub>	13.0	920915	208.26	304.61	204.28	10.15	0.0514	2.9914	22	9	W	
1992 SR <sub>24</sub>	13.5	920915	15.43	57.44	273.11	4.19	0.2170	2.5414	22	9	W	
1992 SS <sub>24</sub>	14.0	920915	327.73	114.10	283.10	5.34	0.1327	2.8476	22	9	W	
1993 AM	13.5	930113	352.04	184.69	304.07	11.27	0.1207	2.7022	13	7	W	
1993 BS <sub>2</sub>	13.0	930113	174.82	191.97	116.63	7.89	0.1200	2.2165	3	7	E	W
1993 BT <sub>4</sub>	13.0	930113	116.82	255.75	106.43	3.73	0.1532	3.0713	2	0	E	W
1993 BZ <sub>4</sub>	14.0	930113	267.44	127.77	129.70	8.16	0.2992	2.6930	2	8	E	W
1993 BJ <sub>14</sub>	14.5	930202	17.86	190.20	286.69	5.50	0.0936	2.8475	34	6	W	
1993 DR <sub>2</sub>	13.0	930202	134.59	28.39	327.75	8.51	0.0615	3.0278	25	8	W	
1993 FA <sub>2</sub>	13.0	930222	354.25	86.67	98.34	6.16	0.1114	3.1913	27	7	W	
1993 GA <sub>1</sub>	14.5	930403	186.24	357.11	7.58	6.66	0.0886	2.3167	20	9	W	
1993 HM <sub>4</sub>	17.0	930403	279.91	240.12	51.34	9.56	0.1248	2.6220	2	0	W	
1993 HN <sub>4</sub>	17.0	930403	304.92	202.69	58.66	7.10	0.0913	2.4037	2	8	W	
1993 HV <sub>4</sub>	16.0	930403	344.18	160.97	55.04	8.75	0.0853	3.1820	4	0	W	
1993 HK <sub>5</sub>	17.0	930423	267.80	290.85	23.45	2.48	0.0637	2.1920	2	7	E	W
1993 KO	13.9	930602	15.10	27.01	198.71	5.71	0.1180	2.2205	25	0	B	

1993 KY	16.5	930513	324.42	133.57	147.22	2.94	0.1938	2.4131	4	8	W	1993 RB	14.0	930910	220.73	161.30	337.75	8.33	0.0526	2.2230	24	0	W
1993 MC	13.0	930712	20.40	37.17	220.71	12.92	0.2331	2.5550	57	8	W	1993 RC	14.0	930910	29.11	131.06	187.36	17.19	0.1377	3.2115	28	0	W
1993 NF	13.0	930712	353.48	184.26	120.68	19.28	0.2290	2.8644	9	9	M	1993 RH	12.5	930930	14.95	338.45	359.42	14.93	0.2257	2.6538	38	0	M
1993 OC	13.0	930801	349.25	25.28	299.54	23.73	0.1945	2.4611	36	7	W	1993 RK	13.5	930910	359.40	11.70	344.00	12.29	0.2664	2.5802	29	0	M
1993 OM <sub>1</sub>	17.5	930801	18.49	344.77	306.34	11.85	0.1592	2.6877	20	9	W	1993 RQ	17.5	930910	6.61	357.52	336.76	10.74	0.3556	2.3825	4	9	W
1993 OU <sub>1</sub>	15.0	930622	304.83	230.21	157.99	5.39	0.2238	3.1536	44	0	W	1993 RR	16.0	930910	344.81	36.38	4.18	7.51	0.3505	2.5765	9	0	N
1993 OY <sub>2</sub>	14.0	930801	23.07	317.80	352.41	17.21	0.2035	2.6122	46	0	W	1993 RS	14.0	930930	331.97	46.10	351.64	22.46	0.0479	1.8823	22	0	N
1993 OL <sub>3</sub>	15.5	930712	320.45	57.96	290.49	2.51	0.1675	2.3916	5	7	M	1993 RZ <sub>1</sub>	14.4	930930	30.19	64.17	253.31	0.90	0.1944	2.3127	9	8	N
1993 OW <sub>3</sub>	14.5	930712	339.85	197.18	128.12	2.87	0.2114	2.2896	4	0	M	1993 RA <sub>2</sub>	14.7	930910	7.98	170.22	165.92	4.07	0.3112	2.5116	9	0	N
1993 OA <sub>4</sub>	14.0	930712	358.56	174.96	122.47	2.83	0.0898	2.8292	5	7	W	1993 RC <sub>2</sub>	13.8	930930	339.22	38.30	4.09	13.97	0.2924	2.6162	26	8	N
1993 OD <sub>4</sub>	15.0	930712	50.00	111.45	119.81	7.20	0.1481	2.8332	5	7	W	1993 RD <sub>2</sub>	12.7	930930	30.20	150.87	175.02	15.75	0.1220	2.6224	23	8	N
1993 OK <sub>4</sub>	14.5	930712	345.90	147.22	168.26	0.27	0.1590	3.0716	5	7	W	1993 RE <sub>2</sub>	13.3	930930	35.64	313.97	8.61	9.88	0.0777	2.2557	4	6	E N
1993 OM <sub>4</sub>	16.5	930712	25.58	131.58	121.78	1.71	0.2365	2.3847	5	7	W	1993 RP <sub>2</sub>	15.0	930910	4.96	36.02	310.94	3.95	0.1948	2.2718	7	5	W
1993 OC <sub>5</sub>	16.5	930712	10.17	348.05	293.26	1.25	0.1588	2.4957	5	6	W	<b>1993 RR<sub>2</sub></b>	<b>15.5</b>	<b>930910</b>	<b>11.83</b>	<b>161.91</b>	<b>155.05</b>	<b>11.38</b>	<b>0.4898</b>	<b>2.6610</b>	<b>34</b>	<b>0</b>	<b>W</b>
1993 OH <sub>5</sub>	15.0	930712	358.39	147.19	151.21	0.57	0.2165	2.9098	5	7	W	1993 RZ <sub>2</sub>	16.0	930821	358.04	343.89	12.05	9.13	0.1885	3.0443	2	0	W
1993 OD <sub>6</sub>	15.5	930712	320.45	50.87	298.60	3.07	0.1646	2.3325	5	7	W	1993 SA	17.0	930910	346.36	202.74	178.91	7.93	0.1995	2.3398	10	0	W
1993 OG <sub>6</sub>	15.5	930712	321.44	68.27	291.16	1.55	0.2671	2.5422	5	7	W	<b>1993 SB</b>	<b>8.0</b>	<b>930910</b>	<b>0.00</b>	<b>3.16</b>	<b>355.15</b>	<b>2.13</b>	<b>0.0000</b>	<b>33.0786</b>	<b>6</b>	<b>8</b>	<b>E M</b>
<b>1993 OM<sub>7</sub></b>	<b>18.5</b>	<b>930712</b>	<b>231.31</b>	<b>142.44</b>	<b>297.71</b>	<b>25.96</b>	<b>0.2331</b>	<b>1.3398</b>	<b>4</b>	<b>0</b>	<b>M</b>	<b>1993 SC</b>	<b>7.0</b>	<b>930910</b>	<b>0.00</b>	<b>3.69</b>	<b>355.06</b>	<b>5.73</b>	<b>0.0000</b>	<b>34.3786</b>	<b>6</b>	<b>0</b>	<b>E M</b>
1993 PE	14.0	930910	348.08	77.70	267.09	3.93	0.0999	2.3816	63	0	W	1993 SE	13.5	930930	142.05	244.89	321.65	5.50	0.2114	2.3088	25	0	W
1993 PC <sub>5</sub>	13.0	930821	347.80	179.77	167.29	11.81	0.0891	3.0793	25	8	W	1993 SF	15.0	930910	269.26	141.77	317.21	4.50	0.1099	2.2618	23	0	W
1993 PO <sub>5</sub>	14.0	930821	16.41	18.60	292.91	5.84	0.1496	3.2077	32	8	W	1993 SO	14.5	930821	349.87	176.25	168.25	8.27	0.0951	2.3722	35	0	W
1993 PB <sub>6</sub>	14.0	930821	315.63	220.27	181.68	4.14	0.2443	2.9681	26	8	W	1993 SZ	13.7	930910	338.91	175.33	215.80	3.17	0.1577	2.2862	25	6	N
1993 PC <sub>6</sub>	13.5	930821	354.79	181.83	155.96	25.10	0.1973	2.3838	30	0	W	1993 SA <sub>1</sub>	13.3	930910	34.45	107.08	198.89	11.63	0.2686	2.5846	25	6	N
1993 PL <sub>6</sub>	15.0	930801	8.02	108.91	209.16	2.36	0.1684	2.7768	4	8	E M	1993 SB <sub>1</sub>	12.7	930910	71.27	298.84	351.91	5.99	0.0423	2.3426	25	6	N
1993 PP <sub>6</sub>	15.5	930801	36.13	334.11	299.85	3.97	0.2039	2.2506	4	8	M	1993 SD <sub>1</sub>	14.1	930930	355.94	332.43	39.40	4.00	0.1956	2.3642	24	7	N
1993 PS <sub>6</sub>	15.0	930801	309.58	240.59	168.53	5.95	0.2801	2.4435	4	8	E M	1993 SH <sub>1</sub>	13.6	930910	16.67	163.37	175.10	6.82	0.1463	2.3119	25	6	N
1993 PX <sub>6</sub>	15.5	930801	358.23	12.39	317.42	6.47	0.2415	2.4921	4	8	M	1993 SN <sub>1</sub>	14.4	930910	5.08	190.89	160.94	5.75	0.1904	2.2330	25	6	N
1993 PY <sub>6</sub>	13.5	930801	291.84	252.18	177.78	5.22	0.2473	2.9448	4	8	E M	1993 SQ <sub>1</sub>	12.9	930910	351.97	344.55	29.37	10.03	0.1863	2.7405	25	6	N
1993 PZ <sub>6</sub>	14.0	930801	6.53	25.09	299.33	3.60	0.0993	2.8464	4	8	E M	1993 SS <sub>1</sub>	13.1	930910	308.95	283.13	146.86	3.99	0.1476	2.5744	25	6	N
1993 PE <sub>7</sub>	13.5	930801	24.73	115.87	168.25	6.32	0.3318	3.8433	4	8	E M	1993 ST <sub>1</sub>	11.9	930910	340.20	217.26	173.30	11.19	0.0988	3.1300	25	6	N
1993 PH <sub>7</sub>	15.0	930801	300.54	233.49	177.58	3.29	0.1964	2.3408	4	7	E M	1993 SV <sub>1</sub>	11.7	930910	52.72	214.02	97.15	3.31	0.0268	2.8271	25	6	N
1993 PL <sub>7</sub>	14.5	930801	39.73	109.34	161.41	13.51	0.2294	2.7512	4	8	E M	1993 SA <sub>2</sub>	13.7	930930	10.20	12.98	333.25	9.72	0.2171	2.4496	17	6	N
1993 PM <sub>7</sub>	16.0	930801	6.75	72.73	243.01	0.47	0.2419	2.4877	4	8	E M	1993 SB <sub>2</sub>	13.9	930930	31.67	352.95	327.80	4.45	0.1265	2.1913	17	6	N
1993 PN <sub>7</sub>	15.0	930801	5.37	33.64	287.81	2.36	0.2030	2.6325	3	5	M	1993 SD <sub>2</sub>	11.3	930930	276.90	236.04	228.66	7.48	0.1860	3.1026	17	6	N
1993 PO <sub>7</sub>	13.5	930801	91.40	260.14	328.79	9.49	0.1276	2.8102	4	8	E M	1993 SG <sub>2</sub>	14.4	930930	357.12	19.47	346.79	4.44	0.1546	2.2693	18	0	N
1993 PP <sub>7</sub>	16.0	930801	8.49	0.29	315.54	1.72	0.1499	2.2209	4	8	E M	1993 SH <sub>2</sub>	13.0	930930	318.80	56.41	356.74	4.60	0.1286	2.5521	17	6	N
1993 PT <sub>7</sub>	16.5	930801	13.01	148.69	156.89	3.28	0.2090	2.1943	3	5	E M	1993 SK <sub>2</sub>	14.5	930930	32.73	315.04	359.15	13.71	0.2435	2.5806	25	6	N
1993 PW <sub>7</sub>	13.5	930801	347.09	16.32	331.77	3.38	0.0847	2.7906	4	8	E M	1993 SN <sub>2</sub>	16.0	930930	324.91	144.81	264.76	1.94	0.1574	2.3360	27	0	W
1993 QN	12.5	930821	357.15	48.35	314.09	31.33	0.2900	2.6263	26	8	W	1993 SO <sub>2</sub>	13.5	930930	174.17	336.48	208.44	7.53	0.1069	2.7934	27	0	W
1993 QO	13.0	930910	329.75	77.60	314.09	21.94	0.2856	2.2983	60	0	W	1993 SS <sub>2</sub>	12.0	930910	108.27	128.14	110.11	6.29	0.2047	2.2399	2	6	E W
1993 QS	13.0	930821	353.62	176.48	164.14	13.26	0.2531	2.4476	26	8	W	1993 ST <sub>2</sub>	15.5	930910	2.54	157.54	191.78	4.53	0.2049	2.1407	8	0	M
1993 QW	14.0	930821	13.75	160.78	157.28	25.63	0.2288	2.2698	24	8	W	1993 SY <sub>2</sub>	15.5	930910	333.16	92.84	302.70	3.12	0.2049	2.6756	3	4	M
1993 QY	13.0	930910	335.78	235.95	156.36	28.33	0.3251	2.5954	60	0	W	1993 SZ <sub>2</sub>	18.0	930910	18.08	354.27	322.20	1.65	0.3166	2.1650	3	4	E M
1993 QZ	13.0	930910	353.51	182.90	164.15	21.84	0.1582	2.3694	60	0	W	1993 SB <sub>3</sub>	14.0	930910	273.82	270.19	192.10	5.71	0.1763	2.8657	3	4	E M
1993 QA <sub>1</sub>	13.0	930821	330.46	248.58	125.61	11.00	0.2451	2.6906	27	8	W	1993 SC <sub>3</sub>	15.5	930910	30.24	121.27	194.09	7.60	0.1440	2.4905	3	4	E M
1993 QB <sub>1</sub>	13.0	930821	22.29	199.79	94.87	3.92	0.1748	2.2661	27	8	W	1993 SD <sub>3</sub>	16.5	930910	354.56	159.55	203.35	1.87	0.2302	2.4160	3	4	E M
1993 QD <sub>1</sub>	13.5	930821	342.24	17.13	340.30	13.65	0.2632	2.6212	26	6	W	1993 SE <sub>3</sub>	14.6	930910	311.67	225.50	205.89	4.05	0.2604	2.4938	3	6	E N
1993 QE <sub>1</sub>	12.0	930821	6.02	195.96	124.20	14.44	0.1623	2.6321	28	8	W	1993 SG <sub>3</sub>	15.5	930930	237.28	326.32	168.50	3.68	0.1248	2.3276	26	0	W
1993 QF <sub>1</sub>	13.0	930801	311.35	55.19	332.29	20.09	0.0252	3.1091	3	8	M	1993 TC	14.0	930930	32.34	292.53	23.81	21.73	0.3260	2.3365	7	0	W
1993 QJ <sub>1</sub>	14.0	930801	72.92	89.26	167.09	9.43	0.0386	2.5182	3	8	E M	1993 TD	14.0	930930	341.75	37.12	4.19	10.51	0.1946	2.4595	9	0	W
1993 QK <sub>1</sub>	14.0	930801	67.15	325.11	281.33	2.70	0.1782	2.4988	3	8	E M	1993 TP	12.5	930930	357.59	327.71	41.22	6.80	0.2184	3.1561	4	6	E W</



<b>1993 TS<sub>2</sub></b>	<b>17.5</b>	<b>931020</b>	<b>42.40</b>	<b>70.91</b>	<b>230.86</b>	<b>4.44</b>	<b>0.3827</b>	<b>2.1331</b>	<b>9 0</b>	<b>M</b>
1993 TT <sub>2</sub>	18.0	931020	59.91	57.23	242.93	2.93	0.2497	2.1892	9 0	M
<b>1993 UA</b>	<b>25.0</b>	<b>931020</b>	<b>8.03</b>	<b>330.09</b>	<b>27.15</b>	<b>4.60</b>	<b>0.5258</b>	<b>2.0251</b>	<b>3 0</b>	<b>M</b>
<b>1993 UB</b>	<b>17.0</b>	<b>931020</b>	<b>346.14</b>	<b>20.78</b>	<b>32.25</b>	<b>22.00</b>	<b>0.3569</b>	<b>1.8644</b>	<b>2 7</b>	<b>W</b>
<b>1993 UC</b>	<b>14.5</b>	<b>931020</b>	<b>327.98</b>	<b>322.73</b>	<b>169.93</b>	<b>30.96</b>	<b>0.6788</b>	<b>2.5186</b>	<b>5 7</b>	<b>W</b>

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(57) Mnemosyne	Obs. 1211	M	316.14819	$\omega$	215.52891					
H 7.03 G 0.15	Opp. 100	n	0.17639183	$\Omega$	199.44383					
rms res. 0".91 (M-C)	1859–1991	e	0.1192297	i	15.21105					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(79) Eurynome	Obs. 844	M	17.74789	$\omega$	200.10553					
H 7.96 G 0.25	Opp. 78	n	0.25793473	$\Omega$	207.01492					
rms res. 1".05 (M-C)	1863–1991	e	0.1936586	i	4.62564					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(120) Lachesis	Obs. 274	M	24.50703	$\omega$	235.13432					
H 7.75 G 0.15	Opp. 64	n	0.17925667	$\Omega$	341.63429					
rms res. 1".03 (M-C)	1872–1991	e	0.0644891	i	6.95728					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(123) Brunhild	Obs. 156	M	72.35445	$\omega$	123.80117					
H 8.89 G 0.15	Opp. 44	n	0.22278286	$\Omega$	308.22343					
rms res. 1".04 (M-C)	1872–1990	e	0.1199357	i	6.41526					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(141) Lumen	Obs. 229	M	236.01754	$\omega$	57.69677					
H 8.2 G 0.15	Opp. 42	n	0.22622885	$\Omega$	318.91117					
rms res. 1".02 (M-C)	1875–1988	e	0.2140594	i	11.88006					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(142) Polana	Obs. 175	M	151.00689	$\omega$	292.41060					
H 10.27 G 0.15	Opp. 43	n	0.26208408	$\Omega$	291.46493					
rms res. 0".94 (M-V)	1875–1990	e	0.1362222	i	2.23909					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(144) Vibilia	Obs. 238	M	72.84429	$\omega$	293.21125					
H 7.91 G 0.17	Opp. 54	n	0.22794027	$\Omega$	76.72716					
rms res. 0".99 (M-C)	1875–1990	e	0.2343946	i	4.81453					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(146) Lucina	Obs. 250	M	196.49501	$\omega$	145.78907					
H 8.20 G 0.11	Opp. 54	n	0.21977874	$\Omega$	84.34172					
rms res. 1".03 (M-C)	1875–1991	e	0.0638485	i	13.08680					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(163) Erigone	Obs. 195	M	222.36113	$\omega$	297.28481					
H 9.47 G -0.04	Opp. 44	n	0.27073289	$\Omega$	160.45683					
rms res. 1".04 (M-C)	1876–1992	e	0.1923881	i	4.79906					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(165) Loreley	Obs. 210	M	99.33654	$\omega$	352.19818					
H 7.65 G 0.15	Opp. 46	n	0.17791721	$\Omega$	303.05755					
rms res. 1".02 (M-C)	1876–1991	e	0.0757712	i	11.24342					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(166) Rhodope	Obs. 108	M	199.40337	$\omega$	263.96772					
H 9.89 G 0.15	Opp. 24	n	0.22356805	$\Omega$	129.27048					
rms res. 1".03 (M-C)	1876–1989	e	0.2108524	i	11.99720					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(203) Pompeja	Obs. 154	M	63.48858	$\omega$	56.49339					
H 8.76 G 0.15	Opp. 48	n	0.21773039	$\Omega$	348.27513					
rms res. 1".01 (M-V)	1879–1990	e	0.0605045	i	3.18428					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(216) Kleopatra	Obs. 1106	M	289.93154	$\omega$	179.49645					
H 7.30 G 0.29	Opp. 64	n	0.21123039	$\Omega$	215.71398					
rms res. 0".74 (M-C)	1880–1990	e	0.2523126	i	13.13287					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(255) Oppavia	Obs. 93	M	287.20611	$\omega$	153.67276					
H 10.39 G 0.15	Opp. 32	n	0.21656785	$\Omega$	14.00834					
rms res. 0".92 (M-C)	1886–1988	e	0.0771621	i	9.47984					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Bowell									
(263) Dresda	Obs. 91	M	331.37021	$\omega$	161.45751					
H 10.40 G 0.15	Opp. 28	n	0.20101980	$\Omega$	216.82169					
rms res. 1".00 (M-C)	1905–1993	e	0.0793944	i	1.30832					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(310) Margarita	Obs. 141	M	178.37666	$\omega$	322.85842					
H 10.3 G 0.15	Opp. 38	n	0.21457806	$\Omega$	229.91645					
rms res. 1".10 (M-C)	1891–1993	e	0.1133041	i	3.16015					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(312) Pierretta	Obs. 97	M	101.64918	$\omega$	261.33044					
H 8.89 G 0.15	Opp. 30	n	0.21226420	$\Omega$	6.84836					
rms res. 1".04 (M-C)	1891–1991	e	0.1590113	i	9.03595					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(347) Pariana	Obs. 167	M	255.54075	$\omega$	84.97184					
H 8.96 G 0.15	Opp. 38	n	0.23311972	$\Omega$	85.96852					
rms res. 1".06 (M-C)	1892–1991	e	0.1614281	i	11.70575					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(354) Eleonora	Obs. 1459	M	197.96592	$\omega$	4.99110					
H 6.44 G 0.37	Opp. 71	n	0.21072931	$\Omega$	140.72204					
rms res. 0".92 (M-C)	1893–1993	e	0.1163828	i	18.42757					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(395) Delia	Obs. 129	M	274.44091	$\omega$	10.89780					
H 10.38 G 0.15	Opp. 28	n	0.21217221	$\Omega$	259.87287					
rms res. 1".01 (M-C)	1894–1991	e	0.0875139	i	3.35529					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5	Goffin									
(486) Cremona	Obs. 81	M	171.54961	$\omega$	124.09839					
H 10.7 G 0.15	Opp. 25	n	0.27326171	$\Omega$	94.42224					
rms res. 1".00 (M-V)	1902–1992	e	0.1638995	i	11.08036					

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(488) Kreusa**      Obs. 167    *M* 199.51664       $\omega$  69.40423  
*H* 7.81    *G* 0.15      Opp. 46    *n* 0.17636277     $\Omega$  85.17052  
rms res. 0''98    (M-C)      1901–1991    *e* 0.1766508      *i* 11.49799

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(492) Gismonda**      Obs. 131    *M* 247.62055       $\omega$  290.17634  
*H* 9.8      *G* 0.15      Opp. 35    *n* 0.17873855     $\Omega$  46.96538  
rms res. 1''02    (M-C)      1902–1991    *e* 0.1739669      *i* 1.63126

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(545) Messalina**      Obs. 103    *M* 342.88327       $\omega$  322.34581  
*H* 8.84    *G* 0.15      Opp. 32    *n* 0.17265263     $\Omega$  334.61570  
rms res. 1''03    (M-C)      1904–1992    *e* 0.1749886      *i* 11.10949

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(598) Octavia**      Obs. 92     *M* 203.99804       $\omega$  291.06013  
*H* 9.53    *G* 0.15      Opp. 33    *n* 0.21418004     $\Omega$  92.04774  
rms res. 0''91    (M-C)      1906–1991    *e* 0.2474862      *i* 12.20903

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(609) Fulvia**      Obs. 91     *M* 111.69672       $\omega$  126.04801  
*H* 10.00    *G* 0.15      Opp. 27    *n* 0.18153611     $\Omega$  165.66889  
rms res. 1''08    (M-C)      1906–1991    *e* 0.0335354      *i* 4.17310

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(617) Patroclus**      Obs. 125    *M* 163.89718       $\omega$  307.03835  
*H* 8.19    *G* 0.15      Opp. 36    *n* 0.08231103     $\Omega$  44.41103  
rms res. 0''91    (M-C)      1906–1990    *e* 0.1377671      *i* 22.03725

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(627) Charis**      Obs. 117    *M* 40.74204       $\omega$  178.46753  
*H* 9.95    *G* 0.15      Opp. 22    *n* 0.19951829     $\Omega$  142.81966  
rms res. 0''88    (M-C)      1907–1991    *e* 0.0600652      *i* 6.47584

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(630) Euphemia**      Obs. 91     *M* 172.78772       $\omega$  38.95747  
*H* 11.0    *G* 0.15      Opp. 20    *n* 0.23213321     $\Omega$  105.84567  
rms res. 0''93    (M-C)      1907–1990    *e* 0.1153235      *i* 13.86235

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(656) Beagle**      Obs. 147    *M* 84.82810       $\omega$  334.26997  
*H* 10.0    *G* 0.15      Opp. 35    *n* 0.17644829     $\Omega$  184.65259  
rms res. 0''98    (M-C)      1908–1992    *e* 0.1360473      *i* 0.51087

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(688) Melanie**      Obs. 80     *M* 45.27894       $\omega$  139.76190  
*H* 10.59    *G* 0.15      Opp. 20    *n* 0.22226430     $\Omega$  171.21269  
rms res. 1''06    (M-C)      1909–1992    *e* 0.1374553      *i* 10.24802

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(690) Wratislavia**      Obs. 160    *M* 39.87803       $\omega$  116.88248  
*H* 7.76    *G* 0.15      Opp. 38    *n* 0.17703023     $\Omega$  253.47089  
rms res. 0''96    (M-C)      1902–1987    *e* 0.1858061      *i* 11.27729

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Bowell  
**(792) Metcalfia**      Obs. 43     *M* 212.77434       $\omega$  226.15676  
*H* 10.33    *G* 0.15      Opp. 15    *n* 0.23230455     $\Omega$  265.72177  
rms res. 0''88    (M-C)      1922–1993    *e* 0.1345377      *i* 8.61819

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(804) Hispania**      Obs. 117    *M* 28.45932       $\omega$  343.77366  
*H* 7.84    *G* 0.18      Opp. 32    *n* 0.20607423     $\Omega$  347.95753  
rms res. 1''02    (M-C)      1915–1987    *e* 0.1401157      *i* 15.38461

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(895) Helio**      Obs. 72     *M* 266.45719       $\omega$  181.26467  
*H* 8.3      *G* 0.15      Opp. 25    *n* 0.17211377     $\Omega$  264.87430  
rms res. 1''05    (M-C)      1906–1989    *e* 0.1484202      *i* 26.05330

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(911) Agamemnon**      Obs. 129    *M* 234.76378       $\omega$  80.63348  
*H* 7.89    *G* 0.15      Opp. 28    *n* 0.08256629     $\Omega$  338.00670  
rms res. 1''12    (M-C)      1919–1989    *e* 0.0662735      *i* 21.82820

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(1002) Olbersia**      Obs. 64     *M* 43.72339       $\omega$  355.19627  
*H* 11.1    *G* 0.15      Opp. 21    *n* 0.21177962     $\Omega$  344.16971  
rms res. 0''97    (M-C)      1923–1991    *e* 0.1537743      *i* 10.77534

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(1054) Forsytia**      Obs. 49     *M* 265.12039       $\omega$  295.64753  
*H* 10.3    *G* 0.15      Opp. 22    *n* 0.19745717     $\Omega$  86.13446  
rms res. 1''11    (M-C)      1907–1991    *e* 0.1365135      *i* 10.85789

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Bowell  
**(1058) Grubba**      Obs. 55     *M* 5.39221       $\omega$  93.82202  
*H* 11.98    *G* 0.15      Opp. 13    *n* 0.30281465     $\Omega$  222.09398  
rms res. 0''88    (M-C)      1932–1993    *e* 0.1870613      *i* 3.69002

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(1151) Ithaka**      Obs. 23     *M* 100.81219       $\omega$  122.51887  
*H* 12.7    *G* 0.15      Opp. 8     *n* 0.26419995     $\Omega$  225.64065  
rms res. 1''18    (M-C)      1929–1987    *e* 0.2775111      *i* 6.56191

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(1172) Äneas**      Obs. 133    *M* 227.07731       $\omega$  47.66130  
*H* 8.33    *G* 0.15      Opp. 27    *n* 0.08384399     $\Omega$  247.49297  
rms res. 0''76    (M-C)      1930–1990    *e* 0.1021145      *i* 16.70862

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Bowell  
**(1230) Riceia**      Obs. 17     *M* 35.32404       $\omega$  184.70767  
*H* 12.8    *G* 0.15      Opp. 7     *n* 0.23891189     $\Omega$  200.96995  
rms res. 0''86    (M-C)      1931–1992    *e* 0.1789575      *i* 10.48427

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5      Goffin  
**(1241) Dysona**      Obs. 65     *M* 235.20574       $\omega$  323.56440  
*H* 9.45    *G* 0.15      Opp. 20    *n* 0.17361152     $\Omega$  322.57952  
rms res. 1''04    (M-C)      1931–1985    *e* 0.1085275      *i* 23.54974

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1437) Diomedes** Obs. 134 *M* 215.02210  $\omega$  129.68652  
*H* 8.30 *G* 0.15 Opp. 24 *n* 0.08506222  $\Omega$  315.85436  
 rms res. 0".81 (M-C) 1937–1989 *e* 0.0440298 *i* 20.57337

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1459) Magnya** Obs. 22 *M* 36.97360  $\omega$  330.18453  
*H* 10.6 *G* 0.15 Opp. 6 *n* 0.17713386  $\Omega$  41.72599  
 rms res. 0".73 (M-C) 1937–1993 *e* 0.2367439 *i* 16.94792

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1531) Hartmut** Obs. 58 *M* 316.84540  $\omega$  142.74453  
*H* 12.2 *G* 0.15 Opp. 13 *n* 0.23153603  $\Omega$  279.37728  
 rms res. 1".16 (M-C) 1938–1993 *e* 0.1539945 *i* 12.41815

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1627) Ivar** Obs. 286 *M* 136.70107  $\omega$  167.45262  
*H* 13.20 *G* 0.60 Opp. 14 *n* 0.38749271  $\Omega$  133.28142  
 rms res. 0".88 (M-C) 1929–1990 *e* 0.3965594 *i* 8.43968

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1641) Tana** Obs. 63 *M* 39.41697  $\omega$  3.58547  
*H* 10.53 *G* 0.15 Opp. 15 *n* 0.18789756  $\Omega$  331.94343  
 rms res. 0".80 (M-C) 1909–1991 *e* 0.1021265 *i* 9.34364

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1685) Toro** Obs. 174 *M* 131.66910  $\omega$  126.86958  
*H* 14.23 *G* 0.15 Opp. 18 *n* 0.61652748  $\Omega$  274.45985  
 rms res. 0".91 (M-C) 1948–1992 *e* 0.4359709 *i* 9.37524

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1738) Oosterhoff** Obs. 63 *M* 250.12366  $\omega$  283.78274  
*H* 12.3 *G* 0.15 Opp. 14 *n* 0.30537190  $\Omega$  44.34704  
 rms res. 0".95 (M-C) 1927–1990 *e* 0.2029574 *i* 4.87873

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1811) Bruwer** Obs. 48 *M* 43.85144  $\omega$  137.65938  
*H* 10.7 *G* 0.15 Opp. 14 *n* 0.17665050  $\Omega$  168.52970  
 rms res. 0".84 (M-C) 1931–1993 *e* 0.0931975 *i* 8.52277

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1915) Quetzálcoatl** Obs. 39 *M* 79.95589  $\omega$  347.90870  
*H* 18.97 *G* 0.10 Opp. 5 *n* 0.24404491  $\Omega$  163.05642  
 rms res. 0".93 (M-C) 1953–1985 *e* 0.5743806 *i* 20.45752

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1916) Boreas** Obs. 76 *M* 299.40711  $\omega$  335.24341  
*H* 14.93 *G* 0.15 Opp. 4 *n* 0.28754996  $\Omega$  340.92947  
 rms res. 0".88 (M-C) 1953–1984 *e* 0.4495490 *i* 12.84558

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1926) Demidelaer** Obs. 22 *M* 233.94830  $\omega$  89.67014  
*H* 11.6 *G* 0.15 Opp. 8 *n* 0.22749726  $\Omega$  93.88042  
 rms res. 1".21 (M-C) 1935–1993 *e* 0.1055694 *i* 13.73460

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(1980) Tezcatlipoca** Obs. 46 *M* 136.87379  $\omega$  115.27256  
*H* 13.92 *G* 0.15 Opp. 8 *n* 0.44097353  $\Omega$  246.75718  
 rms res. 1".03 (M-C) 1950–1988 *e* 0.3653219 *i* 26.84833

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2042) Sitarski** Obs. 40 *M* 58.64722  $\omega$  53.9412  
*H* 12.8 *G* 0.15 Opp. 7 *n* 0.21580267  $\Omega$  17.7027  
 rms res. 1".53 (M-C) 1960–1992 *e* 0.1505525 *i* 5.3410

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2059) Baboquivari** Obs. 52 *M* 10.71322  $\omega$  191.16815  
*H* 15.8 *G* 0.15 Opp. 4 *n* 0.22852772  $\Omega$  201.14920  
 rms res. 0".97 (M-C) 1963–1993 *e* 0.5266219 *i* 10.99592

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2063) Bacchus** Obs. 28 *M* 100.35328  $\omega$  55.05861  
*H* 16.4 *G* 0.15 Opp. 4 *n* 0.88111468  $\Omega$  33.34100  
 rms res. 0".98 (M-C) 1977–1986 *e* 0.3493479 *i* 9.42442

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2260) Neoptolemus** Obs. 37 *M* 228.00923  $\omega$  320.53249  
*H* 9.31 *G* 0.15 Opp. 6 *n* 0.08341791  $\Omega$  86.59709  
 rms res. 0".98 (M-C) 1951–1991 *e* 0.0439218 *i* 17.78206

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2272) Montezuma** Obs. 25 *M* 286.00918  $\omega$  277.97767  
*H* 13.94 *G* 0.15 Opp. 6 *n* 0.38641812  $\Omega$  175.67963  
 rms res. 0".77 (M-C) 1972–1993 *e* 0.0902072 *i* 24.32979

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2337) Boubin** Obs. 15 *M* 24.20383  $\omega$  26.19441  
*H* 12.0 *G* 0.15 Opp. 4 *n* 0.23601609  $\Omega$  37.71865  
 rms res. 0".73 (M-C) 1955–1993 *e* 0.1701849 *i* 14.36842

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2340) Hathor** Obs. 48 *M* 214.83456  $\omega$  39.74475  
*H* 20.26 *G* 0.15 Opp. 3 *n* 1.27119645  $\Omega$  211.70590  
 rms res. 0".97 (M-C) 1976–1983 *e* 0.4498920 *i* 5.84970

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2350) von Lüde** Obs. 24 *M* 302.26515  $\omega$  287.28754  
*H* 13.4 *G* 0.15 Opp. 6 *n* 0.29358800  $\Omega$  141.26707  
 rms res. 0".82 (M-C) 1938–1993 *e* 0.1273042 *i* 5.06998

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2354) Lavrov** Obs. 103 *M* 127.77186  $\omega$  188.59187  
*H* 11.8 *G* 0.15 Opp. 15 *n* 0.21857207  $\Omega$  176.37274  
 rms res. 0".73 (M-C) 1929–1992 *e* 0.1057821 *i* 3.25853

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5  
**(2388) Gase** Obs. 33 *M* 126.38785  $\omega$  253.88850  
*H* 12.9 *G* 0.15 Opp. 7 *n* 0.25698314  $\Omega$  324.74624  
 rms res. 0".88 (M-C) 1951–1992 *e* 0.1809028 *i* 2.21858

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Goffin  
**(2456) Palamedes** Obs. 37 *M* 202.45797  $\omega$  92.84561  
*H* 9.6 *G* 0.15 Opp. 9 *n* 0.08387550  $\Omega$  327.53524  
 rms res. 0".88 (M-C) 1966–1990 *e* 0.0746886 *i* 13.88253

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 *Bowell*  
**(2859) Paganini** Obs. 62 *M* 81.75756  $\omega$  340.68559  
*H* 13.5 *G* 0.15 Opp. 8 *n* 0.29422756  $\Omega$  165.50287  
 rms res. 0".89 (M-C) 1951–1991 *e* 0.1187215 *i* 3.54973

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Goffin  
**(2920) Automedon** Obs. 33 *M* 191.31930  $\omega$  197.23214  
*H* 8.8 *G* 0.15 Opp. 6 *n* 0.08432282  $\Omega$  231.05165  
 rms res. 0".88 (M-C) 1981–1988 *e* 0.0274499 *i* 21.07665

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 *Bowell*  
**(3079) Schiller** Obs. 24 *M* 122.60310  $\omega$  300.80639  
*H* 13.3 *G* 0.15 Opp. 6 *n* 0.22402714  $\Omega$  183.44895  
 rms res. 0".77 (M-C) 1931–1993 *e* 0.2168116 *i* 3.91872

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams  
**(3082) Dzhilil** Obs. 18 *M* 3.91466  $\omega$  232.02583  
*H* 12.3 *G* 0.15 Opp. 6 *n* 0.23824860  $\Omega$  117.89460  
 rms res. 0".97 (M-C) 1936–1993 *e* 0.0769153 *i* 10.35093

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams  
**(3100) Zimmerman** Obs. 22 *M* 48.51810  $\omega$  94.34945  
*H* 13.9 *G* 0.15 Opp. 6 *n* 0.29026975  $\Omega$  27.28684  
 rms res. 0".99 (M-C) 1951–1989 *e* 0.0874035 *i* 2.82585

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams  
**(3125) Hay** Obs. 44 *M* 320.97380  $\omega$  354.80021  
*H* 12.3 *G* 0.15 Opp. 10 *n* 0.23467175  $\Omega$  134.60456  
 rms res. 0".97 (M-C) 1951–1993 *e* 0.1990814 *i* 12.73191

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 *Bowell*  
**(3334) 1981 YR** Obs. 28 *M* 4.95345  $\omega$  186.53071  
*H* 12.0 *G* 0.15 Opp. 11 *n* 0.20499392  $\Omega$  86.73262  
 rms res. 0".90 (M-C) 1942–1992 *e* 0.0238415 *i* 3.26164

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Goffin  
**(3361) Orpheus** Obs. 61 *M* 6.98768  $\omega$  301.54447  
*H* 19.03 *G* 0.15 Opp. 4 *n* 0.74101317  $\Omega$  189.85801  
 rms res. 0".82 (M-C) 1982–1990 *e* 0.3226095 *i* 2.68184

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Sitarski  
**(3836) Lem** Obs. 24 *M* 182.25038  $\omega$  204.5230  
*H* 13.8 *G* 0.15 Opp. 7 *n* 0.29433939  $\Omega$  78.2432  
 rms res. 0".99 (M-C) 1978–1991 *e* 0.1461590 *i* 2.0392

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams  
**(4030) 1984 EO<sub>1</sub>** Obs. 49 *M* 98.15966  $\omega$  302.26798  
*H* 13.0 *G* 0.15 Opp. 6 *n* 0.25544064  $\Omega$  342.62355  
 rms res. 0".67 (M-C) 1970–1993 *e* 0.0945186 *i* 6.51731

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams  
**(4177) 1987 SS<sub>1</sub>** Obs. 40 *M* 18.79960  $\omega$  159.18171  
*H* 12.8 *G* 0.15 Opp. 5 *n* 0.16340153  $\Omega$  210.85617  
 rms res. 0".80 (M-C) 1984–1993 *e* 0.2804537 *i* 17.14962

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams  
**(4189) Andreev** Obs. 18 *M* 85.87847  $\omega$  126.80736  
*H* 13.4 *G* 0.15 Opp. 5 *n* 0.28215672  $\Omega$  194.38865  
 rms res. 0".91 (M-C) 1979–1993 *e* 0.1354941 *i* 5.34783

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 *Bowell*  
**(4204) Barsig** Obs. 14 *M* 240.79471  $\omega$  322.66338  
*H* 13.0 *G* 0.15 Opp. 4 *n* 0.28835823  $\Omega$  223.01337  
 rms res. 0".63 (M-C) 1954–1988 *e* 0.0854013 *i* 3.81074

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 *Bowell*  
**(4271) Novosibirsk** Obs. 21 *M* 76.87856  $\omega$  133.49605  
*H* 11.9 *G* 0.15 Opp. 7 *n* 0.18810081  $\Omega$  160.37151  
 rms res. 0".80 (M-C) 1976–1993 *e* 0.0883448 *i* 10.91932

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 *Bowell*  
**(4492) Debussy** Obs. 21 *M* 35.46801  $\omega$  52.31322  
*H* 12.9 *G* 0.15 Opp. 5 *n* 0.21423709  $\Omega$  350.38777  
 rms res. 0".88 (M-C) 1951–1990 *e* 0.1801162 *i* 8.03157

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 *Bowell*  
**(4683) 1976 GJ<sub>1</sub>** Obs. 23 *M* 143.26390  $\omega$  300.35271  
*H* 11.9 *G* 0.15 Opp. 9 *n* 0.17927635  $\Omega$  164.52116  
 rms res. 0".66 (M-C) 1935–1992 *e* 0.1574209 *i* 1.21975

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams  
**(4693) Drummond** Obs. 23 *M* 325.62260  $\omega$  208.76329  
*H* 13.4 *G* 0.15 Opp. 6 *n* 0.28630364  $\Omega$  245.70684  
 rms res. 1".01 (M-C) 1976–1993 *e* 0.0831632 *i* 4.86103

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 *Bowell*  
**(4784) 1984 DF<sub>1</sub>** Obs. 86 *M* 105.54533  $\omega$  169.20575  
*H* 13.4 *G* 0.15 Opp. 6 *n* 0.22507351  $\Omega$  349.47291  
 rms res. 0".70 (M-C) 1953–1993 *e* 0.1161322 *i* 3.55451

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 *Bowell*  
**(5073) 1943 EN** Obs. 23 *M* 91.77666  $\omega$  183.70011  
*H* 13.2 *G* 0.15 Opp. 6 *n* 0.29674420  $\Omega$  14.82707  
 rms res. 0".72 (M-C) 1943–1993 *e* 0.1004101 *i* 6.61763

**(5701)\* 1929 VS = 1956 RO = 1961 VC = 1987 KS = 1991 GS<sub>2</sub>**

Discovered 1929 Oct. 26 by C. W. Tombaugh at the Lowell Observatory.

Id. H. Kaneda (*MPC* 18617)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams  
*M* 35.72429 (2000.0) **P** **Q**  
*n* 0.21581940  $\omega$  347.69021 +0.91963098 -0.38773537  
*a* 2.7525955  $\Omega$  35.33111 +0.36895082 +0.79790925  
*e* 0.1929872 *i* 6.23134 +0.13473734 +0.46152152  
*P* 4.57 *H* 12.2 *G* 0.15

Residuals in seconds of arc

291026 690 0.8- 2.2- 910320 809 0.3+ 0.8- 910419 809 0.4+ 0.3+  
 291027 690 0.6- 1.7- 910321 809 0.1+ 0.8- 910419 809 0.1- 0.4+

291103	690	3.0+	0.5-	910321	809	0.1+	0.9-	910419	809	0.3+	0.1+
560909	760	0.2-	0.4-	910321	809	0.1+	0.7-	930914	801	0.5-	1.9+
560909	760	0.0	1.3+	910323	809	0.2-	0.2+	930914	801	0.7-	1.4+
611104	760	0.5+	0.5+	910323	809	0.1+	0.2+	930919	801	0.3-	0.8+
611104	760	1.4+	0.9+	910323	809	0.6+	0.0	930919	801	0.3-	0.9+
611110	760	0.7-	0.9-	910408	809	0.7+	0.9+	931010	596	0.5-	0.6+
611110	760	0.3-	0.4-	910408	809	0.7+	1.2+	931010	596	0.6-	0.8+
870530	413	1.1-	1.1-	910408	809	0.3+	1.2+	931010	596	0.3-	0.7-
870530	413	(1.8-	2.9-)	910410	809	0.1+	1.9+	931013	801	0.2-	1.0+
910320	809	0.2-	0.7-	910410	809	0.3-	1.0+	931013	801	0.4-	1.0+
910320	809	0.0	0.7-	910410	809	0.0	1.4+				

**(5702)\* 1931 FC = 2177 T-2 = 1982 DJ<sub>5</sub> = 1983 RE<sub>8</sub>**

Discovered 1931 Mar. 16 by M. Wolf at Heidelberg.

Id. S. Nakano (*MPC* 15062), G. V. Williams (*MPC* 19854)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	142.04704		(2000.0)		<b>P</b>		<b>Q</b>				
<i>n</i>	0.28978088	$\omega$	223.91689		-0.79714144		+0.60369202				
<i>a</i>	2.2616370	$\Omega$	353.19131		-0.52515155		-0.70220995				
<i>e</i>	0.1257356	<i>i</i>	5.33418		-0.29796204		-0.37743494				
<i>P</i>	3.40	<i>H</i>	13.4		<i>G</i>	0.15					
Residuals in seconds of arc											
310316	024	2.0-	2.4+	730929	675	(0.4-	3.0+)	830911	095	(4.4-	0.6+)
310318	024	2.8+	0.4+	730929	675	(0.3+	3.1+)	900920	675	0.5-	0.2+
310326	024	2.3+	1.5+	730930	675	0.0	0.6+	900920	675	0.9-	1.2+
730919	675	1.0-	0.6+	730930	675	0.1-	0.6-	920206	801	1.0+	0.0
730919	675	1.8-	1.2+	731004	675	0.9+	0.1+	920206	801	1.0+	0.1+
730920	675	1.6-	0.6+	731004	675	0.8+	0.2-	930716	675	0.2+	0.9+
730924	675	(3.4-	1.2+)	731005	675	1.4+	0.7-	930724	801	0.1+	0.4+
730924	675	(3.8-	2.0+)	731005	675	1.8+	0.6+	930724	801	0.2+	0.5+
730925	675	1.0-	2.0-	801014	675	0.2+	1.4+	930824	413	0.2-	0.6+
730925	675	1.3-	0.4-	820222	010	2.4-	0.5+	930824	413	0.1-	0.6+

**(5703)\* 1931 VS = 1931 XH = 1964 VU = 1989 VL**

Discovered 1931 Nov. 15 by K. Reinmuth at Heidelberg.

Id. K. Reinmuth (d, *RI* 530), T. Kobayashi (*MPC* 15548, *MPC* 19008)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	10.28638		(2000.0)		<b>P</b>		<b>Q</b>				
<i>n</i>	0.23751836	$\omega$	12.81906		+0.64816398		-0.74685257				
<i>a</i>	2.5822875	$\Omega$	37.08753		+0.67510483		+0.47326667				
<i>e</i>	0.1770814	<i>i</i>	14.26999		+0.35230231		+0.46715083				
<i>P</i>	4.15	<i>H</i>	13.0		<i>G</i>	0.15					
Residuals in seconds of arc											
311115	024	(4.3+	4.4-)	891121	888	0.8-	0.1+	891201	888	0.2-	0.6+
311212	024	(7.1+	3.1-)	891121	888	0.9-	0.2-	891202	888	0.5-	0.4-
311231	024	0.7+	1.6-	891124	372	0.8+	0.2+	891202	888	0.8-	0.3-
540408	675	0.9+	0.2+	891124	372	1.5-	0.9-	891220	888	0.6-	1.2-
540408	675	0.2+	1.3+	891125	888	1.7-	0.7+	891220	888	0.4-	1.3-
641106	760	(0.9+	4.7-)	891125	888	1.0-	0.0	930912	801	0.3-	0.3+
641106	760	(3.0-	2.2+)	891125	888	1.2-	0.5+	930912	801	0.3-	0.2+
891102	875	0.9+	0.7+	891125	888	0.6-	0.3+	930919	801	0.4-	0.0
891102	875	0.8+	2.3+	891126	888	0.0	0.6+	930919	801	0.6-	0.3-
891104	875	1.7+	0.4-	891126	888	0.1-	0.7+	931012	801	0.3+	0.1+

891104	875	1.9+	1.2-	891129	888	0.7+	0.8+	931012	801	0.2+	0.0
891119	888	(3.3+	0.1+)	891129	888	1.4+	0.4+	931019	801	0.4+	0.7-
891119	888	(4.8+	0.0)	891201	888	0.5+	0.5+	931019	801	0.5+	0.3-

**(5704)\* 1950 DE = 1950 BL<sub>1</sub> = 1990 DB<sub>1</sub> = 1990 EX<sub>5</sub>**

Discovered 1950 Feb. 17 by K. Reinmuth at Heidelberg.

Id. O. Kippes (d, *NAZ* 12,23), R. Nagata (*MPC* 17423), G. V. Williams (d, *MPC* 17178)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	226.63621		(2000.0)		<b>P</b>		<b>Q</b>					
<i>n</i>	0.17104186	$\omega$	24.76669		-0.99516844		-0.03238240					
<i>a</i>	3.2141620	$\Omega$	152.88182		+0.01090671		-0.97466266					
<i>e</i>	0.1161437	<i>i</i>	11.73242		+0.09757472		-0.22132348					
<i>P</i>	5.76	<i>H</i>	11.8		<i>G</i>	0.15						
Residuals in seconds of arc (or two decimals in units of degrees)												
500125	094	(0.05+	0.06-)	X	900301	809	0.3+	0.7-	920808	010	0.1-	1.6-
500217	024	(4.4+	1.7+)		900301	095	0.4-	1.8-	920809	010	0.1+	1.1-
500223	024	(0.3-	3.6+)		900302	809	1.2-	0.5-	920809	010	0.2-	0.8-
500308	024	0.3+	2.1-		900302	809	1.0-	0.4-	920809	010	0.2+	0.8-
500322	024	0.7-	0.9-		900302	809	0.6-	0.5-	930919	801	0.2+	0.4+
900216	399	0.1-	0.1-		900303	809	1.0+	0.2-	930919	801	1.3+	0.2-
900216	399	0.3-	0.9+		900303	809	0.8+	0.3-	930920	801	0.9-	0.0
900216	399	0.6-	0.4+		900303	809	0.8+	0.5-	931014	801	0.4+	0.3-
900221	220	(0.04+	0.00-)		900304	809	0.0	0.1+	931014	801	0.0	0.2+
900221	220	(0.04+	0.00-)		900304	809	0.4+	0.2+	931019	801	0.1+	1.1-
900222	220	(1.0+	5.7-)		900304	095	0.9+	0.4+	931019	801	0.7-	1.3-
900301	809	0.6-	0.8-		920808	010	0.3+	1.1-				
900301	809	0.1-	0.8-		920808	010	0.6+	1.4-				

**(5705)\* 1965 UA = 1979 RU = 1979 SZ<sub>8</sub>**

Discovered 1965 Oct. 21 by H. Debehogne at Uccle.

Id. B. G. Marsden (*MPC* 11430)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	38.58095		(2000.0)		<b>P</b>		<b>Q</b>					
<i>n</i>	0.27989851	$\omega$	351.21050		+0.99382453		+0.11090885					
<i>a</i>	2.3145629	$\Omega$	2.42988		-0.09618711		+0.87664699					
<i>e</i>	0.2258571	<i>i</i>	4.69169		-0.05532484		+0.46817655					
<i>P</i>	3.52	<i>H</i>	14.1		<i>G</i>	0.15						
Residuals in seconds of arc												
530415	675	0.4+	0.2-		790924	095	(3.2+	0.1+)	930815	801	0.2+	0.7-
530415	675	0.2-	0.4-		791213	809	0.7+	0.8-	930815	801	0.2-	0.3+
651021	012	(0.9+	3.0-)		791215	809	0.2+	0.4+	930822	801	0.4+	0.5-
651022	012	1.3+	0.3-		791216	809	0.9+	1.7+	930822	801	0.5+	0.4-
651025	012	1.5-	0.7-		860906	095	(1.1-	2.7-)	930912	801	0.0	0.1-
651029	012	1.1+	1.6-		860909	095	1.4-	1.5+	930912	801	0.2-	0.0
770112	675	0.0	0.1+		860915	095	1.5+	0.7-	930914	801	0.2+	0.1-
770113	675	0.5-	0.5+		861002	095	1.2-	1.5+	930914	801	0.1+	0.3-
790902	095	0.0	1.1-		861008	095	1.6-	1.9+				

**(5706)\* 1971 SS<sub>1</sub> = 1982 SY = 1988 XY<sub>3</sub>**

Discovered 1971 Sept. 23 at the Crimean Astrophysical Observatory.

Id. C. M. Bardwell (*MPC* 13588), S. Nakano (*MPC* 15401)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

M		(2000.0)		P		Q	
<i>n</i>	0.17898455	$\omega$	357.06987	+0.41818180	-0.90800012		
<i>a</i>	3.1183559	$\Omega$	68.20913	+0.83396855	+0.37257168		
<i>e</i>	0.2011526	<i>i</i>	1.58515	+0.36002838	+0.19164062		
<i>P</i>	5.51	<i>H</i>	12.3	<i>G</i>	0.15		

Residuals in seconds of arc

710923 095	0.7+	1.9+	881207 399	1.1+	1.5-	890110 054	0.1+	0.1+
711011 095	1.3-	0.1-	881207 399	0.1+	1.0-	930919 801	0.4+	0.1+
711021 095	(0.3+ 4.0-)		881211 399	0.3-	0.2+	930919 801	0.7+	0.2+
820917 801	(5.1- 3.9-)		881211 399	0.1+	0.4-	930920 801	0.4-	0.0
820919 095	0.8+	0.6-	881211 399	1.0-	1.5+	930920 801	0.2-	0.6-
820928 095	0.4-	0.7-	881211 399	0.5-	0.2+	931012 801	0.1+	0.0
881201 054	0.1+	0.5+	881212 054	1.2-	0.2+	931012 801	0.0	0.1+
881207 399	0.0	0.2-	881213 054	0.2+	0.0	931019 801	0.0	0.2-
881207 399	0.9+	0.5-	890110 054	0.4+	0.7+	931019 801	0.3-	0.1+

**(5707)\* 1976 GY<sub>3</sub> = 1953 EE<sub>1</sub> = 1992 FW**

Discovered 1976 Apr. 2 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. H. Kaneda (*MPC* 20008)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

M		(2000.0)		P		Q	
<i>n</i>	0.30474191	$\omega$	317.71891	-0.85132226	-0.52445600		
<i>a</i>	2.1869957	$\Omega$	190.67588	+0.49932169	-0.80174832		
<i>e</i>	0.0646763	<i>i</i>	4.33759	+0.16102257	-0.28661041		
<i>P</i>	3.23	<i>H</i>	13.2	<i>G</i>	0.15		

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

530310 210	(0.24- 0.00+)	X	920409 691	0.2+	1.0-	930822 801	0.1+	0.8-
530314 760	0.5-	2.0-	920409 691	0.2+	0.9-	930910 596	1.0-	0.5-
530314 760	(0.6+ 4.7-)		920409 691	0.4-	1.1-	930910 596	(1.7- 2.3-)	
760402 095	2.3+	2.4+	920429 801	0.0	0.3-	930910 596	1.2+	0.4+
760405 095	0.7-	1.4+	920429 801	0.0	0.8-	930912 801	0.2+	0.1+
760502 095	0.6-	0.7+	920507 801	0.1+	0.9-	930912 801	0.2+	0.2+
920323 400	1.2-	0.3-	920507 801	0.6+	0.9-	930914 801	0.3-	0.2-
920323 400	1.1+	1.1+	930820 801	0.4+	0.9-	930914 801	0.0	0.4+
920324 400	1.6-	0.9+	930820 801	0.5+	1.6-			
920324 400	0.6-	1.6-	930822 801	0.1+	1.1-			

**(5708)\* 1977 TC<sub>1</sub> = 1977 TB<sub>5</sub> = 1948 TD = 1990 VA<sub>2</sub>**

Discovered 1977 Oct. 12 by P. Wild at Zimmerwald.

Id. O. Kipptes (d, *MPC* 5347), H. Kaneda (*MPC* 17425)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

M		(2000.0)		P		Q	
<i>n</i>	0.30638089	$\omega$	115.82654	+0.93904314	+0.34153453		
<i>a</i>	2.1791892	$\Omega$	224.23264	-0.33218384	+0.87180465		
<i>e</i>	0.2114628	<i>i</i>	3.23764	-0.08861080	+0.35115638		
<i>P</i>	3.22	<i>H</i>	14.4	<i>G</i>	0.15		

Residuals in seconds of arc

481008 062	1.1-	0.7+	771110 026	0.0	1.2+	930724 801	0.1-	0.0
481008 062	0.3-	0.4+	771110 026	1.7+	1.5+	930724 801	0.1-	0.2+
510730 675	0.2+	0.5-	800803 675	1.4-	0.6+	930914 801	0.1+	0.5+
510730 675	0.2+	0.3+	800805 675	1.0+	0.3+	930914 801	0.0	0.6+

771007 095	0.8-	0.7-	901112 399	(7.1- 2.1-)	930915 596	0.3-	0.2+	
771012 026	1.2+	1.1-	901112 399	0.9-	2.1-	930915 596	0.2-	0.3+
771013 026	(0.0 3.3-)		901112 399	(1.5- 2.9-)	930919 801	0.1+	0.2+	
771017 095	2.5+	1.2-	901113 400	0.5-	1.2+	930919 801	0.0	0.2+
771018 026	1.0-	1.5-	901113 400	1.3+	1.9+	930919 400	0.7-	1.5-
771019 026	0.3-	0.7-	901114 403	1.2+	1.0+ Y	930919 400	0.4+	0.5-
771103 026	(3.3- 2.1+)		901114 403	2.3-	0.1- Y			

**(5709)\* 1977 TS<sub>3</sub> = 1977 VN<sub>1</sub> = 1977 VQ<sub>1</sub> = 1988 VE<sub>2</sub>**

Discovered 1977 Oct. 12 at the Purple Mountain Observatory.

Id. O. Kipptes (d, *MPC* 5347), T. Urata (d, *NOC* 1101), B. G. Marsden (*MPC* 14012), S. Nakano (*ibid.*)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

M		(2000.0)		P		Q	
<i>n</i>	13.53597	$\omega$	261.69023	+0.96031603	-0.27076851		
<i>a</i>	3.0755766	$\Omega$	113.99866	+0.27593779	+0.88736647		
<i>e</i>	0.2540534	<i>i</i>	4.20045	+0.04063802	+0.37318247		
<i>P</i>	5.39	<i>H</i>	12.0	<i>G</i>	0.15		

Residuals in seconds of arc

770923 095	0.3+	0.3+	881112 877	0.1-	0.7+	910411 033	0.9-	1.2+
771008 095	0.6-	0.0	881127 877	(2.3+ 1.3+)		910411 033	0.2-	0.7+
771012 330	(2.3+ 0.6+)		881127 877	(1.5+ 3.3+)		910412 033	0.8-	0.0
771103 330	0.9-	0.4+	881207 875	0.5+	1.7+	910413 033	0.2+	0.3-
771104 330	(3.1+ 0.8+)		881207 875	(1.8+ 2.8+)		920603 809	1.4+	1.7+
771104 330	0.4-	0.4-	881207 054	0.2+	1.4+	920603 809	1.2+	1.5+
810508 675	1.5+	0.2-	881207 054	0.0	0.1-	920603 809	0.8+	1.1+
810509 675	0.6+	0.7-	881208 385	(2.1- 0.1-)		930914 801	0.1+	0.4-
881107 877	(3.5+ 3.0+)		881208 385	(3.3- 2.1-)		930914 801	0.0	0.3-
881107 877	(3.3+ 3.0+)		881214 875	(0.4+ 3.2+)		930920 801	0.4-	0.1-
881109 877	(0.3+ 2.2-)		881214 875	(0.9- 3.1+)		930920 801	0.1-	0.1+
881109 877	(0.9+ 3.0-)		910409 033	1.0-	1.1+	931012 801	0.7-	0.3+
881112 877	1.2+	1.6+	910409 033	0.8-	1.4+	931012 801	0.8-	0.2-

**(5710)\* 1977 UP**

Discovered 1977 Oct. 18 by P. Wild at Zimmerwald.

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

M		(2000.0)		P		Q	
<i>n</i>	49.97204	$\omega$	1.70544	+0.99999672	-0.00196552		
<i>a</i>	2.1766548	$\Omega$	358.40441	+0.00101473	+0.89248239		
<i>e</i>	0.1516269	<i>i</i>	3.37512	+0.00234965	+0.45107795		
<i>P</i>	3.21	<i>H</i>	14.2	<i>G</i>	0.15		

Residuals in seconds of arc

770919 095	1.9-	1.7+	771110 026	0.2+	0.7-	930913 801	0.3-	1.0+
770922 095	0.5-	0.1+	771111 026	1.4+	0.5+	930913 801	0.3-	0.6+
771018 026	0.9+	0.3+	800902 688	0.7-	0.8-	930915 801	0.1+	0.3+
771019 026	0.6-	0.2-	800904 688	0.7-	1.2-	930915 801	0.1+	0.3+
771020 026	0.3+	1.6+	800907 688	1.5+	0.1+	931014 801	0.1+	0.2+
771103 026	(4.4+ 0.4+)		820301 801	1.2+	1.7+	931014 801	0.1+	0.3+
771105 026	1.0-	1.1-	901111 675	0.6-	0.8-	931019 801	0.2-	0.2+
771109 026	(0.9- 3.6-)		901112 675	0.5-	1.0-	931019 801	0.2-	0.3+
771109 026	1.9+	2.1-	901113 675	0.0	0.6+			

**(5711)\* 1978 SO<sub>4</sub> = 1981 AS<sub>3</sub> = 1986 TS<sub>12</sub> = 1991 GR<sub>3</sub>**

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

Id. B. G. Marsden (*MPC* 18414)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

	(2000.0)		Marsden			
<i>M</i>	<i>P</i>	<i>Q</i>				
<i>n</i>	0.12576044	$\omega$ 298.54704	+0.68551251	+0.72750528		
<i>a</i>	3.9455421	$\Omega$ 14.83847	-0.62316106	+0.60649302		
<i>e</i>	0.1672364	<i>i</i> 6.37534	-0.37648757	+0.32078387		
<i>P</i>	7.84	<i>H</i> 11.1	<i>G</i> 0.15			

Residuals in seconds of arc

780926 095	1.4-	0.6+	781128 675	0.1+	0.6-	910419 809	1.3-	1.9-
780927 095	0.2-	0.6+	781129 675	0.3+	0.7-	910419 809	(0.1+ 2.6-)	
780930 049	0.2+	0.3-	810108 381	0.7+	0.1+	930815 801	0.3+	0.3-
780930 049	0.1+	0.6-	810108 381	0.3+	0.0	930815 801	0.2+	0.3-
781001 049	0.6+	0.2-	861005 095	0.3-	1.1-	930822 801	0.1-	0.5+
781002 095	(5.3-	1.2+)	910408 809	0.1-	0.1+	930822 801	0.3-	1.6+
781003 095	0.2+	1.2-	910408 809	0.3+	0.1-	930825 413	0.3-	0.5-
781004 675	0.6+	0.2+	910408 809	0.4-	0.7-	930825 413	0.3-	0.3-
781005 675	0.2+	0.0	910410 809	0.7+	0.7-	930825 413	0.3-	0.3-
781027 675	0.2+	0.5-	910410 809	0.8-	0.2-	930912 801	0.7+	0.2-
781028 675	0.8+	0.7-	910410 809	1.2-	0.5-	930912 801	0.8+	0.2-
781029 675	0.1+	0.0	910419 809	(1.8+	2.4-)			

**(5712)\* 1979 SR = 1975 XF<sub>4</sub> = 1992 LH**

Discovered 1979 Sept. 25 by A. Mrkos at Kleť.

Id. E. Bowell (k, *MPC* 20496), G. V. Williams (*ibid.*)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

	(2000.0)		Williams			
<i>M</i>	<i>P</i>	<i>Q</i>				
<i>n</i>	0.21356145	$\omega$ 129.14155	+0.90799150	+0.41362798		
<i>a</i>	2.7719633	$\Omega$ 206.62428	-0.41548002	+0.86827651		
<i>e</i>	0.1687346	<i>i</i> 8.57358	-0.05410907	+0.27387551		
<i>P</i>	4.62	<i>H</i> 12.7	<i>G</i> 0.15			

Residuals in seconds of arc

510807 675	(3.3-	0.7+)	790927 046	(2.2-	2.9-)	920606 675	0.1-	0.6-
510807 675	0.7-	1.4+	791015 046	0.1-	0.0	930814 801	0.5-	1.2+
510922 675	0.0	0.7+	791015 046	0.2+	0.3-	930814 801	0.1-	0.9+
510922 675	0.0	0.1-	791019 046	1.6+	0.8-	930915 801	0.3-	0.2+
550522 675	0.4+	0.7+	791019 046	0.6+	0.9-	930915 801	0.1-	0.3+
550522 675	0.8-	2.0+	910210 675	0.0	1.8-	930919 801	0.2-	0.5+
751203 095	(0.7+	3.3+)	910210 675	0.5-	1.6-	930919 801	0.2-	0.2+
790925 046	0.3-	1.3-	920603 675	0.9+	0.6-	930920 596	(0.6-	2.4-)
790925 046	1.0+	0.9-	920603 675	0.4+	2.1-	930920 596	0.9-	0.1-
790926 046	0.0	1.9-	920605 675	1.0-	1.5-	930920 596	0.3-	1.0+
790926 046	1.3+	1.9-	920605 675	1.2-	0.1+			
790927 046	(1.9-	4.6-)	920606 675	0.8+	0.2-			

**(5713)\* 1982 FF<sub>3</sub> = 1987 WV<sub>3</sub> = 1990 RW<sub>1</sub>**

Discovered 1982 Mar. 21 by H. Debehogne at the European Southern Observatory.

Id. E. Bowell (k, *MPC* 17629), B. G. Marsden (*ibid.*)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

	(2000.0)		Marsden			
<i>M</i>	<i>P</i>	<i>Q</i>				
<i>n</i>	0.29907213	$\omega$ 150.90594	+0.37843256	-0.92519100		
<i>a</i>	2.2145496	$\Omega$ 276.84514	+0.84360585	+0.35739256		
<i>e</i>	0.1207302	<i>i</i> 1.64302	+0.38094352	+0.12764082		
<i>P</i>	3.30	<i>H</i> 13.3	<i>G</i> 0.15			

Residuals in seconds of arc

820321 809	0.9-	1.3-	820330 809	(2.8+	0.6+)	900915 095	(0.7+	4.6+)
820321 809	0.7-	1.4-	820331 809	0.5-	0.1+	900915 095	(1.5+	3.9-)
820321 809	0.5-	1.4-	820331 809	0.4-	0.0	900917 675	(0.1+	2.6-)
820324 809	0.2-	1.3-	820331 809	0.2-	0.3-	900917 675	(0.5+	3.1-)
820324 809	0.3-	0.8-	820331 809	0.7-	0.1+	900923 095	0.3+	1.2-
820324 809	0.2-	0.4-	820331 809	0.6-	0.3+	901011 095	1.8-	0.1-
820326 809	0.0	0.6+	820331 809	0.7-	0.0	901015 095	(2.8-	0.0)
820326 809	0.1+	0.3+	820401 809	0.4-	0.2-	901015 095	(1.3-	2.2+)
820326 809	0.3+	0.1-	820401 809	0.5-	0.3-	920323 399	0.3-	1.4+
820327 809	(2.8-	0.8+)	820401 809	0.4-	0.3-	920324 399	1.2+	0.3+
820327 809	(2.3-	1.1+)	871124 688	0.9+	0.2-	920324 399	0.2-	1.0+
820327 809	1.9-	1.3+	871124 688	0.1+	1.2-	930717 801	0.4+	1.1-
820328 809	0.9+	0.1-	900826 095	(2.9+	1.4+)	930717 801	0.5+	0.8-
820328 809	1.1+	0.2-	900827 095	0.7-	0.0	930721 801	0.5+	0.8-
820328 809	1.4+	0.2-	900830 095	(2.1+	0.1-)	930915 801	0.3+	0.1+
820330 809	1.5+	0.4+	900831 095	0.6+	1.1+	930915 801	0.5+	0.2+
820330 809	1.8+	0.9+	900915 675	(0.1-	3.0-)			

**(5714)\* 1982 PR = 1985 DA<sub>4</sub> = 1988 VG = 1990 DP<sub>5</sub>**

Discovered 1982 Aug. 14 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. T. Kobayashi (*MPC* 13856), G. V. Williams (*MPC* 21254)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

	(2000.0)		Williams			
<i>M</i>	<i>P</i>	<i>Q</i>				
<i>n</i>	0.17796111	$\omega$ 339.79271	+0.98347360	-0.18079519		
<i>a</i>	3.1303002	$\Omega$ 30.62835	+0.16860104	+0.89515864		
<i>e</i>	0.2020507	<i>i</i> 1.08325	+0.06597998	+0.40743602		
<i>P</i>	5.54	<i>H</i> 12.0	<i>G</i> 0.15			

Residuals in seconds of arc

820814 095	1.3-	2.9+	881104 327	1.1-	1.1+	920603 801	0.2+	0.5-
820816 095	0.1+	1.1+	881106 399	1.0-	0.2+	920603 801	0.1+	0.6-
820823 095	(6.0-	1.6-)	881106 399	0.4+	0.3-	930722 801	0.1+	0.9-
820913 095	1.5-	1.0+	881106 399	0.5+	0.2+	930722 801	0.1+	0.9-
850220 675	1.5+	1.1+	881106 399	(4.5+	0.8+)	930724 801	0.2+	0.8-
850222 675	(1.3+	19.5-)	881107 897	0.7+	0.2+	930724 801	0.2+	0.7-
881103 897	(2.0-	3.4-)	881107 897	0.8-	0.2-	930914 801	0.3-	0.1-
881103 897	0.5+	2.0+	881108 399	(1.1-	3.5-)	930914 801	0.3+	0.3-
881103 327	1.2+	1.5-	881108 399	(0.9+	4.2-)	930920 801	0.4+	0.5-
881103 327	1.1+	1.2-	881108 399	(1.8+	3.6-)	930920 801	0.0	0.2+
881103 327	0.0	1.0-	900223 033	1.0-	0.0			
881103 327	0.2+	0.7-	900223 033	0.8-	0.2+			

**(5715)\* 1982 SE<sub>1</sub> = 1988 XG**

Discovered 1982 Sept. 22 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. S. Nakano (*MPC* 14017)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Nakano

<i>M</i>	353.68933		(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.17254187	$\omega$	94.42997	+0.94593649	-0.31723782
<i>a</i>	3.1955066	$\Omega$	284.07698	+0.26306365	+0.87221647
<i>e</i>	0.1639835	<i>i</i>	3.99397	+0.18974107	+0.37228833
<i>P</i>	5.71	<i>H</i>	12.1	<i>G</i>	0.15

Residuals in seconds of arc

820919 095	1.6+	1.4+	881201 888	(5.0+	1.4+)	930718 801	0.2+	0.4+
820921 095	0.5-	2.5+	881203 888	0.2+	0.1-	930718 801	1.0+	0.1-
820922 688	0.3+	1.6-	881203 888	0.1+	0.2-	930721 801	0.8+	0.4-
820922 688	0.1-	1.4-	881207 888	0.1-	1.2+	930912 801	0.2+	0.5+
821011 688	0.8-	1.6-	881207 888	0.5+	0.2+	930915 801	0.4+	0.5+
821011 688	1.0+	0.6-	881211 888	(1.4+	4.4+)	930915 801	0.2+	0.4+
821021 688	0.4-	1.1-	881211 888	(1.0+	5.5+)	930918 691	1.3-	0.8+
821021 688	0.1+	0.5-	881228 888	0.6-	0.5+	930918 691	1.3-	0.1+
881201 888	(3.2+	0.7+)	881228 888	1.7-	1.1+	930918 691	1.2-	0.1+
881201 888	(6.2+	0.6+)	890101 888	0.9+	0.4-			
881201 888	(4.0+	0.2+)	890101 888	(3.5+	3.1+)			

**(5716)\* 1982 UH = 1971 TK = 1975 XM<sub>5</sub>**

Discovered 1982 Oct. 17 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. C. M. Bardwell (*MPC* 7470)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Bardwell

<i>M</i>	19.10194		(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.26885978	$\omega$	146.41631	+0.71966788	-0.69323231
<i>a</i>	2.3774907	$\Omega$	257.52136	+0.62795643	+0.67371951
<i>e</i>	0.1946771	<i>i</i>	2.27872	+0.29622436	+0.25599021
<i>P</i>	3.67	<i>H</i>	13.7	<i>G</i>	0.15

Residuals in seconds of arc

711010 095	0.5+	0.9+	821017 688	0.2+	1.3-	930914 801	0.3-	0.3-
711021 095	1.8-	2.4-	821024 688	0.2+	0.2+	930914 801	0.2-	0.2-
751204 095	0.9+	2.4+	821024 688	0.5+	0.2+	930920 801	0.4-	0.1-
770424 675	1.4+	1.1-	821115 688	1.4+	0.5-	930920 801	0.4-	0.2+
770425 675	1.3-	0.5+	821115 688	1.6+	1.7-	931012 801	0.0	0.2+
820917 095	1.0+	1.5+	870130 801	0.1+	1.8+	931012 801	0.0	0.1+
820920 095	(0.4+	4.0+)	910208 675	0.4-	0.6+	931019 801	0.2-	0.4+
820922 095	(3.3+	1.4-)	910208 675	0.4-	0.2-	931019 801	0.2-	0.0
820926 095	0.6-	2.0+	910215 511	1.1-	2.2-			
821017 688	0.1+	2.3-	910216 511	0.0	1.6-			

**(5717)\* 1982 UM<sub>6</sub> = 1978 RA<sub>4</sub> = 1978 RH<sub>15</sub> = 1978 SM<sub>3</sub> = 1981 GB<sub>1</sub>**

Discovered 1982 Oct. 20 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Id. H. Kaneda (*MPC* 15882), W. Landgraf (*ibid.*)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	66.55521		(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.26562945	$\omega$	335.62737	+0.87780550	+0.47900820
<i>a</i>	2.3967270	$\Omega$	355.74852	-0.43272298	+0.79032325
<i>e</i>	0.2153742	<i>i</i>	2.27292	-0.20544666	+0.38202133
<i>P</i>	3.71	<i>H</i>	14.4	<i>G</i>	0.15

Residuals in seconds of arc

780903 095	1.3-	1.4+	821114 095	0.7-	0.8+	930912 801	0.2+	0.4-
780906 809	1.5+	0.4+	920405 675	0.7+	1.0+	930915 801	0.1+	0.1-
780927 095	1.2-	0.8-	920405 675	0.9-	0.2-	930915 801	0.3+	0.3-
810411 801	1.7+	0.9+	920409 691	0.2-	0.1+	931014 801	0.4+	0.3+
821020 095	1.4-	0.5-	920409 691	0.2-	0.3+	931019 801	0.1-	0.1+
821025 095	1.1+	0.8+	920409 691	0.2-	0.1+	931019 801	0.0	0.0
821109 095	0.4+	0.7+	930912 801	0.2-	0.3-			

**(5718)\* 1983 PB**

Discovered 1983 Aug. 4 by A. C. Gilmore and P. M. Kilmartin at the Mount John University Observatory.

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Marsden

<i>M</i>	72.19826		(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.29924654	$\omega$	243.07926	+0.72144792	+0.68495302
<i>a</i>	2.2136891	$\Omega$	73.49576	-0.59173163	+0.68612224
<i>e</i>	0.2308730	<i>i</i>	6.09160	-0.35967566	+0.24510332
<i>P</i>	3.29	<i>H</i>	14.9	<i>G</i>	0.15

Residuals in seconds of arc

830804 474	(13.7+	12.4-)	Y	860508 474	0.7-	1.3-	890404 474	1.7+	0.7-
830804 474	(8.6-	4.3+)	Y	860508 474	1.2-	1.0-	901113 675	0.7+	0.4-
830808 474	0.9-	0.9+		860514 474	0.5-	0.2+	901113 675	0.1-	1.6-
830808 474	(2.4-	0.4-)		860514 474	0.3+	0.3-	901114 675	0.1+	0.9-
830810 474	0.4+	0.2+		860613 474	0.6+	0.7-	901114 675	0.0	0.5+
830810 474	0.3+	0.4+		860613 474	0.6-	1.0-	930731 413	0.0	0.0
830813 474	0.4-	0.8+		860713 474	0.1+	0.3+	930731 413	0.1+	0.0
830813 474	(13.1+	0.8+)		860713 474	0.5+	0.2+	930815 474	0.5+	1.9-
830911 474	1.2+	0.1+		890401 474	0.6-	1.0+	930815 474	0.2+	1.5-
830911 474	(2.5+	0.7-)		890401 474	0.1+	0.3+	930916 474	0.1-	0.5+
830928 474	0.4-	0.0		890403 474	1.0+	0.3+	930916 474	0.3+	0.8+
830928 474	0.8-	0.0		890403 474	0.6-	0.6+			
831101 474	0.5-	0.2-		890404 474	0.6-	0.0			

**(5719)\* 1983 RX = 1982 DK<sub>2</sub> = 1989 FF**

Discovered 1983 Sept. 7 by A. Mrkos at Kletř.

Id. S. Nakano (*MPC* 14616)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Nakano

<i>M</i>	92.66605		(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.29850711	$\omega$	339.21920	+0.48857425	+0.87114764
<i>a</i>	2.2173433	$\Omega$	319.98423	-0.78939400	+0.41742626
<i>e</i>	0.1693015	<i>i</i>	4.36683	-0.37168847	+0.25856739
<i>P</i>	3.30	<i>H</i>	13.6	<i>G</i>	0.15

Residuals in seconds of arc

801101 675	0.3+	0.6+	830908 046	0.6-	1.8-	930724 801	0.4-	0.3+	
801102 675	0.2+	0.6+	890329 896	(1.5-	5.0+)	Y	930912 801	0.4-	0.6+
820221 046	(3.7-	0.2+)	890329 896	0.5-	1.8+	Y	930912 801	0.5-	0.8+
820221 046	0.8+	0.7+	890401 896	(4.0-	1.6+)	Y	930919 801	0.9-	0.1+
830717 413	0.9+	1.9+	890403 896	1.0+	0.0		930919 801	0.6-	0.4+
830717 413	0.6-	0.6+	890413 896	(0.3-	5.4-)	Y	930923 596	1.0+	0.6-
830807 095	1.0+	1.8+	901114 809	1.4-	0.1+		930923 596	0.7+	0.1-
830907 046	(4.7+	2.0+)	901114 809	0.1+	0.4+		930923 596	1.1+	0.9+
830907 046	(6.5+	2.1+)	901114 809	0.1-	0.1-				
830908 046	0.8-	2.7-	930724 801	0.3-	0.3+				



**(5720)\* 1984 FN = 1986 VT<sub>6</sub>**

Discovered 1984 Mar. 29 by C. S. Shoemaker at Palomar.

Id. C. M. Bardwell (*MPC* 11630)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Williams		P		Q	
<i>M</i>	341.20118								
<i>n</i>	0.28382102	$\omega$	81.85706	-0.58151217	-0.75747705				
<i>a</i>	2.2931881	$\Omega$	48.12769	+0.49582984	-0.61920052				
<i>e</i>	0.3064749	<i>i</i>	23.48719	+0.64497780	-0.20692810				
<i>P</i>	3.47	<i>H</i>	14.0	<i>G</i>	0.15				

Residuals in seconds of arc

840329 675	0.5+	0.0	910317 801	0.1+	0.3-	910510 675	0.3-	0.3-
840329 675	1.0-	0.7+	910410 033	0.2+	0.1-	910512 675	1.1+	1.1-
840331 675	1.1+	0.4-	910410 033	1.0-	0.1-	910512 675	1.6+	0.6-
840331 675	0.1-	0.5+	910411 033	0.1-	0.1+	910514 675	0.9+	0.2+
840429 675	0.5+	0.0	910412 033	0.6+	0.1-	910514 376	(4.2+	0.3+)Y
840430 675	0.7-	0.0	910412 801	0.1-	0.1-	910514 376	(4.6+	1.0-)Y
861104 675	(3.0+	0.1-)	910412 801	0.1-	0.2-	910516 675	0.1-	0.3-
861104 675	(4.8+	0.9-)	910412 033	0.2-	0.2-	910516 675	0.8+	0.1-
861106 688	0.9-	0.1+	910414 801	0.4-	0.3-	930902 413	0.7+	0.4-
861106 688	0.3+	1.5+	910414 801	0.5-	0.1-	930902 413	0.8+	0.4-
861228 801	0.2+	0.2-	910414 675	1.6-	0.1+	930902 413	0.8+	0.5-
910316 801	0.0	0.1-	910416 675	1.1-	0.8+	931012 801	0.2-	0.8-
910316 801	0.1+	0.1+	910417 675	0.1+	0.0	931012 801	0.2-	1.0-
910317 801	0.0	0.1-	910510 675	0.7-	0.8+			

**(5721)\* 1984 SO<sub>5</sub> = 1980 TL<sub>14</sub> = 1989 WE<sub>2</sub>**

Discovered 1984 Sept. 18 by H. Debehogne at the European Southern

Observatory.

Id. T. Kobayashi (*MPC* 15709)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Nakano		P		Q	
<i>M</i>	16.66710								
<i>n</i>	0.22415542	$\omega$	248.41820	+0.86046470	-0.50704281				
<i>a</i>	2.6839220	$\Omega$	141.99898	+0.49237423	+0.80222193				
<i>e</i>	0.1243138	<i>i</i>	4.66576	+0.13102714	+0.31519449				
<i>P</i>	4.40	<i>H</i>	13.1	<i>G</i>	0.15				

Residuals in seconds of arc

801013 095	2.3+	0.5-	840924 809	0.4+	0.1-	880816 675	(2.0+	3.9+)
840918 809	1.0-	0.8-	840924 809	0.4+	0.1-	891130 875	1.9-	1.6-
840918 809	0.3-	0.8-	840926 809	0.0	0.7+	891130 875	0.6+	0.5+
840918 809	0.0	0.7-	840926 809	0.3+	0.6+	891201 875	0.1-	1.3+
840921 809	1.3-	0.4+	840926 809	0.5+	0.4+	891201 875	2.4-	0.1-
840921 809	0.8-	0.3+	840927 809	0.6+	0.5+	891225 033	0.2-	0.2+
840921 809	0.2-	0.2+	840927 809	0.4+	0.6+	891225 033	0.8+	0.3+
840922 809	0.2-	0.3+	840927 809	0.2-	0.6+	891226 033	1.5+	0.3+
840922 809	0.0	0.1-	840928 809	0.4-	0.6-	930914 801	0.0	0.3-
840922 809	0.0	0.1-	840928 809	0.7-	0.6-	930914 801	0.4-	0.2-
840922 809	0.8+	0.5-	840928 809	0.5-	0.7-	930920 801	0.2+	0.4-
840922 809	0.9+	0.1-	840929 809	1.0-	1.0+	930920 801	0.4+	0.2-
840922 809	0.7+	0.3-	840929 809	1.0-	0.7+	931014 801	0.3+	0.4-
840923 809	0.2+	0.3-	840929 809	0.7-	0.6+	931014 801	0.3+	0.2-
840923 809	0.1+	0.1-	841001 809	0.5-	0.8-	931019 801	0.6+	0.4+
840923 809	0.1+	0.2+	841001 809	0.3-	0.2-	931019 801	0.3+	0.9+
840924 809	0.4+	0.1-	880816 675	1.1+	0.5+			

**(5722)\* 1986 JS = 1933 FV<sub>1</sub> = 1982 BA<sub>10</sub>**

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

Id. R. Nagata (*MPC* 17631)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Nakano		P		Q	
<i>M</i>	92.64240								
<i>n</i>	0.29803357	$\omega$	141.43411	+0.00701090	+0.99621129				
<i>a</i>	2.2196914	$\Omega$	128.79487	-0.94283137	+0.03546921				
<i>e</i>	0.1542847	<i>i</i>	6.38555	-0.33319642	-0.07940407				
<i>P</i>	3.31	<i>H</i>	13.2	<i>G</i>	0.15				

Residuals in seconds of arc

330328 024	0.3+	1.4+	860606 675	2.3-	0.3-	930720 675	0.5+	1.4+
820119 095	0.8+	1.4-	860608 675	(4.9-	0.9-)	930722 801	0.2+	1.4+
860402 413	0.1+	0.4-	890211 675	2.6-	0.4-	930722 801	0.1+	0.4-
860402 413	0.1-	2.0-	890211 675	0.1+	2.1-	930811 894	0.4-	0.5-
860502 675	0.4-	1.0+	930719 801	0.5+	0.5-	930811 894	0.7+	0.8-
860502 675	1.4+	0.2+	930719 801	0.3+	0.2-	930820 675	(3.0+	1.3-)
860503 675	1.8+	0.3+	930720 675	1.8-	1.7-	930822 675	0.1+	1.7-

**(5723)\* 1986 RR<sub>2</sub> = 1969 TR<sub>6</sub> = 1979 QX<sub>6</sub>**

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

Id. S. Nakano (*MPC* 11349)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Nakano		P		Q	
<i>M</i>	58.52582								
<i>n</i>	0.28770209	$\omega$	193.95352	+0.99858149	+0.04539457				
<i>a</i>	2.2725182	$\Omega$	163.36919	-0.03453456	+0.94997211				
<i>e</i>	0.2450509	<i>i</i>	5.57954	-0.04052611	+0.30901831				
<i>P</i>	3.43	<i>H</i>	14.2	<i>G</i>	0.15				

Residuals in seconds of arc

691015 095	0.3+	1.3-	860915 095	(1.2-	3.6+)	920427 691	0.0	0.6-
691115 095	(0.2+	3.7-)	860929 095	(0.1-	3.2+)	920427 691	0.4-	0.3-
790819 095	0.5-	0.9+	861002 095	0.0	0.7-	930912 801	0.5-	0.5+
790821 095	0.1+	0.4+	861005 688	(1.8+	3.2+)	930912 801	0.0	0.2+
860906 688	1.4+	1.8-	861005 688	1.3+	1.1+	930914 801	0.2+	0.0
860906 688	0.6+	1.2-	861008 095	2.4-	1.9+	930914 801	0.1-	0.2+
860906 095	(1.0+	2.2-)	880322 675	(0.6-	3.4-)	931013 801	0.0	0.1+
860912 688	0.5-	1.2-	880322 675	0.1-	1.6-	931013 801	0.1-	0.0
860912 688	0.9+	0.3-	920427 691	0.2-	0.4-			

**(5724)\* 1986 WE = 1938 GD**

Discovered 1986 Nov. 22 by K. Suzuki and T. Urata at Toyota.

Id. T. Kobayashi (*MPC* 11512)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Nakano		P		Q	
<i>M</i>	269.81861								
<i>n</i>	0.25850687	$\omega$	41.08812	-0.78004619	-0.61616157				
<i>a</i>	2.4405516	$\Omega$	100.54265	+0.54121051	-0.75177961				
<i>e</i>	0.1898680	<i>i</i>	6.36337	+0.31403683	-0.23488793				
<i>P</i>	3.81	<i>H</i>	13.0	<i>G</i>	0.15				

Residuals in seconds of arc

380405 062	(3.2-	3.0+)	901115 801	0.6-	0.1+	910114 675	0.7-	0.4-
380405 062	(3.7+	1.1+)	901115 801	0.6-	0.1+	910114 046	2.5+	2.6-
380405 062	0.3-	1.2+	901116 801	0.5-	0.2+	910114 046	(3.2+	3.8-)

380406	062	1.0+	0.5+	901116	801	0.9-	0.4-	910115	675	0.1+	0.8-
861122	881	1.2-	1.9+ Y	901213	801	0.1-	0.3+	910117	046	1.6-	0.1+
861122	881	0.6-	2.4+ Y	901213	801	0.1-	0.2+	910117	046	1.6-	0.0
861129	881	0.1+	0.4+	901214	801	0.0	0.2+	910208	881	0.7+	0.5+
861129	881	0.9-	0.5+	901215	894	0.0	0.9-	910208	881	0.7+	0.1+
861205	881	0.3+	0.5+	901215	894	2.0+	1.6-	930914	385	0.5+	0.4+
861205	881	0.3-	0.6+	901227	886	(3.3+	0.0 )	930914	385	0.8+	0.4-
861208	888	0.2-	0.1-	901227	886	0.7-	1.0-	930914	385	0.3-	0.0
861208	888	1.9+	1.0-	910108	563	1.4-	0.4+	931012	385	0.4-	0.4-
861209	888	(3.0+	0.0 )	910108	563	0.1-	0.5+	931012	385	0.9-	0.3+
861209	888	1.7+	0.2+	910108	563	0.4+	1.9+	931012	385	0.1+	0.4-
861226	881	(3.4-	1.2+)	910108	563	2.1+	2.4+				
861226	881	1.4-	1.4-	910114	675	0.2-	2.3-				

**(5725)\* 1988 BK<sub>2</sub> = 1991 VM<sub>3</sub>**

Discovered 1988 Jan. 23 by C. S. Shoemaker at Palomar.

Id. G. V. Williams (*MPC* 19501)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams			
<i>M</i>	118.16523	(2000.0)	<b>P</b>	<b>Q</b>	
<i>n</i>	0.22461461	$\omega$ 78.87514	-0.63670251	-0.70335201	
<i>a</i>	2.6802628	$\Omega$ 55.43888	+0.46756121	-0.67809337	
<i>e</i>	0.0569781	<i>i</i> 22.57012	+0.61318547	-0.21327289	
<i>P</i>	4.39	<i>H</i> 12.5	<i>G</i> 0.15		

Residuals in seconds of arc

880123	675	0.3-	1.5+	911109	675	0.8+	0.2-	930220	801	0.2+	0.5+
880124	675	1.5+	0.5-	911130	402	0.6+	0.0	930220	801	0.2+	0.1-
880216	675	2.2-	0.1+	911130	402	1.1+	2.1+	930313	596	1.6+	0.7-
880217	675	1.4+	0.8-	920107	033	0.0	0.5+	930313	596	1.3-	0.3+
880220	675	0.1-	1.7-	920107	033	0.2-	0.4+	930323	675	0.4-	0.5-
911103	675	0.7-	0.3+	930119	801	0.5+	0.9+	930323	675	0.2+	0.7-
911103	675	0.3+	0.3+	930119	801	0.5+	1.5+	930325	675	0.2-	0.1+
911105	675	0.6-	0.5-	930125	801	0.5+	0.7+	930325	675	0.4+	0.5+
911105	675	0.3-	1.5-	930125	801	0.1+	0.8+	930414	675	0.1-	0.3+
911107	675	1.2-	1.3-	930218	801	0.2+	0.1+	930416	675	0.8-	1.5-
911107	675	0.3+	0.5-	930218	801	0.2+	0.1+	930416	675	1.0-	1.4-

**(5726)\* 1988 BN<sub>2</sub>**

Discovered 1988 Jan. 24 by C. S. Shoemaker at Palomar.

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams			
<i>M</i>	153.96098	(2000.0)	<b>P</b>	<b>Q</b>	
<i>n</i>	0.27373713	$\omega$ 162.99054	-0.58647749	+0.70476704	
<i>a</i>	2.3491653	$\Omega$ 69.22753	-0.78392048	-0.36992233	
<i>e</i>	0.1579534	<i>i</i> 25.27327	-0.20374700	-0.60536014	
<i>P</i>	3.60	<i>H</i> 13.3	<i>G</i> 0.15		

Residuals in seconds of arc

880124	675	0.3+	0.6+	920205	801	0.4-	0.7+	920405	675	0.8-	0.0
880124	675	0.2+	0.8+	920206	801	0.4-	0.2-	920405	675	0.3+	0.6+
880125	675	0.5+	0.6+	920206	801	0.3-	0.2-	930903	413	0.2-	0.5+
880217	675	0.4-	1.4+	920301	801	0.1-	0.7-	930903	413	0.0	0.5+
880220	675	0.8-	0.2-	920301	801	0.1-	0.8-	931008	413	0.1-	0.0
901113	675	1.1+	1.7-	920302	801	0.5+	0.2+	931008	413	0.6-	0.5+
901114	675	0.6+	1.1-	920302	801	0.7-	0.6+				
920205	801	1.9+	1.1-	920403	675	1.0-	0.7-				

**(5727)\* 1988 BB<sub>4</sub> = 1976 YN<sub>1</sub> = 1986 RF<sub>10</sub>**

Discovered 1988 Jan. 19 by H. Debehogne at the European Southern

Observatory.

Id. S. Nakano (*MPC* 14792)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Nakano	
<i>M</i>	224.20366	<b>P</b>	<b>Q</b>		
<i>n</i>	0.27720489	$\omega$ 256.42997	-0.96722896	-0.22972827	
<i>a</i>	2.3295326	$\Omega$ 270.20795	+0.25386579	-0.88254788	
<i>e</i>	0.0757952	<i>i</i> 6.20783	-0.00450632	-0.41028546	
<i>P</i>	3.56	<i>H</i> 13.2	<i>G</i> 0.15		

Residuals in seconds of arc

761216	095	0.1+	0.1+	880124	809	0.4-	0.0	901121	801	0.1+	0.8+
860908	095	0.8-	2.5-	880124	809	0.5-	0.1-	901214	801	0.3+	0.7+
860911	095	1.4+	2.2-	880126	809	0.3-	0.3-	901214	801	0.5+	0.7+
880119	809	0.7-	0.8+	880126	809	0.2+	0.2-	901220	801	0.1-	0.0
880119	809	0.8-	0.7+	880128	809	0.8+	0.2-	901220	801	0.2+	0.2+
880119	809	0.6-	0.8+	880128	809	0.8+	0.6-	930529	691	0.9-	0.3-
880120	809	0.3-	0.4+	880130	809	2.7+	1.2-	930529	691	1.9-	1.1-
880120	809	0.3-	0.4+	890710	675	1.2+	2.5+	930529	691	2.1-	0.2-
880122	809	0.8-	0.2+	890710	675	0.1-	0.2+	930920	801	0.8+	1.8+
880122	809	0.7-	0.3-	901121	801	0.2+	0.7+	930920	801	0.3-	0.5+

**(5728)\* 1988 BJ<sub>4</sub> = 1988 BQ<sub>5</sub> = 1976 SC<sub>8</sub> = 1990 WV<sub>3</sub>**

Discovered 1988 Jan. 20 by H. Debehogne at the European Southern

Observatory.

Id. C. M. Bardwell (d, *MPC* 14752), B. G. Marsden (*MPC* 17634), G. V. Williams

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Marsden	
<i>M</i>	25.42060	<b>P</b>	<b>Q</b>		
<i>n</i>	0.28964911	$\omega$ 226.87128	+0.92958739	-0.36724056	
<i>a</i>	2.2623228	$\Omega$ 154.62498	+0.35599025	+0.87219893	
<i>e</i>	0.0944164	<i>i</i> 4.23529	+0.09559403	+0.32311514	
<i>P</i>	3.40	<i>H</i> 13.6	<i>G</i> 0.15		

Residuals in seconds of arc

760925	095	0.4+	0.6-	880123	303	(6.7+	7.8-)	901123	809	2.0+	1.1-
880120	809	0.2-	0.3+	880125	809	0.4+	0.2+	901123	809	1.0+	1.1-
880120	809	0.1-	0.0	880125	809	0.4+	0.3+	920430	801	0.2+	0.4-
880120	809	0.3+	0.2-	880127	809	0.2+	0.7+	920430	801	0.3+	0.7-
880121	809	0.1+	0.5-	880127	809	0.4+	0.3+	920507	801	0.1+	1.7-
880121	809	0.1+	0.0	880129	809	0.1-	0.5+	930914	801	0.2+	0.6+
880122	303	0.4-	0.9+	880129	809	0.1+	0.5+	930914	801	0.1+	0.5+
880122	303	0.1+	0.7+	880211	399	0.8-	0.4+	Y 930920	801	0.2+	0.1+
880122	303	1.9-	1.6+	880211	399	(4.2-	0.3+)	Y 930920	801	0.0	0.4+
880123	303	0.2-	0.4+	880211	399	0.8+	1.6-	931012	801	0.7-	0.1+
880123	809	0.3-	0.1+	901121	809	0.8-	0.5-	931012	801	0.5-	0.1+
880123	809	0.4-	0.0	901121	809	0.4-	0.2-	931014	801	0.5-	0.3-
880123	303	(6.3+	8.0-)	901123	809	0.7+	1.1-	931014	801	0.9-	0.3+

**(5729)\* 1988 TA<sub>1</sub> = 1991 GX<sub>3</sub>**

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

Id. B. G. Marsden (*MPC* 18429)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Marsden

<i>M</i>	337.48553	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.18357686	$\omega$ 204.45527	+0.66679545	-0.74173876
<i>a</i>	3.0661314	$\Omega$ 203.93014	+0.70969412	+0.66155537
<i>e</i>	0.1012974	<i>i</i> 10.24780	+0.22741610	+0.11030915
<i>P</i>	5.37	<i>H</i> 12.1	<i>G</i> 0.15	

Residuals in seconds of arc

881005 399 (3.4+ 2.0-)	881102 399 1.9+ 1.3+	910410 809 0.0 1.4-
881005 399 (3.9+ 2.2+)	881103 033 0.4- 0.0	910410 809 (0.4+ 2.7-)
881011 046 (9.8+ 0.2+)	881103 033 1.1- 0.6-	910419 809 (0.4- 2.8-)
881012 046 (9.3+ 0.2+)	881104 033 0.7- 0.0	910419 809 1.5- 1.3-
881013 399 (4.3+ 0.6-)	900117 399 (3.1- 2.2-)	910419 809 (0.2- 2.9-)
881013 399 1.2+ 0.4-	900117 399 0.3- 0.4+	920629 801 (1.6+ 2.1-)
881013 399 0.4+ 0.7-	900128 399 0.8- 0.7-	920702 801 0.3- 0.3-
881014 046 (2.0+ 2.5-)	900128 399 (3.6- 3.4-)	920702 801 0.5- 0.3-
881014 046 1.8+ 1.5-	900128 399 0.2+ 2.1-	930912 801 0.7+ 0.7-
881016 399 0.6- 0.1-	900130 399 (3.6- 1.8-)	930920 801 0.4+ 0.6-
881016 399 (2.0- 0.8+)	900130 399 (1.4- 3.3-)	930920 801 0.4+ 0.6-
881019 399 0.3- 1.6-	910408 809 1.0+ 1.1-	931012 801 0.4- 0.6-
881019 399 (0.6- 2.0-)	910408 809 0.6- 2.1-	931012 801 0.3+ 0.4-
881102 399 1.5- 1.5-	910408 809 (1.0- 2.7-)	931014 801 0.7- 0.5-
881102 399 0.4+ 1.4+	910410 809 0.5+ 1.0-	931014 801 0.5+ 0.5-

**(5730)\* 1988 TP<sub>1</sub> = 1973 UO<sub>3</sub>**

Discovered 1988 Oct. 13 by Y. Oshima at Gekko.

Id. H. Oishi (*MPC* 16029)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	44.88852	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.19828806	$\omega$ 268.05256	+0.99903618	+0.02959840
<i>a</i>	2.9125385	$\Omega$ 90.25031	-0.01428844	+0.91751769
<i>e</i>	0.1034753	<i>i</i> 1.85750	-0.04150355	+0.39659202
<i>P</i>	4.97	<i>H</i> 12.0	<i>G</i> 0.15	

Residuals in seconds of arc

710324 675 0.2- 1.4-	881015 888 0.5- 1.2+	910323 809 0.1- 1.1-
710324 675 0.3- 1.5-	881019 888 0.5- 2.0-	910323 809 0.2+ 1.1-
710325 675 0.8- 0.3-	881019 888 1.3+ 2.1-	910323 809 0.4+ 1.2-
710325 675 1.0- 0.1-	881102 888 (1.4+ 2.8+)	910324 809 0.3- 0.6+
710326 675 0.0 1.0-	881102 888 1.0- 0.4+	910324 809 0.4+ 0.4+
710327 675 0.5+ 0.2-	881102 888 1.7+ 1.4-	910324 809 0.5+ 0.2+
710402 675 0.3+ 0.9-	881102 888 0.5+ 1.6-	910325 809 0.9+ 0.5+
710416 675 1.0+ 1.6-	881105 888 1.1+ 0.3-	910325 809 0.9+ 0.0
710416 675 0.7+ 1.5-	881105 888 1.6+ 0.5+	910325 809 0.8+ 0.1+
710513 675 1.3- 0.9-	881105 888 0.8+ 1.7-	910326 809 1.8- 0.1-
710514 675 0.2- 1.6-	881105 888 0.7+ 0.2+	910326 809 1.4- 0.1+
710516 675 0.3- 0.7-	881111 888 0.3+ 1.0-	910326 809 1.4- 0.3+
731029 095 0.8- 0.5-	881111 888 0.5- 1.4-	930919 801 1.0+ 2.0+
881004 046 2.4- 0.6-	891229 888 0.5+ 0.5+	930919 801 0.1+ 0.7+
881004 046 (2.5- 3.3-)	891229 888 0.7- 0.8+	930920 801 0.2+ 0.5+
881011 046 0.9+ 0.9-	900105 888 0.1+ 0.0	930920 801 0.0 0.9+
881011 046 0.6+ 0.6-	900105 888 0.6+ 0.1+	930922 303 0.6+ 0.9-
881013 888 (1.9- 2.9-)	900125 888 0.5- 1.1+	930922 303 0.5+ 0.4+
881013 888 0.5- 2.2-	900125 888 0.6- 1.3+	930922 303 (2.4+ 1.8+)
881014 046 1.2- 0.8-	910322 809 0.8- 0.4+	930923 303 (3.8+ 0.4+)

881014 046 0.4- 0.6-	910322 809 0.4- 0.5+	931014 801 0.9+ 1.5+
881015 888 0.0 1.1+	910322 809 0.4- 0.4+	

**(5731)\* 1988 VP<sub>4</sub>**

Discovered 1988 Nov. 4 by C. S. Shoemaker at Palomar.

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	167.67331	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.28954179	$\omega$ 215.59191	-0.73617638	-0.64749446
<i>a</i>	2.2628818	$\Omega$ 282.81472	+0.65826650	-0.61741178
<i>e</i>	0.6528773	<i>i</i> 11.65372	+0.15725633	-0.44671424
<i>P</i>	3.40	<i>H</i> 15.5	<i>G</i> 0.15	

Residuals in seconds of arc

880913 675 1.7+ 1.8-	890127 568 (1.1- 2.4-)	890604 474 (2.2- 1.6-)
880913 675 (0.3- 4.2-)	890331 474 0.0 1.5-	890605 568 (2.6- 2.1+)
881011 675 (0.2- 3.0-)	890331 474 (6.6+ 2.8+)	890608 474 (1.3- 2.3+)
881011 675 (1.1- 3.0-)	890401 474 0.6- 1.1-	890608 474 (1.9- 2.6+)
881104 675 0.2+ 1.0-	890401 474 0.7- 1.2-	890629 474 1.3+ 0.1+
881104 675 1.6+ 2.0-	890404 474 0.0 0.3-	890629 474 1.2+ 0.1+
881106 675 0.8+ 1.1-	890404 474 0.9- 0.5-	900827 688 0.1- 0.3+
881106 675 (2.9+ 0.2+)	890414 413 1.6+ 0.8-	900827 688 0.4+ 0.6+
881205 801 1.2- 1.7+	890415 413 0.8+ 0.7+	910807 688 0.4- 0.2-
881206 801 0.8- 0.3+	890415 413 0.1- 0.7-	910807 688 0.6- 0.2-
881214 698 0.3+ 1.0-	890416 413 0.3+ 0.2-	930701 413 1.2- 0.9+
881214 698 0.3- 1.0-	890416 413 0.6+ 0.3-	930701 413 0.1- 0.6+
890105 801 0.4- 0.1-	890509 474 0.6+ 0.2+	930824 413 0.2+ 0.0
890109 675 1.5- 0.4-	890509 474 0.8+ 0.5-	930824 413 0.7+ 0.1-
890110 675 (2.4+ 1.3-)	890604 474 1.5- 1.0-	930824 413 0.5+ 0.1-

**(5732)\* 1988 WC**

Discovered 1988 Nov. 29 by M. Arai and H. Mori at Yorii.

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	174.62210	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.29767087	$\omega$ 252.68332	-0.62836334	-0.70207703
<i>a</i>	2.2214941	$\Omega$ 241.10404	+0.77544593	-0.59961878
<i>e</i>	0.4039379	<i>i</i> 22.49961	-0.06199291	-0.38411608
<i>P</i>	3.31	<i>H</i> 13.7	<i>G</i> 0.15	

Residuals in seconds of arc

551215 675 0.4- 0.1+	881207 897 (0.4- 2.1-)	890112 875 0.3- 0.5-
551215 675 0.4+ 0.2+	881207 897 0.2- 1.1-	890112 875 0.1+ 1.8-
760501 413 0.3+ 0.7-	881207 054 0.7- 0.3-	890127 875 1.9+ 1.1+
760501 413 (1.8+ 3.8-)	881207 054 0.2- 0.9-	890201 801 0.9+ 0.0
830709 413 (3.9+ 1.3-)	881209 875 0.9+ 0.6-	890304 801 0.3+ 0.4+
830813 413 0.2+ 0.5-	881210 894 1.3- 1.5-	890310 801 1.9+ 0.1+
881129 875 1.1+ 1.4-	881210 894 0.4+ 0.9+	900729 688 1.2+ 0.1+
881129 875 0.7+ 1.6+	881210 894 0.4- 0.9-	900729 688 1.0+ 0.0
881129 875 0.7+ 0.2+	881212 875 0.8- 0.0	900827 688 0.8+ 0.2-
881130 875 1.0+ 0.8+	881212 054 (2.2- 4.1-)	900827 688 0.8+ 0.0
881130 875 0.6+ 1.6+	881212 054 (1.9- 4.1-)	930725 658 0.7- 0.6+
881201 875 0.3+ 1.6+	881216 875 (2.5- 0.1-)	930725 658 0.5- 0.5+
881201 875 (0.3- 4.8+)	881216 875 (3.0- 2.8+)	930725 658 0.5- 0.5+
881201 054 0.2- 0.7-	890103 875 1.5- 1.0+	930731 413 0.8- 0.7+
881207 875 0.6- 1.8-	890106 801 1.4- 0.5+	930824 413 1.1- 0.2+
881207 875 1.8- 1.7+	890112 875 0.4+ 1.2+	930824 413 1.1- 0.4+

**(5733)\* 1989 AQ = 1976 UF<sub>3</sub> = 1987 RC<sub>3</sub>**

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

Id. T. Kobayashi (MPC 15418)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Nakano		P		Q	
<i>M</i>	356.47831								
<i>n</i>	0.17268411	$\omega$	337.87675	+0.52537994	-0.85018605				
<i>a</i>	3.1937515	$\Omega$	80.41451	+0.78573812	+0.46941966				
<i>e</i>	0.1695008	<i>i</i>	1.97910	+0.32648356	+0.23838803				
<i>P</i>	5.71	<i>H</i>	11.5	<i>G</i>	0.15				

Residuals in seconds of arc

761026 095 (2.3- 4.0-)	890113 399 1.3- 1.2+	930915 801 0.5+	0.5-	
870902 095 0.0 2.0-	890113 399 0.1+	0.2-	930915 801 0.5+	0.6-
870920 095 0.8+ 1.2+	890113 399 2.6-	0.0	930920 801 0.4+	0.0
870922 095 0.7- 1.1+	900327 675 1.0-	1.1-	930920 801 0.4+	0.3-
890104 399 0.9- 0.5+	900327 675 0.0	1.8-	930922 303 2.2-	1.2-
890104 399 0.6+ 0.0	900329 801 0.2-	0.9-	930922 303 0.5-	1.2-
890104 399 1.9+ 0.6+	900329 801 0.0	0.5-	930922 303 0.1-	0.5-
890104 399 0.6+ 1.0+	910513 801 0.2-	0.2-	930923 303 2.0+	0.6-
890106 399 1.6+ 1.5-	910513 801 0.2-	0.1+	931014 801 0.5+	0.5+
890106 399 0.6- 1.0-	910516 801 0.0	0.1-	931014 801 0.3+	0.2+
890106 399 0.3+ 0.2+	910516 801 0.1-	0.4+		

**(5734)\* 1989 AL<sub>1</sub> = 1980 TM<sub>2</sub> = 1982 DD<sub>1</sub>**

Discovered 1989 Jan. 15 by K. Endate and K. Watanabe at Kitami.

Id. H. Kaneda (MPC 17635)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Williams		P		Q	
<i>M</i>	157.01899								
<i>n</i>	0.27422389	$\omega$	11.73697	-0.34606922	-0.92940421				
<i>a</i>	2.3463846	$\Omega$	98.61388	+0.84995503	-0.36844624				
<i>e</i>	0.0719868	<i>i</i>	7.45207	+0.39725626	-0.02133500				
<i>P</i>	3.59	<i>H</i>	13.4	<i>G</i>	0.15				

Residuals in seconds of arc

591204 760(14.3+ 1.5-)	890130 400 (9.6- 5.2-)	911008 801 0.4-	0.8+	
801005 809 0.4+ 0.2-	890207 400 (2.8- 2.3-)	930121 801 1.2-	1.1-	
820221 688 0.4- 1.2+	890207 400 (6.4- 1.7+)	930124 801 0.9-	0.1+	
820221 688 (3.6- 0.1+)	910907 801 0.1+	0.7+	930124 801 0.3-	0.2+
890113 400 (1.3+ 5.5+)	910907 801 0.0	0.4+	930220 801 0.4-	0.1+
890113 400 2.1+ 1.6-	910911 675 0.2+	0.8-	930220 801 0.4-	0.4+
890115 400 0.0 0.2-	910911 675 0.6-	0.2-	930226 801 0.2+	0.6+
890115 400 0.7- 0.4+	910913 801 0.2+	0.3+	930226 801 0.2-	0.8+
890115 400 0.0 0.3-	910913 801 0.1+	0.5+	930323 010 1.3+	1.6+
890129 400 1.0- 0.0	910913 675 0.6-	0.3-	930323 010 1.2+	0.4+
890129 400 0.9- 0.0	911005 801 0.5-	0.8+	930323 010 1.1+	0.0
890129 400 (4.3+ 1.8-)	911005 801 0.4-	0.7+	930325 010 (0.2-	2.9+)
890130 400 1.6+ 0.0	911008 801 0.4-	0.8+		

**(5735)\* 1989 LM = 1971 BX<sub>3</sub> = 1983 VM<sub>2</sub> = 1986 RM<sub>13</sub> = 1986 SP<sub>1</sub>**

Discovered 1989 June 4 by E. F. Helin at Palomar.

Id. B. G. Marsden (MPC 14958)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Marsden		P		Q	
<i>M</i>	110.81398								
<i>n</i>	0.28506514	$\omega$	356.41706	+0.15976815	+0.98337824				
<i>a</i>	2.2865111	$\Omega$	282.76251	-0.90348372	+0.11045836				
<i>e</i>	0.1484976	<i>i</i>	5.07437	-0.39773272	+0.14410481				
<i>P</i>	3.46	<i>H</i>	13.7	<i>G</i>	0.15				

Residuals in seconds of arc

710129 805 1.4+ 1.1-	890630 675 1.3-	0.1-	901218 675 0.7-	0.2+
831108 381 1.6+ 0.5+	890630 675 0.5+	0.6+	901218 675 0.5-	0.4-
831108 381 1.1- 0.2-	890703 675 1.3+	0.5+	930912 801 0.4+	0.9+
860911 095 1.1- 3.7-	890703 675 0.7-	0.1-	930912 801 0.4+	0.7+
860929 010(27.6+ 1.0-)	901111 675 0.0	0.4-	930920 801 1.0+	0.7+
860929 010(28.3+ 1.0+)	901111 675 0.5-	1.8-	930920 801 1.0+	0.5+
890604 675 (0.2+ 2.5-)	901112 675 (0.8-	2.5-)	931019 801 0.1-	1.1+
890604 675 (0.2+ 2.7-)	901113 675 0.0	1.6-	931019 801 0.1+	1.1+
890606 675 0.6- 1.8-	901215 675 1.5-	1.2+		
890606 675 0.2+ 1.2-	901215 675 0.0	1.6-		

**(5736)\* 1989 LW**

Discovered 1989 June 6 by E. F. Helin at Palomar.

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Williams		P		Q	
<i>M</i>	71.59136								
<i>n</i>	0.26902769	$\omega$	90.84070	+0.65707377	+0.70893303				
<i>a</i>	2.3765013	$\Omega$	224.06942	-0.74994597	+0.64920922				
<i>e</i>	0.2741582	<i>i</i>	21.61916	+0.07638783	+0.27557457				
<i>P</i>	3.66	<i>H</i>	13.4	<i>G</i>	0.15				

Residuals in seconds of arc

780608 675 (4.0- 5.5+)	890629 675 1.2+	0.8-	930724 801 0.8+	0.2+
780608 675 0.1- 0.6+	890629 675 1.0+	0.5-	930814 801 0.1+	0.7+
850608 413 0.1+ 1.5+	890701 675 0.6-	1.9-	930814 801 0.1-	0.5+
850608 413 0.5- 1.1+	890701 675 0.6+	1.4-	930822 801 0.6-	0.4-
880320 413 0.4- 2.3-	890806 801 0.0	2.2+	930919 693 0.1+	1.4-
880320 413 (1.4- 3.2-)	930723 801 0.1+	0.1+	930919 693 (0.6-	2.6-)
890606 675 0.6- 0.2-	930723 801 0.2+	0.3+		
890606 675 1.0- 0.0	930724 801 0.3-	0.2+		

**(5737)\* 1989 SK = 1977 UX = 1981 ST<sub>7</sub> = 1987 HH<sub>2</sub>**

Discovered 1989 Sept. 30 by T. Nomura and K. Kawanishi at the Minami-Oda

Observatory.

Id. S. Nakano (MPC 15421)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		(2000.0)		Nakano		P		Q	
<i>M</i>	3.88471								
<i>n</i>	0.24514753	$\omega$	103.99669	+0.38117817	-0.92251787				
<i>a</i>	2.5284306	$\Omega$	323.41121	+0.80418706	+0.36315848				
<i>e</i>	0.2167894	<i>i</i>	5.82845	+0.45605524	+0.13067787				
<i>P</i>	4.02	<i>H</i>	13.2	<i>G</i>	0.15				

Residuals in seconds of arc

771016 330 1.0- 0.5+	891009 374 2.5-	0.2-	930914 801 0.5+	0.5+
810929 095 1.5+ 2.3+	891009 374 1.2-	2.6-	930918 410 0.3+	1.1+
811002 095 1.1- 0.2+	891023 374 1.8-	1.2+	930920 801 0.2-	0.0
870423 010 0.0 0.7+	891023 374 (8.5+	6.7-)	930920 801 0.1-	0.0
870423 010 0.6+ 1.4+	891023 095 0.9+	0.4+	930925 410 1.2-	0.3+
870423 010 0.7+ 0.5+	891023 095 (3.2+	0.1+)	930925 410 0.2-	0.7+

890930 374 2.3+ 0.7+	891104 095 1.6+ 0.2+	930925 410 0.0 0.1-
890930 374 0.6+ 1.4+	891104 095 0.9+ 0.2+	931008 410 1.1- 0.4-
890930 374 1.2- 0.1+	891106 095 1.2- 0.5-	931008 410 0.6- 0.6-
891004 871 (3.6- 0.0 )	891106 095 0.4+ 0.5+	931008 410 0.5+ 1.3-
891004 871 0.8+ 0.0	891120 095 0.0 1.1-	931011 410 0.9+ 0.4-
891007 374 0.9- 0.3-	891120 095 (3.7- 5.1+)	931011 410 1.2+ 1.5-
891007 374 1.3+ 0.9+	930914 801 0.5+ 0.6+	

**(5738)\* 1989 UY<sub>3</sub> = 1980 WV<sub>4</sub>**

Discovered 1989 Oct. 27 by E. F. Helin at Palomar.

Id. S. J. Bus (*MPC* 18817)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.21741741	$\omega$ 245.14017	-0.52479911 -0.78684350
<i>a</i>	2.7390913	$\Omega$ 240.44173	+0.85122610 -0.48517772
<i>e</i>	0.4756045	<i>i</i> 21.92172	-0.00016038 -0.38141827
<i>P</i>	4.53	<i>H</i> 14.1	<i>G</i> 0.15

Residuals in seconds of arc

801129 675 0.2+ 0.7-	891129 675 0.5- 0.8-	930824 658 1.9+ 0.6-
801201 675 0.2- 0.6+	891202 675 1.0- 0.7+	930916 658 0.2- 0.7+
891027 675 0.4+ 0.4-	891229 801 0.3+ 0.1-	930916 658 0.2+ 0.8+
891027 675 (2.8- 2.8-)	891229 801 0.2+ 0.2-	930916 658 0.1+ 0.6+
891029 675 0.0 0.1+	930824 658 1.3- 0.8-	
891129 675 0.6+ 0.6+	930824 658 0.7- 0.7-	

**(5739)\* 1989 WK<sub>2</sub>**

Discovered 1989 Nov. 24 by R. H. McNaught at Siding Spring.

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Marsden	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.21294729	$\omega$ 299.95762	+0.05727198 -0.96634550
<i>a</i>	2.7772905	$\Omega$ 143.96304	+0.99790511 +0.04783960
<i>e</i>	0.3268437	<i>i</i> 25.23255	+0.03008834 +0.25276024
<i>P</i>	4.63	<i>H</i> 13.4	<i>G</i> 0.15

Residuals in seconds of arc

810308 413 1.5- 0.9-	900215 413 0.7+ 1.1+	920821 413 0.4- 0.0
810308 413 1.6+ 0.6+	900215 413 0.1+ 0.6-	920821 413 0.4- 0.0
880715 413 0.2+ 0.0	900227 801 0.0 0.2-	920822 413 0.2- 0.1-
880715 413 (3.5+ 1.1+)	900228 801 0.3+ 0.5+	920822 413 0.3- 0.0
891124 413 0.0 0.8-	900228 801 0.4- 0.2-	930731 413 0.4+ 0.1-
891124 413 0.1+ 0.6-	900326 801 0.5- 0.4+	930731 413 0.4+ 0.2-
891125 413 1.2- 0.3-	900326 801 0.3- 1.4-	930825 413 0.2+ 0.5-
891125 413 0.7+ 0.3-	910321 801 0.3- 1.0-	930825 413 0.4+ 0.5-
891206 413 0.3+ 0.1+	910321 801 0.1- 0.8-	930923 413 0.5- 0.4+
891206 413 0.3+ 0.2+	910419 801 0.1+ 0.3+	930923 413 0.3- 0.4+
891227 413 0.2- 0.7+	910419 801 0.5+ 0.4+	

**(5740)\* 1989 WM<sub>3</sub> = 1942 VD = 1972 VB<sub>1</sub> = 1973 AL<sub>2</sub> = 1987 HP<sub>2</sub>**

Discovered 1989 Nov. 29 by Y. Oshima at Gekko.

Id. H. Oishi (*MPC* 15726), S. Nakano (d, *ibid.*)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.23151879	$\omega$ 18.65835	+0.37825523 -0.90835991
<i>a</i>	2.6267085	$\Omega$ 49.53512	+0.81669201 +0.23675978
<i>e</i>	0.1933776	<i>i</i> 13.55686	+0.43581778 +0.34471303
<i>P</i>	4.26	<i>H</i> 12.5	<i>G</i> 0.15

Residuals in seconds of arc

421105 062 0.9+ 0.3-	891124 897 1.3+ 0.1-	891227 888 1.2- 0.1+
421105 062 0.7+ 0.3+	891124 897 1.7+ 0.1-	891228 888 0.4- 1.1+
421107 062 0.0 0.2+	891126 897 0.5+ 0.3+	891228 888 0.8- 1.1+
721109 095 (0.9- 5.7+)	891126 897 0.3- 0.3+	930915 801 1.4- 0.5-
730102 095 1.0- 2.4-	891129 888 (1.4- 6.9+)	930919 801 0.8- 0.4+
730103 095 2.2- 2.1-	891129 888 1.4- 1.7+	930919 801 0.8- 0.6+
870429 046 0.5+ 0.2+	891130 888 0.9+ 1.3+	931012 801 0.3+ 0.2-
870429 046 1.1+ 1.5+	891130 888 (0.9- 3.7+)	931012 801 0.3+ 0.1-
891104 095 (0.1- 4.0+)	891223 888 0.1- 1.2-	931019 801 0.1+ 0.7-
891105 095 1.1+ 2.7+	891223 888 0.3+ 1.2-	931019 801 0.3+ 0.3-

**(5741)\* 1989 XC = 1986 CX<sub>1</sub>**

Discovered 1989 Dec. 2 by W. Kakei, M. Kizawa and T. Urata at the Oohira Station of the Nihondaira Observatory.

Id. T. Urata (*MPC* 15726)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Nakano	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.20342194	$\omega$ 300.39816	+0.91207143 -0.40618315
<i>a</i>	2.8633264	$\Omega$ 83.61732	+0.39288839 +0.82662779
<i>e</i>	0.1074396	<i>i</i> 3.23284	+0.11732187 +0.38948908
<i>P</i>	4.85	<i>H</i> 12.3	<i>G</i> 0.15

Residuals in seconds of arc

540731 675 0.3+ 0.2-	860213 809 0.5- 0.1+	891209 385 1.0- 0.1+
540731 675 0.1- 0.3-	860213 809 0.3- 0.0	891209 385 0.3+ 1.1+
540922 675 0.0 0.3-	860213 809 0.0 0.2+	900104 385 1.6- 0.6-
540922 675 0.1+ 0.3-	860214 809 1.5- 0.5+	900104 385 2.3- 0.1-
860211 809 0.2- 0.7+	860214 809 1.4- 0.3+	930914 385 0.7+ 0.2+
860211 809 0.1- 0.8+	860214 809 1.2- 0.1+	930914 385 0.0 0.3-
860211 809 0.2+ 0.9+	891202 385 0.3- 0.0	930914 385 0.2- 0.5-
860212 809 1.4+ 1.7-	891202 385 2.4+ 0.6-	931009 385 0.7- 0.2+
860212 809 1.5+ 1.7-	891204 385 2.3+ 0.4-	931009 385 0.3- 0.1+
860212 809 1.7+ 1.6-	891204 385 (3.4+ 0.9-)	931009 385 0.7+ 0.0

**(5742)\* 1990 TN<sub>4</sub> = 1982 JF = 1985 WR**

Discovered 1990 Oct. 9 by R. H. McNaught at Siding Spring.

Id. G. V. Williams (*MPC* 17454)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.18056249	$\omega$ 117.45633	-0.93565579 +0.25508336
<i>a</i>	3.1001618	$\Omega$ 78.16736	-0.34031463 -0.83514522
<i>e</i>	0.0862327	<i>i</i> 14.42909	+0.09345692 -0.48730375
<i>P</i>	5.46	<i>H</i> 11.7	<i>G</i> 0.15

Residuals in seconds of arc

820513 033 0.2+ 0.4-	901022 413 1.5+ 0.0	930326 801 0.3- 0.3-
820513 033 0.6+ 1.1+	901029 413 (3.1+ 0.7-)	930419 801 0.1+ 0.1-
851120 095 1.1- 0.3-	901029 413 0.6- 0.5-	930419 801 0.4+ 0.2-

901009 413 1.0+ 1.6-	901119 413 0.3- 0.1-	930730 413 0.3- 0.3-
901009 413 1.8+ 0.7+	930221 801 0.1+ 0.3-	930730 413 0.4- 0.1-
901014 095 (2.8- 0.3-)	930221 801 0.3+ 0.4-	930923 413 0.1- 0.3+
901014 095 (2.6- 0.8+)	930225 801 0.0 0.2+	930923 413 0.4- 0.3+
901020 413 2.0- 0.1+	930225 801 0.0 0.2+	930923 413 0.4- 0.5+
901020 413 0.1- 1.6+	930326 801 0.5- 0.4-	

**(5743)\* 1990 UW = 1983 RQ<sub>1</sub> = 1988 AE<sub>1</sub>**

Discovered 1990 Oct. 19 by M. Akiyama and T. Furuta at Mishima.

Id. S. Nakano (*MPC* 17456), R. Nagata (*ibid.*)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Nakano	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.29478601	$\omega$ 107.19875	+0.14978643 -0.98844573
<i>a</i>	2.2359640	$\Omega$ 334.15245	+0.88569379 +0.14457863
<i>e</i>	0.1017941	<i>i</i> 3.05267	+0.43944345 +0.04551976
<i>P</i>	3.34	<i>H</i> 13.1	<i>G</i> 0.15

Residuals in seconds of arc

801101 675 0.9+ 0.5+	901019 886 0.1+ 1.4-	Y 920504 809 0.3- 0.7+
801102 675 1.1+ 0.1-	901021 886 (2.8- 1.3+)	Y 920507 809 0.2- 0.8-
830902 688 0.5- 2.4-	901024 886 0.4- 2.6-	920507 809 0.7- 0.6-
830902 688 0.4+ 2.0-	901024 886 1.1+ 1.6-	Y 920507 809 0.3- 0.5-
830906 688 1.6- 1.2+	901026 886 0.6- 0.3+	Y 930724 801 0.9- 0.2-
830906 688 0.2+ 0.7+	901026 886 (2.9+ 1.8-)	Y 930724 801 1.2- 0.2-
880109 046 0.2- 0.1+	901110 877 0.2+ 0.6+	930815 010 1.1+ 2.0+
880109 046 1.3+ 1.1+	901110 877 2.0- 0.4-	930815 010 0.9+ 1.9+
880110 046 0.5- 0.5+	901112 877 0.2+ 1.4+	930815 010 0.7+ 2.2+
880110 046 0.9- 1.1+	901112 877 0.4+ 0.1-	930912 801 0.0 0.2+
880112 046 1.1+ 0.8-	920503 809 0.8+ 0.1+	930912 801 0.1- 0.0
880112 046 0.5- 0.7+	920503 809 1.1+ 0.0	930914 801 0.1- 0.0
901015 399 0.8- 0.8+	920503 809 1.4+ 0.0	930914 801 0.4- 0.3-
901015 399 0.6+ 0.9+	920504 809 1.1- 0.9+	
901019 886 (3.3+ 1.0-)	Y 920504 809 0.6- 0.6+	

**(5744)\* 1990 XP = 1991 AG = 1983 TM<sub>2</sub>**

Discovered 1990 Dec. 14 by A. Natori and T. Urata at the JCPM Yakiimo

Station.

Id. G. V. Williams (*MPC* 17828), F. N. Bowman (d, unpublished)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.29777392	$\omega$ 219.29798	+0.66590415 -0.74592119
<i>a</i>	2.2209815	$\Omega$ 188.97733	+0.70396902 +0.63409742
<i>e</i>	0.1400353	<i>i</i> 4.83859	+0.24698034 +0.20376956
<i>P</i>	3.31	<i>H</i> 13.6	<i>G</i> 0.15

Residuals in seconds of arc

500814 675 0.7+ 0.4+	910105 885 0.6- 0.8-	930925 385 0.5- 0.1+
500814 675 1.6- 0.6+	910107 413 2.4- 0.7+	931012 801 0.2+ 0.1-
820422 413 0.4- 0.3-	910108 413 0.1- 0.1+	931012 801 0.5+ 0.1-
820422 413 0.4- 0.7-	910117 413 0.9+ 1.1-	931012 385 0.5+ 0.1+
831004 688 1.5+ 1.7-	910207 413 0.2+ 0.2-	931012 385 0.2+ 0.1+
831004 688 0.8+ 0.3-	910209 413 0.6+ 0.0	931012 385 0.6+ 0.1+
850512 413 0.3+ 0.6-	930914 801 0.1- 0.1-	931016 596 0.1- 0.2+
901214 885 0.3- 1.0+	930914 801 0.0 0.0	931016 596 0.2- 0.1+
901214 885 0.1+ 0.6-	930920 801 0.4- 0.0	931016 596 0.5- 0.0

901216 885 1.7+ 1.0+	930920 801 0.3- 0.1-	931019 801 0.3- 0.1-
901216 885 2.0+ 1.6-	930925 385 0.2- 0.1+	931019 801 0.4- 0.2-
910105 885 1.6- 0.9+	930925 385 0.4- 0.2+	

**(5745)\* 1991 AN = 1928 TE = 1980 TC<sub>15</sub> = 1983 RB<sub>9</sub>**

Discovered 1991 Jan. 9 by T. Hioki and S. Hayakawa at Okutama.

Id. R. Nagata (*MPC* 17831)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Nakano	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.30392138	$\omega$ 27.66381	+0.62841888 -0.77713391
<i>a</i>	2.1909302	$\Omega$ 23.45222	+0.69700668 +0.54317445
<i>e</i>	0.1597023	<i>i</i> 4.89354	+0.34535692 +0.31784335
<i>P</i>	3.24	<i>H</i> 14.0	<i>G</i> 0.15

Residuals in seconds of arc

281015 024 1.3- 2.0+	910113 877 (3.2- 0.6+)	930915 801 0.4- 1.1-
801015 095 1.4+ 1.9+	910113 877 0.4+ 0.1+	930915 801 0.3+ 1.3-
801017 095 1.5+ 2.0-	910114 877 (6.7- 1.2+)	931014 801 0.9+ 0.8-
830911 095 2.2- 0.5+	910114 877 1.1- 0.7+	931014 801 1.2+ 0.3-
880217 675 1.6+ 0.4-	910205 877 2.3- 0.6+	931019 801 0.4+ 0.2-
880217 675 1.4+ 1.5-	910205 877 0.6+ 0.4+	931019 801 0.0 0.5+
910109 877 0.1+ 0.2+	910219 877 1.4- 0.8-	
910109 877 1.5- 1.6+	910219 877 (3.8- 0.8-)	

**(5746)\* 1991 CK = 1950 QE<sub>1</sub> = 1950 RY = 1975 RL = 1977 DU<sub>9</sub>**

Discovered 1991 Feb. 5 by M. Arai and H. Mori at Yorii.

Id. H. Kaneda (*MPC* 17969), R. Nagata (*ibid.*), B. G. Marsden (d, *ibid.*)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Nakano	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.27722327	$\omega$ 15.77015	+0.97593066 -0.21802567
<i>a</i>	2.3294296	$\Omega$ 356.81066	+0.18931767 +0.85818489
<i>e</i>	0.2164329	<i>i</i> 5.06869	+0.10825053 +0.46474026
<i>P</i>	3.56	<i>H</i> 13.0	<i>G</i> 0.15

Residuals in seconds of arc

500819 711 2.0- 1.5+ Y	910205 875 1.3- 0.4+	910313 809 0.5+ 1.1-
500909 711 2.2+ 2.0- Y	910205 875 0.8- 0.5+	910313 809 1.3+ 1.3-
500914 839(43.2- 5.1-)	Y 910207 875 1.6- 0.9-	930914 801 0.7+ 0.1+
750902 095 1.8- 0.0	910212 875 0.1- 0.7+	930914 801 0.3+ 0.1-
750905 095 1.6+ 0.3-	910212 875 1.7+ 1.5-	930920 801 0.4+ 0.3+
770219 381 0.7+ 0.1-	910217 875 0.5+ 0.1+	930920 801 0.1+ 0.3+
770219 381 0.2+ 0.4-	910217 875 0.1+ 2.0+	931012 801 0.0 0.5+
910117 033 0.8+ 0.1+	910220 875 1.8- 1.5+	931012 801 0.4- 0.7+
910117 033 0.7- 0.2-	910220 875 0.9+ 1.6+	931019 801 0.7- 0.2-
910118 033 0.3- 1.2-	910313 809 0.3- 0.9-	931019 801 0.3+ 0.5-

**(5747)\* 1991 CO<sub>3</sub> = 1972 BF**

Discovered 1991 Feb. 10 by R. H. McNaught at Siding Spring.

Id. G. V. Williams (*MPC* 18437)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.26515431	$\omega$ 170.15252	-0.05844702 -0.91199874
<i>a</i>	2.3995893	$\Omega$ 282.33114	+0.88531608 +0.14058178
<i>e</i>	0.2390004	<i>i</i> 24.55683	+0.46130184 -0.38535056
<i>P</i>	3.72	<i>H</i> 12.5	<i>G</i> 0.15

Residuals in seconds of arc

720119	095	(4.4+ 2.7+)	910210	413	1.1+	0.6+	920529	413	0.3-	0.2+
770910	413	0.4-	910211	413	1.8+	0.5-	930913	801	0.4-	0.8+
770910	413	1.5+	910214	413	0.4-	0.1-	930913	801	1.0+	0.5+
770911	413	0.7-	910321	413	0.4+	0.4-	930915	801	0.0	0.0
770916	413	0.3+	910323	413	0.5-	0.2+	930915	801	0.0	0.1+
800312	413	0.4+	910406	413	0.9-	0.3+	931014	801	0.2-	0.2-
800312	413	1.5-	910504	413	0.2+	0.4+	931014	801	0.3-	0.1-
870109	413	0.7+	910515	413	0.8-	0.1+	931019	801	0.4-	0.0
870109	413	0.0	920529	413	(3.4-	0.3-)	931019	801	0.4-	0.1+

**(5748)\* 1991 DX = 1983 EL<sub>4</sub> = 1989 SK<sub>9</sub>**

Discovered 1991 Feb. 19 by E. F. Helin at Palomar.

Id. B. G. Marsden (*MPC* 18128)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

			Marsden		
M		(2000.0)	P	Q	
n	0.24078393	$\omega$ 263.20790	+0.17169679	-0.98507213	
a	2.5588867	$\Omega$ 176.82476	+0.96888256	+0.16657524	
e	0.1500356	i 12.90826	+0.17828854	+0.04342329	
P	4.09	H 12.9	G 0.15		

Residuals in seconds of arc

830315	095	0.3-	910219	675	0.3-	1.1-	930912	801	0.4+	0.4-
890925	809	0.8-	910219	675	1.3-	0.5-	930912	801	0.4+	0.4-
890925	809	0.1+	910220	675	0.6-	0.5-	930914	801	0.7+	0.4-
890925	809	0.8+	910318	675	0.0	1.3-	930916	691	0.6-	0.4-
890926	809	0.4-	910318	675	0.9+	0.2-	930916	691	0.7-	0.5-
890926	809	0.1-	930819	675	0.6-	1.0+	930916	691	0.6-	0.4-
890926	809	0.1+	930819	675	1.1-	0.7+	931014	801	0.5+	1.7-
910208	675	0.5+	930821	675	0.9+	0.3-	931019	801	0.3+	0.1-
910208	675	0.6+	930821	675	1.3+	0.3-	931019	801	0.2+	1.3-

**(5749)\* 1991 FV = 1973 YN<sub>1</sub> = 1982 QZ<sub>3</sub> = 1988 SL<sub>4</sub> = 1989 YR<sub>5</sub>**

Discovered 1991 Mar. 17 by E. F. Helin at Palomar.

Id. S. Nakano (*MPC* 18301)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

			Nakano		
M		(2000.0)	P	Q	
n	0.18884365	$\omega$ 41.89745	+0.60024360	+0.78239974	
a	3.0088541	$\Omega$ 265.65856	-0.77091804	+0.51066733	
e	0.0772861	i 9.58348	-0.21305630	+0.35646811	
P	5.22	H 10.7	G 0.15		

Residuals in seconds of arc

731220	095	1.7+	910317	675	0.2+	0.0	930822	801	0.4+	0.0
820818	808	0.2-	910318	675	1.3+	0.1-	930912	801	0.8+	0.1-
820818	808	0.4-	910318	675	0.4+	0.1-	930912	801	0.8+	0.0
880916	095	0.6-	910410	675	0.0	2.7-	930913	675	0.7-	0.5-
880916	095	(2.6+ 3.1+)	910410	675	0.4-	1.0-	930913	675	0.1-	0.0
891229	511	1.8-	910412	675	0.5-	1.1-	930914	801	0.7+	0.2+
891229	511	0.9-	910412	675	0.2-	0.1+	930914	801	0.9+	0.2+
891230	511	1.7-	910412	413	0.1-	0.1+	930916	675	1.3+	0.2-
891230	511	0.7+	910412	413	1.2-	0.1-	930916	675	0.0	0.3+
900104	511	0.1+	930821	801	0.5+	0.1-	930920	596	1.8-	1.9-
900104	511	0.2+	930821	801	0.2+	0.1+	930920	596	0.1+	0.7-
910317	675	0.2-	930822	801	0.3+	0.0	930920	596	0.1-	0.5-

**(5750)\* 1991 GG<sub>1</sub> = 1970 ES<sub>3</sub> = 1975 EH<sub>2</sub> = 1978 UZ<sub>2</sub> = 1980 BZ = 1980 EH = 1985 BG<sub>2</sub> = 1988 RQ<sub>13</sub>**

Discovered 1991 Apr. 11 by A. Takahashi and K. Watanabe at Kitami.

Id. H. Kaneda (*MPC* 18439), A. Lowe (*ibid.*)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

			Nakano		
M		(2000.0)	P	Q	
n	0.19065135	$\omega$ 138.71570	-0.38411888	-0.92010378	
a	2.9898045	$\Omega$ 333.60167	+0.79546353	-0.28770467	
e	0.0533753	i 9.91579	+0.46871149	-0.26577258	
P	5.17	H 11.3	G 0.15		

Residuals in seconds of arc

700308	805	1.1+	910411	400	(2.1-	4.6+)	930912	400	2.0+	0.2-
700308	805	0.4-	910411	400	0.8-	0.9-	930913	400	1.1+	1.0+
700308	805	0.5-	910414	400	0.5+	1.3+	930913	400	1.2-	1.3-
750308	095	1.6-	910414	400	0.0	0.9+	930919	400	0.2+	1.0+
781026	675	(4.4+ 1.9-)	910416	400	(0.4+	5.7+)	930919	400	0.3-	0.1-
781027	675	(6.1+ 2.6-)	910416	400	(3.9+	3.3+)	930919	596	0.9+	0.9+
800123	095	(1.4+ 3.4-)	910514	399	0.2+	0.6-	930919	596	0.0	0.6-
800315	095	0.5+	910514	400	1.5+	0.6+	930919	596	0.3+	0.2+
850121	688	1.7+	910514	399	0.5+	1.1+	931012	801	0.3-	0.2-
850121	688	1.0-	910514	399	1.2-	0.1+	931012	801	0.5-	0.3-
880914	095	(2.9-	910514	400	0.2+	1.4-	931019	801	0.2+	0.4-
880914	095	(0.5-	910515	400	0.9-	0.4+	931019	801	0.7-	0.3+
880916	095	0.7-	910515	400	0.5-	1.1-				
880916	095	0.9-	930912	400	0.3+	0.2+				

**(5751)\* 1992 AC = 1989 EN<sub>1</sub>**

Discovered 1992 Jan. 5 by M. Koishikawa at the Ayashi Station of the Sendai

Observatory.

Id. T. Kobayashi (*MPC* 19522)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

			Nakano		
M		(2000.0)	P	Q	
n	0.32282781	$\omega$ 25.14468	-0.82424708	-0.51515561	
a	2.1045315	$\Omega$ 121.81964	+0.46144670	-0.85166365	
e	0.4212132	i 16.05622	+0.32815193	-0.09635210	
P	3.05	H 13.4	G 0.15		

Residuals in seconds of arc

890310	897	0.8-	920124	364	0.9-	0.9-	920206	104	(2.6-	0.5-)
890310	897	0.1+	920124	364	0.4+	0.7+	920207	658	0.0	0.2+
890315	897	(3.5+	920124	391	1.2+	0.3-	920207	658	0.0	0.2+
890315	897	0.6+	920124	391	1.0+	0.8-	920213	372	0.6-	0.8+
890315	897	1.7+	920124	391	1.0+	0.2-	920213	372	0.4-	0.1-
890329	897	0.5-	920124	411	0.2-	0.3-	920222	411	0.7+	0.3-
890329	897	0.9-	920124	411	0.2+	0.2+	920222	411	0.5+	0.0
920103	886	0.6+	920124	411	0.5+	0.1+	920222	411	0.5+	0.1-
920103	886	1.4+	920124	411	0.8+	0.2+	920222	411	0.5+	0.0
920105	391	0.6+	920124	411	0.2+	0.2+	920222	411	0.4+	0.1-
920105	391	0.3+	920124	411	0.6+	0.3-	920222	411	0.4+	0.2-
920107	896	0.6+	920124	391	1.4+	1.0+	920222	411	0.5+	0.2-
920107	402	0.4-	920124	391	1.0+	0.6-	920222	372	0.2+	0.4-
920107	896	0.6+	920124	391	1.1+	0.5-	920301	293	(3.5-	2.4+)
920107	402	0.2+	920125	411	0.6+	0.1+	920301	293	2.4-	1.0-
920109	896	0.3-	920125	411	0.7+	0.1+	920304	104	0.6+	0.5+

920109 372 (0.7- 2.6+)	920125 411 0.3+ 0.0	920304 104 0.6+ 0.1+
920109 372 2.0- 1.8+	920125 411 0.4+ 0.3+	920304 012 0.7- 1.7-
920109 372 (2.9- 2.5+)	920125 411 0.2+ 0.0	920322 104 0.1- 0.1+
920109 372 1.4- 1.6+	920125 411 0.5+ 0.0	920322 104 1.4+ 0.8-
920109 372 1.5- 1.5+	920125 104 (5.2+ 1.7+)	920328 104 0.8- 0.3-
920110 413 0.7+ 0.2-	920125 104 (4.6+ 2.2+)	920328 104 0.3- 0.3-
920110 391 0.1- 1.2-	920126 657 0.4+ 0.0	920329 596 0.1- 0.1-
920110 886 0.8- 0.5+	920126 657 0.3+ 0.2+	920329 596 0.3- 0.4-
920110 411 0.1- 0.1-	920126 364 0.7- 1.4-	920329 596 0.9+ 1.5-
920110 391 0.4+ 0.4-	920126 364 0.5+ 0.6-	920407 046 0.2- 1.8+
920110 411 0.1- 0.5-	920126 391 0.8+ 1.8+	920407 046 1.2+ 1.0+
920110 411 0.1+ 0.1-	920127 364 0.3+ 0.5-	920501 411 0.2- 0.0
920110 411 0.0 0.3-	920127 364 0.4+ 0.4-	920501 411 0.4- 0.2+
920110 411 0.5+ 0.1-	920128 391 1.8+ 2.0+	920501 411 0.7+ 0.3+
920110 411 0.3+ 0.1-	920128 391 1.2+ 1.8+	920501 411 0.0 0.5+
920110 402 0.9+ 0.3-	920128 104 0.4+ 1.3+	920504 801 0.1+ 0.1+
920110 402 1.0+ 0.4+	920128 104 1.5+ 0.8-	920504 801 0.1+ 0.1-
920110 391 0.0 0.6-	920129 391 0.5- 1.3+	920506 801 0.4+ 0.5-
920110 391 0.0 1.0-	920129 391 1.1- 1.4+	920506 801 0.5+ 1.0-
920110 391 0.9+ 0.9-	920129 391 0.8- 2.0+	920529 801 0.0 0.3+
920110 896 (0.4+ 3.8-)	920129 391 0.9- 1.3+	920529 801 0.1- 0.2+
920111 411 0.0 0.3+	920129 399 0.5- 0.1-	920531 801 0.1+ 0.3+
920111 411 0.2+ 0.4+	920129 391 0.9- 1.3+	920531 801 0.2- 0.1+
920111 411 0.6- 0.1-	920129 399 0.5+ 0.1+	920622 657 0.1- 0.5+
920111 411 0.4- 0.4+	920129 399 1.3- 1.2+	920622 657 0.8+ 1.3+
920111 411 0.3+ 0.2+	920130 012 0.1+ 0.8+	920707 711 1.0- 0.2-
920111 411 0.3+ 0.4+	920130 012 0.7- 1.2-	920728 658 1.2- 0.3+
920111 413 0.3+ 0.3-	920130 012 0.6- 0.2-	920728 658 1.2- 0.2+
920111 391 0.5+ 0.8+	920130 012 0.1- 0.1+	930510 413 0.3- 0.6-
920111 391 0.9- 0.3+	920130 675 2.4+ 1.1+	930510 413 0.6+ 0.1-
920112 413 0.6+ 0.2+	920130 675 0.7- 2.1+	930510 413 0.1+ 0.8-
920112 391 (2.8+ 1.7+)	920130 104 2.1- 1.4-	930511 413 1.0- 0.6+
920112 391 (2.8+ 0.4-)	920130 104 1.2- 0.7-	930511 413 1.3- 0.1-
920112 391 2.2+ 0.4+	920130 104 0.9- 0.9-	930630 413 0.2- 0.9+
920112 897 (2.6- 4.1-)Y	920131 104 (3.6- 0.8-)	930630 413 0.4- 0.9+
920112 897 (2.9- 1.4-)Y	920131 587 0.9- 0.9+	930630 413 0.6- 0.6+
920114 894 1.0- 2.4-	920201 675 1.9+ 1.1-	930701 413 0.0 0.7+
920114 894 0.5- 1.5-	920201 104 (3.7+ 4.0+)	930701 413 0.1- 0.9+
920114 894 2.4- 0.6-	920201 104 (1.5+ 2.7+)	930701 413 0.4- 0.9+
920115 372 (3.4- 1.4+)	920203 071 (3.1+ 2.8+)	930730 413 0.1- 1.0+
920115 372 1.5- 2.0+	920203 071 (3.2+ 3.4+)	930730 413 0.5+ 0.4+
920115 372 1.6- 1.6+	920204 049 0.9- 0.5-	930731 413 0.1- 0.9+
920115 372 1.9- 1.8+	920204 049 0.5- 0.8-	930731 413 0.1+ 0.8+
920115 372 (3.3- 0.9+)	920205 367 0.0 0.5+	930824 413 0.5+ 1.1+
920122 568 0.0 1.3-	920205 367 1.2- 1.6-	930824 413 0.4+ 1.0+
920123 568 0.4- 0.7-	920205 367 0.4- 0.2-	930923 413 0.9+ 0.1+
920123 391 0.3+ 0.2-	920206 658 1.5- 0.1-	930923 413 0.8+ 0.2+
920123 391 1.0- 0.5+	920206 658 1.4- 0.2-	
920123 391 0.5- 0.3-	920206 104 (3.3- 0.3-)	

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Ichikawa

<i>M</i>	143.07826	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.29316342	$\omega$ 39.51661	-0.44697691	+0.89369168
<i>a</i>	2.2442067	$\Omega$ 204.01011	-0.84311838	-0.43547542
<i>e</i>	0.1230774	<i>i</i> 5.51063	-0.29893651	-0.10805710
<i>P</i>	3.36	<i>H</i> 13.3	<i>G</i> 0.15	

Residuals in seconds of arc

520520 711 1.6- 1.6+ Y	920224 046 0.4- 0.7-	930823 675 0.5+ 1.7-
520520 711 (0.5- 7.5-)Y	920227 376 2.0+ 1.9-	930823 675 0.0 0.8-
520522 711 1.4+ 2.1- Y	920227 376 0.3- 0.5+	930912 801 0.2- 0.5+
731026 095 0.5+ 0.4-	930811 376 0.4+ 0.2+	930912 801 0.0 0.0
920210 376 0.5- 0.5+	930811 376 0.0 0.5-	930914 376 (1.1+ 3.2+)
920210 376 0.8- 0.5-	930811 376 0.9+ 1.9-	930914 376 (3.3+ 0.5-)
920213 376 0.3+ 1.1-	930821 801 0.9+ 0.7-	930920 801 0.2- 0.6+
920213 376 1.5- 0.3-	930821 801 0.4- 0.8+	930920 801 0.7- 0.3+
920224 046 (3.9+ 0.4+)	930822 675 0.3- 0.4-	

(5753)\* 1992 EM = 1959 UL = 1979 OT<sub>15</sub> = 1985 DL<sub>3</sub>

Discovered 1992 Mar. 4 by K. Endate and K. Watanabe at Kitami.

Id. H. Kaneda (MPC 20034)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Nakano

<i>M</i>	123.63304	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.28876937	$\omega$ 305.28813	+0.05586088	+0.99521793
<i>a</i>	2.2669153	$\Omega$ 327.63168	-0.86056772	+0.00729800
<i>e</i>	0.1637641	<i>i</i> 8.60811	-0.50626352	+0.09740644
<i>P</i>	3.41	<i>H</i> 13.0	<i>G</i> 0.15	

Residuals in seconds of arc

591029 760 0.9- 2.1+	920308 400 1.5- 0.1-	930822 801 0.2- 0.2+
591029 760 0.7+ 1.0-	920308 400 (3.1- 1.7-)	930912 801 0.5+ 0.2+
790730 095 0.1+ 0.6-	920322 400 0.2+ 1.5+	930912 801 0.4+ 0.1+
850220 675 0.9- 0.5-	920322 400 0.0 0.6-	930919 801 0.2- 0.7-
850222 675 0.1- 0.2+	930814 801 0.1- 0.9+	930919 801 0.3- 0.7-
920304 400 0.1+ 0.1-	930814 801 0.1+ 0.2-	931008 400 0.7+ 1.1-
920304 400 1.5+ 1.4-	930822 801 0.2- 0.1+	931008 400 (3.5- 1.9-)

(5754)\* 1992 FR<sub>2</sub> = 1935 SD = 1941 KB = 1952 UJ = 1969 RR= 1982 JK<sub>3</sub> = 1982 KV = 1990 WC<sub>3</sub>

Discovered 1992 Mar. 24 by S. Ueda and H. Kaneda at Kushiro.

Id. S. Nakano (MPC 22057)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	69.40239	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.28864369	$\omega$ 226.51794	+0.88050209	+0.46484193
<i>a</i>	2.2675733	$\Omega$ 105.58175	-0.40230749	+0.83645614
<i>e</i>	0.1414566	<i>i</i> 5.53692	-0.25072845	+0.29028107
<i>P</i>	3.41	<i>H</i> 12.5	<i>G</i> 0.15	

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

350924 012 0.9+ 0.3-	820526 688 1.8- 0.8-	930724 801 0.4+ 0.1-
350928 012(0.08+ 0.08-)	901118 675 1.3+ 0.8-	930724 801 0.4+ 0.0
351001 012 1.0+ 1.2+	901118 675 0.4- 1.1+	930914 801 0.3- 1.0-
410516 024 1.3+ 0.7-	901121 675 0.2- 2.0-	930914 801 0.4- 0.8-
521022 760 1.0- 1.1-	901121 675 0.5- 0.7-	930915 801 0.2+ 0.6-
521022 760 0.5- 0.0	920323 399 1.0+ 0.4-	930915 801 0.1+ 0.5-
521025 760 2.5- 0.2-	920323 399 0.1- 0.5+	930923 413 1.3+ 1.0+

(5752)\* 1992 CJ = 1952 KN = 1973 UV

Discovered 1992 Feb. 10 by N. Kawasato at Uenohara.

Id. K. Ichikawa (MPC 20511)



521025 760 (2.9- 3.9+)	920324 399 0.1- 1.1+	930923 413 0.8- 0.9+
690908 095 (8.1+ 1.3+)	920324 399 0.0 0.8-	930924 413 1.7+ 0.4+
820513 095 0.8+ 0.2-	920331 400 0.9- 0.2-	930924 413 0.1+ 0.1+
820526 688 0.0 1.2-	920331 400 1.0- 0.6+	

**(5755)\* 1992 OP<sub>7</sub> = 1937 BB = 1951 XE = 1974 CB<sub>1</sub> = 1979 BU<sub>1</sub>  
= 1987 QG<sub>11</sub>**

Discovered 1992 July 20 by H. Debehogne and A. López G. at the European Southern Observatory.

Id. G. V. Williams (*MPC* 21583)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.18799712	$\omega$ 80.36861	+0.85967031 -0.49532414
<i>a</i>	3.0178797	$\Omega$ 309.21061	+0.38214589 +0.78590437
<i>e</i>	0.1180103	<i>i</i> 9.28267	+0.33901544 +0.37014634
<i>P</i>	5.24	<i>H</i> 11.0	<i>G</i> 0.15

Residuals in seconds of arc

370117 053 (1.8+ 5.8-)X	920728 809 1.3+ 0.2-	920805 809 0.9- 0.2-
370117 053 (5.4+ 1.8-)Y	920728 809 1.5+ 0.1-	920806 809 0.8+ 0.9-
511203 760 0.4- 1.0+	920728 809 1.9+ 0.1-	920806 809 0.8+ 1.0-
511203 760 0.4- 1.1+	920730 809 1.4- 0.4+	920806 809 0.9+ 0.6-
740215 095 (0.8- 3.7-)	920730 809 0.9- 0.4+	920808 809 1.8- 0.4-
790124 095 0.1- 0.3-	920730 809 0.7- 0.5+	920808 809 1.6- 0.6-
870828 095 0.6- 0.6+	920731 809 0.3- 0.3-	920808 809 1.2- 0.6-
870831 095 1.5+ 1.3-	920731 809 0.1- 0.3-	930914 801 0.1+ 0.4-
920720 809 0.1+ 1.3+	920731 809 0.3+ 0.4-	930914 801 0.2+ 0.2-
920720 809 0.2+ 1.1+	920804 809 0.0 0.0	930919 801 0.0 0.4-
920720 809 0.3+ 0.9+	920804 809 0.2- 0.1-	930919 801 0.2- 0.5-
920721 809 0.5+ 1.1+	920804 809 0.2- 0.2-	931013 801 0.0 0.1-
920721 809 0.8+ 1.1+	920805 809 1.0- 0.4-	931013 801 0.1+ 0.1-
920721 809 0.8+ 1.0+	920805 809 0.8- 0.3-	

**(5756)\* 6034 P-L = 1985 TG<sub>1</sub>**

Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.

Id. E. Bowell (*MPC* 10310)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.23768341	$\omega$ 142.86593	+0.94503528 +0.32433540
<i>a</i>	2.5810919	$\Omega$ 198.34085	-0.32259931 +0.90426360
<i>e</i>	0.2279057	<i>i</i> 7.56216	-0.05327298 +0.27769388
<i>P</i>	4.15	<i>H</i> 14.0	<i>G</i> 0.15

Residuals in seconds of arc

600924 675 0.5+ 0.2-	851016 049 (2.7+ 0.1+)	890904 511 0.4+ 1.5-
600925 675 0.5+ 0.1+	851016 049 1.8+ 2.0+	890905 511 0.1- 1.6-
600926 675 0.0 0.1-	851016 049 2.2- 0.8+	890907 511 1.1+ 1.0-
600928 675 0.2- 0.6-	851018 095 0.5- 1.2-	890907 511 0.4+ 0.8-
601017 675 0.2- 0.2-	851020 688 1.7+ 2.3+	930814 801 0.1- 0.3-
601022 675 0.2- 1.3-	851020 688 0.7+ 0.2+	930814 801 0.5+ 1.0+
601024 675 1.1+ 1.0-	851024 049 0.6+ 1.1-	930820 801 0.4- 1.0+
601026 675 0.7- 0.3+	851024 049 2.3- 1.2+	930820 801 0.3- 1.0+
811024 675 0.1- 1.5-	851107 688 1.4- 1.3+	930912 801 0.6- 1.2+
811025 675 0.2+ 0.1-	851107 688 (4.2+ 4.4-)	930912 801 0.2- 1.3+

850921 095 0.3- 0.7+	890901 801 (3.5+ 3.5+)	930915 801 0.2- 1.0+
851015 688 1.5- 1.9+	890903 511 0.5+ 1.2-	930915 801 0.5- 1.5+
851015 688 2.0+ 0.6+	890903 511 0.0 2.0-	
851016 049 (3.1+ 4.8-)	890904 511 0.1- 1.7-	

**1976 DJ<sub>1</sub> = 1981 UO<sub>21</sub>**

Id. E. Bowell (*MPC* 20495)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.12379977	$\omega$ 96.18039	-0.85921531 +0.50270422
<i>a</i>	3.9870912	$\Omega$ 114.03409	-0.50085814 -0.78860092
<i>e</i>	0.1369552	<i>i</i> 5.97475	-0.10435601 -0.35411448
<i>P</i>	7.96	<i>H</i> 12.0	<i>G</i> 0.15

Residuals in seconds of arc

760227 033 0.6- 0.4+	760303 033 1.7+ 1.4-	920127 691 0.5+ 0.2-
760301 033 0.4+ 0.2+	811024 675 0.5+ 0.2-	920127 691 0.5- 0.0
760302 033 0.0 0.1+	811025 675 0.3+ 0.4+	
760303 033 1.5- 0.8+	811026 675 0.8- 0.2-	

**1976 QR = 1976 SX = 1978 EL<sub>4</sub> = 1991 FP<sub>6</sub> = 1993 QP<sub>1</sub>**

Id. J. G. Williams (d, *MPC* 5638; unpublished), E. Bowell (k), G. V. Williams

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.23264928	$\omega$ 238.94263	+0.75812362 -0.64706726
<i>a</i>	2.6181925	$\Omega$ 160.98335	+0.65019582 +0.74054469
<i>e</i>	0.1805997	<i>i</i> 14.38438	+0.04993975 +0.18137672
<i>P</i>	4.24	<i>H</i> 12.5	<i>G</i> 0.15

Residuals in seconds of arc

760826 095 (1.8- 8.3+)	760927 675 0.4- 0.2-	910320 809 1.1+ 0.7-
760827 675 0.8- 0.1+	760927 675 0.0 0.5+	930816 010 0.6- 0.7-
760828 675 1.3+ 0.6+	780306 095 0.5+ 0.9-	930816 010 1.4+ 0.6-
760830 675 1.2+ 0.8+	910320 809 1.4- 1.1+	930816 010 0.9+ 0.6-
760924 095 2.2- 2.4+	910320 809 0.2- 0.1+	930817 010 0.7- 2.4-

**1976 SQ<sub>7</sub> = 1952 QK<sub>1</sub> = 1993 RU<sub>2</sub>**

Id. G. V. Williams, P. Wild

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.28959818	$\omega$ 142.08970	+0.93722690 +0.34756705
<i>a</i>	2.2625881	$\Omega$ 197.63573	-0.33842877 +0.88696561
<i>e</i>	0.2106904	<i>i</i> 5.36650	-0.08409340 +0.30412030
<i>P</i>	3.40	<i>H</i> 13.5	<i>G</i> 0.15

Residuals in seconds of arc

520828 760 0.2+ 0.4+	930914 894 0.6- 0.2+	930920 026 0.4+ 0.9+
520828 760 0.1- 0.6-	930914 894 0.9- 0.1+	930922 033 0.2- 0.5-
760925 095 1.0- 1.9+	930918 033 0.6+ 1.0-	930925 894 1.9- 0.1+
760928 095 2.2+ 1.5+	930918 033 0.9+ 1.2-	930925 894 0.6- 0.3+
761025 095 0.0 0.6-	930919 026 0.5+ 0.3+	931009 026 1.7+ 0.1-
761027 095 2.1- 1.2-	930920 033 0.1- 0.9-	931011 026 1.1+ 0.1+

**1977 AZ<sub>1</sub> = 1966 DK = 1979 MN = 1981 UX<sub>19</sub>**

Id. S. Nakano (*MPC* 12448; unpublished)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Nakano			
<i>M</i>	348.95764	(2000.0)		<b>P</b>	<b>Q</b>		
<i>n</i>	0.17121452	$\omega$	22.52587	-0.38098463	-0.90521361		
<i>a</i>	3.2120009	$\Omega$	90.29394	+0.81701423	-0.42492373		
<i>e</i>	0.1035337	<i>i</i>	10.85097	+0.43282614	+0.00530527		
<i>P</i>	5.76	<i>H</i>	11.6	<i>G</i>	0.15		

Residuals in seconds of arc

660220	760	0.6+	0.5+	770113	095	0.5-	2.5-	790625	805	0.6+	1.4-
660220	760	0.6-	0.5-	770120	095	0.6+	2.9-	811027	095	0.5+	1.3-
770112	675	1.2+	0.0	790622	805	1.9-	0.8-				
770113	675	1.2-	3.0+	790622	805	0.7+	1.0-				

**1977 QG<sub>2</sub> = 1993 SC<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Nakano			
<i>M</i>	93.50974	(2000.0)		<b>P</b>	<b>Q</b>		
<i>n</i>	0.18729604	$\omega$	284.90404	+0.44115879	+0.89674788		
<i>a</i>	3.0254060	$\Omega$	11.46512	-0.74086777	+0.38590361		
<i>e</i>	0.0874951	<i>i</i>	10.12972	-0.50645223	+0.21661404		
<i>P</i>	5.26	<i>H</i>	11.6	<i>G</i>	0.15		

Residuals in seconds of arc

770820	095	1.2+	0.6+	770922	095	0.8-	0.1-	930918	400	2.3-	1.8-
770908	095	0.4-	0.1-	930916	400	0.6+	0.5-	931011	400	0.2+	1.0+
770910	095	0.0	0.2-	930916	400	0.1-	0.4+	931011	400	1.2+	0.3+
770918	095	(5.1+	0.9-)	930918	400	0.4+	0.5+				

**1978 SE<sub>3</sub> = 1981 JY<sub>2</sub>**

Id. H. Oishi (*JAM* 1990), E. Bowell (*MPC* 10516)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Williams			
<i>M</i>	61.42446	(2000.0)		<b>P</b>	<b>Q</b>		
<i>n</i>	0.25959313	$\omega$	97.68518	+0.61463861	+0.78835786		
<i>a</i>	2.4337385	$\Omega$	210.29130	-0.74296252	+0.56722583		
<i>e</i>	0.1124976	<i>i</i>	3.03086	-0.26500201	+0.23821574		
<i>P</i>	3.80	<i>H</i>	14.0	<i>G</i>	0.15		

Residuals in seconds of arc

780926	095	1.1-	0.4-	810505	675	0.3-	1.7+	920407	691	0.5+	0.4-
781002	095	0.6+	1.1+	810505	675	1.8+	0.0	920407	691	0.3-	0.2-
781005	095	0.3+	0.3-	810506	675	2.5-	0.2+	920407	691	0.6-	0.2-
781008	095	0.6+	1.2-	810510	675	1.0+	1.9-				

**1978 SA<sub>8</sub> = 1993 SC<sub>2</sub>**

Id. K. Watanabe

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Nakano			
<i>M</i>	26.56430	(2000.0)		<b>P</b>	<b>Q</b>		
<i>n</i>	0.26126306	$\omega$	163.77017	+0.96189401	-0.27234704		
<i>a</i>	2.4233569	$\Omega$	212.06544	+0.24551349	+0.89931450		
<i>e</i>	0.1906680	<i>i</i>	2.61573	+0.12034550	+0.34214109		
<i>P</i>	3.77	<i>H</i>	14.2	<i>G</i>	0.15		

Residuals in seconds of arc

780926	095	0.2-	1.1+	781028	675	0.5+	0.3-	930919	400	1.2+	0.9-
781002	095	1.2+	1.1+	781029	675	0.2+	0.9-	930919	400	0.5-	0.3-
781008	095	1.7-	0.2+	781128	675	0.2-	0.1+	930921	400	0.0	0.1-
781027	675	0.2-	0.5-	781129	675	0.2+	0.0	930921	400	0.3-	0.5+

**1981 EK<sub>35</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Williams			
<i>M</i>	353.12249	(2000.0)		<b>P</b>	<b>Q</b>		
<i>n</i>	0.19025090	$\omega$	79.47685	+0.99979747	-0.01447576		
<i>a</i>	2.9939984	$\Omega$	281.35154	+0.00766949	+0.91634685		
<i>e</i>	0.0992439	<i>i</i>	0.81708	+0.01860655	+0.40012361		
<i>P</i>	5.18	<i>H</i>	14.0	<i>G</i>	0.15		

Residuals in seconds of arc

781003	675	1.5+	1.1-	810311	413	1.2+	0.9-	930622	691	0.8-	0.0
781004	675	0.7-	0.7-	810329	413	1.6-	1.6+	930622	691	1.1-	0.2+
810209	413	1.8-	0.8-	810329	413	0.4-	1.6+	930731	413	1.4+	0.1-
810213	413	0.7+	0.1+	810426	413	0.3+	2.0-	930731	413	1.2+	0.3-
810302	413	0.3-	0.0	810502	413	1.3-	0.8-				
810307	413	2.0+	1.6-	930622	691	0.8-	0.3-				

**1982 BM = 1993 QN<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Williams			
<i>M</i>	236.47942	(2000.0)		<b>P</b>	<b>Q</b>		
<i>n</i>	0.22203424	$\omega$	201.70218	-0.86182057	-0.50497683		
<i>a</i>	2.7009886	$\Omega$	307.87945	+0.47377598	-0.76796207		
<i>e</i>	0.1455911	<i>i</i>	3.45582	+0.18111221	-0.39399575		
<i>P</i>	4.44	<i>H</i>	13.0	<i>G</i>	0.15		

Residuals in seconds of arc

811224	095	1.1+	0.7+	820118	046	1.9-	1.4-	930816	010	0.5-	0.1-
820116	046	0.9-	0.3+	820119	046	0.2-	0.0	930817	010	0.6+	0.4+
820116	046	0.8-	1.4+	820119	046	0.3-	0.3-	930914	691	0.3+	0.5-
820118	688	1.0+	2.8-	820119	095	1.5+	3.6+	930914	691	0.1+	0.1-
820118	688	0.9+	0.7-	930816	010	0.1-	0.4+				
820118	046	0.2-	0.8-	930816	010	0.4-	0.1-				

**1982 KK<sub>1</sub> = 1993 SX<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Williams			
<i>M</i>	97.68709	(2000.0)		<b>P</b>	<b>Q</b>		
<i>n</i>	0.28743075	$\omega$	205.04009	+0.52402140	+0.84733547		
<i>a</i>	2.2739482	$\Omega$	96.66897	-0.76609232	+0.51313450		
<i>e</i>	0.0971719	<i>i</i>	4.97670	-0.37216143	+0.13680494		
<i>P</i>	3.43	<i>H</i>	14.0	<i>G</i>	0.15		

Residuals in seconds of arc

820515	675	0.2-	0.0	820518	675	0.3+	0.4-	930916	400	0.4-	0.2-
820516	675	0.3+	0.0	820527	675	1.9+	0.9+	930918	400	0.7-	1.1-
820516	675	2.2-	0.0	820527	675	(5.4+	0.2+)	930918	400	0.7-	0.3-
820517	675	0.1-	0.6-	930916	400	1.9+	1.5+				

**1984 KB**

Id. R. H. McNaught (1993 observations)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Williams			
<i>M</i>	354.44857	(2000.0)		<b>P</b>	<b>Q</b>		
<i>n</i>	0.29872217	$\omega$	336.50903	-0.83379819	-0.55187274		
<i>a</i>	2.2162789	$\Omega$	169.95609	+0.51896507	-0.79262344		
<i>e</i>	0.7643349	<i>i</i>	4.84598	+0.18829721	-0.25919984		
<i>P</i>	3.30	<i>H</i>	15.0	<i>G</i>	0.15		

Residuals in seconds of arc

840527	675	1.8-	0.7-	840604	801	0.7-	0.5+	840622	474	0.1+	0.3+
840527	675	(3.1-	1.6-)	840604	688	(2.8+	1.0+)	840622	474	0.9+	0.9-

840529	675	0.9+	1.1+	840604	688	0.6-	0.6-	840623	474	0.3-	0.4+
840529	675	0.9+	1.5+	840604	688	(0.8-	4.4-)	840623	474	0.2+	0.4+
840529	675	1.2+	0.0	840604	688	(6.6+	1.3+)	840627	801	0.7-	0.6+
840529	675	0.7-	1.1-	840604	688	1.3+	2.6-	840703	801	(5.6+	1.9+)
840530	675	0.4-	0.7+	840605	801	1.2-	0.3+	840725	801	0.2+	0.6+
840531	657	2.1+	0.5-	840613	474	(1.7-	3.4+)	840729	801	0.9+	0.9+
840601	381	0.0	0.9+	840613	474	2.0-	0.0	930923	413	0.3+	0.2+
840601	381	1.2-	0.0	840613	474	(2.5-	0.0 )	930923	413	0.3+	0.2+
840602	688	0.8+	0.7+	840615	474	1.1+	1.0+	930924	413	0.3-	0.4-
840603	801	0.9-	0.2+	840615	474	0.1+	1.0-	930924	413	0.2-	0.4-
840603	675	0.9-	1.5-	840618	474	0.3-	0.2+				
840603	675	1.5+	0.1-	840618	474	0.1-	0.4-				

**1984 UD = 1993 TP<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5								Nakano			
<i>M</i>	6.04213			(2000.0)		<b>P</b>				<b>Q</b>	
<i>n</i>	0.21697297	$\omega$	24.33174		+0.61885521		-0.78198798				
<i>a</i>	2.7428304	$\Omega$	27.61533		+0.69188596		+0.49790378				
<i>e</i>	0.2487094	<i>i</i>	9.21747		+0.37190328		+0.37494883				
<i>P</i>	4.54	<i>H</i>	13.3		<i>G</i>	0.15					

Residuals in seconds of arc

841017	046	0.4+	0.1-	841028	046	1.4-	0.4-	841120	688	0.2+	0.3+
841017	046	0.1-	1.5+	841028	046	0.9+	0.6+	841120	688	0.4-	0.6+
841018	046	1.0+	0.9-	841029	046	1.5+	1.2-	931010	894	1.4+	1.0-
841018	046	1.1+	2.3+	841029	046	0.3+	0.4-	931010	894	0.3-	0.6-
841026	688	1.4-	0.8-	841030	046	1.7-	0.7-	931018	894	0.7+	1.3+
841026	688	2.4-	1.2-	841030	046	2.1+	0.1+	931018	894	2.0-	0.6+

**1985 QX<sub>4</sub> = 1993 RG<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5								Williams			
<i>M</i>	31.07329			(2000.0)		<b>P</b>				<b>Q</b>	
<i>n</i>	0.12651945	$\omega$	174.99265		+0.98751233		+0.15717482				
<i>a</i>	3.9297464	$\Omega$	175.91725		-0.14927591		+0.95532520				
<i>e</i>	0.0504402	<i>i</i>	8.68125		-0.05035979		+0.25029950				
<i>P</i>	7.79	<i>H</i>	11.0		<i>G</i>	0.15					

Residuals in seconds of arc

850818	095	0.2-	0.2+	930915	400	0.4+	0.5+	930916	400	0.1+	1.0-
850915	095	0.7-	1.1-	930915	400	0.6-	0.5+				
850920	095	0.9+	0.9+	930916	400	(0.4-	2.7+)				

**1985 QD<sub>6</sub> = 1993 OW<sub>7</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5								Marsden			
<i>M</i>	22.38396			(2000.0)		<b>P</b>				<b>Q</b>	
<i>n</i>	0.24152848	$\omega$	225.54608		+0.97355123		+0.21523111				
<i>a</i>	2.5536252	$\Omega$	121.88240		-0.17548219		+0.91924355				
<i>e</i>	0.2950826	<i>i</i>	5.17832		-0.14630104		+0.32964657				
<i>P</i>	4.08	<i>H</i>	15.0		<i>G</i>	0.15					

Residuals in seconds of arc

850824	095	0.2+	1.4+	850920	095	1.1+	0.9+	930720	809	0.2-	1.4+
850911	095	0.5-	1.5-	930720	809	0.6+	0.5+	930724	809	0.6-	3.2-
850919	095	0.8-	0.5-	930720	809	0.2+	1.0+				

**1985 RM<sub>6</sub> = 1979 QD<sub>8</sub> = 1991 WH = 1993 BX<sub>4</sub>**

Id. B. G. Marsden (*MPC* 21786), G. V. Williams

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5				Williams			
<i>M</i>	178.12110		(2000.0)		<b>P</b>		<b>Q</b>
<i>n</i>	0.17391411	$\omega$	147.07873		+0.99144704		-0.13049579
<i>a</i>	3.1786754	$\Omega$	220.41965		+0.11909716		+0.91061323
<i>e</i>	0.1837524	<i>i</i>	0.16808		+0.05337262		+0.39211528
<i>P</i>	5.67	<i>H</i>	13.0		<i>G</i>	0.15	

Residuals in seconds of arc

510806	675	0.6+	1.7-	911111	691	1.8-	0.5+	930128	010	0.8-	0.1-
510806	675	(1.1+	4.3-)	911127	046	1.7+	1.6+	930220	010	(3.8+	0.7-)
790826	095	0.8-	2.0-	911127	046	(0.6-	2.8+)	930220	010	(3.2+	0.8-)
850915	095	1.2+	1.8-	930127	010	0.3-	1.5-	930220	010	(2.9+	1.0-)
850920	095	1.1+	0.8+	930127	010	0.5-	1.2-	930222	010	0.7+	1.1-
850922	095	2.0+	0.3-	930127	010	0.2-	1.9-	930223	010	0.8+	0.1-
911111	691	1.6-	0.3+	930128	010	0.2+	1.1-				
911111	691	1.8-	0.3+	930128	010	1.0-	0.8+				

**1986 PD<sub>1</sub> = 1988 BU<sub>3</sub>**

Id. C. M. Bardwell (*MPC* 13466)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5				Williams			
<i>M</i>	222.02151		(2000.0)		<b>P</b>		<b>Q</b>
<i>n</i>	0.23417739	$\omega$	267.16057		+0.66192491		-0.72857952
<i>a</i>	2.6067902	$\Omega$	139.50608		+0.74899193		+0.63366376
<i>e</i>	0.2042197	<i>i</i>	15.73910		+0.02943658		+0.26008100
<i>P</i>	4.21	<i>H</i>	13.0		<i>G</i>	0.15	

Residuals in seconds of arc

860801	675	(2.4-	3.4+)	860904	809	0.1+	0.3-	880118	809	0.4-	0.1-
860801	675	(5.0-	5.2+)	860904	809	0.0	0.3-	880119	809	0.9-	0.1+
860802	675	(3.5-	4.4+)	860904	809	0.0	0.3-	880119	809	0.4-	0.0
860802	675	(50.5-	0.2+)	860906	809	0.4+	0.5+	880121	809	0.6-	0.7+
860802	675	(3.2-	4.3+)	860906	809	0.5+	0.5+	880121	809	0.7-	0.5+
860802	675	(44.8-	6.8+)	860906	809	0.2+	0.4+	880123	809	0.8-	0.1-
860804	675	(22.2-	0.2-)	860908	809	0.8+	0.6+	880123	809	1.1-	0.0
860804	675	(21.5-	1.5+)	860908	809	1.1+	0.6+	880124	809	0.7-	0.2+
860826	809	1.8-	1.2-	860908	809	1.3+	0.6+	880124	809	0.0	0.3-
860826	809	1.8-	1.4-	860910	809	1.0+	1.2+	880124	809	0.3-	0.3-
860826	809	1.6-	1.7-	860910	809	1.2+	0.7+	880126	809	0.9+	0.8-
860827	809	1.7-	1.8-	860910	809	1.1+	0.9+	880126	809	1.0+	0.8-
860827	809	1.4-	1.4-	860912	809	1.4+	0.8+	880128	809	2.4+	1.5-
860827	809	1.1-	1.4-	860912	809	1.5+	0.6+	880128	809	2.7+	1.3-
860829	809	0.8-	0.4-	860912	809	1.5+	0.4+	880130	809	(4.7+	1.5-)
860829	809	0.4-	0.4-	880118	809	0.7-	0.1-	920109	675	0.4+	0.1-
860829	809	0.5-	0.3-	880118	809	0.6-	0.1-	920109	675	0.5-	0.9+

**1986 RK = 1993 RS<sub>2</sub>**

Id. K. Watanabe

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5				Nakano			
<i>M</i>	72.31850		(2000.0)		<b>P</b>		<b>Q</b>
<i>n</i>	0.28511781	$\omega$	88.40061		+0.80412684		+0.58439303
<i>a</i>	2.2862295	$\Omega$	235.82507		-0.58422088		+0.74304049
<i>e</i>	0.2025458	<i>i</i>	7.56552		-0.10984532		+0.32615274
<i>P</i>	3.46	<i>H</i>	13.7		<i>G</i>	0.15	

Residuals in seconds of arc

Table with columns for epoch, observation number, and residual values for various objects like 860905 688, 860911 095, etc.

1986 RG3 = 1979 ON16 = 1993 SW1

Table for 1986 RG3 = 1979 ON16 = 1993 SW1, including epoch, TT, and orbital elements M, n, a, e, P, H, G.

Residuals in seconds of arc

Table showing residuals in seconds of arc for objects 790731 095, 860907 095, etc.

1986 RN5 = 1955 TL = 1993 RG

Table for 1986 RN5 = 1955 TL = 1993 RG, including epoch, TT, and orbital elements M, n, a, e, P, H, G.

Residuals in seconds of arc

Table showing residuals in seconds of arc for objects 551011 760, 551020 760, etc.

1988 HA = 1976 JJ1 = 1986 WA7 = 1993 SS

Table for 1988 HA = 1976 JJ1 = 1986 WA7 = 1993 SS, including epoch, TT, and orbital elements M, n, a, e, P, H, G.

Residuals in seconds of arc

Table showing residuals in seconds of arc for objects 760502 095, 861128 010, etc.

1988 RE

Table for 1988 RE, including epoch, TT, and orbital elements M, n, a, e, P, H, G.

Residuals in seconds of arc

Table showing residuals in seconds of arc for objects 800122 413, 880911 675, etc.

1988 RE2 = 1988 SR = 1986 HZ = 1993 OO10

Table for 1988 RE2 = 1988 SR = 1986 HZ = 1993 OO10, including epoch, TT, and orbital elements M, n, a, e, P, H, G.

Residuals in seconds of arc

Table showing residuals in seconds of arc for objects 860429 675, 880908 046, etc.

1988 RV10 = 1993 OR7

Table for 1988 RV10 = 1993 OR7, including epoch, TT, and orbital elements M, n, a, e, P, H, G.

Residuals in seconds of arc

880914 807 0.8-	0.0	881008 807 0.2+	0.5-	930720 809 0.2-	0.2+
880915 807 0.6+	0.2+	881008 807 0.2+	0.1+	930720 809 0.1-	0.7+
880916 807 0.4+	0.3+	881103 807 0.2+	0.1+	930724 809 0.2-	1.1-
881004 807 0.1-	0.3+	881105 807 0.1-	0.4-		
881007 807 0.5-	0.0	930720 809 0.5+	0.1+		

**1988 TX<sub>1</sub> = 1993 SY<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Nakano	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>		
<i>n</i>	0.18726197	$\omega$	97.42085	+0.54840438	+0.83326534
<i>a</i>	3.0257728	$\Omega$	206.21846	-0.81612072	+0.51506021
<i>e</i>	0.0918891	<i>i</i>	9.13678	-0.18220761	+0.20095236
<i>P</i>	5.26	<i>H</i>	12.0	<i>G</i>	0.15

Residuals in seconds of arc

881005 399 0.0	0.7+	881016 399 1.0-	1.5-	881106 399 1.1-	1.4-
881005 399 0.4+	0.3+	881019 399 0.9+	1.1-	881106 399 0.7+	0.4+
881013 399 0.6-	0.0	881019 399 (3.2+	3.3-)	930919 400 0.3-	1.3-
881013 399 1.9-	0.4+	881103 033 0.2+	0.6+	930919 400 1.1-	0.9+
881013 399 1.8+	0.8-	881103 033 0.4+	0.5+	930921 400 2.0+	1.0-
881016 399 0.7-	1.0+	881104 033 0.8+	0.9+	930921 400 0.6-	1.3+

**1988 WF = 1954 UM<sub>3</sub> = 1982 SY<sub>11</sub> = 1993 SL<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Nomura	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>		
<i>n</i>	0.17746992	$\omega$	310.63094	+0.75786703	-0.65159356
<i>a</i>	3.1360734	$\Omega$	90.05708	+0.60798704	+0.68725326
<i>e</i>	0.1897414	<i>i</i>	1.86873	+0.23662062	+0.32110557
<i>P</i>	5.55	<i>H</i>	12.4	<i>G</i>	0.15

Residuals in seconds of arc

541020 760 (11.5-	5.3-)	881203 400 0.2-	1.0+	930916 400 0.4-	0.8+
541020 760 2.5+	5.6-	881203 400 0.9-	1.3+	930919 400 1.7+	3.6+
820928 095 0.5-	0.5+	881205 385 2.5-	2.0-	930919 400 0.6+	3.0+
881129 385 2.5+	1.9+	881205 385 1.8-	2.2-	931012 400 1.9-	0.5+
881129 385 0.4+	1.2-	881206 385 0.2+	0.5-	931012 400 1.0-	3.1-
881202 400 0.3+	1.7+	881206 385 0.2+	0.4-		
881202 400 1.9+	1.1+	930916 400 1.0-	0.2-		

**1989 OL**

Id. R. H. McNaught (1977, 1993 observations)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Williams	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>		
<i>n</i>	0.24365897	$\omega$	250.11101	+0.43704265	+0.88416694
<i>a</i>	2.5387179	$\Omega$	46.94124	-0.71737873	+0.45335118
<i>e</i>	0.1357754	<i>i</i>	13.05568	-0.54255090	+0.11278973
<i>P</i>	4.05	<i>H</i>	14.0	<i>G</i>	0.15

Residuals in seconds of arc

770904 413 0.8-	0.7+	890808 474 0.5-	0.7+	891025 474 0.6+	0.1-
770904 413 1.0+	0.9-	890808 474 0.9-	0.3+	891025 474 0.7-	0.3-
890729 474 0.4+	0.2-	890902 474 0.7+	0.3+	930731 413 0.1+	0.3-
890729 474 0.3-	0.2-	890902 474 0.3+	0.2+	930731 413 0.3+	0.4-

**1989 SU = 1976 FB = 1993 RB<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Nakano	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>		
<i>n</i>	0.24458738	$\omega$	31.90835	+0.81007568	+0.58256953
<i>a</i>	2.5322895	$\Omega$	292.31788	-0.55187928	+0.71943736
<i>e</i>	0.2369137	<i>i</i>	4.10723	-0.19800669	+0.37818333
<i>P</i>	4.03	<i>H</i>	13.3	<i>G</i>	0.15

Residuals in seconds of arc

760327 801 0.3+	0.8+	891003 399 (3.8+	1.8+)	891029 399 1.1-	0.5+
890929 399 1.7-	0.3+	891023 399 1.1-	2.7-	930915 400 1.4-	0.2+
890929 399 0.1-	2.0+	891023 399 (2.0-	3.4-)	930915 400 1.8+	2.2-
890929 399 1.0+	1.4+	891023 399 0.7+	0.3-	930916 400 0.4-	1.9+
891003 399 1.0+	0.3-	891029 399 0.8+	0.4-	930916 400 0.5+	1.5-
891003 399 0.3+	0.4+	891029 399 0.7-	0.9+		

**1989 SX = 1993 SF<sub>1</sub>**

Id. S. Nakano, R. H. McNaught

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Nakano	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>		
<i>n</i>	0.24110171	$\omega$	354.99391	+0.92036530	-0.38722036
<i>a</i>	2.5566377	$\Omega$	27.98567	+0.36271256	+0.79301862
<i>e</i>	0.3028444	<i>i</i>	6.68965	+0.14617566	+0.47029976
<i>P</i>	4.09	<i>H</i>	13.9	<i>G</i>	0.15

Residuals in seconds of arc

890930 675 0.3+	0.6-	891023 046 0.4-	2.0-	891104 364 0.5+	0.3-
890930 675 0.0	0.0	891023 046 0.1-	2.1-	891104 095 1.9+	0.3+
890930 400 1.1-	2.3+	891023 095 (2.8+	1.9-)	891104 095 1.1+	0.4+
890930 400 0.5+	0.7+	891023 095 1.0+	0.2-	930910 413 0.0	0.6-
890930 400 (0.6+	3.1+)	891024 046 1.8-	1.5-	930910 413 1.5+	0.5-
891008 400 0.4+	0.0	891024 046 1.1-	2.0-	930916 400 0.6-	0.8+
891008 400 0.2-	1.0+	891025 400 0.6+	0.7+	930916 400 0.4+	0.0
891008 400 0.5+	0.4-	891025 400 0.7+	0.8+	930919 400 0.5-	1.3-
891010 400 1.4+	0.5+	891102 403 0.5+	2.3+	930919 400 0.1+	1.0+
891010 400 0.3+	0.3+	891102 403 0.2-	1.5+	931009 376 0.3-	0.6+
891021 400 (3.0+	2.8+)	891102 364 0.0	0.9+	931009 376 0.5-	0.7+
891021 400 (2.0+	4.0+)	891102 364 1.2+	0.3-	931010 376 0.0	0.4+
891021 400 (3.5+	4.5+)	891104 403 0.3+	0.9+	931010 376 0.1-	0.9-
891022 046 1.7-	2.0-	891104 403 1.9-	0.9+		
891022 046 2.2-	2.2-	891104 364 0.2-	0.1+		

**1989 SF<sub>1</sub> = 1993 QL<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

				Bowell	
<i>M</i>	(2000.0)	<b>P</b>	<b>Q</b>		
<i>n</i>	0.23207162	$\omega$	129.29527	+0.34152257	+0.93872914
<i>a</i>	2.6225354	$\Omega$	160.52164	-0.89945194	+0.34074889
<i>e</i>	0.1431293	<i>i</i>	7.99306	-0.27266929	+0.05174746
<i>P</i>	4.25	<i>H</i>	14.0	<i>G</i>	0.15

Residuals in seconds of arc

890926 809 0.4+	0.7-	891007 809 0.6-	0.8-	930816 010 0.2+	0.6+
890926 809 0.1+	0.7-	891007 809 1.0-	0.3-	930816 010 0.7+	0.3+
890926 809 0.7-	1.7-	891007 809 2.1-	0.7-	930816 010 0.2-	0.3+
890928 809 1.1+	1.4+	891008 809 1.1+	0.7+	930817 010 0.7-	1.2-

890928 809 0.0 1.6+ 891008 809 1.3+ 0.1-  
 890928 809 0.6- 1.0+ 891008 809 1.1+ 0.3+

**1989 TT = 1993 SW<sub>2</sub>**

Id. K. Watanabe, R. H. McNaught

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams			
<i>M</i>	14.15398	(2000.0)		<b>P</b>	<b>Q</b>
<i>n</i>	0.23570933	$\omega$	221.31067	+0.81802358	-0.57422945
<i>a</i>	2.5954831	$\Omega$	173.47580	+0.57386299	+0.81088533
<i>e</i>	0.2811187	<i>i</i>	16.95537	+0.03897042	+0.11280745
<i>P</i>	4.18	<i>H</i>	13.5	<i>G</i>	0.15

Residuals in seconds of arc

891001 675 1.1- 0.5- 891028 675 0.3+ 1.8- 930919 400 0.1+ 0.8+  
 891001 675 0.6- 1.2- 891129 675 0.2- 0.1- 930921 400 0.6- 1.5-  
 891005 675 1.2+ 0.8+ 891202 675 0.2+ 0.4+ 930921 400 1.1- 0.4+  
 891005 675 (3.8- 0.1+) 930912 413 1.4+ 0.2+ 930923 413 1.1+ 0.5+  
 891026 675 0.7+ 1.2+ 930912 413 0.6+ 1.5+ 930923 413 (0.6+ 2.8+)  
 891026 675 0.6- 1.0+ 930919 400 1.6- 1.5-

**1989 TJ<sub>1</sub> = 1992 HU<sub>5</sub>**

Id. E. Bowell (1951, 1954 observations), G. V. Williams

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams			
<i>M</i>	324.48928	(2000.0)		<b>P</b>	<b>Q</b>
<i>n</i>	0.20903132	$\omega$	70.94324	+0.91329022	-0.40674256
<i>a</i>	2.8118694	$\Omega$	313.05067	+0.36177591	+0.83429491
<i>e</i>	0.0913121	<i>i</i>	1.68457	+0.18713411	+0.37217267
<i>P</i>	4.72	<i>H</i>	12.5	<i>G</i>	0.15

Residuals in seconds of arc

510806 675 0.2- 0.7- 891009 391 0.1+ 2.3+ 891102 391 1.5- 0.8+  
 510806 675 0.5+ 0.0 891028 807 0.0 0.8- 891104 391 0.5- 0.6+  
 540402 675 0.1+ 0.0 891029 391 1.9+ 0.3- 891104 391 1.4+ 0.7+  
 891002 807 0.3+ 0.9- 891029 391 0.1- 0.1+ 891129 888 0.5- 0.1-  
 891004 807 0.4+ 0.8- 891030 391 (3.8- 0.9+) 891129 888 0.9- 1.2-  
 891008 391 (5.7+ 0.5+) 891030 391 (3.2- 1.9-) 920425 809 0.1- 1.6+  
 891008 391 (4.1+ 1.4-) 891031 807 0.1+ 1.2- 920425 809 0.3+ 0.4+  
 891009 391 0.9- 2.1+ 891102 391 1.0- 0.7+ 920425 809 0.6+ 0.0

**1990 SS<sub>5</sub> = 1979 OP<sub>4</sub> = 1993 OC<sub>9</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Marsden			
<i>M</i>	300.00077	(2000.0)		<b>P</b>	<b>Q</b>
<i>n</i>	0.28079950	$\omega$	331.23777	+0.31845633	-0.94743977
<i>a</i>	2.3096092	$\Omega$	100.17869	+0.87557954	+0.28157702
<i>e</i>	0.1859024	<i>i</i>	1.78830	+0.36324376	+0.15189554
<i>P</i>	3.51	<i>H</i>	15.0	<i>G</i>	0.15

Residuals in seconds of arc

790724 675 0.3+ 2.0+ 900922 809 1.1+ 0.1- 930720 809 0.4+ 0.9-  
 790724 413 0.9- 1.4- 900922 809 0.2+ 0.3+ 930720 809 0.3- 0.7-  
 790725 675 0.2+ 1.0+ 900922 809 0.5+ 0.7- 930720 809 0.3- 0.4-  
 900915 809 0.1- 0.8- 900925 809 0.9- 0.9+ 930724 809 0.4+ 0.6+  
 900915 809 0.2+ 0.3- 900925 809 0.3- 1.0+  
 900915 809 0.0 0.5- 900925 809 0.6- 0.2+

**1990 TL<sub>6</sub> = 1993 OW<sub>8</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Marsden			
<i>M</i>	20.57803	(2000.0)		<b>P</b>	<b>Q</b>
<i>n</i>	0.30845493	$\omega$	50.34324	+0.99740580	+0.05003081
<i>a</i>	2.1694097	$\Omega$	306.72777	-0.06753863	+0.89916019
<i>e</i>	0.1758552	<i>i</i>	3.70239	+0.02490400	+0.43475035
<i>P</i>	3.20	<i>H</i>	14.5	<i>G</i>	0.15

Residuals in seconds of arc

900911 657 0.0 0.4- 900920 675 1.4+ 0.6- 901009 413 0.3+ 1.9+  
 900911 657 0.7- 1.5+ 900920 675 0.1- 0.8+ 901011 413 0.2- 1.9+  
 900915 675 0.1- 1.1+ 900922 095 1.1- 1.2- 930720 809 0.1- 0.0  
 900915 675 0.1- 1.1+ 900922 095 1.0- 4.2- 930720 809 0.4- 0.2+  
 900916 675 1.4+ 1.3+ 900924 095 0.7+ 1.0- 930720 809 1.2- 0.0  
 900916 675 2.0+ 0.8+ 900924 095 0.5- 0.8- 930724 809 1.7+ 0.0  
 900918 095 0.4+ 0.4- 900926 095 0.1+ 0.4-  
 900918 095 1.0- 1.2- 900926 095 1.4- 0.3+

**1990 TT<sub>12</sub> = 1962 CX**

Id. G. V. Williams, L. D. Schmadel

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Williams			
<i>M</i>	324.74672	(2000.0)		<b>P</b>	<b>Q</b>
<i>n</i>	0.19827050	$\omega$	321.90118	+0.79897009	+0.60137052
<i>a</i>	2.9127104	$\Omega$	1.13111	-0.54486029	+0.72426869
<i>e</i>	0.0611057	<i>i</i>	1.55772	-0.25450747	+0.33732532
<i>P</i>	4.97	<i>H</i>	12.5	<i>G</i>	0.15

Residuals in seconds of arc

620210 033 1.4- 0.6+ 901113 675 (0.1+ 2.0-) 910115 033 0.6- 0.4+  
 620210 033 1.5+ 0.0 901114 675 (0.9+ 3.1-) 910116 033 0.4- 0.4+  
 901014 033 0.9- 1.2- 901114 675 (0.0 3.0-) 910118 033 0.1+ 0.9+  
 901015 033 0.2+ 0.0 901115 887 2.3+ 0.6+ 920226 691 0.0 0.4-  
 901015 033 0.2+ 0.6- 901115 887 1.3- 0.9- 920226 691 0.5- 0.4-  
 901018 033 1.2+ 1.3- 901121 887 0.2- 0.5+ 920226 691 0.0 0.7-  
 901018 033 0.3+ 0.9- 901121 887 1.2- 1.4+  
 901113 675 (0.1+ 3.6-) 910114 033 0.2- 0.5+

**1990 VB<sub>14</sub> = 1993 OY<sub>8</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

		Marsden			
<i>M</i>	314.31660	(2000.0)		<b>P</b>	<b>Q</b>
<i>n</i>	0.26130357	$\omega$	123.95564	+0.53517877	-0.84434412
<i>a</i>	2.4231064	$\Omega$	293.66784	+0.76543400	+0.49763933
<i>e</i>	0.2006117	<i>i</i>	1.61548	+0.35734365	+0.19859029
<i>P</i>	3.77	<i>H</i>	13.5	<i>G</i>	0.15

Residuals in seconds of arc

901114 095 0.4- 0.1- 901120 095 1.4+ 1.3+ 930720 809 0.8+ 0.9-  
 901114 095 1.0- 0.2- 901120 095 1.0+ 0.4- 930720 809 0.4- 0.8-  
 901118 049 0.2- 0.3+ 901220 049 0.1- 1.7- 930720 809 1.0- 0.7-  
 901118 049 0.5- 0.3+ 901220 049 0.2- 0.1- 930724 809 0.7+ 1.8+

**1990 WT<sub>6</sub> = 3344 T-1 = 1993 PM<sub>5</sub>**

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

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	345.33843	$\omega$	241.12121	+0.57299083	-0.81951492		
<i>a</i>	2.2858153	$\Omega$	173.89758	+0.77772550	+0.54033731		
<i>e</i>	0.1534740	<i>i</i>	4.72884	+0.25850447	+0.19086876		
<i>P</i>	3.46	<i>H</i>	15.5	<i>G</i>	0.15		

Residuals in seconds of arc

710326	675	0.2-	0.4-	901121	809	0.8-	0.1-	930815	010	1.2-	0.3-
710326	675	0.4-	0.1-	901121	809	1.4-	0.1-	930816	010	0.1+	1.6-
710327	675	0.5+	2.0-	901122	809	1.5+	0.5+	930816	010	0.1+	0.1-
710402	675	0.6-	0.7+	901122	809	0.2-	0.1+	930816	010	0.3-	1.8-
901116	809	0.1+	2.1-	901122	809	0.2+	0.6+	930918	691	1.2+	0.9+
901121	809	0.6+	0.1-	930815	010	0.5-	0.3+	930918	691	1.2+	1.2+

**1990 YC = 1988 FU<sub>1</sub> = 1993 TU<sub>1</sub>**

Id. K. Watanabe (k), S. Nakano

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	14.82017	$\omega$	335.95994	+0.52751641	-0.84819774		
<i>a</i>	2.2182616	$\Omega$	82.17053	+0.78705568	+0.46674910		
<i>e</i>	0.1600519	<i>i</i>	2.76691	+0.31979649	+0.25041141		
<i>P</i>	3.30	<i>H</i>	13.9	<i>G</i>	0.15		

Residuals in seconds of arc

880318	033	0.5-	0.0	910105	399	2.3-	0.0	931015	400	0.9-	2.1-
880318	033	0.6+	0.1+	910105	399	1.5-	0.7+	931016	400	0.8-	0.1-
901217	399	1.2-	0.1+	910114	399	0.5-	0.7+	931016	400	0.3+	0.5+
901217	399	2.2+	0.2-	910114	399	2.4+	1.1+	931016	367	0.6-	0.5+
901217	399	0.2-	0.4-	910114	399	(3.6+	0.7+)	931016	367	1.3-	0.7-
901219	399	0.9+	1.2-	910117	046	0.0	1.0+	931017	367	1.0+	1.3+
901219	399	1.7+	2.5-	910117	046	0.0	0.1-	931017	367	1.6+	0.8+
910105	399	1.6-	0.4+	931015	400	0.5+	0.4+				

**1991 AL<sub>3</sub> = 1974 SL<sub>4</sub> = 1989 RD<sub>4</sub> = 1993 RJ<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	83.35469	$\omega$	347.61080	+0.57495569	+0.81772645		
<i>a</i>	2.4406850	$\Omega$	317.47740	-0.74717061	+0.51112432		
<i>e</i>	0.1738598	<i>i</i>	2.32130	-0.33340970	+0.26471756		
<i>P</i>	3.81	<i>H</i>	13.2	<i>G</i>	0.15		

Residuals in seconds of arc

740925	095	0.2+	0.6-	910115	033	0.0	0.1-	930916	400	1.1-	0.2-
890908	095	0.5-	1.2+	910116	033	0.3-	0.4+	930916	400	1.1-	0.6-
910109	033	0.2+	0.3+	930915	400	1.2+	0.4-	930918	400	2.7+	1.1+
910115	033	0.1+	0.2+	930915	400	1.0-	1.2-	930918	400	0.5-	0.9+

**1991 BD = 1982 RM<sub>2</sub> = 1993 SX<sub>3</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	9.64644	$\omega$	121.79129	+0.70564448	-0.70170399		
<i>a</i>	2.3586077	$\Omega$	282.98388	+0.61117921	+0.67300932		
<i>e</i>	0.0941597	<i>i</i>	5.79415	+0.35850500	+0.23381611		
<i>P</i>	3.62	<i>H</i>	13.5	<i>G</i>	0.15		

Williams

Residuals in seconds of arc

820912	095	0.2-	0.5+	910118	889	0.6+	0.4-	Y	910208	889	0.9-	0.2+
901219	372	0.2-	0.5+	910118	511	0.9+	1.9-		910208	889	0.3+	1.3+
901219	372	1.2-	0.8+	910119	511	(3.0-	1.2+)		930925	385	0.4-	0.7-
901227	372	(2.8+	0.3+)	910119	511	1.9-	1.1+		930925	385	0.2+	0.7-
901227	372	2.2+	0.1+	910120	889	0.4-	1.3+		930925	385	0.1-	0.2-
910118	511	0.1-	0.8-	910120	889	1.3+	1.5+		931012	385	0.1+	0.2+
910118	511	1.8+	2.2-	910120	511	0.6-	0.1-		931012	385	0.3-	0.2+
910118	889	0.8-	0.3-	910120	511	0.9-	0.7-		931012	385	0.6+	0.6+

**1991 DO = 1978 LU = 1988 RX<sub>9</sub>**

Id. T. Urata (*MPC* 18128), S. Nakano

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	173.84925	$\omega$	247.10812	-0.72197743	+0.68934435		
<i>a</i>	2.7574277	$\Omega$	336.33335	-0.56787595	-0.63956236		
<i>e</i>	0.0917820	<i>i</i>	8.53953	-0.39530432	-0.34024161		
<i>P</i>	4.58	<i>H</i>	12.5	<i>G</i>	0.15		

Residuals in seconds of arc

780608	809	0.1-	0.6-	910210	372	(4.3-	4.6-)	Y	930925	385	0.7-	0.4+
880910	809	0.6-	0.1-	910219	889	0.2-	1.4+		930925	385	0.3-	0.1-
880910	809	0.3-	0.2-	910219	889	1.0-	0.7+		930925	385	0.4+	1.0-
880910	809	0.0	0.2-	910221	889	0.8-	0.9-		931012	385	0.7+	0.5-
880913	809	0.4-	1.0+	910221	889	1.9+	0.6+		931012	385	0.2+	0.2-
880913	809	0.2-	1.2+	910223	889	1.4+	0.0		931012	385	0.5+	0.0
880913	809	0.1-	1.2+	910223	889	0.3-	0.0					
910210	372	(4.4-	3.6-)	910309	889	(4.7+	1.5+)					

**1991 FJ = 1975 FA<sub>1</sub> = 1977 RT<sub>2</sub> = 1980 DP<sub>3</sub> = 1985 BF<sub>2</sub> = 1986 GF<sub>2</sub> = 1993 RN<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	171.09541	$\omega$	221.26650	-0.86680747	+0.49763519		
<i>a</i>	3.0517294	$\Omega$	348.45195	-0.40583059	-0.74096558		
<i>e</i>	0.0341069	<i>i</i>	9.10716	-0.28973494	-0.45092042		
<i>P</i>	5.33	<i>H</i>	12.5	<i>G</i>	0.15		

Residuals in seconds of arc

750317	095	3.2-	0.6+	910312	511	1.7-	1.2+	Y	930915	691	0.5-	0.0
770909	095	1.5+	0.9+	910315	511	0.7-	0.3+		930915	691	0.6-	0.0
800220	095	2.3+	0.8-	910315	511	1.2+	1.6-		930915	691	0.7-	0.0
850121	688	(4.5-	0.1-)	910317	894	2.4+	0.7+		930915	098	1.0+	0.4+
850121	688	0.9-	0.2-	910320	894	1.3+	0.7+		930915	098	1.0+	1.1+
860411	413	0.2-	0.6-	910323	894	(2.6+	5.3+)		930920	691	1.1-	0.5-
860411	413	0.4+	0.8-	910403	894	1.2+	0.0		930920	691	1.1-	0.1-
910311	511	0.9-	1.7+	910403	894	(3.3+	0.3+)		930920	691	0.7-	0.2-

**1991 FJ<sub>1</sub> = 1978 GR<sub>4</sub> = 1993 SL<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>		(2000.0)		<i>P</i>		<i>Q</i>	
<i>n</i>	294.07172	$\omega$	280.00202	-0.49241358	-0.86716887		
<i>a</i>	2.6827828	$\Omega$	200.03005	+0.85917467	-0.47062610		
<i>e</i>	0.1303778	<i>i</i>	12.55910	+0.13909621	-0.16287792		
<i>P</i>	4.39	<i>H</i>	12.2	<i>G</i>	0.15		

Urata

Nakano

## Residuals in seconds of arc

780411 095	0.2+	1.4+	910409 402	1.0+	0.0	910416 402	0.9-	0.0
910318 402	0.8-	0.4-	910409 402	0.4-	0.6+	930916 400	(5.7+	3.6+)
910318 402	0.9+	0.8+	910414 402	1.0-	1.5-	930916 400	0.6+	0.0
910403 402	0.3+	0.1-	910414 402	0.4-	0.2-	930919 400	1.0-	0.3-
910403 402	1.1+	0.4-	910416 402	0.4-	2.0-	930919 400	0.8+	1.7-

**1991 GK<sub>4</sub> = 1993 TV**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Nomura

<i>M</i>	9.58382	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.20674006	$\omega$ 172.09233	+0.72350138	-0.69015271
<i>a</i>	2.8326068	$\Omega$ 231.56164	+0.63228310	+0.67142089
<i>e</i>	0.0791640	<i>i</i> 1.12137	+0.27706286	+0.26996892
<i>P</i>	4.77	<i>H</i> 13.5	<i>G</i> 0.15	

## Residuals in seconds of arc

910408 809	0.5+	0.2+	910410 809	0.7-	0.2-	910419 809	0.0	1.6-
910408 809	0.5+	0.6-	910410 809	0.1+	1.6+	910419 809	0.3+	1.5-
910408 809	1.1-	0.8-	910410 809	0.1-	0.9+	931011 400	0.1+	0.9-
910408 809	1.0+	0.3-	910410 809	0.1+	1.1+	931011 400	1.3+	0.4+
910408 809	0.6+	0.9-	910419 809	1.1+	1.4+	931012 400	1.0-	2.4+
910408 809	0.3+	0.9-	910419 809	1.8-	1.8+	931012 400	0.5-	1.9-
910410 809	0.6-	0.2+	910419 809	0.1+	0.7+			
910410 809	1.3-	0.1+	910419 809	1.0+	1.5-			

**1992 BB**

Id. R. H. McNaught (1993 observations)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	258.09122	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.38180806	$\omega$ 330.33751	-0.92881276	-0.32388868
<i>a</i>	1.8817965	$\Omega$ 194.67319	+0.24697913	-0.90326572
<i>e</i>	0.2668860	<i>i</i> 45.28681	-0.27623933	+0.28143768
<i>P</i>	2.58	<i>H</i> 15.5	<i>G</i> 0.15	

## Residuals in seconds of arc

920125 413	0.4+	0.5+	920212 413	0.2-	0.0	920524 413	0.3-	1.0+
920125 413	1.1-	0.8-	920212 413	0.2-	0.2-	920524 413	(0.3+	2.8-)
920129 413	0.1+	0.6-	920331 474	0.3+	0.3-	930923 413	0.3+	0.3-
920205 474	0.3-	0.2+	920331 474	1.3+	0.5+	930923 413	0.6+	0.2-
920205 474	1.1+	1.1+	920422 413	0.1-	0.5-	930923 413	0.6+	0.1+
920211 413	0.1-	0.1+	920422 413	0.0	0.7-	930923 413	1.2-	0.4+
920211 413	0.2-	0.1+	920422 413	0.2-	0.7-	930923 413	0.4+	0.3-
920211 413	0.1-	0.2+	920423 413	0.3-	0.1+	930924 413	0.1-	0.2+
920212 413	0.2-	0.0	920423 413	0.2+	0.4+	930924 413	0.7-	0.1-

**1992 BO = 1989 LN<sub>1</sub> = 1990 TS<sub>14</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	136.76456	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.29346616	$\omega$ 213.15330	-0.60550019	+0.79535616
<i>a</i>	2.2426630	$\Omega$ 19.62752	-0.71091893	-0.52479920
<i>e</i>	0.1102191	<i>i</i> 4.76350	-0.35772029	-0.30330575
<i>P</i>	3.36	<i>H</i> 13.5	<i>G</i> 0.15	

## Residuals in seconds of arc

890603 675	1.7+	0.6+	920128 399	1.8+	0.3+	920205 399	0.3+	0.2-
890603 675	0.4+	1.1-	920128 399	2.3-	1.2+	920205 399	1.3+	0.9-
890605 675	1.5-	0.3-	920129 399	2.1-	0.5-	920208 399	1.8-	0.1-

890605 675	1.3-	0.4-	920129 399	1.7-	1.6+	920208 399	0.1-	0.8-
901015 046	0.3-	2.0-	920204 894	1.0+	0.2+	920222 399	1.3-	0.3-
901015 046	1.1+	0.6+	920204 894	1.6+	0.8-	920222 399	2.9+	0.2-

**1992 CH<sub>1</sub>**

Id. G. J. Garradd (1993 observations)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	352.68075	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.47597472	$\omega$ 355.47831	-0.78517276	-0.58411014
<i>a</i>	1.6246013	$\Omega$ 145.97343	+0.57908134	-0.81024434
<i>e</i>	0.2891526	<i>i</i> 21.56938	+0.21947333	+0.04816079
<i>P</i>	2.07	<i>H</i> 18.0	<i>G</i> 0.15	

## Residuals in seconds of arc

920208 493	(0.4+	2.9+)	920212 493	0.4+	1.7+	920411 493	0.5+	0.4-
920209 493	(3.8-	3.1-)	920212 493	(0.7+	2.5+)	930924 413	0.8-	0.8+
920209 493	(3.3-	0.5-)	920215 493	0.9-	0.5+	930924 413	0.6-	0.5+
920211 493	1.5+	0.3-	920215 493	0.7-	0.5+	930925 413	0.7+	0.2+
920211 493	0.2+	1.0-	920313 493	0.3-	0.6+	930925 413	0.1+	0.1-
920211 493	1.2+	1.5-	920313 493	0.7-	1.0+	930925 413	0.2+	0.2+
920211 493	0.5-	0.5-	920411 493	0.8-	0.3+			

**1992 CA<sub>2</sub> = 1993 OY<sub>7</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Marsden

<i>M</i>	248.45309	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.28893539	$\omega$ 328.88571	-0.32240390	-0.94538188
<i>a</i>	2.2660469	$\Omega$ 139.86657	+0.88309408	-0.31866538
<i>e</i>	0.0543935	<i>i</i> 4.27514	+0.34088205	-0.06859645
<i>P</i>	3.41	<i>H</i> 13.5	<i>G</i> 0.15	

## Residuals in seconds of arc

920212 303	0.8+	0.8-	920228 691	0.0	0.1+	930720 809	0.4-	0.7+
920213 303	1.1-	0.3+	920228 691	0.1+	0.0	930720 809	0.1-	0.6+
920228 691	0.1+	0.3+	930720 809	0.4-	1.1+	930724 809	1.0+	2.6-

**1992 HL = 1972 TP<sub>9</sub>**

Id. G. V. Williams

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Bardwell

<i>M</i>	137.21675	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.23395407	$\omega$ 61.63683	-0.36180953	+0.93149713
<i>a</i>	2.6084488	$\Omega$ 187.45128	-0.92407212	-0.36366280
<i>e</i>	0.2015500	<i>i</i> 16.81242	-0.12322572	-0.00790323
<i>P</i>	4.21	<i>H</i> 13.0	<i>G</i> 0.15	

## Residuals in seconds of arc

721009 033	0.7+	1.4+	920501 675	0.7-	1.0-	920726 801	0.2-	0.1-
721009 033	0.5+	0.3-	920501 675	0.8+	0.8+	920726 801	0.1-	0.1-
721009 033	0.5-	0.3-	920505 896	(1.3+	4.0-)	Y 930912 801	0.2+	0.0
721009 033	0.7-	0.9-	920505 896	(3.3-	1.0-)	Y 930912 801	0.1+	0.1+
920430 896	1.5-	0.3-	920511 896	0.2+	0.2-	930920 801	0.3-	0.2+
920430 896	0.0	0.9+	920524 896	1.4+	0.0			



1992 LU

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5				Bardwell			
<i>M</i>	189.95578		(2000.0)	<b>P</b>		<b>Q</b>	
<i>n</i>	0.23647200	$\omega$	16.21707	-0.97936626		+0.20105309	
<i>a</i>	2.5898994	$\Omega$	175.23744	-0.20171425		-0.96629289	
<i>e</i>	0.1087495	<i>i</i>	14.27967	-0.01237317		-0.16079706	
<i>P</i>	4.17	<i>H</i>	13.0	<i>G</i>	0.15		

Residuals in seconds of arc

920604 675	0.3+	0.8-	920628 675	0.4-	0.5-	930912 801	0.2+	0.1-
920604 675	0.4+	1.2+	920629 675	0.0	0.2+	930912 801	0.2+	0.2-
920627 675	1.8-	0.5-	920629 675	0.4+	0.3-	930920 801	0.4-	0.2+
920627 675	0.7+	0.3+	920821 413	0.3+	0.4+			
920628 675	0.0	0.0	920821 413	0.2+	0.5+			

1992 SO<sub>24</sub> = 1981 WY<sub>8</sub> = 1991 LY<sub>3</sub>

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5				Williams			
<i>M</i>	3.50077		(2000.0)	<b>P</b>		<b>Q</b>	
<i>n</i>	0.25463618	$\omega$	272.04730	-0.63942703		-0.76498287	
<i>a</i>	2.4652217	$\Omega$	218.06259	+0.74571259		-0.59266628	
<i>e</i>	0.0840685	<i>i</i>	7.17785	+0.18720524		-0.25208705	
<i>P</i>	3.87	<i>H</i>	14.5	<i>G</i>	0.15		

Residuals in seconds of arc

811125 095	0.0	0.3-	910608 809	0.4-	0.2-	920925 033	0.3-	1.1+
910606 809	0.1+	0.4+	920907 033	0.7-	0.5-	920926 033	0.4+	0.7+
910606 809	0.3-	0.7+	920907 033	0.8-	1.1-	920927 033	0.1-	0.3+
910606 809	0.3+	0.3-	920921 033	0.2+	0.5-	920928 033	0.1+	0.4-
910608 809	0.1+	0.1-	920921 033	1.1+	0.1+			
910608 809	0.2+	0.7-	920922 033	0.0	0.3+			

1992 SP<sub>24</sub> = 1980 PP<sub>3</sub> = 1981 UH<sub>29</sub> = 1987 WC<sub>4</sub>

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5				Williams			
<i>M</i>	15.39641		(2000.0)	<b>P</b>		<b>Q</b>	
<i>n</i>	0.17263031	$\omega$	193.06159	+0.05431732		-0.99498533	
<i>a</i>	3.1944151	$\Omega$	253.87243	+0.92380772		+0.08199881	
<i>e</i>	0.1592648	<i>i</i>	5.01564	+0.37898407		-0.05727470	
<i>P</i>	5.71	<i>H</i>	13.0	<i>G</i>	0.15		

Residuals in seconds of arc

800803 675	0.5-	0.3-	871119 054	0.1-	0.6-	920921 033	0.3+	0.0
800805 675	0.7+	0.2-	871124 688	0.1-	1.0+	920922 033	0.5+	0.1+
811024 675	0.7+	0.9+	871124 688	(3.8-	4.1-)	920925 033	0.3+	0.2+
811025 675	0.2-	0.6-	920907 033	0.6-	0.2+	920926 033	0.5+	1.0-
811026 675	0.5-	0.4-	920907 033	0.8-	0.2-	920927 033	0.2-	0.2+
871119 054	0.3+	0.6-	920921 033	0.3-	0.8+	920928 033	0.1-	0.1+

1993 HL<sub>6</sub> = 1967 GF = 1990 KH<sub>3</sub> = 1991 UL

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5				Ichikawa			
<i>M</i>	87.58204		(2000.0)	<b>P</b>		<b>Q</b>	
<i>n</i>	0.30281479	$\omega$	345.41558	-0.93051044		+0.35816067	
<i>a</i>	2.1962646	$\Omega$	215.87082	-0.32158318		-0.89905071	
<i>e</i>	0.1436223	<i>i</i>	7.51392	-0.17531283		-0.25185067	
<i>P</i>	3.25	<i>H</i>	13.1	<i>G</i>	0.15		

Residuals in seconds of arc

670406 095	0.2-	0.7-	911028 399	1.6+	0.9-	930420 809	0.4-	0.4+
900522 095	1.5-	1.8+	911029 399	0.3-	1.7+	930421 809	0.6-	0.9+

900522 095	1.4+	1.7-	911029 399	0.5-	0.3-	930421 809	0.8-	1.7+
911018 399	0.2+	1.7-	911031 399	2.3-	1.8+	930423 809	1.4+	1.0+
911018 399	0.4+	2.8-	911031 399	(3.4-	2.7+)	930424 809	0.9+	0.9+
911019 399	(1.9-	3.3-)	930417 809	2.2-	0.6-	930426 809	0.7+	0.5-
911019 399	(2.1-	3.3-)	930418 809	0.9-	1.1-	930426 809	0.3+	0.3-
911028 399	0.8+	2.1+	930418 809	0.9+	1.4-	930427 809	0.9+	0.4-

1993 MF

Id. E. F. Helin (1989 observations)				Williams			
Epoch 1994 Feb. 17.0 TT = JDT 2449400.5							
<i>M</i>	51.48561		(2000.0)	<b>P</b>		<b>Q</b>	
<i>n</i>	0.25791419	$\omega$	74.76153	+0.71026832		+0.69320586	
<i>a</i>	2.4442890	$\Omega$	241.17421	-0.68751470		+0.64579840	
<i>e</i>	0.5317100	<i>i</i>	8.03192	-0.15113716		+0.32001572	
<i>P</i>	3.82	<i>H</i>	14.0	<i>G</i>	0.15		

Residuals in seconds of arc

890502 675	0.5+	0.9+	930720 107	0.6-	0.2+	930818 104	0.5-	0.1-
890502 675	2.0+	1.1-	930722 303	0.2+	0.1+	930818 108	0.6+	1.1+
890504 675	0.6+	0.1+	930722 303	1.0+	0.6+	930818 108	0.3-	0.5+
890504 675	1.3-	1.7+	930722 303	1.7+	1.6+	930818 108	0.3-	0.5+
890603 675	0.6-	1.1-	930723 801	0.4+	0.1-	930820 801	0.1-	0.2+
890603 675	0.7-	0.5-	930723 801	0.4+	0.0	930820 801	0.2-	0.0
890605 675	1.0-	1.6-	930723 587	0.6+	0.3-	930820 675	0.7-	0.0
890605 675	(0.3+	3.7-)	930723 587	0.3+	0.1-	930820 675	1.8-	1.6+
930622 675	(3.3+	2.6+)	930723 587	0.4+	0.6-	930820 108	0.1-	0.1-
930622 675	0.8+	0.1+	930723 107	0.7+	0.0	930820 108	0.1+	0.2-
930624 675	1.1-	0.6+	930723 107	0.8+	0.8-	930820 108	0.5-	0.6-
930624 675	1.6-	0.3-	930724 557	0.0	0.2-	930820 108	0.1-	1.0-
930625 670	0.0	0.6+	930724 046	1.2+	1.0+	930821 095	0.1-	1.3-
930625 670	0.6-	0.3+	930724 046	1.0-	1.6+	930821 046	1.2-	0.6-
930625 670	0.8-	1.2-	930724 557	0.1-	0.4-	930821 046	1.8-	1.8-
930625 670	0.5+	0.9+	930724 046	1.7-	1.1+	930821 095	0.1-	0.8-
930625 670	0.7-	1.1-	930724 557	0.1+	0.5-	930821 095	1.0+	0.8-
930625 670	0.0	0.2+	930724 557	0.1+	0.1+	930821 095	0.7+	0.6-
930625 413	0.6-	0.0	930724 046	0.1+	0.5+	930822 816	0.2-	0.1+
930626 478	(0.9+	4.5+)	930724 557	0.0	0.1+	930822 816	0.2-	0.2+
930626 675	1.7-	0.1+	930724 557	0.0	0.0	930822 104	1.5-	0.4+
930626 657	0.6+	0.9+	930724 557	0.2+	0.3-	930822 104	1.0-	0.1+
930626 657	0.9-	0.8-	930724 557	0.0	0.2-	930822 104	0.5-	0.1+
930626 675	(3.1-	0.5+)	930724 557	0.1+	0.6-	930823 675	0.7+	0.1+
930626 568	0.4-	0.6+	930724 557	0.0	0.5-	930823 675	1.0+	0.7+
930626 905	0.1-	0.1-	930724 557	0.0	0.2-	930823 970	0.2-	1.7-
930626 905	0.9-	1.0-	930724 557	0.4+	0.1-	930824 658	0.5-	0.5+
930626 905	0.2+	0.1-	930724 557	0.2+	0.2-	930824 658	0.5-	0.5+
930626 474	0.1+	0.5-	930724 557	0.1+	0.4-	930824 658	0.3-	0.4+
930626 474	0.4+	0.5+	930724 557	0.2+	0.1-	930824 413	0.3-	0.4+
930626 474	1.1+	0.1+	930724 557	0.0	0.2-	930824 413	0.4-	0.3+
930626 385	0.2-	0.2-	930724 557	0.3-	0.3-	930824 413	0.3-	0.3+
930626 385	0.3+	0.1+	930724 557	0.1+	0.3-	930824 413	0.2-	0.3+
930626 474	0.3+	0.4-	930725 557	0.3+	0.5-	930824 095	1.1+	0.0
930626 474	0.8+	0.3-	930725 557	0.2+	1.0-	930824 095	0.3+	1.0-
930626 385	0.0	0.4-	930725 557	0.3+	0.5-	930824 095	0.5+	0.1+
930626 385	0.2+	0.2-	930725 557	0.1+	0.7-	930824 095	0.3+	0.8-

930626 474 0.1- 0.6-	930725 557 0.2+ 0.8-	930825 095 0.1+ 0.0	930709 596 0.8+ 0.7-	930812 108 0.2+ 0.8+	930919 674 0.0 1.5+
930626 474 0.5+ 0.1-	930725 557 0.4+ 0.0	930825 095 0.5+ 0.4-	930709 596 0.9+ 0.4-	930812 557 0.1- 1.3+	930919 674 0.0 0.7+
930626 587 0.2+ 0.0	930725 557 0.4+ 0.5-	930825 095 0.5+ 0.9-	930715 675 0.4+ 1.7-	930812 557 0.2- 0.8+	930920 107 (0.4+ 2.4-)
930626 587 0.1+ 0.0	930725 557 0.3+ 0.3-	930825 095 0.6+ 0.2+	930715 675 0.5- 0.0	930812 108 0.2+ 1.4+	930920 107 0.0 0.4-
930626 587 0.2+ 0.0	930725 303 (1.3+ 3.3+)	930827 816 0.1- 0.5-	930717 801 0.2+ 0.5-	930812 557 0.3- 1.4+	930922 107 0.1- 0.9+
930627 478 2.0+ 0.6+	930725 658 0.9- 0.6-	930827 816 0.1+ 0.2-	930717 801 0.6+ 0.9+	930812 557 0.1- 1.0+	930922 107 0.2- 0.2-
930628 970 (2.3+ 0.5-)	930725 658 0.7- 0.3-	930828 108 0.5+ 1.1-	930717 658 0.4+ 0.6-	930812 108 0.3- 0.9+	930928 107 (1.8- 2.3+)
930629 046 (2.1- 1.9-)	930725 658 0.8- 0.5-	930828 108 0.5- 0.8-	930717 658 0.1+ 0.5-	930812 046 0.9- 0.5-	930929 107 0.5+ 0.1-
930630 670 0.4- 1.1+	930726 046 0.1- 1.5+	930828 108 0.5- 1.0+	930717 658 0.1+ 0.5-	930812 046 0.1- 1.0-	930929 107 0.4- 0.2-
930630 670 0.5- 0.6+	930726 046 1.9- 1.1+	930828 108 (1.7- 2.7+)	930717 970 1.9+ 1.6-	930812 108 0.2- 0.5+	930929 107 0.8+ 0.4-
930630 670 0.0 0.7+	930727 046 (2.1- 0.7+)	930830 970 1.6+ 0.7-	930718 675 0.3- 0.2+	930814 801 0.3- 0.2+	931004 107 0.0 0.0
930630 670 0.4- 0.9+	930727 046 (4.1- 0.4-)	930830 970 1.9+ 0.9-	930718 801 0.0 0.1-	930817 095 1.2- 0.4+	931004 107 0.3- 0.1-
930630 413 0.7- 0.4+	930727 675 0.0 0.1-	930905 107 1.0- 0.8-	930718 801 0.1- 0.2-	930817 095 0.6- 0.0	931015 107 0.8- 1.1-
930630 413 0.9- 0.2-	930727 675 0.3+ 0.4-	930905 107 0.4+ 0.2+	930718 675 0.6- 0.2+	930817 095 0.5- 0.4+	931015 107 1.3- 0.5+
930630 413 0.7- 0.3+	930727 107 0.3- 0.3+	930909 657 0.1- 0.1+	930720 107 0.6+ 0.3+	930817 095 0.8- 0.1+	931019 801 0.8- 0.0
930630 413 0.7- 0.2+	930727 107 1.1+ 0.8+	930909 657 0.2- 0.1+	930720 107 0.7- 0.3-	930818 104 0.2+ 0.3+	931019 801 0.6- 0.1+
930630 557 0.2- 0.6+	930727 587 0.5+ 0.2+	930910 107 0.1- 0.1+			
930630 557 0.7- 0.2-	930727 587 0.6+ 0.3+	930910 107 0.3+ 0.0			
930630 557 0.4- 1.0+	930727 587 0.6+ 0.2+	930910 107 0.3+ 0.1+			
930630 557 0.4- 0.2+	930728 107 0.1+ 0.9-	930910 107 0.3+ 0.1-			
930630 557 0.6- 0.1-	930728 107 (1.3+ 2.1-)	930912 670 0.4+ 0.1-			
930630 557 0.6- 0.6+	930730 107 0.0 0.2+	930912 670 0.5+ 0.1-			
930630 557 0.7- 0.0	930730 107 0.5+ 0.4+	930912 670 0.2+ 0.1+			
930630 557 0.3- 0.2+	930731 413 0.2+ 0.0	930912 801 0.0 0.1+			
930630 557 0.8- 0.1-	930731 413 0.2+ 0.0	930912 801 0.2- 0.1+			
930630 557 0.5- 0.5+	930731 413 0.2+ 0.0	930914 816 0.1+ 0.2-			
930701 046 0.6- 0.5+	930731 413 0.0 0.1+	930914 816 0.1+ 0.2-			
930701 046 1.4+ 0.4+	930731 107 0.3- 1.7-	930915 801 0.0 0.3-			
930701 046 0.9- 0.6+	930731 107 0.7- 1.1-	930915 801 0.2- 0.3-			
930701 046 (1.9+ 2.7+)	930801 108 0.1- 0.5+	930915 816 0.2- 0.1-			
930701 046 1.7+ 0.3+	930801 108 0.4+ 0.4+	930915 816 0.1- 0.2-			
930701 046 (3.0+ 1.6+)	930801 108 0.8+ 0.0	930915 107 0.2+ 0.0			
930701 046 0.7+ 0.0	930801 108 0.2- 0.5-	930915 107 0.1- 0.3+			
930701 046 (2.5+ 3.0+)	930802 107 0.8+ 1.6+	930916 107 0.0 0.0			
930701 046 1.4+ 0.5+	930802 107 0.3+ 0.1+	930916 107 0.1- 0.5-			
930701 413 0.0 0.5-	930806 587 0.5- 0.7-	930917 107 1.1+ 0.6-			
930701 413 0.1- 0.3-	930806 587 0.2- 0.6-	930918 557 0.2- 0.0			
930701 413 0.1- 0.5-	930806 587 0.1- 0.3-	930918 557 0.1- 0.2+			
930703 376 0.9+ 0.4+	930808 816 0.5- 0.2-	930918 557 0.1- 0.1+			
930703 376 0.5+ 0.5+	930808 816 0.5- 0.1-	930918 557 0.0 0.1+			
930703 376 0.1+ 0.1+	930808 816 0.3- 0.2-	930918 557 0.0 0.2+			
930706 587 0.4- 0.3+	930808 816 0.3- 0.2-	930918 557 0.5- 0.3-			
930706 587 0.6- 0.0	930809 108 0.3+ 0.2+	930918 557 0.5- 0.0			
930706 587 0.5- 0.2+	930809 108 1.1+ 0.1+	930919 693 (0.6+ 2.3+)			
930706 587 0.5- 0.2+	930812 657 0.3- 0.4+	930919 693 0.1+ 0.3-			
930707 657 0.3- 0.2+	930812 657 0.3- 0.4+	930919 674 0.6+ 0.4+			
930707 657 0.2- 0.4+	930812 657 0.3- 0.3+	930919 674 0.6+ 0.5+			
930707 657 0.3- 0.4+	930812 104 0.8- 0.3+	930919 674 1.1+ 0.2+			
930707 970 0.2+ 1.5-	930812 557 0.4- 0.5+	930919 674 1.3+ 0.2+			
930707 970 1.4+ 1.3-	930812 104 0.1+ 0.7+	930919 674 0.6+ 0.1+			
930709 596 0.6+ 0.6-	930812 557 0.4- 0.4+	930919 674 0.4+ 0.6+			
930709 596 1.0+ 0.6-	930812 557 0.0 0.9+	930919 674 1.0+ 0.3+			

**1993 MG<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	50.81364	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.22371986	$\omega$ 15.49510	+0.38672354	+0.88751218
<i>a</i>	2.6874044	$\Omega$ 277.79119	-0.87069667	+0.26187995
<i>e</i>	0.3836838	<i>i</i> 14.64728	-0.30386218	+0.37913193
<i>P</i>	4.41	<i>H</i> 13.5	<i>G</i> 0.15	

From 25 observations 1993 June 23-Oct. 19, mean residual 0".76.

**1993 OP**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	13.72460	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.28493139	$\omega$ 95.58187	+0.84624744	-0.36412068
<i>a</i>	2.2872266	$\Omega$ 286.26506	+0.15908730	+0.86940945
<i>e</i>	0.1993389	<i>i</i> 23.90149	+0.50848452	+0.33398104
<i>P</i>	3.46	<i>H</i> 13.0	<i>G</i> 0.15	

From 12 observations 1993 July 18-Oct. 18, mean residual 0".75.

**1993 OW<sub>1</sub> = 1992 BV**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	51.44932	(2000.0)	<i>P</i>	<i>Q</i>
<i>n</i>	0.36426068	$\omega$ 212.60788	+0.89647547	+0.25620907
<i>a</i>	1.9417554	$\Omega$ 128.10495	-0.23867258	+0.96661753
<i>e</i>	0.0963415	<i>i</i> 27.34966	-0.37331907	-0.00273212
<i>P</i>	2.71	<i>H</i> 14.0	<i>G</i> 0.15	

Residuals in seconds of arc

920130 675 0.3+ 0.7-	930724 675 0.2+ 1.5+	931005 413 0.1+ 0.9+
920130 675 1.0- 0.2+	930724 675 0.4+ 1.1+	931006 413 0.3+ 0.7-
920201 675 0.6+ 0.7+	930725 675 1.3- 1.9-	931006 413 0.6- 0.5+
920201 675 0.1+ 0.1-	930725 675 0.6+ 1.2-	931007 413 0.8+ 0.4+
930723 675 0.1+ 0.6+	931005 413 0.0 1.0-	931007 413 0.7- 0.0

**1993 OC<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Bardwell

<i>M</i>	191.13131	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.36631719	$\omega$ 224.45348	-0.92902756	+0.34463402
<i>a</i>	1.9344812	$\Omega$ 334.75808	-0.18419179	-0.74640783
<i>e</i>	0.0540559	<i>i</i> 18.40866	-0.32090680	-0.56930022
<i>P</i>	2.69	<i>H</i> 14.0	<i>G</i> 0.15	

From 14 observations 1993 July 23–Oct. 19, mean residual 0''.93.

**1993 OX<sub>2</sub> = 1979 QJ<sub>3</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams

<i>M</i>	31.97201	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.21443557	$\omega$ 215.11643	+0.99826707	-0.00482569
<i>a</i>	2.7644251	$\Omega$ 145.01910	+0.02330925	+0.94753891
<i>e</i>	0.1748056	<i>i</i> 5.87153	-0.05403279	+0.31960402
<i>P</i>	4.60	<i>H</i> 15.5	<i>G</i> 0.15	

Residuals in seconds of arc

790822 809	0.6+	0.1+	930814 664	0.3-	0.3-	930816 664	0.6-	0.4+
790822 809	0.3-	0.5-	930814 664	0.1-	0.1-	930907 664	0.1-	0.1+
790822 809	0.2-	0.3-	930814 664	0.0	0.1+	930907 664	0.8-	0.3-
790823 809	0.1-	0.6-	930815 664	0.8-	0.3+	930907 664	0.3-	0.4-
790823 809	0.3+	0.6+	930815 664	0.1-	0.2+	930907 664	0.5-	0.4-
930725 664	0.2+	1.3-	930815 664	0.5-	0.9+	930907 664	0.5+	0.6-
930725 664	0.9+	0.3+	930815 664	0.6-	0.7+	930908 664	0.0	0.1-
930725 664	0.8+	0.4+	930815 664	0.8-	0.9+	930908 664	0.2-	0.1+
930725 664	0.0	0.3+	930816 664	0.2-	0.6+	930909 664	1.8+	0.4-
930814 664	0.0	0.3-	930816 664	0.2+	0.4+	930909 664	1.4+	0.5-

**1993 PJ<sub>7</sub> = 1991 EL<sub>5</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams

<i>M</i>	57.38795	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.18830347	$\omega$ 338.90638	+0.67319297	+0.73926789
<i>a</i>	3.0146056	$\Omega$ 333.39844	-0.67284601	+0.60275631
<i>e</i>	0.0412782	<i>i</i> 2.19526	-0.30674007	+0.30027956
<i>P</i>	5.23	<i>H</i> 13.0	<i>G</i> 0.15	

Residuals in seconds of arc

910314 809	0.2+	0.1+	910317 809	0.6-	0.2+	930909 691	0.1+	0.0
910314 809	0.7+	0.0	930815 010	0.2+	0.4+	930909 691	0.3-	0.3+
910314 809	0.7+	0.0	930815 010	0.4-	0.3-	930909 691	0.3+	0.1-
910317 809	0.6-	0.3-	930815 010	0.1-	0.2-			
910317 809	0.4-	0.1+	930817 010	0.1+	0.0			

**1993 QP**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Bardwell

<i>M</i>	47.06884	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.28109789	$\omega$ 46.53835	+0.95604868	+0.27097826
<i>a</i>	2.3079744	$\Omega$ 297.44847	-0.29198475	+0.84502682
<i>e</i>	0.4692901	<i>i</i> 7.24984	-0.02675502	+0.46097773
<i>P</i>	3.51	<i>H</i> 17.5	<i>G</i> 0.15	

From 42 observations 1993 Aug. 23–Oct. 19, mean residual 0''.64.

**1993 QT = 1990 MY**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams

<i>M</i>	77.07922	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.36008477	$\omega$ 336.85167	+0.76115244	+0.64109334
<i>a</i>	1.9567389	$\Omega$ 342.15598	-0.53359691	+0.53291607
<i>e</i>	0.0696723	<i>i</i> 18.69431	-0.36867506	+0.55226786
<i>P</i>	2.74	<i>H</i> 13.5	<i>G</i> 0.15	

Residuals in seconds of arc

900622 413	0.6-	0.3-	930819 675	0.8+	0.3+	930912 675	0.8+	0.5+
900622 413	0.7-	0.9+	930821 675	0.5-	0.1+	930915 675	1.2-	0.1-
900623 413	1.4+	0.6-	930821 675	1.2-	0.7-	930915 675	0.4+	0.1+
930819 675	0.7+	0.2+	930912 675	0.2+	0.4-			

**1993 RD = 1989 UP<sub>9</sub> = 1990 YM<sub>1</sub> = 1991 AN<sub>4</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Nakano

<i>M</i>	95.08779	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.24016221	$\omega$ 302.06666	+0.20060964	+0.97859816
<i>a</i>	2.5633009	$\Omega$ 339.35765	-0.84929388	+0.15039768
<i>e</i>	0.1737242	<i>i</i> 7.47153	-0.48831924	+0.14044991
<i>P</i>	4.10	<i>H</i> 12.8	<i>G</i> 0.15	

Residuals in seconds of arc

891029 399	1.2+	0.4-	930912 400	0.8-	0.6-	930919 400	1.9-	1.1-
891029 399	0.1+	0.5-	930912 400	(3.7-	0.1-)	930920 033	1.3+	1.9-
891029 399	1.6-	1.4+	930913 400	1.0-	2.3+	930921 400	(3.8-	0.9+)
901224 372	0.8-	0.1+	930913 400	0.7+	2.3+	930921 400	0.7-	0.7+
901224 372	(0.1-	6.0-)	930918 033	1.9-	1.0-	930922 033	0.1+	0.5-
910106 372	0.7+	0.2-	930918 033	1.0+	1.2-	931006 400	2.3+	2.1+
910106 372	(1.6+	3.8+)	930919 400	0.1+	1.9-	931006 400	1.2+	0.4+

**1993 RE = 1982 YY<sub>2</sub> = 1991 EV<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Nakano

<i>M</i>	7.04143	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.25968608	$\omega$ 146.62622	+0.72809947	-0.68484351
<i>a</i>	2.4331577	$\Omega$ 256.62614	+0.62212577	+0.67817705
<i>e</i>	0.1692070	<i>i</i> 1.72787	+0.28780320	+0.26658068
<i>P</i>	3.80	<i>H</i> 13.6	<i>G</i> 0.15	

Residuals in seconds of arc

821222 095	0.0	0.5+	930912 400	(3.7-	3.5-)	930918 033	0.4+	0.1-
910307 809	0.5+	0.2+	930912 400	(5.3-	1.3+)	930919 400	1.2-	0.5+
910307 809	1.1+	0.0	930913 400	0.6+	2.2-	930919 400	1.5-	0.2+
910307 809	1.8+	0.1-	930913 400	1.4+	0.7+	930920 033	0.6+	0.2-
910309 809	1.4-	0.3-	930914 894	0.2-	0.0	930922 033	0.4-	0.2-
910309 809	1.3-	0.3-	930914 894	0.4+	1.2+	931006 400	2.2+	0.2-
910309 809	1.0-	0.4-	930918 033	1.8-	0.3+	931006 400	0.2-	0.7-

**1993 RY<sub>1</sub> = 1971 VZ = 1975 NJ = 1976 SN<sub>8</sub> = 1987 OW = 1987 QH<sub>11</sub> = 1991 FL<sub>5</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Ichikawa

<i>M</i>	51.26859	(2000.0)	<b>P</b>	<b>Q</b>
<i>n</i>	0.17419789	$\omega$ 142.31225	+0.85645645	+0.51574725
<i>a</i>	3.1752222	$\Omega$ 186.75091	-0.50742356	+0.83323483
<i>e</i>	0.0857818	<i>i</i> 10.82163	-0.09488771	+0.19931003
<i>P</i>	5.66	<i>H</i> 12.1	<i>G</i> 0.15	

Residuals in seconds of arc

711110	805	0.6-	0.2+	870727	511	1.6-	0.5-	930918	033	0.1-	0.9-
711110	805	0.4-	0.4+	870828	095	1.1+	0.5+	930919	400	1.2+	0.6-
711110	805	0.0	0.9-	910321	808	1.9+	0.8+	930919	400	1.5+	0.4+
711111	805	0.1-	0.7+	910321	808	2.2-	0.7+	930920	033	1.1+	0.4-
711111	805	0.6+	0.2+	930912	400	2.4-	0.8-	930921	400	0.1-	1.3-
711111	805	1.4+	0.0	930912	400	1.0+	1.6+	930921	400	(3.9-	1.2+)
750708	095	0.9+	0.2+	930913	400	1.2-	0.5-	930922	033	0.5+	0.5+
760928	095	(4.2+	4.4+)	930913	400	0.3-	0.4+				
760928	095	2.3-	2.8+	930918	033	0.2+	0.6-				

**1993 RF<sub>2</sub> = 1976 SB<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Ichikawa

<i>M</i>	72.48039		(2000.0)		<b>P</b>		<b>Q</b>
<i>n</i>	0.29034942	$\omega$	326.10862	+0.76670635		+0.64193675	
<i>a</i>	2.2586836	$\Omega$	353.93189	-0.56885670		+0.67289199	
<i>e</i>	0.1821207	<i>i</i>	4.81035	-0.29759607		+0.36760519	
<i>P</i>	3.39	<i>H</i>	14.0	<i>G</i>	0.15		

Residuals in seconds of arc

760924	095	0.3-	1.6-	930915	400	1.0+	0.5+	930916	400	1.1-	0.1-
760928	095	0.7+	0.9+	930915	400	1.5+	0.8+	931011	400	2.5+	0.3+
760928	095	(8.7-	0.5+)	930916	400	2.0-	0.5-	931011	400	2.2-	0.4-

**1993 RH<sub>2</sub> = 1985 SU<sub>6</sub> = 1985 UT<sub>5</sub> = 1989 TA<sub>2</sub>**

Id. K. Ichikawa

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Nakano

<i>M</i>	43.21805		(2000.0)		<b>P</b>		<b>Q</b>
<i>n</i>	0.24473319	$\omega$	349.38649	+0.99184826		+0.12657968	
<i>a</i>	2.5312836	$\Omega$	3.44446	-0.09154425		+0.78780984	
<i>e</i>	0.2016630	<i>i</i>	14.11273	-0.08863790		+0.60277130	
<i>P</i>	4.03	<i>H</i>	13.8	<i>G</i>	0.15		

Residuals in seconds of arc

850922	095	1.9-	4.3+	891004	046	0.4+	0.3+	930916	400	0.4-	1.5-
851018	095	0.5-	0.6-	891005	046	0.7+	0.1+	930916	400	0.5-	2.2-
891003	046	2.6-	2.1-	891005	046	3.2+	1.4+	931011	400	0.2-	2.5+
891003	046	0.8-	1.9-	930915	400	1.0-	1.4+	931011	400	3.3+	0.1+
891004	046	1.2+	1.2-	930915	400	0.9-	0.3-				

**1993 SD = 1983 UB<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	37.07053		(2000.0)		<b>P</b>		<b>Q</b>
<i>n</i>	0.19038534	$\omega$	153.11094	+0.97808984		+0.20241331	
<i>a</i>	2.9925888	$\Omega$	195.44491	-0.20818319		+0.95079684	
<i>e</i>	0.0798001	<i>i</i>	10.53109	-0.00016410		+0.23455110	
<i>P</i>	5.18	<i>H</i>	13.0	<i>G</i>	0.15		

Residuals in seconds of arc

831030	675	0.1+	0.4-	930916	589	0.2-	0.3+	930921	589	0.1+	0.4+
831104	675	0.1-	0.5+	930918	589	0.3-	0.1-	930921	589	0.4+	0.2-
930916	589	0.4-	0.6+	930918	589	0.0	0.3-	931009	589	0.3-	0.2-
930916	589	0.6+	0.8-	930918	589	0.5+	0.3+	931009	589	0.4-	0.1-
930916	589	0.2-	0.3+	930920	589	0.4+	0.1-	931009	589	0.1-	0.1-
930916	589	0.5-	0.0	930920	589	0.2+	0.1-				

**1993 SG = 1949 SK<sub>1</sub> = 1982 SC<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

<i>M</i>	38.33023		(2000.0)		<b>P</b>		<b>Q</b>
<i>n</i>	0.26953491	$\omega$	24.86851	+0.97638669		-0.21528167	
<i>a</i>	2.3735190	$\Omega$	347.52371	+0.18167635		+0.86327511	
<i>e</i>	0.2106452	<i>i</i>	4.77074	+0.11688769		+0.45651932	
<i>P</i>	3.66	<i>H</i>	14.0	<i>G</i>	0.15		

Residuals in seconds of arc

490925	760	(5.5+	0.3-	930925	596	(3.2+	1.5-	931010	596	0.1+	0.3-
490925	760	0.2+	0.4-	930925	596	0.9-	1.7-	931011	596	0.5+	1.1-
820917	095	0.4+	1.7+	930926	596	1.3+	0.4+	931011	596	0.8-	0.9-
820919	095	0.3+	0.4+	930926	596	1.2+	0.4+	931011	596	0.0	0.5+
820919	095	(2.0-	3.2-	931004	596	2.0+	0.4-	931013	596	0.7+	1.2+
820922	688	(2.9-	4.1-	931004	596	0.4-	0.3+	931013	596	0.2-	1.5+
820922	688	(1.5-	5.5-	931004	596	0.8+	1.4+	931013	596	0.0	0.2-
820924	095	2.0-	0.5+	931004	596	(4.0+	1.9+)	931016	596	0.4+	0.4+
930920	596	2.4+	0.0	931007	596	1.9-	1.3-	931016	596	0.0	0.8+
930920	596	1.9-	0.9-	931007	596	0.7-	0.4+	931016	596	1.1+	0.9+
930921	596	0.9-	0.7-	931009	596	0.5-	1.3+	931016	596	0.5-	0.3-
930921	596	0.1+	0.9-	931009	596	(1.9+	2.9+)	931017	596	0.1-	0.1+
930922	596	0.4-	0.3+	931010	596	(5.7+	2.5+)	931017	596	(0.4-	2.7+)
930922	596	(4.2+	0.8-	931010	596	(5.0+	0.4+)	931017	596	0.7-	1.3-
930923	596	0.6+	0.0	931010	596	0.2+	1.0-				
930923	596	(2.9+	0.1+)	931010	596	0.5-	1.1-				

**1993 SJ<sub>1</sub> = 1976 ST<sub>2</sub> = 1986 PP<sub>5</sub> = 1992 GO<sub>5</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Nakano

<i>M</i>	78.44821		(2000.0)		<b>P</b>		<b>Q</b>
<i>n</i>	0.29024371	$\omega$	141.35338	+0.68828097		+0.72531836	
<i>a</i>	2.2592320	$\Omega$	172.10794	-0.68763592		+0.65823104	
<i>e</i>	0.2071015	<i>i</i>	5.64758	-0.23114099		+0.20160647	
<i>P</i>	3.40	<i>H</i>	14.6	<i>G</i>	0.15		

Residuals in seconds of arc

760924	095	1.2-	3.4+	920403	033	0.5-	0.9+	930918	400	0.5+	1.4+
760929	095	1.5+	4.0-	930916	400	1.2-	1.8-	931011	400	(4.6-	0.9-)
860809	095	0.0	0.1-	930916	400	2.0+	2.8+	931011	400	1.0-	0.4-
920403	033	0.7+	0.3-	930918	400	0.6-	0.9-				

**1993 SK<sub>1</sub> = 1973 UP<sub>2</sub> = 1983 VJ<sub>7</sub> = 1990 VC<sub>14</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Nakano

<i>M</i>	68.27164		(2000.0)		<b>P</b>		<b>Q</b>
<i>n</i>	0.29035066	$\omega$	274.12791	+0.88110295		+0.47149220	
<i>a</i>	2.2586772	$\Omega$	57.74463	-0.41481599		+0.80784974	
<i>e</i>	0.0844893	<i>i</i>	2.49262	-0.22712396		+0.35365789	
<i>P</i>	3.39	<i>H</i>	13.1	<i>G</i>	0.15		

Residuals in seconds of arc

731027	095	0.6-	2.4+	901114	095	1.9-	2.2+	930919	400	1.9-	0.5+
831104	688	2.0+	1.6-	901114	095	1.5+	0.2+	931008	400	1.4-	0.4+
831104	688	1.3+	1.2-	930916	400	2.5+	0.4+	931008	400	0.1+	1.2-
831107	688	0.9+	1.1-	930916	400	0.0	1.2+				
831107	688	1.5-	1.9-	930919	400	0.6-	1.0+				

1993 SR<sub>1</sub> = 1986 RB<sub>13</sub> = 1986 SO<sub>2</sub>

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	40.53448	(2000.0)	P			Q		
<i>n</i>	0.28416643	$\omega$	329.81815	+0.99007656	-0.13428697			
<i>a</i>	2.2913294	$\Omega$	37.96901	+0.13860040	+0.88445484			
<i>e</i>	0.2171114	<i>i</i>	3.86006	+0.02320189	+0.44688550			
<i>P</i>	3.47	<i>H</i>	14.2	<i>G</i>	0.15			

Residuals in seconds of arc

860909 095	0.9-	0.5+	930916 400	0.4-	0.8+	931011 400	0.5-	0.0
860929 095	2.5+	3.9-	930918 400	0.9-	2.0+	931011 400	1.6+	0.4-
930916 400	1.0-	0.7+	930918 400	0.5-	0.1+			

1993 SL<sub>3</sub> = 1982 HB = 1985 BN<sub>1</sub> = 1985 FW<sub>2</sub> = 1989 KN

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	91.26703	(2000.0)	P			Q		
<i>n</i>	0.28752253	$\omega$	285.34567	+0.50189545	+0.85733160			
<i>a</i>	2.2734642	$\Omega$	16.34441	-0.55147206	+0.41907294			
<i>e</i>	0.2188326	<i>i</i>	23.98287	-0.66631789	+0.29893210			
<i>P</i>	3.43	<i>H</i>	12.5	<i>G</i>	0.15			

Residuals in seconds of arc

820418 688	1.2-	0.9-	850325 801	(9.1-	9.9+)	930922 303	0.9-	0.0
820418 688	1.3+	0.3-	850326 801	1.4-	1.7+	930923 303	0.7+	1.0+
820425 688	(4.9+	2.2+)	890529 808	2.1+	1.8+	930923 675	1.4+	1.5+
820425 688	2.7-	1.3-	890530 808	(23.8+	1.7-)	931009 374	0.2+	0.1+
850118 691	0.3-	0.2-	930919 675	0.1-	0.3-	931009 374	0.9-	0.8-
850118 691	1.0+	0.2-	930922 303	0.7-	0.9-			
850118 691	1.7+	0.1-	930922 303	0.9+	0.8-			

1993 SY<sub>3</sub> = 1981 WQ<sub>6</sub> = 1989 UF<sub>5</sub>

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	11.45594	(2000.0)	P			Q		
<i>n</i>	0.24239145	$\omega$	194.01805	+0.74296887	-0.66758807			
<i>a</i>	2.5475606	$\Omega$	208.04835	+0.62354897	+0.71653332			
<i>e</i>	0.1739760	<i>i</i>	5.88373	+0.24327751	+0.20225273			
<i>P</i>	4.07	<i>H</i>	13.4	<i>G</i>	0.15			

Residuals in seconds of arc

811124 095	0.1-	1.7+	930916 400	1.4+	1.5+	930918 400	0.3+	0.2+
891030 807	0.0	0.8-	930916 400	0.0	1.7+	931011 400	1.7-	2.3-
891101 807	0.2-	1.1-	930918 400	0.6+	2.1+	931011 400	0.1-	2.4-

1993 TE = 1985 VB<sub>5</sub> = 1989 UA<sub>5</sub>

Id. T. Kobayashi

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	46.15659	(2000.0)	P			Q		
<i>n</i>	0.24310296	$\omega$	161.63441	+0.99394676	+0.10490375			
<i>a</i>	2.5425874	$\Omega$	192.47948	-0.10977983	+0.95990765			
<i>e</i>	0.2739936	<i>i</i>	8.68633	+0.00426917	+0.25994711			
<i>P</i>	4.05	<i>H</i>	14.0	<i>G</i>	0.15			

Residuals in seconds of arc

851111 095	0.0	1.8-	891102 046	2.5+	2.3+	931009 367	0.8+	0.3+
891029 807	3.1-	0.6-	931008 367	1.3+	0.1-	931014 367	0.8+	0.1-
891101 807	3.0-	0.9-	931008 367	0.5-	1.0-	931014 367	0.1+	0.3+
891102 046	3.6+	1.9+	931009 367	2.5-	0.4-			

1993 TF = 1971 TU<sub>1</sub> = 1982 UO<sub>1</sub> = 1991 EK<sub>6</sub>

Id. T. Kobayashi

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	14.88674	(2000.0)	P			Q		
<i>n</i>	0.26843241	$\omega$	324.02856	+0.62279429	-0.78177838			
<i>a</i>	2.3800135	$\Omega$	87.43050	+0.72484031	+0.56171150			
<i>e</i>	0.1889085	<i>i</i>	1.76788	+0.29450600	+0.27074481			
<i>P</i>	3.67	<i>H</i>	13.7	<i>G</i>	0.15			

Residuals in seconds of arc

711012 095	3.6+	7.5-	821021 046	(4.2+	1.3+)	931009 367	0.9-	0.9+
821016 046	0.9-	0.2-	910305 071	1.1+	0.4+	931011 367	0.7+	0.9+
821016 046	0.0	0.5-	910305 071	0.8-	0.4+	931011 367	1.3-	2.2+
821020 046	0.3-	0.6-	931008 367	0.8+	0.6-	931014 367	0.3-	1.7+
821020 046	0.4+	0.1-	931008 367	0.2-	1.1+	931014 367	1.0-	1.1+
821021 046	0.5-	1.0+	931009 367	0.4-	0.9+			

## 1993 TX = 1972 XU

Id. T. Kobayashi

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	34.82457	(2000.0)	P			Q		
<i>n</i>	0.23296482	$\omega$	329.94318	+0.97054024	-0.19980231			
<i>a</i>	2.6158278	$\Omega$	42.27214	+0.24089049	+0.81589744			
<i>e</i>	0.2960382	<i>i</i>	11.54736	-0.00483941	+0.54257756			
<i>P</i>	4.23	<i>H</i>	12.5	<i>G</i>	0.15			

Residuals in seconds of arc

721202 095	0.0	1.7-	931011 367	0.0	0.6+	931016 367	2.0-	0.1+
721206 095	0.0	1.6+	931014 367	0.5+	0.3-	931016 367	0.1-	0.4+
931011 367	2.0+	1.0-	931014 367	0.4-	0.2+			

## 1993 TZ

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	29.25659	(2000.0)	P			Q		
<i>n</i>	0.34269728	$\omega$	231.07523	+0.26263494	-0.96445217			
<i>a</i>	2.0223778	$\Omega$	203.74740	+0.90622433	+0.25695739			
<i>e</i>	0.5631430	<i>i</i>	4.16365	+0.33133118	+0.06168389			
<i>P</i>	2.88	<i>H</i>	26.0	<i>G</i>	0.15			

From 11 observations 1993 Oct. 15-16, mean residual 1".20.

2572 P-L = 1972 GR<sub>1</sub>

Id. H. Oishi (MPC 14626)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

<i>M</i>	248.36172	(2000.0)	P			Q		
<i>n</i>	0.29438755	$\omega$	112.89542	-0.53940864	-0.84200658			
<i>a</i>	2.2379812	$\Omega$	9.75967	+0.75435088	-0.48740791			
<i>e</i>	0.1008536	<i>i</i>	2.68898	+0.37415647	-0.23121083			
<i>P</i>	3.35	<i>H</i>	15.0	<i>G</i>	0.15			

Residuals in seconds of arc

600924 675	0.9-	0.1+	601022 675	1.5+	0.3+	720410 805	3.0-	0.6+
600926 675	0.0	0.2+	601025 675	0.6+	0.3-	720410 805	0.4+	0.6-
600928 675	0.2+	0.2-	601026 675	0.2-	0.4-	920403 033	0.2-	0.2+
600929 675	0.7-	0.1-	720409 805	0.0	0.0	920403 033	0.4+	0.4+
601017 675	0.2-	0.1+	720409 805	2.1+	0.8-			

**2765 P-L = 1978 WS<sub>1</sub>**Id. K. Hurukawa (*JAM* 1639)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

M	174.31481	(2000.0)	P		Q	
<i>n</i>	0.22216028	$\omega$ 25.69743	+0.75786805	-0.65238454		
<i>a</i>	2.6999669	$\Omega$ 15.02820	+0.59484317	+0.68750076		
<i>e</i>	0.1862444	<i>i</i> 1.21903	+0.26795077	+0.31896257		
<i>P</i>	4.44	<i>H</i> 16.0	<i>G</i> 0.15			

Residuals in seconds of arc

600924	675	0.1-	0.7+	601022	675	0.0	0.0	781130	675	0.5-	0.3-
600926	675	0.7+	1.7-	601025	675	0.5-	0.7+	911008	691	0.6-	1.3+
600928	675	0.7+	2.8-	601026	675	0.2-	0.1+	911008	691	0.4-	1.0+
600929	675	0.4+	0.9+	781129	675	0.6+	0.2-				

**3526 P-L = 1985 FG<sub>2</sub> = 1990 EQ<sub>10</sub> = 1993 RT<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

M	14.80637	(2000.0)	P		Q	
<i>n</i>	0.17961404	$\omega$ 51.66264	+0.87480394	-0.47798131		
<i>a</i>	3.1110657	$\Omega$ 336.57019	+0.35878985	+0.74883862		
<i>e</i>	0.1127519	<i>i</i> 11.46992	+0.32555783	+0.45910194		
<i>P</i>	5.49	<i>H</i> 11.5	<i>G</i> 0.15			

Residuals in seconds of arc

601017	675	0.6+	0.0	601025	675	0.0	0.0	930915	400	1.5-	1.2-
601022	675	0.4+	1.4-	601026	675	1.2+	0.3-	930915	400	0.5+	1.9+
601022	675	1.1+	1.2-	601026	675	0.1-	1.1-	930916	400	0.4+	3.0+
601022	675	0.5-	0.4-	850324	688	2.0-	1.3-	930916	400	2.0-	0.6+
601024	675	0.9+	0.2-	850324	688	0.2+	0.5-				
601025	675	0.3-	0.5-	900301	095	1.4+	1.2+				

**4040 P-L = 1991 GB<sub>14</sub> = 1992 ST<sub>24</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

M	138.50539	(2000.0)	P		Q	
<i>n</i>	0.21548670	$\omega$ 97.95457	+0.68482426	+0.72537882		
<i>a</i>	2.7554280	$\Omega$ 215.59312	-0.70678875	+0.63794703		
<i>e</i>	0.2235544	<i>i</i> 6.86597	-0.17738488	+0.25855206		
<i>P</i>	4.57	<i>H</i> 14.5	<i>G</i> 0.15			

Residuals in seconds of arc

600924	675	0.1+	0.5+	601024	675	0.5+	0.8-	920921	033	0.4-	2.5+
600925	675	0.2-	0.3+	601026	675	0.2+	0.8-	920922	033	0.6-	0.5+
600926	675	0.6+	0.5+	910410	809	0.6-	0.2+	920925	033	1.1+	1.0-
600928	675	0.4+	0.3+	910410	809	0.1+	1.0-	920927	033	0.4+	0.7-
601017	675	0.7-	1.1-	910410	809	0.1+	0.9-	920928	033	0.4-	0.2-
601022	675	0.3-	0.5-	920921	033	0.0	1.1-				

**4121 P-L = 1982 UH<sub>4</sub> = 1993 TO<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

M	28.23888	(2000.0)	P		Q	
<i>n</i>	0.18076616	$\omega$ 184.03800	+0.91950554	-0.38990352		
<i>a</i>	3.0978327	$\Omega$ 199.14717	+0.36476442	+0.89364372		
<i>e</i>	0.1797525	<i>i</i> 8.74151	+0.14648028	+0.22220746		
<i>P</i>	5.45	<i>H</i> 13.0	<i>G</i> 0.15			

Residuals in seconds of arc

600924	675	0.2-	0.4-	601022	675	0.7+	1.7-	931015	400	1.3+	0.1-
600925	675	0.2-	0.2-	601024	675	0.7-	1.5+	931015	400	1.3+	0.6+

600926	675	0.6-	0.0	601025	675	0.4+	0.2+	931016	400	1.7-	0.3+
600928	675	0.7-	0.1+	601026	675	0.0	0.0	931016	400	0.9-	1.0-
601017	675	0.6+	0.5+	601026	675	0.1+	1.2-				
601017	675	0.4+	0.8+	821020	033	0.0	0.4+				

**4529 P-L = 1977 RV<sub>13</sub>**Id. E. Bowell (*MPC* 17974)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

M	339.08482	(2000.0)	P		Q	
<i>n</i>	0.17333785	$\omega$ 330.94565	+0.85862270	+0.51260165		
<i>a</i>	3.1857165	$\Omega$ 358.21088	-0.45296491	+0.75636196		
<i>e</i>	0.1289353	<i>i</i> 4.72423	-0.23997887	+0.40639406		
<i>P</i>	5.69	<i>H</i> 14.5	<i>G</i> 0.15			

Residuals in seconds of arc

600924	675	0.3+	0.2-	601017	675	0.5-	0.3-	770910	675	0.2+	0.3-
600926	675	0.5+	0.4-	601022	675	0.8-	0.3-	920326	691	0.6-	0.7-
600927	675	1.1+	0.5+	601024	675	0.1-	0.6+	920326	691	0.5-	0.8-
600928	675	0.2+	0.1-	601026	675	0.2-	0.4-	920326	691	0.1+	0.5-
600928	675	0.1-	0.6-	770909	675	0.2+	0.4-				

**6541 P-L = 1977 CC<sub>1</sub>**Id. E. Bowell (*MPC* 10832)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Williams

M	227.66157	(2000.0)	P		Q	
<i>n</i>	0.08081282	$\omega$ 262.51273	+0.55021614	-0.83267720		
<i>a</i>	5.2984545	$\Omega$ 153.80204	+0.81107024	+0.51512368		
<i>e</i>	0.0670487	<i>i</i> 8.14363	+0.19856300	+0.20321482		
<i>P</i>	12.20	<i>H</i> 12.0	<i>G</i> 0.15			

Residuals in seconds of arc

600924	675	0.3-	0.3-	601022	675	0.1+	0.1-	920408	691	0.1-	0.1-
600926	675	0.6-	0.2+	601025	675	0.6-	0.3+	920408	691	0.0	0.1-
600927	675	0.4+	0.9-	601026	675	0.8+	0.3+	920408	691	0.0	0.1-
600928	675	0.9+	0.1+	770213	675	0.1-	0.2-				
601017	675	0.7-	0.1-	770214	675	0.1+	0.1-				

**1047 T-1 = 1985 DJ<sub>2</sub> = 1993 RF**

Id. G. V. Williams, S. Nakano

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5

Nakano

M	256.14337	(2000.0)	P		Q	
<i>n</i>	0.28513611	$\omega$ 284.34722	-0.85411468	-0.51645833		
<i>a</i>	2.2861317	$\Omega$ 224.60226	+0.50446267	-0.79400671		
<i>e</i>	0.0529898	<i>i</i> 5.00907	+0.12651295	-0.32066203		
<i>P</i>	3.46	<i>H</i> 12.9	<i>G</i> 0.15			

Residuals in seconds of arc

710324	675	1.7+	0.9-	850224	010	0.2-	1.0-	930919	400	0.3+	1.3+
710325	675	1.4-	0.5+	930912	400	0.3-	0.7+	930921	400	0.5+	0.3+
710325	675	0.8-	1.5+	930912	400	0.8+	0.4+	930921	400	1.3-	1.2+
710326	675	0.9+	1.5-	930913	400	0.1+	0.1-	931006	400	(1.9-	4.5-)
710327	675	0.2-	1.0+	930913	400	0.3-	1.5-	931006	400	0.2+	2.5-
850224	010	(18.7+	7.2-)	930919	400	(3.0+	1.5+)				

**1265 T-2 = 1993 ST**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams

M		(2000.0)		P		Q	
<i>n</i>	253.01476	$\omega$	284.05479	-0.64961717	-0.76018217		
<i>a</i>	2.5461113	$\Omega$	206.46784	+0.70668913	-0.59845217		
<i>e</i>	0.1266841	<i>i</i>	1.41189	+0.28033550	-0.25293887		
<i>P</i>	4.06	<i>H</i>	15.0	<i>G</i>	0.15		

Residuals in seconds of arc

730920 675	0.9-	0.2-	730929 675	0.9+	0.5-	930918 691	0.1-	0.6-
730924 675	0.1+	0.0	730930 675	0.2+	1.6+	930918 691	0.5+	0.3+
730924 675	1.8+	0.3-	730930 675	0.8-	1.2+	930918 691	0.1-	0.2+
730925 675	1.9-	0.8-	731004 675	0.4-	0.1-	930919 691	0.0	0.0
730925 675	0.2-	1.0+	731004 675	0.0	2.1-	930919 691	0.2-	0.0
730929 675	1.2+	0.3-	731005 675	0.1+	0.7+	930919 691	0.1-	0.0

**1279 T-2 = 1993 QQ<sub>3</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Bowell

M		(2000.0)		P		Q	
<i>n</i>	18.45879	$\omega$	213.66772	+0.88875580	-0.45837376		
<i>a</i>	2.2363677	$\Omega$	173.61290	+0.42549641	+0.82289318		
<i>e</i>	0.1676581	<i>i</i>	1.32650	+0.17048735	+0.33576823		
<i>P</i>	3.34	<i>H</i>	15.6	<i>G</i>	0.15		

Residuals in seconds of arc

730919 675	0.8-	0.6-	730924 675	0.0	0.4+	731004 675	0.9-	0.4-
730919 675	0.6+	0.3-	730925 675	(2.0-	3.0-)	731004 675	0.4-	0.7+
730919 675	0.2-	0.5+	730925 675	0.6-	1.5+	731005 675	0.6+	0.6+
730919 675	1.2+	0.2+	730925 675	1.7+	0.5-	731005 675	0.1+	0.1+
730920 675	1.9-	0.5+	730925 675	0.2-	1.5+	930818 010	0.6-	0.5-
730920 675	(1.9-	2.0+)	730929 675	0.0	0.8-	930819 010	0.4+	0.3+
730924 675	0.1+	1.9-	730929 675	0.7+	1.2-	930819 010	0.5+	0.7+
730924 675	0.4+	0.2-	730930 675	0.2-	0.8+	930819 010	0.3-	0.4-
730924 675	0.6+	0.4-	730930 675	0.5-	0.5-			

**2144 T-2 = 1992 FH<sub>3</sub> = 1993 QT<sub>3</sub>**

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

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams

M		(2000.0)		P		Q	
<i>n</i>	95.37070	$\omega$	278.95215	+0.11518194	+0.99333932		
<i>a</i>	2.5348785	$\Omega$	357.65492	-0.87810522	+0.10032207		
<i>e</i>	0.1317616	<i>i</i>	4.45823	-0.46439675	+0.05667874		
<i>P</i>	4.04	<i>H</i>	15.0	<i>G</i>	0.15		

Residuals in seconds of arc

730919 675	0.7-	0.4+	730929 675	(0.2+	2.6+)	731005 675	1.7+	0.3+
730919 675	0.5-	0.1+	730929 675	0.8-	2.2+	920325 691	0.0	0.0
730920 675	1.7-	1.7-	730930 675	0.5+	0.7+	920325 691	0.0	0.0
730924 675	(3.7-	0.8+)	730930 675	0.7+	0.4-	930818 010	0.5-	0.4+
730924 675	(3.7-	0.2+)	731004 675	1.0+	0.3+	930819 010	0.8+	0.8-

730925 675	1.5-	1.2-	731004 675	1.8+	0.4+	930819 010	0.2-	0.3+
730925 675	0.2-	1.0-	731005 675	0.3-	0.2-	930819 010	0.0	0.1+

**2285 T-2 = 1987 RE<sub>6</sub> = 1992 ST<sub>23</sub>**

Id. S. Nakano (MPC 15571; unpublished)

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Nakano

M		(2000.0)		P		Q	
<i>n</i>	91.26023	$\omega$	43.71809	+0.58863570	-0.80790207		
<i>a</i>	2.8002838	$\Omega$	10.33182	+0.69148454	+0.48504614		
<i>e</i>	0.1321675	<i>i</i>	9.08659	+0.41875666	+0.33470059		
<i>P</i>	4.69	<i>H</i>	13.4	<i>G</i>	0.15		

Residuals in seconds of arc

730925 675	2.9+	2.8-	731004 675	2.3+	0.9-	920925 033	0.6+	0.6+
730925 675	(3.5+	2.0-)	731005 675	1.1-	0.2-	920925 033	0.8+	0.5+
730929 675	0.9-	1.2+	731005 675	2.0-	0.6-	920927 033	0.6-	1.0+
730929 675	0.5-	0.6+	870904 095	2.3-	1.1+	920928 033	0.6-	0.7-
730930 675	0.1-	0.4-	870924 095	0.3-	2.6+	920929 033	2.3-	0.4-
730930 675	0.7+	0.9-	870927 095	(3.1-	7.1+)			
731004 675	1.8+	1.3-	920923 033	1.6+	1.0+			

**5211 T-2 = 1993 TA<sub>2</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Nakano

M		(2000.0)		P		Q	
<i>n</i>	357.11174	$\omega$	207.21270	+0.24158128	-0.96281643		
<i>a</i>	2.9005908	$\Omega$	229.07026	+0.91688526	+0.26728857		
<i>e</i>	0.2165877	<i>i</i>	9.21024	+0.31774189	-0.03925993		
<i>P</i>	4.94	<i>H</i>	12.3	<i>G</i>	0.15		

Residuals in seconds of arc

730919 675	2.4+	1.7+	730925 675	0.0	0.5-	730930 675	0.5-	0.4+
730920 675	1.9-	0.6-	730925 675	0.3+	0.2-	931015 400	0.6+	0.2+
730920 675	0.1+	0.3-	730929 675	0.8+	0.5-	931015 400	0.3+	1.2-
730924 675	0.7-	0.0	730929 675	0.6+	0.5-	931016 400	0.7-	0.2-
730924 675	0.8-	0.2+	730930 675	0.3-	0.3+	931016 400	0.1-	1.3+

**3137 T-3 = 1993 TH<sub>1</sub>**

Epoch 1994 Feb. 17.0 TT = JDT 2449400.5 Williams

M		(2000.0)		P		Q	
<i>n</i>	16.95139	$\omega$	12.66994	+0.79239484	-0.60487172		
<i>a</i>	0.18572551	$\Omega$	25.07295	+0.54214923	+0.63895467		
<i>e</i>	3.0424376	<i>i</i>	10.74367	+0.27961515	+0.47525482		
<i>P</i>	5.31	<i>H</i>	12.5	<i>G</i>	0.15		

Residuals in seconds of arc

771007 675	1.7+	1.0-	771016 675	0.0	0.6-	771022 675	0.1-	1.4-
771011 675	0.9-	0.7+	771017 675	1.1-	0.8+	931015 400	1.2+	1.9-
771011 675	0.9-	1.0+	771017 675	1.8-	0.3+	931015 400	0.9+	0.7+
771012 675	0.8+	0.3-	771021 675	0.3+	1.2+	931016 400	0.4-	1.4+
771012 675	0.3+	0.0	771021 675	0.5+	0.9+	931016 400	1.8-	0.2-
771016 675	0.9+	0.1+	771022 675	0.3+	1.6-			

Object	<i>H</i>	Epoch	<i>M</i>	$\omega$	$\Omega$	<i>i</i>	<i>e</i>	<i>a</i>	Obs.	Opp.	Arc	rms	Computer	<i>MPC</i>	Object
1930 UX	14.0	940217	48.70711	57.06925	334.30120	4.73866	0.2042104	2.2993107	12	5	1930-1993	0.77	Bardwell	19008	1930 UX
1931 TC <sub>2</sub>	12.8	940217	124.70185	349.95354	348.33073	8.29721	0.2530793	2.6690038	8	2	1931-1977	1.84	Nakano	12578	1931 TC <sub>2</sub>
1934 GA	10.5	940217	329.00727	77.13235	68.71008	24.59177	0.2134892	2.6580978	11	3	1934-1993	0.96	Williams	22072	1934 GA
1952 SW <sub>1</sub>	13.5	940217	149.57605	184.69355	36.80905	14.06934	0.0986556	2.5911499	27	4	1952-1993	0.79	Williams	21963	1952 SW <sub>1</sub>
1967 JN	12.0	940217	85.94221	244.10907	38.45190	13.67576	0.1816480	2.9420262	14	4	1967-1993	0.86	Williams	20327	1967 JN
1971 SX <sub>3</sub>	12.6	940217	25.65840	285.32079	192.57177	12.61958	0.0993811	2.6047696	7	2	1971-1986	0.63	Ichikawa	12007	1971 SX <sub>3</sub>
1971 UQ	15.0	940217	229.60993	311.58407	55.20903	3.57241	0.1710225	2.2568673	8	2	1971-1977	1.16	Marsden	12442	1971 UQ
1971 UN <sub>1</sub>	13.0	940217	351.00677	208.80057	187.39005	1.36247	0.2140513	3.1562233	25	4	1971-1993	0.90	Williams	22598	1971 UN <sub>1</sub>
1971 UT <sub>1</sub>	13.0	940217	15.08962	184.13891	171.89388	2.33609	0.2156948	3.1549641	21	7	1954-1993	0.61	Williams	22491	1971 UT <sub>1</sub>
1972 AU	12.8	940217	206.67015	10.29239	342.32644	12.54517	0.1718532	2.6019715	6	3	1970-1987	1.47	Nakano	13602	1972 AU
1974 SJ <sub>3</sub>	12.0	940217	305.91225	141.62286	5.08661	16.96747	0.0831786	2.7600680	13	7	1951-1993	0.88	Williams	22598	1974 SJ <sub>3</sub>
1975 SZ <sub>1</sub>	15.7	940217	98.15879	247.72616	173.55994	2.93780	0.1714204	2.2730390	8	2	1975-1982	0.61	Nakano	13300	1975 SZ <sub>1</sub>
1976 GL <sub>8</sub>	12.3	940217	77.40569	355.33412	272.55038	6.54487	0.1544403	2.5605748	9	2	1976-1990	0.76	Ichikawa	17624	1976 GL <sub>8</sub>
1976 QZ <sub>1</sub>	13.0	940217	63.56295	264.56316	62.65807	6.76996	0.0621471	2.2478380	21	5	1953-1993	0.53	Williams	22072	1976 QZ <sub>1</sub>
1976 QL <sub>2</sub>	12.3	940217	324.12451	8.06533	35.73037	9.92176	0.0930061	3.1658809	16	2	1976-1988	1.14	Nakano	14185	1976 QL <sub>2</sub>
1976 SW <sub>3</sub>	12.5	940217	35.04649	217.74233	173.90999	5.29625	0.1737664	3.1289771	27	4	1976-1993	0.88	Williams	21964	1976 SW <sub>3</sub>
1976 SZ <sub>9</sub>	13.0	940217	357.04620	20.39333	11.92898	3.78475	0.2067662	3.1937700	34	4	1976-1993	1.10	Williams	22598	1976 SZ <sub>9</sub>
1977 UO <sub>5</sub>	12.0	940217	327.26334	356.75837	68.58927	2.40342	0.2029270	3.1152537	23	6	1977-1993	0.63	Bardwell	22598	1977 UO <sub>5</sub>
1978 NN <sub>1</sub>	13.5	940217	71.07827	172.10606	143.12329	7.97215	0.2883650	2.8463674	21	4	1978-1993	0.85	Bardwell	21926	1978 NN <sub>1</sub>
1978 OP	14.0	940217	185.33984	193.22994	109.30977	14.87474	0.1607196	2.6968221	10	2	1978-1982	0.78	Ichikawa	11338	1978 OP
1978 PX <sub>2</sub>	14.5	940217	48.71935	13.83652	344.36348	2.19541	0.1988420	2.3945222	24	3	1978-1993	0.85	Marsden	22270	1978 PX <sub>2</sub>
1978 PD <sub>3</sub>	13.9	940217	72.12724	44.96797	327.28516	6.20723	0.1207869	2.3571525	10	2	1978-1989	1.03	Nakano	15403	1978 PD <sub>3</sub>
1978 SP <sub>5</sub>	13.2	940217	118.48799	194.32449	186.68888	3.94381	0.1114883	2.7728917	6	2	1978-1987	1.37	Nakano	15403	1978 SP <sub>5</sub>
1978 UK <sub>7</sub>	15.0	940217	358.85714	199.20090	201.99162	1.64842	0.1757000	2.4358129	20	3	1978-1993	0.85	Marsden	22587	1978 UK <sub>7</sub>
1978 VZ <sub>2</sub>	14.4	940217	232.55751	23.03290	67.44916	1.66635	0.0856991	2.5670938	11	3	1978-1986	0.67	Ichikawa	16575	1978 VZ <sub>2</sub>
1978 VD <sub>7</sub>	14.3	940217	87.59179	331.68215	74.61099	3.12883	0.0742007	2.8359844	12	3	1978-1992	0.77	Nakano	12696	1978 VD <sub>7</sub>
1978 VV <sub>9</sub>	12.0	940217	121.61464	315.25620	270.35464	2.53679	0.1069346	3.1353273	19	5	1978-1993	0.79	Williams	21965	1978 VV <sub>9</sub>
1979 MP <sub>1</sub>	14.9	940217	273.22325	164.00473	166.07209	1.68071	0.1201455	2.4380152	13	3	1978-1987	1.28	Nakano	13603	1979 MP <sub>1</sub>
1979 MB <sub>2</sub>	13.7	940217	91.73673	297.36495	141.48679	5.73358	0.2740462	2.5480837	21	4	1951-1992	0.72	Bowell	22073	1979 MB <sub>2</sub>
1979 MU <sub>2</sub>	14.0	940217	226.56465	150.37226	161.72033	5.73761	0.1555855	3.1133697	11	2	1977-1979	1.25	Marsden	6639	1979 MU <sub>2</sub>
1979 MP <sub>3</sub>	15.5	940217	358.02187	182.37090	222.72082	2.96657	0.1496425	2.2761937	19	4	1979-1993	0.69	Marsden	21965	1979 MP <sub>3</sub>
1979 TT <sub>2</sub>	14.0	940217	190.37235	314.95895	42.34696	3.72928	0.2656490	2.5718818	5	2	1978-1979	0.51	Williams	13164	1979 TT <sub>2</sub>
1980 BJ <sub>4</sub>	12.0	940217	135.23647	244.41711	58.00314	2.99910	0.0332535	2.8865968	19	4	1980-1993	1.05	Bardwell	21784	1980 BJ <sub>4</sub>
1980 LY	14.5	940217	93.28660	174.23379	101.38278	4.52593	0.1575261	2.1662494	14	4	1980-1993	0.70	Williams	17428	1980 LY
1980 UL <sub>1</sub>	12.5	940217	10.95682	94.96289	237.47415	8.24945	0.1658089	2.7578876	18	4	1962-1993	0.65	Bardwell	22492	1980 UL <sub>1</sub>
1981 DN	15.5	940217	147.72047	211.08367	306.71273	7.07770	0.2128173	2.4491948	20	2	1977-1981	1.00	Williams	11148	1981 DN
1981 DS <sub>1</sub>	14.5	940217	207.59565	89.00965	295.12633	8.61120	0.1090302	2.5664028	19	2	1978-1981	0.99	Williams	11148	1981 DS <sub>1</sub>
1981 DF <sub>2</sub>	14.0	940217	32.31723	126.39079	256.08761	7.30195	0.2029227	2.3165204	22	3	1981-1993	1.01	Bardwell	22598	1981 DF <sub>2</sub>
1981 EN	14.5	940217	212.83703	350.38165	164.21854	9.56855	0.1613618	2.3664087	45	2	1978-1981	0.80	Williams	10768	1981 EN
1981 EX <sub>3</sub>	14.5	940217	0.76163	235.55587	234.19209	7.91996	0.0950825	2.7471080	17	2	1977-1981	1.04	Williams	10820	1981 EX <sub>3</sub>
1981 EO <sub>4</sub>	14.5	940217	10.48239	56.78393	293.50714	9.50065	0.1177159	2.9935625	21	2	1981-1993	0.90	Williams	22587	1981 EO <sub>4</sub>
1981 EK <sub>8</sub>	15.0	940217	116.00769	353.78106	283.16549	5.37853	0.1409946	2.3648201	26	4	1978-1993	0.79	Williams	15241	1981 EK <sub>8</sub>
1981 ET <sub>8</sub>	14.5	940217	145.31337	352.88349	213.58232	3.87836	0.0623072	2.3987643	23	2	1978-1981	1.05	Williams	10769	1981 ET <sub>8</sub>
1981 EA <sub>9</sub>	15.0	940217	35.33266	21.70519	333.05836	6.86511	0.2429477	2.3483750	15	3	1977-1993	0.99	Bardwell	21966	1981 EA <sub>9</sub>
1981 EH <sub>9</sub>	15.5	940217	238.30268	246.40826	264.18537	3.46470	0.1874778	2.3392907	29	4	1979-1993	0.80	Williams	21930	1981 EH <sub>9</sub>
1981 EL <sub>10</sub>	14.9	940217	192.26590	0.33524	301.77428	4.81334	0.1067245	2.7386567	25	2	1981-1990	1.19	Nakano	16424	1981 EL <sub>10</sub>
1981 EP <sub>10</sub>	16.5	940217	110.51378	296.74597	311.32868	5.88388	0.0990065	2.4023961	20	2	1977-1981	0.97	Williams	10820	1981 EP <sub>10</sub>
1981 EE <sub>12</sub>	15.0	940217	354.22402	146.46233	281.89200	5.29510	0.0992379	2.3005113	13	2	1981-1984	0.81	Williams	12706	1981 EE <sub>12</sub>
1981 EC <sub>13</sub>	14.5	940217	157.43560	289.16953	310.57046	6.58353	0.0237675	2.9198321	28	5	1981-1993	0.84	Williams	21966	1981 EC <sub>13</sub>
1981 EW <sub>13</sub>	15.0	940217	171.77489	242.26520	271.52594	1.77134	0.0777526	2.4283397	28	3	1978-1988	0.94	Williams	13041	1981 EW <sub>13</sub>
1981 EX <sub>13</sub>	12.5	940217	63.18190	105.07626	210.71803	9.55430	0.0953956	2.9709071	30	5	1978-1993	1.00	Bardwell	22598	1981 EX <sub>13</sub>



1981 EB <sub>15</sub>	15.5	940217	100.57322	216.28917	257.66793	2.58457	0.1375593	2.5745344	19	3	1978-1992	1.19	Williams	11149	1981 EB <sub>15</sub>
1981 EV <sub>17</sub>	16.5	940217	105.20262	21.80633	234.28630	1.79288	0.1490904	2.4018483	11	2	1977-1981	1.10	Williams	10822	1981 EV <sub>17</sub>
1981 EQ <sub>18</sub>	14.0	940217	233.10590	255.32939	147.65977	1.86999	0.1794927	3.1301373	16	3	1978-1981	0.84	Williams	11042	1981 EQ <sub>18</sub>
1981 EU <sub>18</sub>	14.0	940217	44.87640	199.50869	88.76011	0.21485	0.1582410	3.0842566	30	3	1981-1993	1.21	Marsden	22588	1981 EU <sub>18</sub>
1981 EY <sub>19</sub>	15.0	940217	106.76083	48.37262	260.43682	1.07069	0.0341843	2.8707941	15	2	1977-1981	1.14	Williams	11042	1981 EY <sub>19</sub>
1981 EO <sub>20</sub>	15.0	940217	136.86370	113.76924	169.27153	2.75466	0.2189433	2.3414514	21	2	1981-1989	0.94	Nakano	16228	1981 EO <sub>20</sub>
1981 ED <sub>21</sub>	14.0	940217	1.36745	95.95397	346.57966	9.21322	0.3569682	2.7366373	40	4	1981-1993	0.79	Williams	21967	1981 ED <sub>21</sub>
1981 EO <sub>22</sub>	17.0	940217	123.72142	302.95264	278.83214	0.84582	0.1365162	2.4169611	12	2	1977-1981	1.08	Williams	10823	1981 EO <sub>22</sub>
1981 EH <sub>24</sub>	15.0	940217	351.33292	22.51222	29.66605	2.22319	0.0714775	2.8780161	21	4	1981-1993	1.00	Williams	22430	1981 EH <sub>24</sub>
1981 EL <sub>24</sub>	13.5	940217	349.92603	85.76326	314.62787	1.14478	0.0626293	2.9117756	31	5	1977-1993	1.01	Williams	22430	1981 EL <sub>24</sub>
1981 EM <sub>24</sub>	13.8	940217	66.30836	51.21856	333.96509	2.84694	0.1031756	2.7894141	16	2	1981-1988	1.09	Nakano	14187	1981 EM <sub>24</sub>
1981 ER <sub>24</sub>	16.0	940217	229.32800	81.73831	205.98114	1.76107	0.0939325	2.2178669	13	2	1978-1981	1.03	Williams	10771	1981 ER <sub>24</sub>
1981 EF <sub>25</sub>	15.5	940217	218.19504	21.60677	77.71304	0.33888	0.1612440	2.4182808	19	2	1977-1981	1.04	Williams	10823	1981 EF <sub>25</sub>
1981 EJ <sub>25</sub>	17.0	940217	119.20455	45.16139	181.05413	2.40157	0.1706476	2.4226423	15	2	1977-1981	1.15	Williams	11149	1981 EJ <sub>25</sub>
1981 ET <sub>27</sub>	15.0	940217	134.23500	82.33853	167.88658	2.20697	0.0255785	2.9466617	20	5	1978-1993	0.84	Williams	21932	1981 ET <sub>27</sub>
1981 EG <sub>28</sub>	14.0	940217	57.87323	157.25298	191.97569	4.82712	0.1353795	2.3384326	27	6	1977-1993	1.13	Williams	22050	1981 EG <sub>28</sub>
1981 EA <sub>29</sub>	14.5	940217	76.90128	201.87052	194.61583	8.45720	0.2111808	2.7235724	13	2	1978-1981	0.67	Williams	10772	1981 EA <sub>29</sub>
1981 EF <sub>30</sub>	14.5	940217	254.36242	332.57264	162.65937	6.08721	0.0650831	2.3420870	26	3	1981-1993	0.91	Marsden	22599	1981 EF <sub>30</sub>
1981 ER <sub>31</sub>	15.5	940217	161.44267	354.50005	159.34788	4.69112	0.1225002	2.4390454	12	2	1977-1981	0.69	Williams	10824	1981 ER <sub>31</sub>
1981 EQ <sub>33</sub>	16.5	940217	75.71413	1.86521	294.81204	5.18863	0.1331406	2.3883310	16	4	1978-1993	0.88	Williams	22588	1981 EQ <sub>33</sub>
1981 ES <sub>33</sub>	15.0	940217	272.62121	13.65248	320.00049	6.50748	0.1628414	2.5546672	10	2	1978-1981	2.15	Nakano	12796	1981 ES <sub>33</sub>
1981 EU <sub>33</sub>	15.5	940217	51.41997	105.75037	234.24612	5.69554	0.1359340	2.3547876	12	3	1977-1981	1.35	Williams	11150	1981 EU <sub>33</sub>
1981 EE <sub>35</sub>	15.5	940217	314.01205	170.02197	165.71668	7.32605	0.1917178	2.4878006	13	2	1978-1981	1.03	Williams	10772	1981 EE <sub>35</sub>
1981 EL <sub>36</sub>	16.0	940217	71.55570	351.92992	282.11763	2.50936	0.1707166	2.4284847	11	2	1981-1993	1.07	Marsden	22588	1981 EL <sub>36</sub>
1981 EW <sub>38</sub>	15.3	940217	260.02084	305.81719	281.86141	4.11487	0.0611386	2.7501400	17	3	1969-1990	0.68	Nakano	16424	1981 EW <sub>38</sub>
1981 EL <sub>41</sub>	15.5	940217	153.12900	166.79789	4.45965	10.32280	0.0109066	3.0696073	11	2	1978-1981	1.06	Nakano	10632	1981 EL <sub>41</sub>
1981 EA <sub>42</sub>	15.8	940217	118.67407	218.27863	173.75115	7.59586	0.1073463	2.2078093	29	3	1981-1992	1.15	Nakano	15705	1981 EA <sub>42</sub>
1981 EA <sub>43</sub>	16.0	940217	318.05821	76.96620	330.25024	1.49598	0.1968664	2.3622845	7	2	1977-1981	0.87	Williams	10825	1981 EA <sub>43</sub>
1981 EQ <sub>43</sub>	17.0	940217	114.55710	35.15114	189.81775	1.24775	0.1332069	2.4256330	7	2	1977-1981	0.84	Williams	10825	1981 EQ <sub>43</sub>
1981 ES <sub>47</sub>	16.0	940217	61.29455	318.70257	53.96765	2.42202	0.1533671	2.2950728	9	2	1978-1981	0.98	Williams	10773	1981 ES <sub>47</sub>
1981 FL	14.5	940217	199.52336	357.26606	184.20814	7.89580	0.1866447	2.3700811	20	5	1970-1993	0.98	Williams	22074	1981 FL
1981 FP	15.5	940217	119.06238	18.48853	181.63386	2.40165	0.1381308	2.4440335	20	2	1977-1981	0.81	Williams	10825	1981 FP
1981 JE <sub>2</sub>	14.0	940217	103.87732	244.17781	62.59627	3.01807	0.2079611	2.3916140	15	3	1980-1989	0.82	Nakano	16230	1981 JE <sub>2</sub>
1981 KJ	12.5	940217	70.70849	263.02745	36.09558	15.21250	0.1464061	3.1308918	19	4	1975-1993	0.77	Bardwell	22074	1981 KJ
1981 RQ <sub>2</sub>	13.0	940217	20.92150	91.48062	230.99267	10.14822	0.1848173	2.5931637	10	2	1981-1993	0.82	Bardwell	22399	1981 RQ <sub>2</sub>
1981 SJ	14.9	940217	124.11649	22.45278	318.78217	1.27037	0.2186968	2.4095849	13	4	1936-1992	0.73	Bowell	22223	1981 SJ
1981 SN	13.5	940217	57.13015	156.05265	126.25523	5.17964	0.1584861	2.4832153	22	4	1981-1993	1.09	Williams	21968	1981 SN
1982 BS	13.0	940217	22.24189	118.83502	296.43205	12.74821	0.1703567	2.5909895	14	4	1953-1993	1.12	Bardwell	20812	1982 BS
1982 ST	14.0	940217	77.03200	44.95252	343.70767	20.10038	0.1045913	1.9256798	28	5	1954-1993	1.02	Williams	22492	1982 ST
1982 SO <sub>4</sub>	13.5	940217	0.55384	53.96421	14.61276	7.56382	0.2906674	2.3916774	23	3	1982-1993	0.49	Williams	21968	1982 SO <sub>4</sub>
1982 SM <sub>6</sub>	13.8	940217	19.98215	15.87736	6.48330	6.93714	0.1298439	2.3897862	18	4	1971-1993	1.17	Nakano	22589	1982 SM <sub>6</sub>
1982 SG <sub>12</sub>	14.5	940217	42.57927	235.45257	184.28657	6.44084	0.1180987	2.3056830	8	2	1977-1982	1.54	Nakano	13686	1982 SG <sub>12</sub>
1982 UV <sub>1</sub>	12.5	940217	45.75687	253.50870	113.08827	2.98144	0.1767801	3.0929025	19	7	1954-1993	1.03	Williams	22075	1982 UV <sub>1</sub>
1982 UX <sub>5</sub>	13.7	940217	151.05407	160.70116	273.25426	4.03463	0.0893645	2.7282784	15	2	1982-1989	0.57	Nakano	14784	1982 UX <sub>5</sub>
1982 VZ	12.5	940217	345.09163	297.92669	128.88145	1.83438	0.1858491	3.1825157	21	2	1982-1984	0.45	Nakano	9360	1982 VZ
1982 XQ <sub>1</sub>	12.5	940217	185.13136	67.54012	149.59320	1.72890	0.1039175	3.2064052	32	6	1979-1993	0.98	Williams	22075	1982 XQ <sub>1</sub>
1983 RB	15.5	940217	73.77222	114.77105	169.50577	19.42311	0.5060633	2.2223464	43	2	1983-1993	0.80	Williams	22589	1983 RB
1983 RM <sub>3</sub>	13.5	940217	323.10680	129.07015	316.92807	6.74171	0.1450799	2.2278682	69	3	1983-1993	0.93	Bardwell	22589	1983 RM <sub>3</sub>
1983 RX <sub>3</sub>	12.9	940217	62.66611	136.44795	170.63792	14.09393	0.3204558	2.8675794	26	5	1977-1993	1.01	Bardwell	22430	1983 RX <sub>3</sub>
1983 VQ <sub>1</sub>	14.5	940217	318.59160	346.95678	55.98667	26.81768	0.2912089	2.3345185	20	3	1983-1993	0.58	Williams	22430	1983 VQ <sub>1</sub>
1984 DA	14.5	940217	257.11725	358.45957	159.33792	23.43712	0.0575664	1.9195416	7	3	1984-1993	0.93	Williams	22076	1984 DA
1984 SG <sub>1</sub>	12.5	940217	349.81993	95.56599	287.63587	3.27699	0.0845361	2.7814318	18	5	1984-1993	0.92	Williams	22076	1984 SG <sub>1</sub>

1984 UT	13.0	940217	341.69695	201.71001	232.57711	16.19692	0.2303399	2.7825909	28	3	1984-1993	0.84	Williams	18424	1984 UT
1984 UX <sub>2</sub>	12.0	940217	78.64391	323.49441	15.78358	11.98936	0.2017614	2.6820175	13	3	1931-1993	0.82	Williams	22271	1984 UX <sub>2</sub>
1984 YY <sub>1</sub>	15.5	940217	298.08187	23.91547	13.71782	2.53164	0.1727158	2.2347771	8	3	1977-1992	0.53	Williams	17958	1984 YY <sub>1</sub>
1985 CS <sub>1</sub>	13.0	940217	147.62451	76.55384	173.15926	4.94935	0.2139300	2.2766961	63	4	1985-1993	0.83	Williams	22076	1985 CS <sub>1</sub>
1985 PL <sub>1</sub>	13.8	940217	258.53330	141.23968	192.55681	11.89064	0.0574570	2.8856677	15	2	1985-1988	1.06	Nakano	13449	1985 PL <sub>1</sub>
1985 QP <sub>5</sub>	13.3	940217	63.82799	307.97204	358.34609	14.15491	0.0952884	2.5524023	11	3	1965-1989	1.00	Nakano	16024	1985 QP <sub>5</sub>
1985 RQ	15.0	940217	39.92635	329.79660	18.48788	6.38531	0.2963225	2.5226115	15	4	1973-1993	0.86	Williams	15884	1985 RQ
1985 SX <sub>2</sub>	13.5	940217	328.52205	78.36163	323.76432	3.67833	0.1416231	2.6208327	6	2	1981-1985	1.07	Williams	14194	1985 SX <sub>2</sub>
1985 SL <sub>3</sub>	14.3	940217	187.13029	26.87431	308.95033	5.30679	0.1878847	2.2725008	5	2	1978-1985	0.73	Nakano	14194	1985 SL <sub>3</sub>
1985 SW <sub>4</sub>	12.8	940217	244.06142	276.40880	26.79447	7.32201	0.1626577	3.1185357	7	3	1948-1990	1.49	Nakano	17016	1985 SW <sub>4</sub>
1985 TM <sub>1</sub>	13.0	940217	22.93309	31.20007	21.77017	11.54856	0.2181523	2.4794103	29	3	1985-1993	0.91	Williams	22077	1985 TM <sub>1</sub>
1985 UC	13.5	940217	56.02065	294.66102	11.40792	16.60679	0.2340030	2.5783836	19	3	1985-1993	0.87	Williams	16232	1985 UC
1985 UF <sub>3</sub>	12.0	940217	1.60300	181.26700	195.01478	12.49251	0.1685167	2.6009768	13	3	1985-1993	1.10	Bardwell	22484	1985 UF <sub>3</sub>
1985 YH	12.5	940217	278.60900	253.32230	276.40195	11.88775	0.1129382	2.6041130	29	4	1985-1993	0.79	Williams	21970	1985 YH
1986 AJ	14.0	940217	56.54912	90.95684	290.79457	16.85683	0.1049637	1.9550004	20	4	1986-1993	0.77	Bardwell	21970	1986 AJ
1986 CP <sub>1</sub>	13.6	940217	294.96836	129.38231	35.91267	4.10146	0.1213995	2.6633283	43	3	1977-1986	0.82	Nakano	10944	1986 CP <sub>1</sub>
1986 EQ <sub>2</sub>	13.3	940217	0.09282	194.74097	181.48171	1.78579	0.0851053	2.9021682	11	2	1982-1986	1.33	Ichikawa	11143	1986 EQ <sub>2</sub>
1986 GU	13.0	940217	343.79644	58.62324	81.72455	31.38968	0.2666849	2.6391131	29	4	1986-1993	0.95	Williams	21970	1986 GU
1986 PQ <sub>1</sub>	12.5	940217	18.28268	341.49987	87.15962	2.51399	0.0132248	3.1599929	7	2	1979-1986	1.76	Nakano	11148	1986 PQ <sub>1</sub>
1986 PN <sub>4</sub>	11.9	940217	145.86645	14.23698	310.88675	15.46888	0.1949112	3.0688540	8	2	1981-1986	1.16	Nakano	14786	1986 PN <sub>4</sub>
1986 PK <sub>6</sub>	13.5	940217	147.83235	345.68884	258.21863	4.24348	0.1604574	2.2470800	16	4	1955-1993	0.80	Williams	22272	1986 PK <sub>6</sub>
1986 QQ	13.5	940217	327.88542	84.71219	359.21022	4.32621	0.1489796	2.2805569	75	6	1976-1993	0.65	Williams	22599	1986 QQ
1986 QJ <sub>2</sub>	13.1	940217	168.55041	272.49227	5.64101	4.57942	0.1383633	3.1180688	29	2	1986-1990	0.32	Nakano	16580	1986 QJ <sub>2</sub>
1986 RQ	13.5	940217	65.06458	113.64101	210.92644	9.31494	0.1862782	2.3102146	30	6	1965-1993	1.01	Marsden	20013	1986 RQ
1986 RV <sub>2</sub>	14.0	940217	107.71649	104.73651	188.24918	4.45172	0.1858640	2.2717537	14	4	1986-1993	0.85	Williams	22077	1986 RV <sub>2</sub>
1986 RB <sub>5</sub>	13.0	940217	79.64418	210.03927	122.84522	5.66796	0.1790997	2.2426849	30	4	1949-1993	0.62	Williams	21970	1986 RB <sub>5</sub>
1986 RB <sub>12</sub>	11.0	940217	102.62232	87.43335	265.34990	14.70179	0.1189117	3.1938046	7	2	1986-1987	1.35	Nakano	14789	1986 RB <sub>12</sub>
1986 TN <sub>1</sub>	13.0	940217	252.35849	271.38824	235.75165	11.93219	0.0704007	2.3735878	21	6	1979-1993	0.89	Williams	21970	1986 TN <sub>1</sub>
1986 XF <sub>1</sub>	13.5	940217	18.92631	94.09348	287.60265	2.54328	0.1953111	2.3734751	23	5	1975-1993	0.80	Williams	22599	1986 XF <sub>1</sub>
1987 PL	12.0	940217	105.82833	27.18823	294.10764	9.03593	0.0985583	2.9938597	26	5	1981-1993	0.77	Williams	22078	1987 PL
1987 QW <sub>2</sub>	12.5	940217	65.39115	259.37771	41.57321	1.34968	0.1484027	3.1923431	16	6	1952-1993	0.74	Williams	21936	1987 QW <sub>2</sub>
1987 RY	12.0	940217	52.76008	253.08143	62.66184	0.39176	0.1637454	3.2286510	30	4	1964-1993	0.98	Williams	22078	1987 RY
1987 RC <sub>1</sub>	11.5	940217	80.50099	254.29025	36.44443	1.25071	0.1342647	2.3035803	46	5	1953-1993	0.74	Williams	22590	1987 RC <sub>1</sub>
1987 ST <sub>1</sub>	12.5	940217	42.46402	101.98469	288.80710	8.24722	0.2333572	3.1211825	22	4	1987-1993	0.86	Bardwell	22078	1987 ST <sub>1</sub>
1987 SJ <sub>3</sub>	13.5	940217	116.62217	331.85600	15.14791	24.60280	0.0977641	1.9859358	24	4	1955-1993	0.86	Williams	22078	1987 SJ <sub>3</sub>
1987 SO <sub>5</sub>	12.2	940217	25.32257	71.97141	354.99324	8.31588	0.0276716	3.0339901	6	2	1982-1987	0.48	Nakano	16026	1987 SO <sub>5</sub>
1987 SZ <sub>6</sub>	10.7	940217	55.53104	77.81491	277.54246	8.93868	0.1680441	3.1374462	6	2	1965-1987	0.27	Nakano	15415	1987 SZ <sub>6</sub>
1987 SS <sub>9</sub>	13.3	940217	22.92960	290.62904	113.51814	2.62485	0.1938678	3.1717872	11	2	1987-1989	1.38	Nakano	14620	1987 SS <sub>9</sub>
1987 SN <sub>11</sub>	13.4	940217	358.41456	272.70970	165.87008	1.91329	0.1635358	3.1264429	17	2	1982-1987	0.60	Nakano	13607	1987 SN <sub>11</sub>
1987 UP <sub>2</sub>	13.9	940217	311.26297	155.93564	240.35565	3.49844	0.2737478	2.2407501	9	3	1950-1987	1.10	Nakano	15416	1987 UP <sub>2</sub>
1988 CX <sub>1</sub>	14.0	940217	163.98603	307.31339	294.54739	2.57597	0.1043903	2.2808628	27	5	1954-1993	0.87	Williams	21568	1988 CX <sub>1</sub>
1988 ER <sub>1</sub>	13.5	940217	154.14655	239.80501	27.35960	7.16031	0.0942861	2.3500993	12	4	1975-1988	0.67	Nakano	13161	1988 ER <sub>1</sub>
1988 GL	13.5	940217	165.54357	149.20755	68.01769	15.24637	0.1900697	2.4454529	19	3	1988-1993	1.07	Williams	22079	1988 GL
1988 JP	12.5	940217	39.85920	256.76443	79.44568	29.39486	0.3606811	2.6309248	17	3	1988-1993	0.70	Williams	22079	1988 JP
1988 LB	12.5	940217	121.43760	7.97025	275.56598	12.27456	0.1305240	2.5533964	20	5	1984-1993	0.94	Williams	22079	1988 LB
1988 QP	12.4	940217	218.02075	188.51735	296.13433	8.49725	0.0897837	3.0964939	8	2	1984-1988	1.31	Nakano	13859	1988 QP
1988 QD <sub>1</sub>	12.5	940217	74.73790	69.62014	249.67201	15.85359	0.3740530	2.7625561	17	4	1951-1993	1.03	Williams	21972	1988 QD <sub>1</sub>
1988 VD <sub>1</sub>	11.5	940217	90.48205	330.01863	357.53638	13.48926	0.1146184	2.8932020	21	4	1963-1993	0.56	Marsden	22080	1988 VD <sub>1</sub>
1988 XC	13.5	940217	346.01596	58.32923	12.29250	3.86075	0.2856256	3.0853950	16	4	1973-1993	1.10	Williams	14202	1988 XC
1988 XJ <sub>1</sub>	12.5	940217	2.13120	322.51842	73.83780	13.64463	0.0504548	3.1420872	14	3	1977-1993	1.09	Nakano	20816	1988 XJ <sub>1</sub>
1988 XU <sub>1</sub>	11.5	940217	181.63992	172.81327	84.85147	11.15023	0.0573931	2.9974035	21	6	1955-1993	0.80	Williams	21972	1988 XU <sub>1</sub>
1988 YB	12.2	940217	315.31659	44.89447	70.38056	1.86898	0.1479779	3.2258042	20	4	1978-1993	1.05	Nakano	20816	1988 YB

1989 AK	12.5	940217	350.27096	353.88505	89.90680	4.36074	0.2751785	3.0905337	27	4	1977-1993	0.99	Bardwell	22080	1989 AK
1989 AM	12.5	940217	51.86840	265.57496	76.98225	26.28966	0.0770770	1.9365939	21	4	1989-1993	1.05	Williams	22080	1989 AM
1989 AO <sub>6</sub>	12.0	940217	53.53309	87.86171	317.61301	8.58513	0.0934279	3.0558409	26	3	1987-1992	0.59	Williams	22080	1989 AO <sub>6</sub>
1989 CV	11.5	940217	120.44752	217.44099	26.41775	5.39757	0.0683035	3.9537341	20	7	1955-1993	0.79	Nakano	22599	1989 CV
1989 CS <sub>2</sub>	14.4	940217	41.11654	50.14007	198.51403	6.54605	0.0647393	2.3389448	12	2	1987-1989	0.47	Nakano	14622	1989 CS <sub>2</sub>
1989 EJ <sub>1</sub>	14.5	940217	134.93208	76.56690	167.03815	4.16040	0.1171850	2.1693678	14	2	1989-1993	0.97	Marsden	22591	1989 EJ <sub>1</sub>
1989 GT <sub>3</sub>	14.0	940217	19.33649	90.30769	262.06375	0.95247	0.1429112	2.2419644	31	4	1980-1993	0.91	Marsden	22493	1989 GT <sub>3</sub>
1989 GH <sub>4</sub>	14.5	940217	16.13316	321.62026	351.20887	4.93894	0.0214513	2.3258472	25	4	1951-1990	0.89	Bowell	21973	1989 GH <sub>4</sub>
1989 GT <sub>4</sub>	14.5	940217	69.76733	120.19637	188.73337	3.15527	0.1813334	2.2558974	41	7	1949-1993	0.80	Marsden	22599	1989 GT <sub>4</sub>
1989 JF	13.5	940217	135.51285	281.20149	0.72074	4.43826	0.1698382	2.1818108	15	3	1989-1993	1.06	Williams	21973	1989 JF
1989 KA	13.5	940217	139.96168	355.59244	225.04100	4.75781	0.1925823	2.3183480	18	4	1971-1993	0.93	Bardwell	22081	1989 KA
1989 KB	13.0	940217	60.73437	241.36337	80.15083	23.08470	0.2427829	2.3500253	22	4	1975-1993	0.70	Williams	22081	1989 KB
1989 NO	13.0	940217	156.91669	263.66062	356.05420	4.76645	0.1528330	2.2527511	26	5	1985-1993	0.84	Bardwell	21973	1989 NO
1989 NR	13.0	940217	110.64375	27.47599	311.66776	9.44041	0.0844046	2.2066073	21	5	1953-1993	1.16	Williams	22272	1989 NR
1989 NE <sub>1</sub>	13.5	940217	40.00157	258.93125	38.32367	12.74267	0.2522425	2.5684095	25	4	1976-1993	0.74	Williams	22272	1989 NE <sub>1</sub>
1989 PK	13.0	940217	35.67676	5.79532	328.19411	20.27378	0.3174865	2.5980879	15	2	1989-1993	0.88	Williams	22591	1989 PK
1989 RZ	12.5	940217	35.82657	81.54388	341.18475	21.13769	0.3391186	2.4089464	24	4	1959-1993	0.72	Williams	22599	1989 RZ
1989 RC <sub>1</sub>	13.0	940217	57.48168	257.06499	114.88512	14.10700	0.2749430	2.3732137	23	6	1982-1993	0.77	Williams	22402	1989 RC <sub>1</sub>
1989 SE	14.5	940217	33.89385	347.29361	8.15623	7.62509	0.2898599	2.5463146	13	3	1981-1993	0.90	Williams	22081	1989 SE
1989 SG	13.0	940217	8.49742	80.86778	357.18985	6.66694	0.1507656	2.3854434	17	3	1934-1989	1.06	Ichikawa	16434	1989 SG
1989 SZ <sub>1</sub>	14.6	940217	222.98615	101.53606	158.95929	4.17916	0.1589268	2.1933244	11	2	1985-1989	0.69	Nakano	16030	1989 SZ <sub>1</sub>
1989 SR <sub>2</sub>	13.5	940217	259.92173	342.51442	99.71471	3.37166	0.0431107	2.8945076	23	2	1989-1993	0.67	Marsden	22591	1989 SR <sub>2</sub>
1989 TT <sub>1</sub>	13.5	940217	23.88021	205.11438	223.79781	5.11706	0.1027823	2.4051136	25	3	1978-1993	0.85	Williams	19026	1989 TT <sub>1</sub>
1989 TL <sub>15</sub>	14.0	940217	3.35295	87.39791	322.66245	1.42311	0.1527461	2.5250309	18	5	1969-1993	0.68	Williams	19026	1989 TL <sub>15</sub>
1989 TA <sub>16</sub>	15.0	940217	66.84968	71.79711	233.18396	2.29154	0.1634982	2.5875550	21	4	1981-1993	0.63	Williams	22591	1989 TA <sub>16</sub>
1989 UA	12.5	940217	11.24655	6.62008	45.70805	10.78321	0.0999718	2.5457707	23	4	1954-1993	0.98	Williams	22493	1989 UA
1989 UL <sub>1</sub>	12.5	940217	70.04966	294.43730	44.66481	10.26197	0.1127310	2.5600591	28	3	1971-1993	0.80	Williams	19303	1989 UL <sub>1</sub>
1989 UT <sub>2</sub>	13.0	940217	106.23059	58.25592	224.67069	12.17279	0.1693521	2.5756832	35	5	1984-1993	0.94	Bardwell	22599	1989 UT <sub>2</sub>
1989 UG <sub>3</sub>	13.3	940217	358.78075	320.21706	87.91669	4.91596	0.1638837	2.6097296	17	4	1982-1993	0.96	Nakano	15896	1989 UG <sub>3</sub>
1989 UL <sub>3</sub>	11.9	940217	334.77926	351.81701	84.73515	14.60401	0.2358400	2.6715734	10	3	1976-1993	1.11	Nakano	15719	1989 UL <sub>3</sub>
1989 UB <sub>8</sub>	12.7	940217	284.82623	182.28114	213.16959	4.93532	0.1755009	3.1083752	8	2	1978-1989	0.84	Nakano	16585	1989 UB <sub>8</sub>
1989 VK	15.0	940217	7.64761	131.03715	267.56441	3.09435	0.3100711	2.6213529	13	4	1955-1993	1.01	Marsden	15720	1989 VK
1989 WC	13.0	940217	350.69981	153.16107	280.76879	1.62364	0.1569167	2.6216040	13	3	1978-1993	1.00	Bardwell	18119	1989 WC
1989 WG <sub>7</sub>	13.6	940217	339.12587	222.50109	237.31580	1.65216	0.1617301	2.6166150	19	4	1976-1993	1.10	Nakano	21973	1989 WG <sub>7</sub>
1989 XF	12.5	940217	57.79379	255.00015	113.51027	8.71952	0.2071498	2.5612590	25	7	1952-1993	1.02	Williams	21973	1989 XF
1989 YB	12.7	940217	43.12994	101.26212	276.78609	6.58824	0.3023420	2.5433546	20	4	1981-1993	1.24	Nakano	22494	1989 YB
1989 YA <sub>2</sub>	13.8	940217	6.77895	200.60447	280.10406	5.31617	0.1765945	2.5303157	12	2	1980-1990	0.91	Nakano	15900	1989 YA <sub>2</sub>
1989 YF <sub>5</sub>	12.0	940217	98.59986	57.93546	279.84441	14.05681	0.1299394	2.5845163	33	6	1982-1993	0.93	Williams	21973	1989 YF <sub>5</sub>
1990 BX	12.5	940217	17.41227	301.43553	123.75244	6.51554	0.0629425	2.7503431	18	3	1989-1993	1.17	Williams	21573	1990 BX
1990 BG <sub>1</sub>	12.3	940217	283.16961	77.72596	75.74922	6.09145	0.1719322	2.8865111	21	6	1964-1993	1.02	Nakano	21973	1990 BG <sub>1</sub>
1990 BN <sub>2</sub>	13.0	940217	355.76152	16.62605	89.92532	14.28877	0.1325899	2.6449726	12	3	1977-1993	0.76	Williams	22272	1990 BN <sub>2</sub>
1990 GS	14.4	940217	222.21753	308.08327	359.40321	11.43330	0.0637215	2.5343663	12	2	1974-1990	0.72	Nakano	16587	1990 GS
1990 HM <sub>1</sub>	11.0	940217	309.84188	55.07199	77.39761	10.80068	0.1266768	3.1564344	9	5	1978-1993	1.14	Williams	22431	1990 HM <sub>1</sub>
1990 KK	13.5	940217	285.17536	21.90747	80.64183	23.59371	0.0313684	1.9135151	22	5	1975-1993	0.96	Williams	21974	1990 KK
1990 QM <sub>2</sub>	13.5	940217	93.50848	193.41766	161.83937	22.81740	0.0930712	1.9384116	21	3	1990-1993	0.80	Williams	20147	1990 QM <sub>2</sub>
1990 SK	14.0	940217	337.30894	326.62899	47.20411	26.07153	0.2690979	2.2883555	11	3	1976-1993	0.55	Williams	22494	1990 SK
1990 SA <sub>2</sub>	14.0	940217	4.17564	7.71857	359.42167	1.43200	0.1331055	2.2742339	21	3	1983-1992	1.26	Williams	17216	1990 SA <sub>2</sub>
1990 SM <sub>28</sub>	13.0	940217	343.29773	170.04171	259.36241	2.70808	0.0384239	2.1365429	29	7	1951-1993	0.68	Bardwell	22273	1990 SM <sub>28</sub>
1990 TN	13.0	940217	260.98030	63.72274	38.59066	9.47421	0.0973767	2.3791697	21	5	1968-1993	1.13	Williams	22082	1990 TN
1990 TN <sub>1</sub>	13.5	940217	301.57164	196.29030	317.65606	16.98166	0.0652755	1.9784092	12	3	1986-1993	0.84	Bardwell	17453	1990 TN <sub>1</sub>
1990 UF <sub>2</sub>	14.0	940217	217.33730	338.01170	205.61244	6.89664	0.1351021	2.2562940	27	4	1980-1993	1.30	Williams	22082	1990 UF <sub>2</sub>
1990 VL <sub>2</sub>	13.5	940217	278.02210	306.73099	131.00098	3.36655	0.1167740	2.5119805	22	4	1978-1993	0.94	Marsden	20150	1990 VL <sub>2</sub>

1990 VX <sub>2</sub>	13.0	940217	287.53460	41.64245	53.40211	24.46790	0.2933839	2.4478383	35	4	1984–1993	0.87	Williams	21975	1990 VX <sub>2</sub>
1990 VF <sub>3</sub>	13.5	940217	58.55949	236.04482	106.06933	4.33178	0.1364814	2.2066195	15	3	1980–1993	0.99	Bardwell	17644	1990 VF <sub>3</sub>
1990 VG <sub>3</sub>	14.5	940217	36.10861	261.42127	118.17466	4.50799	0.1496000	2.1664227	14	3	1982–1993	0.94	Williams	17460	1990 VG <sub>3</sub>
1990 WE	12.5	940217	212.13283	3.40980	91.19823	9.07518	0.1961815	2.7394081	15	4	1983–1993	1.00	Williams	19868	1990 WE
1990 XF	12.0	940217	240.27826	218.68941	293.29837	11.04859	0.1999892	2.5540719	23	4	1983–1993	1.08	Nakano	21975	1990 XF
1990 XM	13.5	940217	44.91136	257.98112	114.65681	2.34707	0.1742008	2.1627479	19	4	1974–1993	1.04	Williams	22494	1990 XM
1991 AF	14.0	940217	352.57275	180.37148	247.67458	5.57672	0.0887498	2.2834569	20	8	1955–1993	1.09	Bardwell	21975	1991 AF
1991 AF <sub>1</sub>	12.0	940217	239.71864	158.58430	299.33964	9.42408	0.0745187	2.9921739	32	5	1934–1993	0.84	Marsden	22494	1991 AF <sub>1</sub>
1991 AP <sub>1</sub>	14.5	940217	341.47675	84.30746	332.47831	1.50147	0.2151174	2.3620617	16	4	1968–1993	0.91	Williams	22600	1991 AP <sub>1</sub>
1991 AO <sub>3</sub>	13.5	940217	55.65442	250.22634	89.33518	7.28804	0.1170550	2.3933763	16	3	1989–1993	0.69	Williams	18125	1991 AO <sub>3</sub>
1991 CO	13.0	940217	316.64214	206.34963	300.52526	5.80835	0.0310309	2.2520717	20	6	1973–1993	0.94	Williams	22083	1991 CO
1991 CY	12.8	940217	248.36969	226.78261	290.50546	9.45868	0.1209345	2.6420946	24	4	1978–1993	0.54	Nakano	22600	1991 CY
1991 CL <sub>1</sub>	13.5	940217	353.86585	161.50935	287.52141	2.45855	0.1409566	2.3251899	20	3	1986–1993	0.99	Williams	17970	1991 CL <sub>1</sub>
1991 CM <sub>3</sub>	12.8	940217	4.84020	297.35750	127.68815	4.54433	0.1324652	2.4308672	12	3	1951–1991	0.60	Bowell	18127	1991 CM <sub>3</sub>
1991 FF	13.0	940217	189.22566	199.01595	338.47905	17.89075	0.0607339	3.2253488	15	4	1987–1993	0.58	Williams	21975	1991 FF
1991 FG	13.0	940217	235.03132	325.01544	204.92271	13.48864	0.3376795	2.7601686	22	3	1987–1993	0.64	Williams	22405	1991 FG
1991 FU	11.5	940217	280.72316	187.39789	311.15263	12.67345	0.1082795	2.5874719	25	4	1970–1993	0.81	Williams	18438	1991 FU
1991 GQ <sub>2</sub>	13.0	940217	217.46984	343.83451	179.94537	2.04760	0.1157323	3.0663894	22	5	1977–1993	0.93	Williams	21975	1991 GQ <sub>2</sub>
1991 GZ <sub>9</sub>	13.5	940217	250.46128	228.54153	284.06861	7.56094	0.2192064	2.7467591	13	6	1977–1993	0.31	Williams	21975	1991 GZ <sub>9</sub>
1991 RC	17.0	940217	182.61393	8.26792	161.37389	23.24586	0.8268076	1.0815222	22	3	1991–1993	0.67	Williams	22593	1991 RC
1991 UB <sub>2</sub>	13.4	940217	6.92765	22.37955	233.99445	6.22361	0.0998147	2.3338347	12	4	1954–1993	0.84	Bowell	22084	1991 UB <sub>2</sub>
1991 VK	17.0	940217	303.82430	173.15686	295.15373	5.41578	0.5058937	1.8433374	58	4	1981–1993	1.01	Williams	21976	1991 VK
1992 BW	13.5	940217	349.39475	86.13771	315.47715	21.78622	0.0864687	1.9376535	21	3	1985–1993	1.03	Williams	22600	1992 BW
1992 CA	13.5	940217	18.46438	240.63570	142.50837	24.71757	0.0834558	1.9491722	19	2	1992–1993	0.99	Williams	22600	1992 CA
1992 EU <sub>1</sub>	13.0	940217	226.69526	56.68445	110.10490	7.08544	0.1320625	2.2445042	22	4	1953–1993	0.63	Bardwell	20643	1992 EU <sub>1</sub>
1992 FN	14.0	940217	210.07164	354.14966	189.04773	1.41289	0.1196917	2.2134055	20	5	1954–1993	0.93	Williams	22495	1992 FN
1992 FV	13.5	940217	158.10808	96.04959	158.67910	3.93368	0.1162307	2.1498301	22	5	1979–1993	1.33	Williams	21977	1992 FV
1992 FM <sub>1</sub>	14.0	940217	215.25235	201.30500	345.30573	24.71065	0.1149332	2.2633033	27	5	1979–1993	0.78	Williams	22600	1992 FM <sub>1</sub>
1992 GA	14.0	940217	161.64895	246.87873	310.07671	11.68211	0.1171917	2.6368525	19	3	1992–1993	0.95	Williams	21111	1992 GA
1992 HJ	13.5	940217	171.67513	130.07046	117.60377	4.76726	0.1211583	2.2635487	20	4	1955–1993	0.87	Williams	22273	1992 HJ
1992 MA	12.0	940217	88.65080	91.64927	202.63114	0.37858	0.1544538	3.0895884	22	7	1953–1993	0.87	Williams	22495	1992 MA
1992 QB <sub>1</sub>	7.5	940217	16.80363	343.09357	359.40676	2.19314	0.0709922	43.8607781	37	2	1992–1993	0.64	Williams	22594	1992 QB <sub>1</sub>
1993 FR <sub>2</sub>	14.0	940217	104.61693	18.76873	167.24325	3.79391	0.0810626	2.2154324	18	4	1951–1993	0.81	Bowell	22241	1993 FR <sub>2</sub>
1993 KC	16.0	940217	66.95997	37.40130	228.59030	25.33612	0.3569849	2.2061890	34	1	125 days	0.62	Williams	22596	1993 KC
1993 MO	16.0	940217	106.08369	167.07943	111.59656	22.63349	0.2207304	1.6261725	67	1	84 days	0.82	Williams	22596	1993 MO
1993 ME <sub>1</sub>	15.5	940217	59.07025	359.54073	252.24473	23.02093	0.4850773	2.6375945	46	1	85 days	0.69	Williams	22600	1993 ME <sub>1</sub>
1993 MS <sub>1</sub>	12.0	940217	132.11830	350.25436	229.09750	11.33472	0.1325195	2.4759965	21	5	1974–1993	0.94	Williams	22600	1993 MS <sub>1</sub>
1993 OD	13.5	940217	359.58807	104.58728	302.14951	20.29115	0.1502238	1.8204783	25	2	1992–1993	0.72	Williams	22490	1993 OD
1993 OV <sub>1</sub>	16.5	940217	69.37558	323.32199	311.02067	11.18302	0.4370436	2.3388293	53	2	1975–1993	0.75	Williams	22596	1993 OV <sub>1</sub>
1993 PB	16.5	940217	207.45082	212.20093	316.03803	40.84647	0.6065114	1.4232569	34	1	39 days	0.58	Williams	22597	1993 PB
1993 PC	18.5	940217	331.72259	168.07356	337.62962	4.15914	0.4744658	1.1545165	20	1	35 days	0.52	Williams	22597	1993 PC
2040 P-L	16.7	940217	111.52275	342.92405	1.08553	4.82192	0.2445107	2.1940723	21	2	1960–1973	0.91	Nakano	15073	2040 P-L
2064 P-L	13.3	940217	205.67580	196.89153	299.47217	3.54212	0.1004484	3.1776471	14	2	1960–1989	0.62	Nakano	16033	2064 P-L
2110 P-L	15.0	940217	354.19684	24.43393	299.89006	1.91398	0.1457684	2.6166146	15	3	1960–1977	1.27	Nakano	12698	2110 P-L
2113 P-L	15.7	940217	229.88124	166.47690	222.50170	3.52436	0.0878102	2.6630333	17	2	1960–1973	0.97	Nakano	15073	2113 P-L
2514 P-L	16.2	940217	279.19251	321.94558	9.06541	11.89513	0.1812254	2.6603123	17	2	1960–1973	0.98	Nakano	15073	2514 P-L
2547 P-L	14.2	940217	311.77664	268.94762	74.79417	2.50715	0.1894932	3.1986184	13	2	1960–1989	0.50	Ichikawa	16033	2547 P-L
2594 P-L	14.4	940217	347.86292	143.82284	149.16459	2.50628	0.0430820	2.8967406	11	2	1960–1979	0.81	Ichikawa	9298	2594 P-L
2740 P-L	15.5	940217	207.80339	244.79622	165.43709	5.45777	0.1049308	2.6662291	24	2	1960–1973	0.98	Williams	14959	2740 P-L
3005 P-L	14.0	940217	219.22911	348.14404	280.17609	9.36098	0.0673170	3.0181376	14	2	1960–1989	0.58	Nakano	14627	3005 P-L
4018 P-L	14.0	940217	2.78980	73.44257	353.87614	5.06606	0.2423698	2.5663891	25	4	1960–1993	0.86	Williams	22086	4018 P-L
4028 P-L	14.5	940217	325.40948	223.77273	207.63779	7.16081	0.1780295	2.5842270	16	4	1960–1993	0.77	Williams	22086	4028 P-L

4075 P-L	15.4	940217	242.70920	109.14223	326.80683	0.71837	0.0979684	2.4256261	11	2	1960-1981	0.62	Ichikawa	12688	4075 P-L
4274 P-L	15.9	940217	49.50956	248.00189	280.82795	2.14875	0.0742360	2.2998363	11	2	1960-1990	0.52	Nakano	16439	4274 P-L
4636 P-L	13.7	940217	215.83035	131.52116	13.28148	14.09896	0.0735752	3.1517412	18	2	1960-1977	0.82	Nakano	12699	4636 P-L
4806 P-L	15.2	940217	211.97489	336.42768	160.47790	2.62906	0.1099297	2.6073864	20	2	1960-1977	1.13	Nakano	12699	4806 P-L
5016 P-L	15.5	940217	231.56667	205.20380	14.54797	4.92697	0.1073517	2.1991359	18	2	1960-1973	1.15	Williams	14960	5016 P-L
6053 P-L	14.4	940217	21.44040	83.97675	211.47097	3.31372	0.1946670	2.6089144	17	2	1960-1977	0.80	Nakano	12699	6053 P-L
6193 P-L	15.6	940217	294.07159	137.56153	191.67311	12.39204	0.1204872	2.6489445	18	2	1960-1973	1.04	Nakano	15074	6193 P-L
6245 P-L	14.5	940217	130.59876	13.80497	193.58812	13.00855	0.0852969	2.6039811	16	2	1960-1977	1.06	Nakano	12700	6245 P-L
6531 P-L	15.0	940217	67.66368	18.59241	16.54694	4.71839	0.0681603	2.1949262	21	2	1960-1973	0.75	Williams	14961	6531 P-L
6600 P-L	15.0	940217	261.35408	136.34742	64.47729	1.95907	0.0627050	2.1920347	23	2	1960-1973	1.19	Williams	14961	6600 P-L
6602 P-L	16.5	940217	91.64282	2.51736	11.75512	6.56788	0.1378912	2.1928223	24	2	1960-1973	0.73	Williams	14961	6602 P-L
6643 P-L	14.0	940217	359.20879	18.41044	31.46955	4.80416	0.1695409	2.2202603	17	3	1960-1993	0.86	Williams	17651	6643 P-L
7590 P-L	16.5	940217	230.67618	11.71320	35.19530	6.96319	0.2902194	2.6567666	18	2	1960-1973	0.98	Williams	14962	7590 P-L
9511 P-L	13.0	940217	64.85442	101.02253	160.64280	0.85228	0.1293693	3.1623602	32	6	1954-1993	1.01	Marsden	22601	9511 P-L
9540 P-L	13.5	940217	47.05296	331.01171	15.72980	2.31248	0.1274575	2.5698638	26	5	1960-1993	0.79	Williams	22087	9540 P-L
9570 P-L	15.0	940217	321.74503	209.68437	93.67813	3.79752	0.0575270	2.6473188	15	2	1960-1973	0.96	Williams	15074	9570 P-L
1089 T-1	13.5	940217	145.42898	129.19670	346.66968	9.24061	0.0572177	3.0792935	8	2	1971-1979	0.48	Williams	19319	1089 T-1
1104 T-1	14.0	940217	225.35113	73.82476	352.89487	11.67821	0.1291621	2.3538454	9	2	1971-1987	0.60	Williams	19319	1104 T-1
1181 T-1	13.0	940217	184.18571	229.00425	325.70145	3.60010	0.0894067	2.9463450	36	5	1971-1993	0.93	Williams	22274	1181 T-1
1217 T-1	13.5	940217	335.92338	90.04550	335.73521	2.46149	0.1149606	2.5459665	15	2	1971-1989	0.78	Williams	19320	1217 T-1
1280 T-1	12.0	940217	294.08624	99.31124	189.41714	9.12953	0.0290552	3.1555894	17	2	1971-1979	1.01	Williams	19321	1280 T-1
1287 T-1	15.5	940217	220.24649	52.38907	216.13827	1.76393	0.0197022	2.2383448	25	2	1971-1981	1.02	Williams	19321	1287 T-1
3252 T-1	15.5	940217	43.88686	40.42615	257.58252	2.44574	0.1193822	2.3421292	12	2	1971-1990	0.69	Williams	19324	3252 T-1
3271 T-1	13.0	940217	312.51424	286.27358	347.11857	2.03874	0.0251028	2.7244353	14	3	1971-1990	0.90	Williams	19324	3271 T-1
3300 T-1	15.0	940217	337.91594	344.63483	328.00346	2.33205	0.1931086	2.1572457	16	2	1971-1978	1.02	Williams	19325	3300 T-1
1001 T-2	13.5	940217	303.32261	261.64148	179.49322	2.24461	0.1032382	2.9447068	19	2	1973-1993	0.71	Marsden	22597	1001 T-2
1139 T-2	14.5	940217	184.22758	96.38935	184.17211	6.76480	0.1772975	2.8037702	29	2	1973-1981	1.00	Nakano	15076	1139 T-2
1169 T-2	14.1	940217	250.41255	209.06353	339.32364	2.19819	0.1234461	2.8643776	17	2	1973-1989	1.37	Nakano	15906	1169 T-2
1173 T-2	14.9	940217	306.26367	48.94466	1.24599	9.39584	0.0674547	2.9770907	28	2	1973-1981	1.17	Nakano	15077	1173 T-2
1210 T-2	14.0	940217	162.59626	233.63737	348.35592	3.55226	0.0778841	2.2427486	35	3	1973-1993	1.01	Williams	22601	1210 T-2
1251 T-2	13.5	940217	195.56947	313.51551	152.33142	1.24059	0.1657174	3.0737732	67	2	1973-1981	0.84	Williams	15077	1251 T-2
1269 T-2	14.0	940217	299.59952	145.15365	296.28990	0.95677	0.0075971	2.9411017	45	4	1971-1993	1.09	Williams	22087	1269 T-2
2083 T-2	13.0	940217	96.87051	341.44307	165.41499	0.96677	0.1564463	3.1582492	25	4	1973-1987	1.13	Williams	14964	2083 T-2
2137 T-2	16.3	940217	196.78989	118.64121	214.57497	1.47769	0.1142250	2.1489670	24	3	1973-1992	1.19	Nakano	15082	2137 T-2
2170 T-2	13.5	940217	108.41083	60.25311	186.69780	14.33339	0.1349724	2.5510465	25	4	1973-1993	0.85	Bardwell	22601	2170 T-2
2225 T-2	15.0	940217	247.60853	201.45380	16.62859	2.17239	0.1344609	2.4574817	23	2	1973-1977	1.13	Williams	14966	2225 T-2
2257 T-2	14.5	940217	345.85149	108.12744	22.65726	3.44663	0.1291454	2.4657648	21	2	1973-1977	1.10	Williams	14966	2257 T-2
2304 T-2	14.7	940217	261.39902	26.56615	43.67462	2.69644	0.0862342	3.0226454	21	2	1973-1981	1.02	Nakano	15083	2304 T-2
3020 T-2	13.5	940217	69.16338	334.60093	5.48420	14.18160	0.2210586	2.8849489	22	2	1973-1978	0.79	Nakano	15083	3020 T-2
3067 T-2	14.5	940217	292.42319	60.66949	132.43158	2.21008	0.0679450	2.1769219	26	3	1973-1988	1.10	Williams	14967	3067 T-2
3076 T-2	12.5	940217	118.89301	70.32454	75.14521	2.09059	0.1088826	3.1104223	37	2	1973-1984	1.03	Williams	14967	3076 T-2
3145 T-2	14.0	940217	73.68605	303.80057	127.68478	4.80604	0.1174511	2.7948455	20	3	1961-1989	1.10	Williams	14968	3145 T-2
3189 T-2	16.5	940217	54.41988	16.74679	27.60716	6.34345	0.1518690	2.4744950	26	2	1973-1977	0.91	Williams	14968	3189 T-2
3289 T-2	12.5	940217	233.16044	304.88423	169.31728	9.78165	0.0246175	2.9883958	28	2	1973-1983	0.97	Williams	14969	3289 T-2
4053 T-2	12.5	940217	342.42006	301.02252	140.06380	2.82079	0.0237910	2.8877975	39	6	1971-1993	0.95	Williams	22088	4053 T-2
4068 T-2	16.0	940217	141.16947	19.55630	52.03469	3.63664	0.0653083	2.7169822	16	2	1973-1978	0.90	Williams	15085	4068 T-2
4129 T-2	14.0	940217	68.13647	199.21751	29.83563	5.20659	0.1448405	2.3002911	33	4	1973-1993	1.03	Williams	22598	4129 T-2
4136 T-2	14.0	940217	48.09121	306.56882	32.38386	7.49757	0.2173839	2.9156439	19	3	1973-1988	0.78	Williams	14969	4136 T-2
4171 T-2	15.0	940217	203.60019	120.15534	138.62963	5.54638	0.0829221	2.4568742	17	2	1973-1977	1.00	Williams	14970	4171 T-2
5065 T-2	15.5	940217	329.35719	243.53732	243.52183	9.80797	0.0729907	2.4770079	24	2	1973-1977	0.97	Williams	14970	5065 T-2
5104 T-2	14.7	940217	298.84687	183.03375	253.06030	7.66486	0.0162086	2.9532283	22	2	1973-1981	1.02	Nakano	15087	5104 T-2
5162 T-2	12.1	940217	338.93487	353.02286	316.61700	8.69488	0.0734001	3.0657616	17	2	1973-1989	0.99	Nakano	15907	5162 T-2

1078 T-3	14.3	940217	198.45929	266.38569	237.66476	14.04858	0.0721059	2.6091299	10	2	1960-1977	1.24	Nakano	12701	1078 T-3
1182 T-3	14.1	940217	169.46889	313.41890	331.29685	8.56193	0.0214112	2.9611094	17	2	1977-1990	0.95	Nakano	16440	1182 T-3
1214 T-3	12.5	940217	45.45543	65.00495	326.90834	9.11836	0.0978564	2.9998271	19	3	1977-1990	1.05	Williams	16440	1214 T-3
2158 T-3	14.5	940217	111.60417	358.27481	284.44919	1.75919	0.1277122	2.1786185	41	4	1977-1993	1.02	Marsden	22088	2158 T-3
2203 T-3	13.5	940217	225.86691	273.28240	215.25157	11.92720	0.1013393	3.1692145	16	2	1960-1977	1.18	Williams	12701	2203 T-3
2416 T-3	13.0	940217	81.37857	208.22133	274.05584	1.43711	0.1588260	2.3792018	13	2	1977-1988	0.71	Williams	13863	2416 T-3
3166 T-3	15.5	940217	55.77966	306.08314	179.46695	2.45142	0.1588451	2.4011195	17	2	1977-1990	0.71	Williams	16440	3166 T-3
4017 T-3	14.5	940217	127.57647	213.72518	46.45646	5.34614	0.0516660	2.1919116	14	2	1977-1982	1.09	Williams	12702	4017 T-3
4203 T-3	14.5	940217	160.63378	3.48065	185.71353	12.99271	0.1035698	2.5969862	15	2	1960-1977	0.94	Williams	12703	4203 T-3
4327 T-3	14.5	940217	172.16186	138.34465	56.24787	9.28135	0.1076067	2.5754661	15	2	1977-1988	0.88	Williams	13304	4327 T-3
4343 T-3	13.0	940217	13.59482	15.98731	177.64107	10.39807	0.2366686	2.7919672	15	2	1977-1980	1.17	Williams	12703	4343 T-3
5175 T-3	14.6	940217	346.97466	50.87677	103.07720	11.01905	0.1716541	2.4393915	9	2	1977-1990	0.88	Ichikawa	16441	5175 T-3
5193 T-3	13.0	940217	183.21104	83.73750	151.58350	12.52102	0.1963312	3.0101603	18	2	1977-1980	0.99	Ichikawa	16441	5193 T-3

EPHEMERIDES

1992 BB

								Elements MPC 22688			
								$a, e, i = 1.88, 0.27, 45$	$\epsilon$	$\phi$	$V$
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$				
1993 10 20	23 20.58	+08 18.2	1.443	2.335	145.8	13.9	18.9				
1993 10 30	23 16.09	+04 16.9	1.517	2.322	134.3	17.8	19.2				
1993 11 09	23 14.82	+00 52.0	1.613	2.308	123.1	21.1	19.4				
1993 11 19	23 16.60	-01 52.6	1.725	2.293	112.5	23.5	19.6				
1993 11 29	23 21.14	-03 58.4	1.848	2.277	102.6	25.0	19.8				
1993 12 09	23 28.03	-05 29.7	1.974	2.259	93.5	25.8	19.9				
1993 12 19	23 36.92	-06 31.5	2.101	2.240	84.9	25.9	20.0				

1984 KB

								Elements MPC 22682			
								$a, e, i = 2.22, 0.76, 5$	$\epsilon$	$\phi$	$V$
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$				
1993 10 20	23 47.74	-04 33.7	1.154	2.069	148.5	14.5	17.7				
1993 10 30	23 32.35	-06 25.7	1.147	1.973	134.4	21.1	17.8				
1993 11 09	23 20.26	-07 51.3	1.159	1.873	121.0	26.9	17.9				
1993 11 19	23 12.37	-08 46.3	1.182	1.769	108.8	31.9	18.0				
1993 11 29	23 08.92	-09 11.3	1.207	1.660	97.8	36.1	18.0				
1993 12 09	23 09.69	-09 09.1	1.228	1.546	87.9	39.6	18.0				
1993 12 19	23 14.32	-08 42.6	1.239	1.427	78.9	42.6	17.9				
1993 12 29	23 22.39	-07 54.7	1.235	1.303	70.9	45.5	17.8				
1994 01 08	23 33.49	-06 47.6	1.210	1.174	63.7	48.7	17.6				

1993 QP

								Elements MPC 22691			
								$a, e, i = 2.31, 0.47, 7$	$\epsilon$	$\phi$	$V$
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$				
1993 10 20	00 04.37	+30 31.9	0.362	1.322	150.1	22.0	17.0				
1993 10 30	00 17.45	+28 43.1	0.414	1.364	148.4	22.4	17.3				
1993 11 09	00 31.77	+26 50.7	0.479	1.410	145.0	23.8	17.8				
1993 11 19	00 47.17	+25 10.8	0.557	1.460	140.3	25.6	18.2				
1993 11 29	01 03.48	+23 52.3	0.648	1.514	134.8	27.5	18.7				
1993 12 09	01 20.45	+22 57.1	0.752	1.570	128.9	29.2	19.1				
1993 12 19	01 37.96	+22 23.8	0.868	1.628	123.0	30.5	19.6				
1993 12 29	01 55.92	+22 09.3	0.996	1.688	117.0	31.3	20.0				
1994 01 08	02 14.21	+22 09.4	1.135	1.747	111.0	31.7	20.3				

1993 RR<sub>2</sub>

								Elements MPC 22664			
								$a, e, i = 2.66, 0.49, 11$	$\epsilon$	$\phi$	$V$
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$				
1993 10 20	00 45.66	-15 22.9	0.694	1.638	151.1	17.1	16.7				
1993 10 30	00 45.82	-15 10.8	0.788	1.692	143.3	20.6	17.1				

1993 11 09	00 48.32	-14 19.1	0.896	1.747	135.5	23.4	17.6			
1993 11 19	00 53.13	-12 58.8	1.017	1.804	128.1	25.5	18.0			
1993 11 29	01 00.03	-11 19.2	1.151	1.861	121.0	27.0	18.4			
1993 12 09	01 08.68	-09 27.7	1.294	1.920	114.1	27.9	18.7			
1993 12 19	01 18.80	-07 29.3	1.447	1.979	107.5	28.3	19.0			
1993 12 29	01 30.14	-05 27.8	1.607	2.038	101.1	28.3	19.3			
1994 01 08	01 42.43	-03 26.1	1.773	2.097	94.8	27.9	19.6			
1994 01 18	01 55.54	-01 26.2	1.943	2.156	88.6	27.1	19.8			
1994 01 28	02 09.30	+00 30.3	2.116	2.215	82.6	26.2	20.0			

1993 UC

								Elements MPC 22665			
								$a, e, i = 2.52, 0.68, 31$	$\epsilon$	$\phi$	$V$
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$				
1993 10 20	00 52.86	-24 52.4	0.987	1.881	143.1	18.5	16.8				
1993 10 30	00 37.80	-28 55.7	0.972	1.788	131.0	24.8	16.8				
1993 11 09	00 24.28	-32 01.0	0.975	1.694	119.0	30.8	16.9				
1993 11 19	00 14.19	-34 05.1	0.988	1.597	107.8	36.1	17.0				
1993 11 29	00 08.74	-35 15.7	1.002	1.498	97.8	40.7	17.0				
1993 12 09	00 08.28	-35 44.3	1.011	1.399	89.0	44.8	17.0				
1993 12 19	00 12.70	-35 40.9	1.008	1.299	81.3	48.5	16.9				
1993 12 29	00 21.63	-35 13.1	0.990	1.199	74.8	52.3	16.8				

1993 UB

								Elements MPC 22665			
								$a, e, i = 1.86, 0.36, 22$	$\epsilon$	$\phi$	$V$
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$				
1993 10 20	01 01.76	-12 03.9	0.267	1.244	155.8	19.2	15.6				
1993 10 25	00 46.90	-05 59.2	0.258	1.233	154.7	20.1	15.5				
1993 10 30	00 32.69	+00 38.0	0.256	1.223	151.0	23.2	15.6				
1993 11 04	00 19.83	+07 23.5	0.260	1.215	145.5	27.5	15.7				
1993 11 09	00 08.86	+13 54.0	0.270	1.208	139.5	32.2	15.9				
1993 11 14	00 00.15	+19 53.2	0.285	1.203	133.6	36.6	16.2				
1993 11 19	23 53.89	+25 13.9	0.304	1.200	128.2	40.3	16.4				
1993 11 24	23 50.11	+29 55.8	0.326	1.199	123.6	43.3	16.6				
1993 11 29	23 48.72	+34 02.5	0.351	1.200	119.7	45.6	16.9				

1993 TQ<sub>2</sub>

								Elements MPC 22664			
								$a, e, i = 1.98, 0.42, 6$	$\epsilon$	$\phi$	$V$
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$				
1993 10 20	02 46.59	+23 21.6	0.366	1.345	159.3	15.2	18.8				
1993 10 30	02 44.30	+27 15.0	0.313	1.298	165.1	11.3	18.2				
1993 11 09	02 39.13	+31 39.4	0.274	1.257	164.6	12.1	17.9				
1993 11 19	02 33.05	+36 19.0	0.247	1.220	157.9	17.7	17.8				

1993 11 29	02 29.92	+40 53.3	0.231	1.191	149.7	24.7	17.8
1993 12 09	02 34.07	+45 03.1	0.223	1.170	142.4	30.9	17.9
1993 12 19	02 49.58	+48 30.5	0.222	1.157	137.0	35.5	18.0
1993 12 29	03 18.84	+50 56.3	0.228	1.153	133.7	38.0	18.1
1994 01 08	04 00.43	+51 54.2	0.239	1.158	132.3	38.9	18.3
1994 01 18	04 49.07	+51 03.2	0.258	1.173	132.1	38.5	18.4

1994 01 28	12 07.11	+35 04.9	1.665	2.433	131.7	17.6	21.0
1994 02 07	11 58.20	+36 13.0	1.665	2.499	139.6	14.8	21.1
1994 02 17	11 46.22	+37 03.6	1.687	2.565	145.7	12.5	21.2
1994 02 27	11 32.49	+37 26.5	1.734	2.630	148.7	11.3	21.4
1994 03 09	11 18.58	+37 16.8	1.805	2.695	147.4	11.5	21.6
1994 03 19	11 06.01	+36 34.9	1.902	2.759	142.5	12.7	21.8

1988 RE				$a, e, i = 1.82, 0.25, 35$				Elements MPC 22684			(5349) 1988 RA				$a, e, i = 2.79, 0.47, 29$				Elements MPC 20917				
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$	Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$	Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$
1993 10 20	03 30.85	-03 10.0	0.784	1.716	149.1	17.3	16.1	1993 10 20	10 23.61	+39 02.9	1.581	1.504	67.0	37.6	16.1	1993 10 20	10 23.61	+39 02.9	1.581	1.504	67.0	37.6	16.1
1993 10 30	03 18.89	-09 28.1	0.808	1.749	152.2	15.3	16.1	1993 10 30	10 53.93	+36 37.3	1.553	1.523	69.5	37.7	16.1	1993 10 30	10 53.93	+36 37.3	1.553	1.523	69.5	37.7	16.1
1993 11 09	03 05.93	-14 32.8	0.860	1.782	148.5	16.9	16.3	1993 11 09	11 20.45	+34 07.6	1.524	1.547	72.4	37.6	16.1	1993 11 09	11 20.45	+34 07.6	1.524	1.547	72.4	37.6	16.1
1993 11 19	02 54.06	-18 05.6	0.937	1.815	141.0	20.1	16.7	1993 11 19	11 43.39	+31 41.0	1.491	1.576	75.9	37.5	16.1	1993 11 19	11 43.39	+31 41.0	1.491	1.576	75.9	37.5	16.1
1993 11 29	02 44.96	-20 10.0	1.032	1.847	132.3	23.3	17.0	1993 11 29	12 02.92	+29 22.7	1.453	1.609	80.1	37.1	16.0	1993 11 29	12 02.92	+29 22.7	1.453	1.609	80.1	37.1	16.0
1993 12 09	02 39.43	-21 01.8	1.142	1.878	123.8	25.8	17.3	1993 12 09	12 19.12	+27 16.5	1.409	1.647	85.0	36.6	16.0	1993 12 09	12 19.12	+27 16.5	1.409	1.647	85.0	36.6	16.0
1993 12 19	02 37.61	-20 59.2	1.261	1.908	115.9	27.6	17.6	1993 12 19	12 31.92	+25 24.9	1.360	1.688	90.7	35.7	16.0	1993 12 19	12 31.92	+25 24.9	1.360	1.688	90.7	35.7	16.0
1993 12 29	02 39.28	-20 18.3	1.387	1.938	108.5	28.8	17.9	1993 12 29	12 41.09	+23 49.3	1.307	1.732	97.3	34.3	15.9	1993 12 29	12 41.09	+23 49.3	1.307	1.732	97.3	34.3	15.9
1994 01 08	02 43.95	-19 11.8	1.516	1.967	101.7	29.3	18.2	1994 01 08	12 46.31	+22 29.5	1.252	1.779	104.8	32.3	15.8	1994 01 08	12 46.31	+22 29.5	1.252	1.779	104.8	32.3	15.8
1994 01 18	02 51.18	-17 48.6	1.647	1.995	95.3	29.4	18.4	1994 01 18	12 47.12	+21 24.4	1.197	1.827	113.5	29.6	15.7	1994 01 18	12 47.12	+21 24.4	1.197	1.827	113.5	29.6	15.7
1994 01 28	03 00.55	-16 15.7	1.776	2.021	89.3	29.2	18.6	1994 01 28	12 43.11	+20 30.1	1.148	1.878	123.3	26.0	15.6	1994 01 28	12 43.11	+20 30.1	1.148	1.878	123.3	26.0	15.6
								1994 02 07	12 34.12	+19 40.9	1.108	1.930	134.2	21.5	15.4	1994 02 07	12 34.12	+19 40.9	1.108	1.930	134.2	21.5	15.4

1992 CH <sub>1</sub>				$a, e, i = 1.62, 0.29, 22$				Elements MPC 22688			1991 WA				$a, e, i = 1.58, 0.64, 40$				Elements MPC 19683				
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$	Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	Variation	$V$	Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$V$	
1993 10 20	05 05.70	-22 08.5	0.791	1.549	119.9	33.9	19.9	1993 10 20	11 16.50	-51 33.6	0.457	0.788	+15.79	-62.7	19.1	1993 10 20	11 16.50	-51 33.6	0.457	0.788	+15.79	-62.7	19.1
1993 10 30	05 10.95	-26 24.6	0.728	1.509	121.8	34.0	19.6	1993 10 25	10 42.92	-53 38.6	0.396	0.844	+17.09	-98.9	18.8	1993 10 25	10 42.92	-53 38.6	0.396	0.844	+17.09	-98.9	18.8
1993 11 09	05 11.96	-30 27.4	0.674	1.468	122.6	34.6	19.4	1993 10 30	09 57.45	-55 11.8	0.337	0.901	+17.29	-147.2	18.3	1993 10 30	09 57.45	-55 11.8	0.337	0.901	+17.29	-147.2	18.3
1993 11 19	05 08.30	-33 54.0	0.628	1.428	122.5	35.7	19.2	1993 11 04	08 53.75	-55 28.3	0.283	0.959	+14.44	-211.1	17.8	1993 11 04	08 53.75	-55 28.3	0.283	0.959	+14.44	-211.1	17.8
1993 11 29	05 00.31	-36 19.2	0.589	1.388	121.4	37.3	19.1	1993 11 09	07 28.99	-52 27.6	0.236	1.016	+6.22	-280.5	17.1	1993 11 09	07 28.99	-52 27.6	0.236	1.016	+6.22	-280.5	17.1
1993 12 09	04 49.21	-37 20.3	0.554	1.349	119.8	39.3	18.9	1993 11 14	05 56.86	-43 08.9	0.205	1.072	-3.96	-317.6	16.4	1993 11 14	05 56.86	-43 08.9	0.205	1.072	-3.96	-317.6	16.4
1993 12 19	04 37.20	-36 38.7	0.523	1.312	117.7	41.6	18.8	1993 11 19	04 40.97	-27 25.3	0.199	1.128	-9.06	-290.7	15.9	1993 11 19	04 40.97	-27 25.3	0.199	1.128	-9.06	-290.7	15.9
1993 12 29	04 27.08	-34 05.1	0.495	1.277	115.4	44.1	18.7	1993 11 24	03 48.86	-10 46.7	0.222	1.182	-9.53	-224.2	15.8	1993 11 24	03 48.86	-10 46.7	0.222	1.182	-9.53	-224.2	15.8
1994 01 08	04 21.05	-29 38.8	0.469	1.245	113.2	46.6	18.6	1993 11 29	03 15.09	+02 03.4	0.270	1.236	-8.37	-164.2	16.1	1993 11 29	03 15.09	+02 03.4	0.270	1.236	-8.37	-164.2	16.1
1994 01 18	04 20.52	-23 23.7	0.447	1.217	110.9	49.0	18.5	1993 12 04	02 53.28	+10 46.4	0.333	1.288	-7.00	-123.4	16.7	1993 12 04	02 53.28	+10 46.4	0.333	1.288	-7.00	-123.4	16.7
1994 01 28	04 26.12	-15 30.6	0.429	1.194	108.7	51.4	18.4	1993 12 09	02 39.20	+16 38.0	0.406	1.339	-5.79	-96.7	17.3	1993 12 09	02 39.20	+16 38.0	0.406	1.339	-5.79	-96.7	17.3
1994 02 07	04 37.84	-06 17.9	0.419	1.175	106.4	53.6	18.4	1993 12 14	02 30.30	+20 42.3	0.485	1.389	-4.81	-78.5	17.9	1993 12 14	02 30.30	+20 42.3	0.485	1.389	-4.81	-78.5	17.9
1994 02 17	04 55.71	+03 43.3	0.418	1.162	104.1	55.6	18.4	1993 12 19	02 25.05	+23 39.5	0.569	1.437	-4.04	-65.5	18.4	1993 12 19	02 25.05	+23 39.5	0.569	1.437	-4.04	-65.5	18.4
1994 02 27	05 19.76	+13 47.5	0.428	1.156	101.7	57.0	18.5	1993 12 24	02 22.45	+25 53.8	0.656	1.485	-3.43	-55.7	18.8	1993 12 24	02 22.45	+25 53.8	0.656	1.485	-3.43	-55.7	18.8
1994 03 09	05 49.93	+23 04.9	0.451	1.156	99.4	58.0	18.7	1993 12 29	02 21.86	+27 39.6	0.746	1.530	-2.95	-48.1	19.2	1993 12 29	02 21.86	+27 39.6	0.746	1.530	-2.95	-48.1	19.2
1994 03 19	06 26.14	+30 53.4	0.485	1.162	97.3	58.2	18.8	1994 01 03	02 22.80	+29 05.9	0.838	1.575	-2.56	-42.1	19.5	1994 01 03	02 22.80	+29 05.9	0.838	1.575	-2.56	-42.1	19.5
1994 03 29	07 07.64	+36 47.7	0.528	1.174	95.6	57.8	19.0	1994 01 08	02 24.97	+30 18.4	0.932	1.619	-2.25	-37.2	19.8	1994 01 08	02 24.97	+30 18.4	0.932	1.619	-2.25	-37.2	19.8
1994 04 08	07 52.79	+40 39.8	0.580	1.192	94.1	56.9	19.3																

Periodic Comet Urata-Niijima (1993q)				Elements MPC 22663			
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$m_2$
1993 10 20	10 23.19	+33 06.0	1.993	1.790	63.7	29.9	20.0
1993 10 30	10 46.55	+32 16.3	1.970	1.849	68.2	29.9	20.1
1993 11 09	11 07.40	+31 33.6	1.943	1.910	73.2	29.8	20.3
1993 11 19	11 25.69	+31 02.2	1.910	1.972	78.8	29.4	20.4
1993 11 29	11 41.32	+30 45.7	1.873	2.037	84.8	28.8	20.5
1993 12 09	11 54.16	+30 46.5	1.832	2.102	91.4	27.9	20.5
1993 12 19	12 03.98	+31 06.5	1.790	2.168	98.6	26.7	20.6
1993 12 29	12 10.46	+31 45.6	1.748	2.234	106.3	25.0	20.7
1994 01 08	12 13.32	+32 41.9	1.711	2.300	114.6	22.9	20.8
1994 01 18	12 12.23	+33 51.0	1.681	2.367	123.1	20.4	20.9

Comet Shoemaker-Levy (1993h)				Elements MPC 22472			
Date TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$m_1$
1993 11 29	14 35.05	-50 57.5	5.646	4.882	35.9	6.8	17.1
1993 12 09	14 46.03	-52 57.1	5.590	4.875	39.8	7.4	17.1
1993 12 19	14 57.23	-55 02.6	5.521	4.869	44.6	8.2	17.1
1993 12 29	15 08.58	-57 13.7	5.440	4.864	49.8	8.9	17.0
1994 01 08	15 19.98	-59 30.5	5.352	4.861	55.4	9.6	17.0
1994 01 18	15 31.30	-61 52.6	5.256	4.858	61.1	10.2	17.0
1994 01 28	15 42.38	-64 19.7	5.157	4.857	67.0	10.8	16.9
1994 02 07	15 53.02	-66 51.4	5.057	4.858	72.8	11.2	16.9
1994 02 17	16 02.89	-69 26.9	4.958	4.859	78.5	11.5	16.8
1994 02 27	16 11.5	-72 05.3	4.863	4.862	84.1	11.7	16.8

1994 03 09	16 18.1	-74 45.1	4.775	4.866	89.3	11.8	16.8	1991 FJ <sub>1</sub>	93 09 30.7	00 28.32	+07 18.6	15.9	-0.77	- 9.4	1.4/02.3	22687
1994 03 19	16 21.3	-77 24.3	4.696	4.871	94.2	11.8	16.7	1989 SV <sub>5</sub>	93 10 01.0	00 29.34	-06 52.1	18.9	-0.91	- 4.8	3.4/27.8	20505
1994 03 29	16 18.6	-80 00.0	4.628	4.878	98.6	11.7	16.7	1979 MJ <sub>5</sub>	93 10 01.1	00 29.47	+00 55.0	17.0	-0.92	- 8.2	0.9/30.3	21965
1994 04 08	16 04.6	-82 27.6	4.572	4.886	102.4	11.5	16.7	1989 SX	93 10 01.1	00 29.75	-02 40.6	15.0	-0.89	+ 1.7	3.1/29.6	22685
1994 04 18	15 26.8	-84 37.7	4.529	4.895	105.5	11.4	16.7	1985 JK	93 10 01.2	00 30.14	-06 41.3	17.7	-0.93	- 6.0	3.7/28.1	22076
1994 04 28	14 01	-86 08.5	4.501	4.905	107.9	11.3	16.7	1988 GL	93 10 01.3	00 30.51	-20 09.3	17.6	-1.01	- 2.3	7.7/24.4	22698
1994 05 08	11 51	-86 22.7	4.487	4.916	109.4	11.2	16.7	1989 TL <sub>15</sub>	93 10 01.3	00 30.58	+05 20.3	16.3	-0.88	- 5.0	0.9/02.0	22699
1994 05 18	10 17	-85 23.8	4.487	4.929	110.2	11.1	16.7	1991 BD	93 10 01.7	00 31.92	+15 05.9	16.0	-0.94	- 5.3	4.9/05.5	22687
1994 05 28	09 35.2	-83 58.6	4.501	4.942	110.1	11.1	16.7	(5238)	93 10 01.8	00 32.20	+10 20.1	15.5	-0.93	- 7.8	2.5/04.2	20324
1994 06 07	09 19.7	-82 33.1	4.527	4.957	109.4	11.1	16.7	1992 ES <sub>1</sub>	93 10 01.8	00 32.39	-04 42.8	16.6	-1.05	- 2.6	3.1/29.6	20154
1994 06 17	09 17.1	-81 17.3	4.563	4.973	108.1	11.2	16.8	1988 JP	93 10 01.9	00 32.57	-60 30.8	15.0	-1.16	+14.8	31.9/23.8	22698
1994 06 27	09 21.2	-80 15.4	4.610	4.991	106.3	11.3	16.8	1991 AL <sub>3</sub>	93 10 02.0	00 32.97	+07 12.9	15.5	-0.94	- 5.2	1.5/03.2	22687
1994 07 07	09 29.5	-79 29.1	4.664	5.009	104.0	11.4	16.8	1989 YB <sub>6</sub>	93 10 02.3	00 34.04	-15 29.8	18.4	-0.69	- 4.9	4.5/25.6	18817
1994 07 17	09 40.7	-78 59.3	4.725	5.028	101.5	11.4	16.9	1981 EC <sub>13</sub>	93 10 02.5	00 34.60	+13 12.3	18.7	-0.83	- 4.0	2.9/05.6	22696
1994 07 27	09 54.0	-78 46.3	4.792	5.049	98.9	11.5	16.9	1987 RZ	93 10 02.6	00 34.94	+00 32.1	16.9	-0.72	- 5.0	1.2/01.5	15887
1994 08 06	10 09.2	-78 49.5	4.862	5.070	96.1	11.5	17.0	1981 EK <sub>8</sub>	93 10 02.7	00 35.44	+13 59.1	17.9	-0.97	- 6.1	4.0/06.1	22696
1994 08 16	10 26.4	-79 08.4	4.935	5.093	93.2	11.5	17.0	(5354)	93 10 02.7	00 35.44	-02 19.6	16.1	-0.70	- 5.1	1.7/30.7	20919
1994 08 26	10 45.9	-79 42.1	5.010	5.117	90.3	11.4	17.1	1984 ER <sub>1</sub>	93 10 02.7	00 35.57	+01 30.4	16.5	-0.74	- 5.3	0.7/02.0	22076
1994 09 05	11 08.3	-80 29.0	5.087	5.141	87.5	11.3	17.1	1992 EP	93 10 02.8	00 35.94	-05 36.2	16.8	-0.98	- 4.4	3.5/30.0	20034
1994 09 15	11 35.1	-81 27.5	5.163	5.167	84.6	11.2	17.2	1991 FU	93 10 03.6	00 38.92	+23 44.7	15.4	-0.99	- 2.8	6.6/09.7	22700
1994 09 25	12 08.5	-82 34.8	5.240	5.194	81.9	11.0	17.3	(5250)	93 10 03.7	00 39.07	-16 46.2	15.7	-0.71	- 7.9	8.5/25.7	20489
1994 10 05	12 53.3	-83 46.5	5.316	5.221	79.2	10.8	17.3	1992 GA <sub>1</sub>	93 10 03.7	00 39.30	+09 05.9	18.1	-0.85	-13.9	1.6/05.7	20344
1994 10 15	13 57.7	-84 54.6	5.391	5.250	76.6	10.6	17.4	6217 P-L	93 10 03.7	00 39.30	+06 36.9	19.4	-0.67	- 7.8	0.6/04.7	15905
1994 10 25	15 33	-85 42.6	5.464	5.279	74.1	10.4	17.4	1993 SY <sub>3</sub>	93 10 03.9	00 39.72	+07 41.5	15.6	-0.77	- 8.8	1.4/05.0	22693
1994 11 04	17 33	-85 46.4	5.536	5.310	71.7	10.2	17.5	1988 UH	93 10 04.0	00 40.32	+05 32.3	16.7	-0.72	- 5.4	0.3/04.5	21972
1994 11 14	19 21.1	-84 55.6	5.606	5.341	69.5	10.0	17.5	1991 DO	93 10 04.2	00 40.92	+12 50.7	16.6	-0.89	- 3.4	2.6/06.8	22687
1994 11 24	20 36.6	-83 26.0	5.675	5.373	67.4	9.8	17.6	(5710)	93 10 04.3	00 41.11	+06 13.9	15.3	-1.00	- 3.0	0.9/05.0	22670
1994 12 04	21 28.0	-81 35.0	5.741	5.406	65.4	9.5	17.6	1981 EH <sub>24</sub>	93 10 04.4	00 41.44	+03 13.9	18.4	-0.82	- 4.3	0.4/04.0	22697
1994 12 14	22 05.4	-79 33.0	5.804	5.439	63.7	9.3	17.7	1981 DF <sub>2</sub>	93 10 04.4	00 41.79	+19 37.4	15.6	-0.78	- 7.4	7.3/10.1	22696
1994 12 24	22 34.7	-77 25.3	5.864	5.474	62.1	9.1	17.7	(5207)	93 10 04.6	00 42.18	+24 51.7	16.4	-1.08	- 2.2	8.0/11.0	20135
1995 01 03	22 59.0	-75 15.2	5.922	5.509	60.8	9.0	17.8	1989 KB	93 10 04.6	00 42.58	-43 59.1	15.5	-1.18	+ 8.7	23.4/23.0	22699

## Periodic Comet Tuttle (1992r)

Date	TT	$\alpha_{2000}$	$\delta_{2000}$	$\Delta$	$r$	$\epsilon$	$\phi$	$m_1$	Elements MPC 20775
1993 12 09		20 38.41	+38 53.7	2.754	2.752	79.6	20.6	21.6	(5736)
1993 12 19		20 53.48	+37 52.0	2.730	2.655	75.2	21.0	21.4	(5331)
1993 12 29		21 10.51	+37 06.8	2.704	2.558	70.9	21.3	21.2	1993 SJ <sub>1</sub>
1994 01 08		21 29.41	+36 37.8	2.674	2.459	66.8	21.6	21.0	1993 SR <sub>1</sub>
1994 01 18		21 50.17	+36 24.0	2.641	2.358	62.7	21.8	20.8	(5450)
1994 01 28		22 12.78	+36 24.0	2.604	2.257	58.8	21.9	20.6	1988 GD
1994 02 07		22 37.27	+36 35.2	2.563	2.154	55.0	22.0	20.4	1986 RK
1994 02 17		23 03.74	+36 54.5	2.520	2.050	51.2	22.1	20.1	1933 FE <sub>1</sub>
1994 02 27		23 32.23	+37 17.8	2.474	1.946	47.4	22.0	19.9	1991 AF
1994 03 09		00 02.83	+37 39.7	2.427	1.841	43.6	21.8	19.6	3526 P-L
1994 03 19		00 35.54	+37 54.3	2.379	1.736	39.8	21.5	19.3	1991 DC
1994 03 29		01 10.27	+37 54.6	2.332	1.631	35.9	21.0	19.0	1989 EN <sub>2</sub>
1994 04 08		01 46.78	+37 33.0	2.285	1.528	31.8	20.2	18.6	1295 T-1

## OPPOSITION DATA

Planet	Opposition	$\alpha_{2000}$	$\delta_{2000}$	$V$	$\dot{\alpha}$	$\dot{\delta}$	$\phi_{\text{MIN}}$	MPC
1989 SJ <sub>1</sub>	93 09 30.0	00 25.86	-04 43.2	17.4	-0.84	- 3.7	3.5/27.7	20504
(5148)	93 09 30.1	00 26.20	+03 23.8	18.3	-0.73	- 4.4	0.1/30.4	19852
1988 FS <sub>2</sub>	93 09 30.2	00 26.40	+02 46.3	16.8	-0.94	- 5.1	0.0/30.2	21569

1967 HA	93 10 06.7	00 49.81	+22 57.4	16.8	-1.06	- 1.8	6.1/11.8	21963
1982 VZ	93 10 06.8	00 50.22	+02 35.0	16.1	-0.75	- 5.0	0.9/05.9	22697
1980 EB	93 10 06.8	00 50.29	+06 04.2	17.3	-0.93	- 5.1	0.2/07.0	22429
(5753)	93 10 06.9	00 50.55	+17 51.4	15.8	-1.12	- 3.8	5.0/10.6	22680



1990 BC <sub>1</sub>	93 10 07.1	00 51.46	-06 35.9	16.2	-0.72	- 6.8	3.7/02.9	21973	1985 CS <sub>1</sub>	93 10 16.1	01 24.70	+04 40.3	16.2	-0.97	- 7.4	1.5/14.8	22698
1986 RG <sub>3</sub>	93 10 07.2	00 51.72	-03 22.0	16.0	-0.77	-10.5	4.3/04.0	22684	1990 YM	93 10 16.3	01 25.39	-31 24.7	16.7	-1.05	- 2.8	13.0/01.4	18436
4136 T-2	93 10 07.4	00 52.39	+00 56.6	16.8	-0.90	- 1.3	1.9/06.1	22701	1990 XM	93 10 16.3	01 25.46	+03 17.1	14.6	-0.89	- 5.1	2.9/14.6	22700
1977 QG <sub>2</sub>	93 10 07.6	00 53.35	+06 39.7	15.5	-0.87	- 2.1	0.3/07.9	22682	1298 T-2	93 10 16.3	01 25.60	+03 44.5	17.7	-0.95	- 8.3	2.1/14.7	18832
1981 EE <sub>12</sub>	93 10 07.6	00 53.36	+16 22.9	17.4	-0.97	- 5.7	4.6/11.0	22696	1979 MR <sub>6</sub>	93 10 16.4	01 25.60	+04 33.7	19.1	-0.97	- 7.1	1.6/15.1	22073
1983 RX <sub>3</sub>	93 10 07.7	00 53.83	-04 27.9	15.6	-0.70	-11.3	4.0/03.9	22697	1992 FP <sub>1</sub>	93 10 16.4	01 25.68	+01 27.5	16.6	-0.84	- 8.3	2.4/14.0	20156
1982 SM <sub>7</sub>	93 10 07.8	00 53.94	+05 06.1	16.5	-0.78	- 4.1	0.2/07.6	22075	(5740)	93 10 16.4	01 25.74	-03 53.1	15.2	-1.07	+ 1.1	5.5/13.4	22677
1981 EO <sub>26</sub>	93 10 07.8	00 54.24	+07 18.2	18.1	-0.81	- 5.0	0.5/08.4	21967	1986 AA <sub>2</sub>	93 10 16.6	01 26.58	-00 35.0	16.8	-0.84	- 4.9	3.2/13.7	21970
(5424)	93 10 08.1	00 55.00	+10 19.4	15.4	-0.94	- 7.4	1.9/09.6	21764	1993 TE	93 10 17.0	01 28.01	+05 34.3	15.4	-0.64	-11.9	1.7/15.7	22693
1976 UR <sub>15</sub>	93 10 08.1	00 55.21	-04 59.8	17.2	-0.96	- 1.8	4.1/05.1	22072	(5356)	93 10 17.1	01 28.56	-03 23.8	14.9	-0.76	-11.2	4.8/12.5	20920
1990 VG <sub>3</sub>	93 10 08.2	00 55.61	-04 19.0	15.9	-0.88	- 6.2	5.1/04.9	22700	(5276)	93 10 17.2	01 28.77	-01 19.7	17.3	-0.81	- 7.4	3.2/13.8	20618
(5721)	93 10 08.5	00 56.56	-00 50.4	15.9	-0.80	- 6.4	2.7/06.2	22673	1981 EU <sub>15</sub>	93 10 17.5	01 29.89	+13 29.6	18.0	-0.96	- 7.8	1.7/18.8	21967
1989 UT <sub>2</sub>	93 10 08.6	00 57.11	+16 02.4	16.3	-0.83	-10.0	3.5/12.3	22699	(5733)	93 10 17.6	01 30.20	+06 38.0	15.0	-0.77	- 4.1	1.0/16.8	22676
1984 UD	93 10 08.7	00 57.36	+01 54.9	15.5	-0.99	+ 0.2	1.9/07.7	22683	(5730)	93 10 17.6	01 30.23	+06 29.8	15.3	-0.82	- 4.4	1.0/16.8	22675
(5754)	93 10 09.2	00 58.96	-05 33.9	14.5	-0.93	- 4.9	5.4/05.6	22680	1985 JY	93 10 17.8	01 31.20	+06 55.1	17.4	-0.74	- 3.7	0.7/17.1	19295
1993 SG	93 10 09.4	00 59.92	+11 52.4	15.4	-0.95	- 1.6	2.7/11.0	22692	1982 XQ <sub>1</sub>	93 10 18.0	01 31.73	+07 28.7	17.4	-0.72	- 4.4	0.6/17.4	22697
1988 CX <sub>1</sub>	93 10 09.5	01 00.09	+11 05.9	17.0	-1.00	- 6.0	1.8/11.0	22698	(5703)	93 10 18.1	01 32.09	+02 48.4	15.3	-1.14	+ 2.9	3.0/16.7	22669
1992 MA	93 10 09.6	01 00.69	+06 32.4	15.8	-0.77	- 4.9	0.0/09.7	22700	3502 T-3	93 10 18.1	01 32.27	+08 28.3	18.9	-1.06	- 5.2	0.5/17.8	12802
1992 HL	93 10 09.9	01 01.71	+02 26.7	16.8	-0.79	-10.3	1.3/08.5	22688	(5737)	93 10 18.4	01 33.36	+20 33.3	15.4	-0.97	- 2.7	4.9/21.4	22676
(5712)	93 10 10.2	01 02.78	+09 12.8	15.5	-0.74	- 9.3	0.9/11.1	22671	1991 GK <sub>4</sub>	93 10 18.5	01 33.64	+10 37.8	16.7	-0.83	- 5.2	0.3/18.8	22688
(5726)	93 10 10.5	01 04.18	-31 47.3	17.3	-1.22	+ 2.3	13.6/30.7	22674	1981 EP <sub>27</sub>	93 10 18.9	01 35.35	+03 24.9	17.8	-0.73	- 8.5	2.1/16.8	21967
1981 EK <sub>23</sub>	93 10 10.6	01 04.28	+05 34.0	16.9	-0.89	- 7.6	0.6/10.2	21931	(5291)	93 10 19.2	01 36.32	+10 15.3	16.7	-0.93	- 6.0	0.1/19.3	20624
(5706)	93 10 10.7	01 04.50	+04 42.9	15.6	-0.78	- 4.4	0.8/10.0	22669	1985 QA <sub>1</sub>	93 10 19.6	01 37.74	+10 34.2	16.2	-0.90	- 8.4	9.2/30.0	20813
1978 VK <sub>5</sub>	93 10 10.7	01 04.60	+08 59.1	16.1	-0.94	- 4.8	0.8/11.4	18415	1993 TF	93 10 19.6	01 37.76	+06 46.7	15.3	-0.91	- 4.5	1.6/18.7	22693
(5237)	93 10 11.1	01 06.01	+03 36.3	15.7	-1.05	- 4.2	1.3/10.2	20324	4094 T-3	93 10 19.8	01 38.43	+04 56.0	17.8	-0.96	- 3.2	2.1/18.4	22088
1992 LN	93 10 11.2	01 06.60	-05 37.2	16.9	-0.96	- 4.4	4.6/07.5	20827	1986 RS <sub>1</sub>	93 10 19.8	01 38.48	+01 24.8	16.1	-0.84	- 8.1	4.2/17.0	14949
1990 VR <sub>8</sub>	93 10 11.6	01 08.02	+00 27.1	17.1	-1.04	- 5.6	2.7/09.7	20336	1988 LB	93 10 20.1	01 39.75	+29 25.7	16.2	-0.97	- 6.8	6.6/26.5	22698
1975 RP	93 10 12.0	01 09.48	+07 16.8	15.9	-0.75	- 4.9	0.0/12.0	21963	1993 TX	93 10 20.5	01 41.05	+02 53.0	13.9	-1.06	+ 6.2	4.0/19.2	22693
1993 SL <sub>3</sub>	93 10 12.1	01 09.64	+10 15.2	14.4	-1.63	+ 7.1	1.4/12.5	22693	1992 NJ	93 10 20.7	01 41.90	+10 53.2	16.1	-1.02	+ 1.6	0.1/20.8	22600
1973 EK	93 10 12.2	01 10.36	+07 24.3	16.1	-0.84	- 5.7	0.0/12.3	21963	1991 EA <sub>1</sub>	93 10 20.8	01 42.17	+06 52.8	16.5	-0.89	- 2.7	1.1/19.8	22431
(5215)	93 10 12.3	01 10.49	-14 53.0	15.0	-0.83	- 5.2	7.6/05.0	20138	5041 T-3	93 10 20.8	01 42.24	-03 50.0	17.2	-0.73	- 5.6	4.2/16.3	16039
1981 ET <sub>42</sub>	93 10 12.4	01 10.75	+10 05.8	17.3	-0.99	- 5.4	1.1/13.2	22074	1981 QT <sub>3</sub>	93 10 20.9	01 42.55	+14 56.7	16.6	-0.80	- 3.2	1.2/22.2	22483
1981 EG <sub>28</sub>	93 10 12.4	01 11.10	+06 18.1	15.8	-0.84	- 8.8	0.5/12.1	22697	1992 FV	93 10 20.9	01 42.75	+03 40.3	16.2	-1.06	- 5.0	2.8/19.1	22700
1992 KF	93 10 12.6	01 11.63	-12 36.6	17.5	-0.98	- 1.3	6.8/07.1	21977	1988 RQ <sub>2</sub>	93 10 21.2	01 43.99	+27 59.7	16.8	-0.94	- 3.8	5.3/26.4	21570
1992 GZ	93 10 12.6	01 11.73	+09 06.7	16.3	-0.92	- 5.0	0.5/13.1	22085	(5214)	93 10 21.4	01 44.47	+14 58.1	16.0	-1.15	- 3.3	1.7/22.5	22476
1988 XJ <sub>1</sub>	93 10 12.6	01 11.75	-11 22.3	16.9	-0.82	- 1.9	5.8/07.0	22698	1991 JB <sub>1</sub>	93 10 21.4	01 44.63	+04 44.7	17.0	-0.75	- 3.5	1.6/19.7	22494
1981 ER <sub>15</sub>	93 10 12.9	01 12.68	+13 50.8	19.2	-0.96	- 6.7	2.2/15.0	22429	1981 EX <sub>28</sub>	93 10 21.4	01 44.69	+22 05.4	17.9	-1.04	- 5.6	4.2/25.0	15242
1988 CG	93 10 13.1	01 13.76	+02 30.4	17.7	-0.94	- 7.6	1.9/11.5	18429	1988 DD <sub>5</sub>	93 10 21.6	01 45.33	+26 07.6	17.9	-1.03	- 6.3	5.0/26.4	21971
1987 DG <sub>6</sub>	93 10 13.3	01 14.16	+09 44.2	16.9	-0.88	- 5.3	0.6/13.9	22599	1981 ED <sub>21</sub>	93 10 21.7	01 45.52	+24 54.6	15.9	-1.06	+ 2.1	6.9/24.7	22697
(5704)	93 10 13.7	01 15.70	-04 19.8	16.9	-0.68	- 5.6	3.2/09.6	22669	1981 EW <sub>24</sub>	93 10 21.7	01 45.70	+08 04.2	16.7	-0.81	- 5.2	1.0/20.9	22492
1978 RZ	93 10 13.8	01 16.04	+02 59.5	16.5	-0.79	- 5.0	1.7/12.2	20140	1986 RV <sub>2</sub>	93 10 21.8	01 46.28	+08 04.0	16.4	-0.98	- 7.8	1.2/21.0	22698
1978 PX <sub>2</sub>	93 10 13.8	01 16.10	+10 57.3	16.0	-0.91	- 4.0	1.4/15.0	22696	1981 EY <sub>14</sub>	93 10 22.2	01 47.46	+17 28.7	17.7	-1.02	- 6.1	2.6/24.0	21967
(5716)	93 10 14.4	01 18.51	+12 27.6	15.3	-0.86	- 6.2	2.0/15.8	22672	1986 SF	93 10 22.2	01 47.71	+15 55.6	16.4	-1.09	- 4.7	1.9/23.6	22077
(5271)	93 10 14.5	01 18.58	-12 14.8	17.5	-0.81	- 5.7	6.2/07.7	20616	(5744)	93 10 22.8	01 50.10	+07 40.2	15.1	-0.87	- 9.0	1.7/21.7	22678
(5717)	93 10 14.5	01 18.94	+10 27.5	16.1	-0.96	- 4.2	1.0/15.2	22672	3097 P-L	93 10 23.0	01 50.82	+22 54.2	17.9	-0.92	- 5.2	3.8/26.6	15423
1978 VT <sub>8</sub>	93 10 15.0	01 20.38	+12 11.0	17.1	-0.77	- 5.8	1.1/16.2	18619	1992 FA <sub>1</sub>	93 10 24.0	01 54.36	+15 46.6	16.2	-1.01	- 7.3	1.6/25.2	22273
1979 MF	93 10 15.1	01 20.93	+01 48.9	17.9	-0.97	- 7.4	2.4/13.1	21965	(5329)	93 10 24.1	01 54.69	-14 23.5	14.6	-0.66	- 6.7	12.1/14.2	20796
1981 EE <sub>14</sub>	93 10 15.2	01 21.37	+10 40.1	18.0	-0.90	- 9.0	0.8/15.9	21966	1990 EJ <sub>2</sub>	93 10 24.3	01 55.41	+16 53.7	16.2	-0.72	- 6.4	1.5/25.9	22082
1989 WC	93 10 15.2	01 21.41	+11 34.1	15.6	-0.88	- 5.3	1.2/16.2	22699	1988 RS <sub>4</sub>	93 10 24.3	01 55.79	+12 53.9	16.4	-0.88	- 4.4	0.4/24.7	19301
4018 P-L	93 10 15.4	01 22.19	+13 50.5	16.0	-0.97	- 1.9	2.4/16.9	22700	3137 T-3	93 10 24.5	01 56.19	+14 01.3	15.8	-0.94	- 0.4	0.8/25.0	22695
1989 SR <sub>4</sub>	93 10 16.0	01 24.41	+05 08.2	17.4	-0.94	- 2.2	1.7/15.1	18293	2055 P-L	93 10 25.3	01 59.70	+23 35.7	19.2	-1.10	- 3.3	4.0/28.4	22274

1990 YC	93 10 25.4	01 59.96	+07 24.7	15.3	-0.99	- 3.7	2.4/24.2	22687	1987 BS <sub>2</sub>	93 11 01.9	02 29.10	+10 01.1	16.3	-0.97	- 5.3	2.0/31.8	21970
1985 JN <sub>1</sub>	93 10 25.4	02 00.01	+03 16.1	17.8	-1.02	- 3.5	3.3/23.2	22076	1988 ER <sub>1</sub>	93 11 02.0	02 29.13	+17 31.2	16.5	-1.11	- 2.2	1.1/02.6	22698
1980 PB <sub>3</sub>	93 10 25.7	02 00.84	-02 07.1	16.2	-0.84	- 0.5	3.8/22.1	21966	(5336)	93 11 02.0	02 29.40	+04 18.5	16.7	-0.73	- 5.3	2.8/30.1	20800
1983 RZ <sub>1</sub>	93 10 25.7	02 00.86	+14 36.5	16.3	-1.14	- 3.5	1.1/26.3	18109	1981 EY <sub>9</sub>	93 11 02.4	02 30.76	+21 55.5	17.3	-1.08	- 5.2	3.1/04.0	21966
1989 UL <sub>1</sub>	93 10 25.7	02 00.96	+07 59.7	15.3	-1.05	- 0.2	1.7/24.8	22699	(5245)	93 11 02.5	02 31.28	+09 16.4	16.4	-1.06	- 5.5	2.2/01.2	20487
(5340)	93 10 25.7	02 01.11	+16 49.4	17.3	-0.78	- 4.5	1.2/27.1	20801	1986 QT	93 11 02.6	02 31.44	+09 43.8	17.2	-1.07	- 4.8	2.1/01.4	22077
1979 MK <sub>6</sub>	93 10 25.8	02 01.53	+08 44.5	17.5	-0.85	- 5.4	1.4/24.8	18804	(5353)	93 11 02.7	02 31.94	+15 38.0	15.2	-1.03	- 2.2	0.3/02.9	20918
1981 EC <sub>16</sub>	93 10 25.9	02 01.67	+17 40.6	17.4	-1.01	- 6.2	1.9/27.4	21967	1978 RZ <sub>9</sub>	93 11 02.7	02 32.02	-15 43.5	17.7	-0.92	- 6.8	10.7/25.0	22073
1985 FE <sub>3</sub>	93 10 26.0	02 02.13	+00 28.1	16.6	-1.03	- 3.7	4.2/23.0	21969	1981 ES <sub>32</sub>	93 11 03.1	02 33.65	+29 18.2	18.7	-1.07	- 5.1	6.5/06.9	22271
1989 OA	93 10 26.1	02 02.55	+16 31.5	16.2	-0.99	- 7.3	1.6/27.3	22081	1986 RB <sub>5</sub>	93 11 03.5	02 35.29	+03 39.3	15.1	-1.02	- 3.4	5.4/31.9	22698
1992 OJ	93 10 26.1	02 02.76	+39 54.4	17.0	-1.06	- 3.5	7.6/03.9	22600	4053 T-2	93 11 03.8	02 36.47	+10 48.0	16.3	-0.84	- 4.1	1.5/02.7	22701
1989 AK	93 10 26.2	02 02.81	+05 49.7	15.5	-0.83	- 3.4	2.5/24.4	22699	1991 EA	93 11 03.8	02 36.54	+24 02.5	16.7	-1.08	- 2.8	3.3/05.9	22494
1987 SC <sub>6</sub>	93 10 26.3	02 03.36	+11 06.7	16.5	-0.78	- 4.4	0.4/26.0	22078	1985 GO	93 11 03.9	02 36.84	+08 34.8	17.1	-1.05	- 4.0	2.6/02.4	21969
1984 OA	93 10 26.4	02 03.86	-17 45.6	15.0	-0.81	- 3.3	12.6/17.4	22599	1989 JF	93 11 04.4	02 38.96	+20 58.4	16.2	-1.19	- 3.8	2.2/05.7	22699
1981 ES <sub>29</sub>	93 10 26.6	02 04.59	+11 49.5	17.6	-0.79	- 6.1	0.2/26.4	22074	1991 CN <sub>1</sub>	93 11 04.5	02 39.02	+13 26.8	17.0	-0.98	- 5.5	0.8/04.0	22083
1992 LG	93 10 26.8	02 05.46	+07 07.3	16.6	-1.05	- 5.2	2.3/25.4	21977	1981 ET <sub>24</sub>	93 11 04.5	02 39.04	+07 48.4	17.7	-0.97	- 6.9	3.0/02.5	22492
1989 UA	93 10 26.9	02 05.62	+08 09.2	15.1	-1.07	+ 0.4	1.9/26.0	22699	1989 WL <sub>7</sub>	93 11 04.5	02 39.18	-12 17.4	15.1	-0.92	- 0.4	11.3/29.0	21973
1982 JE <sub>1</sub>	93 10 26.9	02 05.78	+05 01.0	16.0	-1.01	- 1.0	3.9/25.2	22075	1991 CL <sub>1</sub>	93 11 04.7	02 40.16	+20 02.3	15.5	-1.02	- 5.2	2.0/05.9	22700
1989 UZ <sub>4</sub>	93 10 27.0	02 06.13	+03 17.3	15.9	-0.85	- 6.3	4.0/24.3	22081	(5701)	93 11 04.8	02 40.51	+17 08.3	14.6	-0.98	- 0.6	0.7/05.2	22668
(5541)	93 10 27.4	02 07.56	+05 45.9	15.9	-0.69	- 8.7	2.4/25.1	22039	1990 YK	93 11 05.3	02 42.22	+12 23.7	16.3	-1.05	- 5.8	1.4/04.5	17829
1988 PM <sub>2</sub>	93 10 28.3	02 10.95	+04 50.2	17.4	-0.83	- 4.9	3.0/26.0	21971	6097 P-L	93 11 05.5	02 43.38	+17 42.6	17.9	-1.06	- 5.3	0.8/06.1	22087
1988 EN	93 10 28.3	02 11.23	+06 17.5	17.2	-0.95	- 5.7	2.4/26.5	22079	1989 SM <sub>8</sub>	93 11 05.9	02 44.51	+16 44.0	16.4	-1.02	- 3.4	0.4/06.1	20505
1991 CM <sub>3</sub>	93 10 28.5	02 11.72	+04 19.8	15.2	-0.92	- 4.9	3.9/26.1	22700	1972 RU <sub>1</sub>	93 11 06.0	02 45.00	+13 44.3	16.8	-1.00	- 7.4	1.0/05.4	22072
1988 UC	93 10 28.5	02 11.77	+12 57.0	16.1	-0.86	- 3.4	0.1/28.5	22599	1981 EE <sub>38</sub>	93 11 06.0	02 45.19	+19 42.0	18.0	-0.90	- 4.0	1.4/07.0	21967
1982 QK <sub>3</sub>	93 10 29.0	02 13.88	+18 20.2	15.8	-1.01	- 4.6	2.3/30.4	22075	(5755)	93 11 06.4	02 46.68	+31 18.0	14.7	-0.93	- 4.0	5.3/10.4	22681
1988 YB	93 10 29.1	02 14.03	+11 47.0	16.3	-0.79	- 3.6	0.5/28.7	22698	1992 JQ <sub>3</sub>	93 11 06.6	02 47.28	+19 08.1	16.9	-1.11	- 5.7	1.1/07.3	22057
4121 P-L	93 10 29.1	02 14.05	+09 17.9	16.2	-0.72	- 7.7	1.5/27.8	22694	(5337)	93 11 06.6	02 47.69	+18 27.6	16.4	-0.77	- 4.8	0.6/07.3	20800
1985 GS	93 10 29.2	02 14.53	-10 04.1	16.4	-0.77	- 3.5	6.6/22.3	21565	1978 VP <sub>10</sub>	93 11 07.2	02 49.71	+12 08.0	17.4	-1.02	- 2.9	1.7/06.3	22073
1989 NO	93 10 29.3	02 15.12	+19 05.6	16.1	-1.12	- 4.1	2.1/30.8	22699	1987 SZ <sub>6</sub>	93 11 07.2	02 50.04	+27 35.0	14.5	-0.86	- 5.7	3.8/10.4	22698
1987 SE <sub>13</sub>	93 10 29.6	02 16.26	+09 18.0	15.3	-0.80	- 3.4	1.6/28.5	21567	1988 RU <sub>6</sub>	93 11 07.3	02 50.28	+15 06.1	17.5	-0.91	- 4.5	0.4/07.0	22079
1991 BJ	93 10 29.7	02 16.22	+10 05.6	15.6	-1.04	- 2.9	1.5/28.9	22600	1990 EF <sub>7</sub>	93 11 07.4	02 50.75	+13 25.6	17.7	-0.77	- 3.4	0.8/06.7	20925
1981 EM <sub>19</sub>	93 10 29.7	02 16.58	+15 29.5	17.7	-0.87	- 4.2	0.6/30.3	22074	1991 GA <sub>6</sub>	93 11 07.5	02 51.04	+17 42.3	17.4	-0.88	- 4.0	0.4/07.9	21942
1972 RF <sub>2</sub>	93 10 30.1	02 17.85	+09 42.7	17.0	-0.93	- 7.3	2.0/29.0	21250	4031 P-L	93 11 07.8	02 52.48	+26 14.7	16.3	-1.06	- 2.1	4.7/10.0	22274
1981 EY <sub>19</sub>	93 10 30.3	02 18.72	+15 02.6	18.7	-0.85	- 4.5	0.4/30.7	22697	(5216)	93 11 08.4	02 54.78	-07 40.3	14.9	-0.89	- 2.7	9.4/02.9	20315
1978 NN <sub>1</sub>	93 10 30.4	02 19.03	+00 36.2	16.8	-0.86	- 4.5	5.0/26.9	22696	(5351)	93 11 08.5	02 55.17	+08 15.1	16.9	-0.96	- 4.7	2.9/06.6	20918
(5253)	93 10 30.6	02 19.82	-24 39.7	16.6	-1.65	+ 6.3	17.1/23.2	20490	(5270)	93 11 08.5	02 55.28	+09 11.5	17.1	-0.88	- 6.9	2.4/06.6	20616
1992 HJ	93 10 30.6	02 19.95	+05 39.7	16.7	-1.02	- 4.6	3.1/28.6	22700	(5288)	93 11 08.8	02 56.28	+32 18.0	14.6	-0.99	- 7.5	6.1/13.1	20623
5211 T-2	93 10 30.9	02 21.20	+17 15.1	15.0	-0.78	- 8.8	1.2/32.0	22695	1992 OB	93 11 08.8	02 56.37	+15 12.2	18.6	-0.94	+ 0.1	0.5/08.6	22407
1990 BG <sub>1</sub>	93 10 31.0	02 21.40	+08 00.3	16.5	-0.87	- 3.0	1.9/29.5	22699	1982 UV <sub>1</sub>	93 11 08.9	02 56.75	+12 13.1	15.9	-0.84	- 3.0	1.7/07.9	22697
1991 BR	93 10 31.1	02 21.88	+06 43.4	17.8	-0.87	- 5.8	2.2/29.1	21975	1981 JS <sub>2</sub>	93 11 09.1	02 57.68	+19 36.6	17.5	-1.09	- 4.0	1.0/09.8	21968
1978 UA <sub>7</sub>	93 10 31.2	02 22.32	+17 42.3	16.3	-1.08	- 2.4	1.3/01.1	20807	1988 VD <sub>1</sub>	93 11 09.2	02 57.98	+34 08.6	15.6	-1.09	- 1.1	5.8/13.0	22698
(5021)	93 10 31.3	02 22.86	+10 38.2	15.7	-0.80	- 3.6	1.2/30.5	19487	(5723)	93 11 09.4	02 58.97	+05 50.8	15.7	-0.91	- 5.2	5.7/06.9	22673
1989 YH	93 10 31.4	02 23.06	+28 52.2	15.5	-0.94	- 4.0	5.9/04.5	21973	1992 FS <sub>1</sub>	93 11 09.5	02 59.12	+06 15.3	16.2	-1.08	- 2.6	4.2/07.4	21977
1989 WG <sub>7</sub>	93 10 31.4	02 23.26	+15 12.9	16.2	-0.92	- 5.3	0.4/31.8	22699	(5280)	93 11 09.7	02 59.74	+07 13.7	17.4	-0.87	- 6.4	3.0/07.2	20620
1986 QA <sub>3</sub>	93 10 31.5	02 23.25	+11 44.7	16.5	-1.07	- 4.8	1.0/30.9	22077	(5478)	93 11 09.7	02 59.75	+18 28.5	15.8	-0.94	- 7.8	0.6/10.1	21775
1979 QJ <sub>1</sub>	93 10 31.9	02 24.77	+01 36.9	17.1	-0.99	- 6.0	4.9/28.5	13598	1992 KE	93 11 09.8	03 00.20	+05 48.3	16.4	-1.00	- 2.3	4.2/07.5	20645
(5347)	93 11 01.0	02 25.37	+01 34.0	16.1	-0.75	- 5.6	3.9/28.3	20916	1985 TM <sub>1</sub>	93 11 09.8	03 00.56	+28 26.7	14.8	-1.22	+ 4.6	5.7/11.4	22698
(5316)	93 11 01.5	02 27.41	+18 57.3	15.9	-0.76	- 7.8	1.3/02.9	20791	1981 EB <sub>24</sub>	93 11 09.9	03 00.79	+21 22.4	17.9	-0.96	- 2.4	1.5/10.9	21967
1986 AJ	93 11 01.7	02 28.39	+50 01.0	15.9	-1.32	- 8.1	17.3/15.5	22698	(5169)	93 11 10.0	03 01.22	+22 15.5	15.3	-1.06	- 3.4	2.5/11.2	19996
1989 WB <sub>2</sub>	93 11 01.8	02 28.31	+23 45.0	15.9	-0.98	- 4.9	3.8/04.0	22600	5193 T-3	93 11 10.1	03 01.65	+00 00.7	18.3	-0.76	- 3.6	4.5/06.1	22702
1986 TB <sub>3</sub>	93 11 01.8	02 28.69	+07 38.8	15.7	-1.01	- 6.4	2.9/31.1	22078	1980 TG <sub>4</sub>	93 11 10.4	03 02.64	+30 22.6	16.2	-1.20	+ 0.5	5.3/12.9	15702

1169 T-2	93 11 10.6	03 03.43	+20 25.5	18.4	-0.90	- 3.4	1.0/11.3	22701	1984 EY	93 11 18.7	03 36.82	+24 26.5	16.5	-1.16	- 1.2	1.9/19.5	22492
3020 T-2	93 11 10.6	03 03.68	+34 33.9	17.1	-1.17	- 0.1	6.4/14.2	22701	1992 PX <sub>2</sub>	93 11 18.8	03 37.51	+32 16.9	17.3	-1.05	- 5.1	4.1/21.6	21584
3178 T-2	93 11 10.9	03 04.60	+19 02.3	17.4	-0.92	- 2.6	0.6/11.3	19329	1991 GQ <sub>10</sub>	93 11 18.9	03 37.52	+11 58.1	15.8	-0.92	- 2.5	2.8/17.6	18826
1990 TN <sub>1</sub>	93 11 10.9	03 04.78	+50 52.6	16.1	-1.67	- 2.8	15.3/19.1	22699	1987 SS <sub>17</sub>	93 11 19.1	03 38.34	+28 25.7	16.8	-0.94	- 2.0	2.8/20.8	22079
(5403)	93 11 10.9	03 04.96	+02 00.8	16.0	-0.81	- 2.5	4.7/07.5	21248	5192 T-3	93 11 19.6	03 40.52	+15 47.8	16.3	-0.95	+ 0.6	1.3/19.1	21978
1981 JE <sub>2</sub>	93 11 10.9	03 05.01	+16 04.7	16.7	-1.09	- 3.0	0.5/10.7	22697	1984 UX <sub>2</sub>	93 11 19.6	03 40.54	+33 40.6	15.3	-1.21	+ 0.1	5.4/21.9	22698
1992 HR <sub>4</sub>	93 11 11.0	03 05.23	+08 15.7	17.8	-1.04	- 3.9	3.4/09.1	21582	1989 YB	93 11 20.0	03 42.22	+28 27.6	14.2	-0.92	- 8.4	4.4/22.2	22699
1981 EV <sub>10</sub>	93 11 11.1	03 05.43	+18 45.4	18.6	-1.02	- 7.2	0.6/11.4	22270	1988 QD <sub>1</sub>	93 11 20.0	03 42.41	+24 58.3	15.7	-1.06	-10.1	2.0/21.4	22698
1976 SA <sub>6</sub>	93 11 11.2	03 05.93	+18 44.8	16.8	-1.13	- 3.5	0.5/11.5	22072	1978 QC <sub>3</sub>	93 11 20.4	03 43.95	-01 39.7	14.8	-0.87	- 0.9	8.5/16.8	16575
4069 P-L	93 11 12.0	03 09.11	+11 46.4	17.9	-0.78	- 5.4	1.8/10.6	22274	(5746)	93 11 20.5	03 44.19	+29 10.8	14.7	-1.15	- 1.9	4.7/22.1	22678
2532 P-L	93 11 12.2	03 10.13	+09 06.2	16.9	-0.83	- 5.2	2.9/10.2	21977	1984 DB	93 11 20.5	03 44.25	-19 48.3	17.1	-0.93	- 4.1	17.9/08.9	22271
1979 TY <sub>1</sub>	93 11 12.2	03 10.31	+23 07.2	16.1	-1.21	+ 2.3	2.7/13.1	22073	1990 FR <sub>1</sub>	93 11 20.5	03 44.39	-00 08.3	17.1	-0.84	+ 0.5	6.1/17.5	19303
1987 SV <sub>12</sub>	93 11 12.4	03 10.81	+16 01.2	16.4	-0.87	- 2.5	0.6/12.1	22078	5016 P-L	93 11 21.5	03 48.68	+26 06.6	18.5	-1.23	- 2.1	2.4/22.5	22701
(5305)	93 11 13.1	03 13.62	+18 01.2	16.9	-1.01	- 4.5	0.0/13.1	21764	1992 ME	93 11 21.7	03 49.24	-14 20.5	18.4	-1.07	+ 1.2	11.3/17.3	21112
6299 P-L	93 11 13.2	03 14.11	+05 37.4	18.0	-0.83	- 8.0	4.5/09.9	22087	1989 TN	93 11 21.8	03 49.84	+16 08.6	17.7	-1.09	- 1.9	1.6/21.3	19025
(5720)	93 11 13.2	03 14.23	+20 55.1	15.6	-1.75	+12.2	1.5/13.3	22673	1980 SD	93 11 21.8	03 50.01	+33 36.8	16.9	-1.20	- 0.3	4.7/24.0	21966
1979 KG	93 11 13.2	03 14.26	-06 19.4	15.3	-0.91	+ 0.0	10.1/08.8	22073	1992 PD <sub>2</sub>	93 11 22.1	03 50.82	+14 33.7	17.0	-0.84	- 3.9	1.6/21.1	20934
(5408)	93 11 13.7	03 15.96	+15 18.2	16.8	-1.06	- 5.8	1.1/13.1	21250	(5299)	93 11 22.1	03 51.22	+27 42.7	15.9	-0.92	- 2.8	2.5/23.5	20785
1992 JN <sub>1</sub>	93 11 13.9	03 16.98	+03 01.2	16.6	-1.03	+ 0.8	5.6/11.6	21977	1978 NU <sub>3</sub>	93 11 22.2	03 51.41	+09 26.7	17.8	-1.08	- 2.0	4.5/20.7	21964
1992 HG <sub>4</sub>	93 11 13.9	03 17.21	+17 40.7	17.0	-1.07	- 4.5	9.4/04.0	22085	(5303)	93 11 22.2	03 51.71	+20 49.9	16.2	-0.94	- 2.0	0.2/22.4	20786
1971 UK	93 11 14.0	03 17.40	+16 38.9	16.4	-1.01	- 7.1	0.7/13.7	22072	1974 SJ <sub>3</sub>	93 11 22.5	03 52.96	+43 23.3	16.0	-1.29	+ 0.9	8.1/25.8	22696
1981 EF <sub>48</sub>	93 11 14.1	03 17.78	+17 55.4	18.3	-0.69	- 2.9	0.1/14.1	21968	1981 EN <sub>15</sub>	93 11 22.5	03 52.98	+23 26.9	18.0	-1.10	- 4.4	1.5/23.2	21967
1981 EV <sub>45</sub>	93 11 14.1	03 17.91	+21 44.0	20.0	-0.89	- 3.7	1.0/14.9	20811	1991 EG	93 11 22.6	03 53.01	+22 26.7	15.8	-1.21	+ 0.3	1.1/22.9	21975
1983 XN <sub>1</sub>	93 11 14.1	03 18.02	+31 43.8	16.9	-0.96	- 3.6	4.6/17.2	21969	1981 SN	93 11 22.6	03 53.37	+16 21.6	15.8	-0.97	- 5.8	1.7/21.9	22697
4047 P-L	93 11 14.2	03 18.02	+21 24.7	18.2	-0.94	- 3.3	1.1/14.9	21978	1988 EA <sub>2</sub>	93 11 22.8	03 54.18	+13 47.7	16.8	-1.08	- 3.5	2.7/21.8	21971
3033 T-2	93 11 14.2	03 18.40	+16 21.0	17.2	-0.91	- 2.5	0.7/13.9	16243	1976 SW <sub>3</sub>	93 11 22.8	03 54.22	+12 24.4	16.0	-0.83	- 3.3	2.9/21.5	22696
1262 T-2	93 11 14.4	03 19.20	+24 25.7	19.3	-1.20	- 2.9	2.3/15.6	15078	1987 PL	93 11 23.0	03 54.79	+31 06.8	16.3	-0.96	- 4.3	3.4/25.1	22698
1988 RN <sub>4</sub>	93 11 14.6	03 19.94	+34 45.0	17.7	-1.11	- 3.0	4.9/18.1	22079	1989 WC <sub>2</sub>	93 11 23.0	03 55.06	+18 59.9	15.6	-1.10	+ 3.0	0.6/23.0	15725
1981 SE	93 11 14.9	03 21.12	+15 48.8	16.4	-1.01	- 4.1	1.0/14.4	21968	4283 T-1	93 11 23.1	03 55.21	+28 59.4	16.0	-1.26	+ 1.5	4.2/24.1	19327
1985 YH	93 11 14.9	03 21.23	+31 22.6	16.3	-1.04	- 6.4	4.5/18.0	22698	(5220)	93 11 23.1	03 55.54	+26 02.0	16.6	-1.23	- 1.9	2.2/24.0	20317
1982 BS	93 11 15.3	03 22.95	+39 32.9	15.7	-1.06	- 6.6	9.0/20.9	22697	1989 UF <sub>7</sub>	93 11 23.4	03 56.71	+21 07.4	16.8	-1.07	- 2.2	0.3/23.6	21973
1992 NR	93 11 15.5	03 23.40	-02 34.3	17.5	-0.88	- 2.9	6.6/11.1	21582	1979 QT <sub>8</sub>	93 11 23.5	03 56.82	+25 14.6	16.6	-1.18	- 3.4	2.2/24.3	22073
1988 XW <sub>1</sub>	93 11 15.5	03 23.73	+13 26.4	14.8	-0.94	+ 0.5	1.8/14.7	22493	2222 T-2	93 11 24.0	03 58.89	+14 55.8	17.2	-0.75	- 2.3	1.5/23.1	21978
1984 DY	93 11 15.6	03 23.78	+19 30.9	16.4	-0.86	- 3.0	0.3/15.8	14191	1971 OV	93 11 24.0	03 58.90	+13 47.4	16.7	-1.11	- 4.6	3.2/22.9	16693
1990 HM <sub>1</sub>	93 11 15.7	03 24.23	+11 32.8	15.2	-0.88	- 0.4	2.2/14.5	22699	1985 PG <sub>2</sub>	93 11 24.0	03 59.22	+20 22.7	16.2	-1.06	- 0.1	0.1/24.1	22076
1969 TR <sub>1</sub>	93 11 15.7	03 24.40	+22 11.1	15.1	-1.17	- 3.8	1.7/16.4	21925	1991 GP <sub>1</sub>	93 11 24.2	04 00.11	+00 33.9	16.5	-0.86	- 1.4	5.6/21.2	21110
1987 SN <sub>11</sub>	93 11 15.8	03 24.97	+15 46.4	16.8	-0.84	- 3.4	1.0/15.3	22698	1992 RF <sub>7</sub>	93 11 24.4	04 00.72	+23 12.0	17.2	-0.87	- 1.4	0.7/24.8	21586
1989 RD <sub>2</sub>	93 11 16.4	03 27.36	+13 52.1	16.7	-1.06	- 4.2	2.2/15.5	21973	1990 DB	93 11 24.5	04 01.29	+17 08.5	16.3	-0.83	- 2.4	1.0/24.0	22592
1989 SG	93 11 16.6	03 27.96	+30 11.0	15.1	-1.15	- 0.9	5.3/18.5	22699	(5374)	93 11 24.5	04 01.39	+35 31.0	15.7	-0.94	- 3.7	4.3/27.3	21092
4068 P-L	93 11 16.9	03 29.40	+25 02.9	16.5	-1.16	- 3.4	2.8/18.1	22086	1981 ES <sub>47</sub>	93 11 24.6	04 01.45	+21 21.5	17.7	-1.13	- 1.4	0.3/24.7	22697
2023 P-L	93 11 17.0	03 29.56	+19 54.1	17.5	-0.88	- 3.1	0.3/17.2	22086	1360 T-2	93 11 25.1	04 03.66	+19 28.6	17.9	-0.92	- 2.8	0.4/24.9	22087
1992 LE	93 11 17.0	03 29.67	-02 33.6	18.2	-0.85	- 2.8	6.5/12.9	20826	1991 JG	93 11 25.1	04 03.68	+20 20.3	16.1	-1.03	+ 0.6	0.1/25.1	22494
1973 SF <sub>6</sub>	93 11 17.2	03 30.77	+09 24.3	16.8	-1.07	- 5.5	4.4/15.4	22429	1988 RU <sub>3</sub>	93 11 25.1	04 03.93	+16 02.0	18.2	-0.95	- 2.6	1.7/24.5	22272
(5745)	93 11 17.4	03 31.49	+24 53.8	15.3	-1.16	+ 0.1	3.1/18.3	22678	1344 T-2	93 11 25.2	04 03.96	+17 06.7	17.4	-0.92	- 2.3	1.3/24.6	22087
1987 SS <sub>9</sub>	93 11 17.4	03 31.54	+15 18.3	16.5	-0.84	- 2.3	1.4/16.8	22698	1991 CU <sub>1</sub>	93 11 25.3	04 04.39	+24 43.1	16.0	-1.14	- 4.8	1.7/26.0	22600
1980 FH <sub>1</sub>	93 11 17.6	03 32.19	+36 37.2	17.3	-1.07	- 1.5	5.6/20.9	21965	2312 T-1	93 11 25.3	04 04.46	+22 39.2	17.3	-0.96	- 1.7	0.7/25.6	22490
1988 PG <sub>1</sub>	93 11 17.7	03 32.45	+38 59.8	17.1	-1.15	- 4.6	7.3/22.3	18289	1987 RG	93 11 25.4	04 04.91	+16 18.1	16.7	-0.88	- 1.8	1.4/24.8	22078
(5441)	93 11 17.7	03 32.46	+03 10.4	16.3	-0.81	- 2.0	4.7/14.7	21555	1992 OB <sub>9</sub>	93 11 25.9	04 07.21	+06 15.5	17.4	-0.92	- 0.3	4.6/24.1	21583
3181 T-2	93 11 18.1	03 34.30	+15 46.1	17.7	-0.91	- 2.2	1.2/17.5	21978	(5278)	93 11 26.0	04 07.41	+18 37.5	16.0	-1.12	- 5.2	1.0/25.6	20619
(5368)	93 11 18.3	03 35.11	+11 02.0	16.5	-0.67	- 2.6	2.0/16.7	21089	1986 AG <sub>1</sub>	93 11 26.0	04 07.85	+55 25.8	15.3	-1.79	-10.4	16.3/05.6	22077
1981 EO <sub>20</sub>	93 11 18.4	03 35.79	+15 08.8	18.4	-1.07	- 4.0	1.5/17.7	22697	(5411)	93 11 26.1	04 07.82	+28 58.2	16.2	-0.93	- 2.7	2.5/27.4	21543

1977 RZ <sub>8</sub>	93 11 26.1	04 08.25	+42 47.6	17.5	-1.12	- 1.8	6.2/29.7	19495	1981 ET <sub>13</sub>	93 12 03.9	04 41.72	+26 30.2	18.6	-1.18	- 3.1	1.5/04.5	21966
1983 PX	93 11 26.2	04 08.42	+11 29.4	17.5	-0.93	- 4.1	3.2/24.7	21969	1981 EY <sub>35</sub>	93 12 04.1	04 42.58	+28 12.9	17.8	-1.21	- 1.6	2.3/04.8	21967
1980 BJ <sub>4</sub>	93 11 26.4	04 09.18	+21 30.3	15.8	-0.94	- 1.5	0.2/26.5	22696	1978 VL <sub>11</sub>	93 12 04.1	04 42.60	+21 43.9	15.9	-1.12	- 0.2	0.2/04.1	21926
2496 T-3	93 11 26.6	04 10.00	+15 56.9	17.0	-0.86	- 4.6	1.7/25.7	16038	1930 UX	93 12 04.2	04 42.64	+31 58.7	15.7	-1.17	- 3.0	4.9/05.4	22696
6761 P-L	93 11 27.0	04 11.60	+07 27.9	17.8	-0.82	- 3.2	4.4/24.8	22087	1988 XK	93 12 04.6	04 44.69	+19 25.6	16.6	-0.93	- 4.4	1.1/04.3	22272
1987 QW <sub>1</sub>	93 11 27.1	04 12.16	+18 06.8	16.8	-0.90	- 2.4	1.0/26.7	22078	1991 CN	93 12 04.8	04 45.57	+29 05.2	16.1	-1.23	- 1.3	2.9/05.5	21575
1968 OL	93 11 27.2	04 12.77	-09 49.4	18.4	-1.08	+ 1.7	10.1/24.1	20627	(5380)	93 12 04.9	04 45.69	+19 55.6	17.2	-0.99	- 4.0	0.8/04.6	21094
3057 T-1	93 11 27.3	04 13.11	+20 11.8	17.8	-1.02	- 3.5	0.4/27.2	21601	1979 KD	93 12 05.1	04 46.87	+10 52.5	17.8	-0.96	- 1.2	3.7/04.1	21965
4041 P-L	93 11 27.3	04 13.26	+23 53.6	17.2	-1.07	- 3.7	1.3/27.8	15903	(5213)	93 12 05.2	04 47.23	+10 40.0	15.9	-0.85	- 3.3	4.0/03.8	20137
1987 BB	93 11 27.5	04 13.92	+20 30.9	16.8	-1.10	- 2.8	0.3/27.4	18626	1992 OO <sub>1</sub>	93 12 05.3	04 47.86	+00 24.9	16.7	-0.97	+ 0.9	8.2/03.8	22273
1986 QN <sub>3</sub>	93 11 27.6	04 14.56	+19 19.5	16.2	-1.15	- 0.6	0.9/27.5	22077	1991 FL	93 12 05.4	04 48.34	+22 44.8	16.9	-1.12	- 2.5	0.1/05.5	22083
1985 SR	93 11 27.7	04 14.92	+23 19.7	17.4	-1.13	- 1.9	0.8/28.0	22077	1985 RV	93 12 05.5	04 48.78	+24 10.4	19.0	-1.14	- 5.2	0.6/05.8	22430
1983 GU	93 11 27.8	04 15.07	+03 24.7	16.3	-0.98	+ 0.8	6.1/26.0	17957	1986 TK <sub>1</sub>	93 12 05.8	04 49.62	+25 57.5	16.5	-1.23	- 4.5	1.5/06.2	22077
1988 DO <sub>1</sub>	93 11 27.8	04 15.48	+12 52.0	15.7	-1.11	- 1.4	3.3/26.9	21971	(5382)	93 12 05.8	04 49.91	+02 31.1	16.6	-0.93	- 2.1	7.1/03.7	21095
1990 BX	93 11 28.4	04 17.94	+12 15.1	15.9	-0.94	- 0.8	3.4/27.4	22699	1989 YF <sub>5</sub>	93 12 05.9	04 50.25	+32 22.3	15.4	-1.14	- 7.0	3.7/07.5	22699
1988 XU <sub>1</sub>	93 11 28.5	04 18.48	+15 58.0	15.9	-0.91	+ 0.5	1.7/28.0	22698	6600 P-L	93 12 06.1	04 50.89	+23 04.3	17.4	-1.21	- 1.0	0.3/06.2	22701
1989 XF	93 11 28.7	04 19.21	+09 30.8	15.1	-1.02	+ 1.7	5.3/27.8	22699	3553 P-L	93 12 06.3	04 51.81	+30 23.3	16.7	-1.05	- 3.5	3.1/07.2	21977
1979 MA <sub>4</sub>	93 11 29.2	04 21.02	+16 28.4	17.2	-0.80	- 2.4	1.5/28.5	21927	1980 RU	93 12 06.3	04 52.03	+48 26.8	16.1	-1.41	- 2.0	10.4/09.5	22074
1986 GV	93 11 29.3	04 21.43	+03 46.3	17.7	-0.92	+ 0.7	5.4/27.4	18626	5061 T-2	93 12 06.4	04 52.30	+30 54.0	17.5	-1.33	- 4.7	3.7/07.5	15258
1214 T-3	93 11 29.3	04 21.59	+35 33.0	16.4	-1.03	- 2.8	4.9/01.4	22702	1989 EE	93 12 06.4	04 52.51	-23 00.7	17.0	-0.82	- 1.6	16.1/27.8	21107
1975 XP <sub>3</sub>	93 11 29.4	04 21.86	+26 33.5	15.9	-1.12	- 1.5	2.4/30.0	21964	1986 PQ <sub>1</sub>	93 12 06.4	04 52.53	+21 42.8	16.7	-0.89	- 0.8	0.3/06.4	22698
1991 EL <sub>4</sub>	93 11 29.4	04 21.99	+04 25.7	17.5	-0.89	- 3.2	5.3/26.9	21576	(5211)	93 12 06.5	04 53.14	-17 19.6	16.7	-1.15	+ 6.1	15.6/08.1	20136
1978 VE <sub>9</sub>	93 11 29.8	04 23.85	+22 50.3	16.8	-0.92	- 2.3	0.4/30.0	22222	1991 CD <sub>1</sub>	93 12 06.8	04 54.21	-09 45.8	16.4	-1.10	+ 2.6	11.8/04.6	22083
1988 BS <sub>3</sub>	93 11 29.9	04 24.33	+13 13.7	17.5	-1.10	- 2.6	3.1/28.9	21971	(5252)	93 12 07.0	04 55.11	+09 40.1	16.9	-1.05	- 0.4	4.8/06.1	20489
1986 CP <sub>1</sub>	93 11 30.1	04 25.09	+25 11.6	17.0	-1.06	- 1.0	1.3/30.5	22698	1989 TT <sub>1</sub>	93 12 07.1	04 55.64	+17 43.6	15.8	-1.04	- 4.3	2.2/06.6	22699
1989 AH	93 11 30.3	04 26.00	+02 58.8	16.7	-0.90	+ 3.2	5.7/29.0	22080	1982 UJ <sub>7</sub>	93 12 07.1	04 55.64	+20 09.8	15.8	-0.90	- 0.5	0.9/07.0	21969
1991 HO	93 11 30.4	04 26.62	+16 21.1	16.6	-1.00	+ 1.7	1.6/30.0	21975	1978 TU <sub>8</sub>	93 12 07.2	04 55.91	+21 01.1	16.0	-0.94	- 1.9	0.6/07.1	20806
1989 VQ <sub>1</sub>	93 11 30.4	04 26.66	+09 37.2	17.7	-1.02	- 1.7	4.7/29.0	21572	(5247)	93 12 07.2	04 56.17	+02 10.0	16.2	-1.04	- 7.7	7.2/04.2	20487
(5535)	93 11 30.5	04 27.10	+15 22.2	15.9	-1.14	- 1.0	2.9/29.9	22036	1981 EM <sub>38</sub>	93 12 07.3	04 56.39	+27 53.7	19.1	-1.02	- 2.7	2.1/07.9	22430
1992 JF	93 11 30.7	04 27.48	+23 22.8	17.2	-1.19	- 1.0	0.6/30.9	20346	1991 GB <sub>2</sub>	93 12 07.4	04 57.03	+04 46.1	16.9	-0.93	+ 0.3	5.8/06.2	21975
1988 PJ <sub>1</sub>	93 11 30.8	04 28.32	+42 35.7	17.1	-1.24	- 4.0	7.1/04.2	22079	1980 GG	93 12 07.5	04 57.26	+18 30.9	16.9	-1.14	+ 0.5	1.6/07.3	18620
1988 KC	93 11 30.9	04 28.48	+15 54.4	16.2	-1.05	- 5.8	2.2/30.0	22493	1978 RV <sub>7</sub>	93 12 07.5	04 57.43	+17 48.5	19.5	-0.94	- 1.8	1.5/07.1	21251
1989 PT	93 12 01.0	04 28.92	+11 13.5	17.1	-1.09	- 1.5	4.2/29.9	20503	(5279)	93 12 07.6	04 57.70	+13 28.8	16.9	-1.08	+ 1.9	3.1/07.3	20620
1990 EZ <sub>5</sub>	93 12 01.7	04 32.24	+21 57.4	17.7	-0.86	- 1.8	0.0/01.8	21940	1990 QM <sub>2</sub>	93 12 07.6	04 57.75	-21 44.9	16.0	-1.13	+ 2.0	21.5/06.2	22699
(5301)	93 12 01.8	04 32.47	+20 32.2	15.6	-0.82	- 4.6	0.4/01.6	20785	1981 ED <sub>37</sub>	93 12 07.7	04 58.36	+27 43.5	17.5	-1.25	- 0.7	2.0/08.2	21967
1991 GP <sub>10</sub>	93 12 01.9	04 32.68	+17 35.7	17.7	-1.00	- 1.1	1.6/01.5	22431	1989 VV	93 12 07.8	04 58.33	+22 09.6	16.3	-1.10	- 0.6	0.2/07.8	22081
(5251)	93 12 02.1	04 33.82	+22 05.4	15.9	-1.24	-14.0	0.0/02.2	20489	(5282)	93 12 07.9	04 59.23	+13 35.2	16.6	-0.95	- 4.9	3.2/06.9	20621
3134 T-3	93 12 02.2	04 34.24	+16 08.4	17.5	-1.19	- 3.1	2.6/01.6	22088	1989 AF <sub>7</sub>	93 12 08.2	05 00.41	+21 56.4	17.5	-0.89	- 1.3	0.3/08.2	21972
1985 RL <sub>1</sub>	93 12 02.3	04 34.65	+12 05.0	16.5	-1.03	- 5.5	4.0/30.9	21970	1934 GA	93 12 08.2	05 00.48	+28 57.9	13.3	-1.40	+10.5	2.6/08.0	22696
5065 T-2	93 12 02.4	04 34.89	+20 01.0	18.2	-1.03	- 7.0	0.8/02.1	22701	(5430)	93 12 08.3	05 00.59	-04 55.8	17.1	-1.05	+ 2.9	9.1/07.3	21550
1981 EF <sub>12</sub>	93 12 02.4	04 34.96	+24 27.3	19.2	-1.15	- 4.2	0.9/02.8	21966	(5346)	93 12 08.3	05 00.63	+23 01.5	16.1	-0.92	- 0.6	0.1/08.4	20916
1981 EN <sub>26</sub>	93 12 02.5	04 35.30	+10 58.0	17.6	-0.91	- 3.1	3.7/01.1	21967	1982 TF <sub>2</sub>	93 12 08.3	05 00.76	+24 20.2	16.4	-1.17	- 2.4	10.7/29.0	22075
1987 QS <sub>7</sub>	93 12 02.8	04 36.66	+18 59.5	17.1	-0.91	- 1.9	1.0/02.5	22078	(5355)	93 12 08.5	05 01.80	+21 40.7	15.8	-1.16	- 1.8	0.4/08.5	20919
4072 P-L	93 12 02.8	04 36.84	+21 02.5	19.2	-1.09	- 2.9	0.3/02.7	20829	1981 EB <sub>28</sub>	93 12 08.6	05 02.04	+19 48.3	18.4	-1.13	- 1.3	1.1/08.4	22074
1317 T-2	93 12 02.9	04 37.12	+30 38.0	19.7	-1.16	- 0.9	3.0/03.8	22432	7082 P-L	93 12 08.6	05 02.08	-17 00.9	17.6	-1.07	- 7.7	20.1/01.6	22087
6214 P-L	93 12 02.9	04 37.24	+18 09.0	17.1	-1.04	- 4.7	1.8/02.4	14629	4195 T-1	93 12 08.7	05 02.37	+21 10.7	17.8	-0.96	- 0.4	0.5/08.6	19879
1986 QX <sub>1</sub>	93 12 03.4	04 39.29	+26 34.1	16.8	-1.26	- 1.5	1.8/04.0	22430	1978 PD <sub>3</sub>	93 12 08.8	05 03.07	+33 19.4	16.5	-1.23	- 3.0	4.6/09.9	22696
(5342)	93 12 03.5	04 39.66	+00 56.4	18.0	-0.96	- 1.8	6.8/01.3	20802	1991 FS <sub>1</sub>	93 12 09.0	05 03.72	+23 05.4	17.9	-1.10	- 1.4	0.1/09.1	21110
1981 EN <sub>17</sub>	93 12 03.8	04 40.96	+16 30.1	16.0	-1.08	- 4.2	2.7/03.1	21967	2225 T-2	93 12 09.0	05 03.77	+25 48.4	18.5	-1.12	- 1.1	1.1/09.3	22701
(5428)	93 12 03.9	04 41.35	+22 39.8	16.4	-0.94	- 2.0	7.8/24.0	21549	1992 QM	93 12 09.4	05 05.68	+29 02.7	17.3	-1.00	- 1.7	1.8/10.0	22488
4257 P-L	93 12 03.9	04 41.66	+32 53.0	18.7	-1.22	- 2.7	4.7/05.2	16035	9519 P-L	93 12 09.4	05 05.71	+28 10.2	18.8	-1.04	- 0.3	1.8/09.8	14631