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ERRATA.

MPC	Line				
18010	11	For	0.41	read	0.41-m
18010	12	For	0.25	read	0.25-m
18103	21	Add	K. Ichikawa		

* * * * *

CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object		Date	UT	R. A. (1950)	Decl.	Reference	Mag.	N	Obs.
1933 OT		1934 12	11.22868	05 32 25.19	-03 47 19.0	RI 1128	14	1	754
1933 OT		1935 01	24.13958	05 04 00.04	+03 07 14.2	RI 1128	14.5	1	754
1989 SZ13		1989 10	04.95555	01 22 51.45	+28 49 31.8	MPC18032			493
1990 VW6		1990 11	11.64236	02 14 50.80	+07 44 34.9	MPC17512	17		385
1990 VW6		1990 11	11.66736	02 14 49.25	+07 44 32.9	MPC17512			385
1991 BH	*	1991 01	16.75535	08 40 34.93	+20 09 29.6	MPC17697	14.5		327
1991 BH		1991 01	16.80014	08 40 30.87	+20 08 53.7	MPC17697			327
1991 BH		1991 01	17.61612	08 39 17.93	+19 58 08.2	MPC17697	14.5		327
1991 BH		1991 01	17.70066	08 39 10.05	+19 57 01.0	MPC17697		2	327
1991 BH		1991 01	17.76716	08 39 03.84	+19 56 05.7	MPC17697			327
2		1936 06	17.92525	13 46 49.09	+23 15 37.1	RI 1411			012
3		1976 02	09.87187	10 59 43.24	+01 08 30.0	MPC 5460			056
4		1937 03	08.82376	06 13 49.05	+25 11 10.9	RI 1551			073
6		1934 07	05.54814	18 22 51.55	-06 52 43.8	RI 1037			337
15		1938 12	03.49530	05 20 28.15	+35 34 46.0	RI 1911			337
18		1976 02	09.86736	10 49 50.17	+08 16 51.9	MPC 5460			056
18		1976 02	09.93194	10 49 47.04	+08 17 26.4	MPC 5460			056
40		1977 10	12.97567	05 11 00.03	+19 06 38.0	MPC 5460			056
40		1977 10	15.99891	05 11 36.08	+19 07 32.6	MPC 5460			056
40		1977 11	07.94648	05 05 31.48	+19 10 52.4	MPC 5460			056
40		1977 12	15.93089	04 26 29.75	+19 13 02.1	MPC 5460			056
40		1977 12	15.97639	04 26 26.84	+19 13 01.7	MPC 5460		2	056
40		1977 12	19.05692	04 23 23.61	+19 14 15.9	MPC 5460			056
40		1977 12	19.08920	04 23 21.71	+19 14 15.9	MPC 5460			056
64		1934 12	08.50988	05 33 04.44	+24 59 50.4	RI 1097			337
87		1936 02	21.03390	10 32 26.59	+24 34 19.7	RI 1338			012
115		1934 12	10.50222	05 43 39.50	+40 01 43.9	RI 1097			337
132		1936 04	11.06570	13 40 55.74	-52 10 42.6	RI 1373			839
152		1935 07	24.08862	20 54 31.32	-35 21 00.0	RI 1290			839
152		1935 07	24.10801	20 54 30.24	-35 21 05.2	RI 1290			839
192		1938 01	27.84225	06 27 50.22	+32 25 07.5	RI 1894		3	013

354		1937	08	22.20735	20	56	49.81	-15	37	49.9	RI	1741			754
361		1935	06	27.25826	19	11	42.74	-38	28	25.8	RI	1290		4	839
361		1935	06	27.30812	19	11	40.53	-38	28	30.2	RI	1290		4	839
366		1934	09	11.03323	23	46	32.67	+00	26	52.4	RI	1027			012
372		1938	09	23.47098	23	18	32.91	+16	15	12.4	RI	1860		5	337
372		1938	09	24.46963	23	17	30.76	+16	15	19.0	RI	1860		5	337
422		1929	08	01.95536	20	29	36.70	-29	19	51.6	RI	272	12.0		078
422		1929	08	01.97804	20	29	35.26	-29	19	51.5	RI	272			078
433		1930	09	29.13293	05	18	33.83	+43	33	55.5	RI	365			012
433		1930	12	11.93290	09	46	07.62	+39	24	14.2	RI	390			990
433		1935	07	23.00531	22	29	23.78	-04	07	52.7	RI	1196			008
455		1935	06	23.11548	19	17	10.06	-30	46	19.7	RI	1290			839
455		1935	06	23.12864	19	17	09.45	-30	46	27.8	RI	1290			839
490		1936	09	12.03495	23	39	28.41	-00	37	58.0	RI	1446			012
500		1935	09	21.51271	22	56	02.45	+10	03	23.5	RI	1249			337
516		1937	06	15.24301	14	53	42.14	-41	49	23.7	RI	1799		4	839
651		1935	03	26.90764	07	47	07.7	+33	59	37	RI	1147			053
653		1931	05	22.38819	16	54	01.91	-07	05	37.6	MPC	12182			690
653		1931	05	23.38541	16	53	15.98	-07	04	25.2	MPC	12182			690
654		1937	08	03.94232	19	36	20.34	-10	51	25.0	RI	1603			012
887		1937	12	23.05600	00	46	12.15	-09	07	39.8	RI	1782	15.5	4	754
887		1937	12	23.06954	00	46	13.56	-09	07	16.8	RI	1782	16	4	754
945		1930	02	28.95804	12	11	04.50	-41	57	02.0	RI	299			078
1043		1937	07	30.97713	20	33	25.29	-11	14	51.5	RI	1603			012
1043		1937	08	03.97695	20	30	25.54	-11	36	30.1	RI	1603			012
1143		1930	04	22.13018	09	26	27.84	+11	40	51.5	RI	347	14.5		754
1159		1935	03	27.17412	10	26	12.33	+10	21	51.4	RI	1250	15		754
1168		1934	08	15.87458	21	03	41.45	+08	44	32.1	RI	1014			012
1184		1935	10	02.08327	02	13	46.75	+23	05	23.6	RI	1245			012
1254		1934	10	10.20370	00	24	43.93	+13	45	13.5	RI	1127	15		754
1254		1934	10	11.18277	00	24	01.01	+13	40	22.8	RI	1127	15		754
1254		1934	10	12.11115	00	23	20.35	+13	35	42.6	RI	1127	15		754
1260		1935	09	24.01120	23	17	45.90	+06	33	08.1	RI	1245		4	012
1274		1935	09	29.08904	02	09	28.69	+19	16	42.9	RI	1237			012
1277		1934	10	12.13538	01	31	15.31	+18	03	34.8	RI	1127	14.5		754
1288		1938	09	18.00135	23	31	02.55	+07	44	34.2	RI	1825			012
1303		1935	07	08.19189	19	05	14.63	-37	59	13.7	RI	1291			839
1303		1935	07	08.24799	19	05	11.34	-37	59	29.3	RI	1291			839
1325		1937	03	17.32810	12	44	09.23	-03	11	27.9	RI	1741	16		754
1328		1937	08	03.97695	20	31	23.17	-10	35	35.8	RI	1603			012
1342		1937	12	11.40660	04	17	41.05	+52	00	39.5	RI	1742	15		754
1379		1937	08	04.00604	21	44	12.15	-00	55	07.7	RI	1603			012

Note 1: 1933 OT = (1312). 2: time slightly changed. 3: date changed by +2 days. 4: date changed by +1 day. 5: originally given as (376).

* * * * *

DELETED OBSERVATIONS.

The following observations are to be deleted.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Obs.
1930 FQ *	1930 03 26.24583	12 00.7	+03 32	MPC 4806		690
1987 SC13*	1987 09 24.14271	22 43 17.60	-08 59 30.6	MPC13558		809
1987 SC13	1987 09 24.14792	22 43 17.25	-08 59 31.7	MPC13558		809
1987 SC13	1987 09 24.15312	22 43 16.90	-08 59 32.8	MPC13558		809
1989 QG	1991 03 20.08480	07 58 30.33	+14 12 59.8	MPC18065		801
10	1938 03 21.49529	11 34 50.88	-03 14 35.1	RI 1788		337
25	1935 06 12.53475	17 06 13.32	+08 40 26.4	RI 1191		337

40		1977	10	20.98644	05	11	53.68	+19	08	46.6	MPC 5460	056
40		1977	10	21.00727	05	11	53.66	+19	08	40.9	MPC 5460	056
119		1935	07	26.50644	18	31	26.89	-14	04	49.6	RI 1216	337
119		1935	07	27.50576	18	30	35.95	-14	06	23.4	RI 1216	337
179		1938	10	04 12013	00	28	51.93	+15	03	20.5	RI 1875	337
287		1935	04	29.48923	13	04	23.62	+08	24	26.1	RI 1179	337
361		1935	07	22.04457	18	53	55.79	-38	50	00.6	RI 1290	839
361		1935	07	22.09512	18	53	53.67	-38	49	59.9	RI 1290	839
362		1936	10	06.94460	23	23	56.15	-11	04	28.0	RI 1528	999
392		1935	02	04.83091	08	44	58.6	-02	57	20	RI 1147	053
487		1938	12	16.96667	05	18	29.61	+13	45	50.8	RI 1904	028
516		1937	06	12.05831	14	53	59.09	-42	16	00.4	RI 1799	839
662		1938	12	16.96632	05	07	24.16	+17	50	51.0	RI 1953	028
744		1935	02	27.91202	05	37	34.9	+17	07	41	RI 1147	053
744		1935	02	27.93980	05	37	36.0	+17	07	46	RI 1147	053
796		1935	06	21.14658	20	14	30.93	-51	20	20.2	RI 1291	839
796		1935	06	21.15697	20	14	30.69	-51	20	27.8	RI 1291	839
1231		1938	03	19.90037	11	29	26.29	-01	42	26.5	RI 1881	999

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IDENTIFICATION CHANGES.

Continuation to MPC 18001.

Object		Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
1927 BP	*	1927	01 28.98001	07 30.6	+23 28	1056	15	024
1933 SQ1	*	1933	09 25.90920	00 00 11.29	+04 08 11.3	1933 SS		012
1934 XK	*	1934	12 07.98556	05 08 50.44	+11 23 02.5	1286		012
1935 BK	*	1935	01 28.91091	07 33 01.71	+29 31 54.2	1185		012
1935 BL	*	1935	01 30.91667	05 36 28.4	+15 40 57	744		053
1935 BL		1935	01 30.94480	05 36 27.9	+15 41 04	744		053
1935 HJ	*	1935	04 26.90465	12 20 18.38	-06 00 22.7	620		012
1936 CE	*	1936	02 01.37950	11 38 00.12	+17 37 09.1	1312	15.5	754
1936 QP1	*	1936	08 22.87591	20 37 05.10	+06 43 22.3	1051		012
1936 QP1		1936	09 09.83715	20 28 53.69	+04 22 59.2	1051		012
1936 RR	*	1936	09 10.85658	20 48 14.43	-11 33 22.1	533		012
1936 SP	*	1936	09 19.54122	23 24 40.04	-04 31 30.1	337		337
1936 SQ	*	1936	09 19.54122	23 24 51.10	-04 30 50.5	77		337
1936 TL	*	1936	10 12.00222	03 08 56.10	+21 47 58.9	640		012
1936 XJ	*	1936	12 15.84308	04 42 47.78	+18 06 33.5	826		012
1936 XJ		1936	12 19.86540	04 38 38.08	+17 53 35.7	826		012
1936 XJ		1936	12 21.90357	04 37 06.13	+17 47 01.1	826		012
1937 AE1	*	1937	01 11.88328	06 11 31.94	+25 26 51.6	1162		012
1938 HG	*	1938	04 21.24016	13 30 24.85	-32 07 08.4	998	16	754
1938 HG		1938	04 23.22683	13 28 36.12	-31 58 55.0	998	15.5	754
1938 SP1	*	1938	09 19.89097	00 23 37.04	+03 55 01.8	1392		012
1949 UO1	*	1949	10 22.95523	01 18 38.34	+03 26 23.5	1949 SZ		020
1951 TY	*	1951	10 03.93552	22 59 10.29	-04 47 28.9	1951 RM		024
1979 OV16	*	1979	07 30.99005	22 01 18.63	-10 29 29.8	1979 OG1	17.0	095
1982 UJ12	*	1982	10 23.03336	04 17 12.74	+17 10 40.4	1982 UN7	18.0	095
1985 GZ1	*	1985	04 14.19931	11 55 33.02	-09 07 04.5	1985 FZ	17.2	688
1985 GZ1		1985	04 14.28657	11 55 28.89	-09 06 41.2	1985 FZ		688
1985 GA2	*	1985	04 14.28657	11 55 30.01	-08 58 22.6	1985 FA1	16.5	688
1987 SE30	*	1987	09 26.89957	00 08 34.33	+04 57 22.8	1987 SJ2	16.8V	095
1989 UZ9	*	1989	10 30.92014	03 11 37.34	+13 01 31.6	1989 UF8	16.3V	095
1990 BG6	*	1990	01 27.77222	09 00 34.14	+03 54 41.5	1990 BN1	16.0	402
1990 BG6		1990	01 27.79028	09 00 33.49	+03 54 48.8	1990 BN1		402
1990 US5	*	1990	10 19.23819	02 47 47.25	+06 51 12.0	1990 UM4		809

1990	US5		1990 10 19.25139	02 47 46.37	+06 51 08.5	1990 UM4	19.7		809
1990	US5		1990 10 19.26458	02 47 45.64	+06 51 07.0	1990 UM4			809
1990	WH7	*	1990 11 17.20007	04 41 19.52	+16 09 31.8	1990 WU4	19.0		809
1991	GE1	*	1991 04 09.64549	12 21 34.62	-03 39 35.5	1991 GB	18		372
1991	GE1		1991 04 09.65660	12 21 34.07	-03 39 27.4	1991 GB			372

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IDENTIFICATIONS.

The following list of identifications with numbered minor planets, by G. V. Williams, continues that on MPC 17682.

1927 BP = (3029)	1935 BK = (986)	1935 BL = (202)
1936 CE = (2193)	1936 QP1 = (439)	1936 SP = (77)
1936 SQ = (337)	1936 TL = (2697)	1936 XJ = (3181)
1938 HG = (982)	1938 SP1 = (1308)	1949 UO1 = (831)

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OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

046 Klet. Observers A. Mrkos and Z. Vavrova.
061 Uzhgorod. 0.42-m Schmidt. Observers I. I. Goroshchak, M. I. Demchik, T. Yu. Galas, M. M. Osipenko and Eh. I. Skrip. From Kiev Komet. Circ.
084 Pulkovo. Observers N. M. Bronnikova and V. V. Bobylev. From Kiev Komet. Circ.
192 Tashkent. 0.35-m f/10 astrograph. Observers A. A. Latypov and M. R. Ehshmatov. From Kiev Komet. Circ.
293 Burlington remote site. 0.26-m f/3.9 Wright-Schmidt camera. Observer T. Handley.
372 Geisei. 0.60-m reflector. Observer T. Seki. In part from Orient. Astron. Assoc. Comet Bull.
400 Kitami. 0.25-m f/3.5 reflector. Observer A. Takahashi. Measurer K. Watanabe.
402 Dynic Astronomical Observatory. 0.25-m f/3.4 Schmidt. Observer A. Sugie.
413 Siding Spring. U.K. Schmidt and Uppsala Southern Schmidt. Observers S. M. Hughes, C. M. Humphries, R. H. McNaught and F. G. Watson. Measured by M. Shara and R. H. McNaught.
540 Linz. 0.3-m f/5.2 Schmidt Cassegrain. Observers E. Meyer, E. Obermair and H. Raab.
595 Farra d'Isonzo. 0.4-m f/4.5 reflector. Observers G. Lombardi, E. Pettarin and F. Piani. Measured by L. Bittesini, F. Piani and G. Lombardi.
657 Victoria. 0.25-m Schmidt. Observers J. B. Tatum and D. D. Balam.
675 Palomar. 1.2-m and 0.46-m Schmidts. Observers C. Brewer, E. Helin, K. Lawrence, D. H. Levy, J. Mueller, P. Rose, C. S. Shoemaker and E. M. Shoemaker. Measured by T. M. King, K. Lawrence, J. Mueller and P. Rose.
691 Steward Observatory, Kitt Peak. 0.9-m SPACEWATCH telescope. Observer J. V. Scotti.
801 Oak Ridge Observatory. 1.5-m reflector + CCD. Observers R. E. McCrosky and C.-Y. Shao.
875 Fukaya, Saitama (near Yorii). 0.30-m f/3.8 comet-patrol camera. Observer M. Ishikawa. Measured by H. Mori.
900 Ohtsu. 0.16-m f/2.5 Schmidt. Observer Y. Ikari.
984 Eastfield. Observer H. B. Ridley.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
		Comet Austin (1982 VI)					
/1982 VI	1982	09 18.63912	12 44 50.71	+40 08 02.6			192
/1982 VI	1982	09 21.61315	12 47 07.01	+39 23 44.5			192
/1982 VI	1982	09 21.61869	12 47 07.32	+39 23 40.8			192
/1982 VI	1982	09 22.60833	12 47 48.19	+39 09 17.6			192
/1982 VI	1982	09 22.61249	12 47 47.83	+39 09 13.8			192
		Periodic Comet Hartley 1					
/1985 VII	1985	06 13.38141	11 45 24.88	+04 37 36.9	16 T	1	413
/1985 VII	1985	06 13.45086	11 45 30.63	+04 35 08.7		1	413
/1985 VII	1985	06 13.46175	11 45 31.46	+04 34 51.7		1	413
/1985 VII	1985	06 13.47911	11 45 32.89	+04 34 16.3		1	413
/1985 VII	1985	06 21.36735	11 57 38.23	+00 04 46.2		1	413
/1985 VII	1985	07 10.44414	12 31 06.33	-10 00 02.7		1	413
/1991j	1991	04 14.57187	13 44 03.88	+06 22 31.8	15 T		400
/1991j	1991	04 14.58993	13 44 02.30	+06 22 11.6			400
/1991j	1991	04 19.34035	13 37 02.57	+04 54 08.4			657
		Comet Okazaki-Levy-Rudenko (1989 XIX)					
/1989 XIX	1989	09 06.82693	15 07 23.00	+33 02 53.4			084
/1989 XIX	1989	09 07.76512	15 06 06.60	+32 57 19.9			084
/1989 XIX	1989	09 07.78331	15 06 04.87	+32 57 12.7			084
/1989 XIX	1989	09 20.75761	14 50 45.64	+31 42 39.7			084
/1989 XIX	1989	09 20.76217	14 50 45.37	+31 42 37.1			084
/1989 XIX	1989	09 20.77083	14 50 44.56	+31 42 34.4			084
/1989 XIX	1989	09 23.73540	14 47 38.32	+31 26 25.1			084
/1989 XIX	1989	09 23.73986	14 47 38.09	+31 26 25.0			084
		Periodic Comet Wild 2					
/1989t	1991	04 12.35750	17 49 35.15	-18 44 05.9			801
/1989t	1991	04 12.36794	17 49 36.70	-18 44 05.2			801
/1989t	1991	04 14.35439	17 50 38.39	-18 41 50.8			801
/1989t	1991	04 14.37059	17 50 38.84	-18 41 49.3			801
/1989t	1991	04 16.67674	17 51 38.94	-18 39 13.1			900
/1989t	1991	04 16.68715	17 51 39.12	-18 39 11.4			900
		Periodic Comet Kearns-Kwee					
/1989u	1991	04 19.03149	07 37 49.00	+21 20 09.3			801
/1989u	1991	04 19.04970	07 37 50.34	+21 20 00.8			801
		Comet Levy (1990c)					
/1990c	1990	07 24.04931	23 45 52.64	+29 06 20.1			061
/1990c	1990	07 24.05035	23 45 52.51	+29 06 19.2			061
/1990c	1990	07 24.05208	23 45 52.24	+29 06 18.6			061
/1990c	1990	07 24.05382	23 45 52.18	+29 06 17.4			061
/1990c	1990	07 24.05590	23 45 51.86	+29 06 16.8			061
/1990c	1990	07 26.91181	23 39 47.40	+28 44 04.7			061
/1990c	1990	07 26.91910	23 39 46.41	+28 43 59.7			061
/1990c	1990	07 26.92292	23 39 45.84	+28 43 57.9			061
/1990c	1990	07 26.92535	23 39 45.42	+28 43 56.7			061
/1990c	1990	07 27.04097	23 39 28.96	+28 42 53.7			061
/1990c	1990	07 27.04201	23 39 28.68	+28 42 52.6			061
/1990c	1990	07 27.04514	23 39 28.31	+28 42 50.8			061
/1990c	1990	07 27.05417	23 39 26.98	+28 42 47.6			061
/1990c	1990	07 28.89306	23 34 48.05	+28 23 33.6			061
/1990c	1990	07 28.89444	23 34 47.79	+28 23 33.4			061
/1990c	1990	07 28.89653	23 34 47.46	+28 23 31.5			061

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/1990c     1990 07 28.89826  23 34 47.11  +28 23 30.1                    061
/1990c     1990 07 28.90312  23 34 46.32  +28 23 26.4                    061
/1990c     1990 07 28.90521  23 34 45.90  +28 23 25.3                    061
/1990c     1990 07 29.05243  23 34 21.68  +28 21 43.4                    061
/1990c     1990 07 29.05382  23 34 21.54  +28 21 41.5                    061
/1990c     1990 07 29.05764  23 34 20.83  +28 21 38.6                    061
/1990c     1990 07 29.05903  23 34 20.60  +28 21 37.6                    061
/1990c     1990 07 29.06111  23 34 20.27  +28 21 36.8                    061
/1990c     1990 08 15.95394  21 57 16.48  +17 06 22.4                    061
/1990c     1990 08 15.95532  21 57 15.68  +17 06 14.8                    061
/1990c     1990 08 15.95590  21 57 15.37  +17 06 11.5                    061
/1990c     1990 08 15.95648  21 57 15.00  +17 06 08.8                    061
/1990c     1990 08 15.95706  21 57 14.70  +17 06 05.9                    061
/1990c     1990 08 15.95764  21 57 14.35  +17 06 02.7                    061
/1990c     1990 08 28.81192  19 19 10.20  -11 46 54.4                    061
/1990c     1990 08 28.81267  19 19 09.53  -11 46 59.6                    061
/1990c     1990 08 28.81343  19 19 08.90  -11 47 07.5                    061
/1990c     1990 08 28.81441  19 19 08.28  -11 47 15.6                    061
/1990c     1990 08 28.81505  19 19 07.67  -11 47 22.3                    061
/1990c     1990 08 29.85521  19 05 18.65  -14 16 08.9                    061
/1990c     1990 08 29.85613  19 05 17.86  -14 16 16.4                    061
/1990c     1990 08 29.85706  19 05 17.23  -14 16 24.8                    061
/1990c     1990 08 29.85799  19 05 16.44  -14 16 32.1                    061
/1990c     1990 08 29.85891  19 05 15.68  -14 16 38.6                    061
/1990c     1990 08 29.85984  19 05 14.91  -14 16 47.1                    061
/1990c     1990 08 29.86076  19 05 14.21  -14 16 53.7                    061
/1990c     1991 03 17.97500  08 36 40.59  +02 20 41.1                    984
/1990c     1991 03 26.86597  08 25 38.31  +06 28 59.9                    595
/1990c     1991 03 26.87708  08 25 37.57  +06 29 18.1                    595
/1990c     1991 03 31.21042  08 21 55.78  +08 07 32.8                    657
/1990c     1991 03 31.21042  08 21 55.78  +08 07 32.8                    657
/1990c     1991 04 06.92569  08 17 57.25  +10 15 47.6                    595
/1990c     1991 04 09.88472  08 16 46.85  +11 04 24.9                    595
/1990c     1991 04 12.08564  08 16 06.84  +11 37 48.4                    801
/1990c     1991 04 12.08971  08 16 06.77  +11 37 51.9                    801
/1990c     1991 04 12.83403  08 15 55.35  +11 48 39.3                    540
/1990c     1991 04 12.84375  08 15 55.26  +11 48 47.4                  2 540
/1990c     1991 04 20.27396  08 14 57.70  +13 23 58.0                    657
/1990c     1991 04 30.44549  08 15 52.65  +15 04 08.1          13  T     372
/1990c     1991 04 30.45017  08 15 52.66  +15 04 10.9                    372
/1990c     1991 05 03.22083  08 16 29.18  +15 26 33.6                    657

                Comet McNaught-Hughes (1990g)
/1990g     1991 04 14.29300  14 52 05.90  +20 49 51.2                    801
/1990g     1991 04 14.29681  14 52 05.23  +20 49 59.9                    801
/1990g     1991 04 20.70733  14 33 09.50  +24 43 26.1                    413
/1990g     1991 05 03.53534  13 53 49.45  +30 57 29.5          14  T     372

                Periodic Comet Metcalf-Brewington
/1991a     1991 03 02.84795  02 34 46.90  +05 03 11.6                    984
/1991a     1991 04 03.46146  03 59 30.77  +10 26 17.3          16  T     372
/1991a     1991 04 03.46979  03 59 32.27  +10 26 20.6                    372

                Comet Shoemaker-Levy (1991d)
/1991d     1991 04 09.83819  08 43 44.85  +15 54 07.9                    046
/1991d     1991 04 09.84676  08 43 44.79  +15 54 13.8                    046
/1991d     1991 04 10.85162  08 43 31.39  +16 06 40.9                    046
/1991d     1991 04 12.07926  08 43 16.78  +16 21 39.1                    801
```

/1991d	1991	04	12.09230	08	43	16.61	+16	21	48.8			801
/1991d	1991	04	12.84688	08	43	08.57	+16	30	53.0			046
/1991d	1991	04	12.85538	08	43	08.42	+16	30	59.3			046
/1991d	1991	05	03.45903	08	43	54.18	+20	09	57.8	14	T	372
/1991d	1991	05	03.49462	08	43	54.73	+20	10	16.7			372
/1991d	1991	05	05.86181	08	44	31.87	+20	31	52.0			540
/1991d	1991	05	05.88481	08	44	32.21	+20	32	04.6			540

Periodic Comet Shoemaker-Levy 3

/1991e	1991	04	14.17188	09	01	45.90	+13	44	49.7	17.5	T	675
/1991e	1991	04	14.20781	09	01	46.80	+13	44	44.4			675
/1991e	1991	04	15.14670	09	02	11.87	+13	42	41.8			675
/1991e	1991	04	15.18732	09	02	12.91	+13	42	38.4			675
/1991e	1991	04	30.48229	09	11	17.42	+12	59	22.8	19	T	372
/1991e	1991	05	03.47500	09	13	32.51	+12	48	46.8	19	T	372
/1991e	1991	05	05.51597	09	15	08.32	+12	41	11.2	19	T	372

Periodic Comet Shoemaker-Levy 4

/1991f	1991	02	20.65208	12	04	52.80	+03	49	02.2	17	T	372
/1991f	1991	02	20.66285	12	04	52.47	+03	49	08.5			372
/1991f	1991	04	12.13495	11	32	14.88	+09	39	16.9			801
/1991f	1991	04	12.16303	11	32	14.16	+09	39	22.3			801
/1991f	1991	04	17.21528	11	30	23.18	+09	55	12.8	18.5	T	675
/1991f	1991	04	17.25347	11	30	22.77	+09	55	15.4			675
/1991f	1991	04	19.09503	11	29	50.44	+09	59	41.6			801
/1991f	1991	04	19.14242	11	29	49.54	+09	59	48.0			801

Comet McNaught-Russell (1991g)

/1991g	1991	04	09.19410	10	20	10.64	-09	11	34.7	16.5	T	675
/1991g	1991	04	09.21962	10	20	09.80	-09	11	10.4			675
/1991g	1991	04	10.45704	10	19	24.14	-08	51	53.1			413
/1991g	1991	04	11.20200	10	18	57.42	-08	40	30.0			675
/1991g	1991	04	11.22986	10	18	56.50	-08	40	02.9			675
/1991g	1991	04	12.10973	10	18	25.59	-08	26	33.1			801
/1991g	1991	04	12.12563	10	18	25.04	-08	26	18.7			801
/1991g	1991	04	13.09390	10	17	51.94	-08	11	30.1			801
/1991g	1991	04	13.11311	10	17	51.12	-08	11	12.6			801

Periodic Comet Takamizawa

/1991h	1991	04	08.41024	14	18	25.06	+05	01	42.7	16.5	T	675
/1991h	1991	04	08.44236	14	18	24.29	+05	02	00.5			675
/1991h	1991	04	11.42691	14	17	02.78	+05	29	03.6			675
/1991h	1991	04	11.45087	14	17	01.91	+05	29	19.4			675
/1991h	1991	04	12.24633	14	16	38.35	+05	36	24.9			801
/1991h	1991	04	12.26503	14	16	37.64	+05	36	35.3		3	801
/1991h	1991	04	13.27219	14	16	06.41	+05	45	32.1			801
/1991h	1991	04	13.40694	14	16	02.14	+05	46	43.3			675
/1991h	1991	04	14.26601	14	15	34.35	+05	54	16.8			801
/1991h	1991	04	14.28468	14	15	33.70	+05	54	26.3			801
/1991h	1991	04	22.37985	14	10	34.08	+07	00	36.8			691
/1991h	1991	04	22.40003	14	10	33.22	+07	00	46.0			691
/1991h	1991	04	22.42122	14	10	32.29	+07	00	55.7	16.9	T 4	691
/1991h	1991	05	02.23896	14	03	38.09	+08	01	55.1			657
/1991h	1991	05	02.26743	14	03	36.83	+08	02	02.9			657

Periodic Comet Kowal 1

/1991i	1991	03	20.66806	10	57	40.48	+10	41	08.1	18.5	T	372
/1991i	1991	03	20.68438	10	57	40.02	+10	41	11.4			372

Periodic Comet Mrkos

/1991k	1991	04	18.42292	11	16	08.81	-31	46	46.3			413
/1991k	1991	04	18.55220	11	15	53.37	-31	50	50.6			413
/1991k	1991	04	20.69306	11	12	06.24	-32	54	52.0			413
/1991k	1991	05	05.49514	10	57	11.09	-38	14	08.2	17	T	372

Comet Helin-Lawrence (1991l)

/1991l	1991	02	23.64788	13	52	57.26	+08	09	54.2	15	T	5	875
/1991l	1991	02	23.74543	13	52	52.78	+08	10	04.0			5	875
/1991l	1991	04	04.89498	13	06	13.89	+09	18	17.2				046
/1991l	1991	04	04.90916	13	06	12.65	+09	18	17.2				046
/1991l	1991	04	08.30451	13	00	51.84	+09	19	51.0	14	T		675
/1991l	1991	04	08.32465	13	00	49.87	+09	19	50.9				675
/1991l	1991	04	08.89725	12	59	55.18	+09	19	56.2				046
/1991l	1991	04	08.90454	12	59	54.48	+09	19	56.7				046
/1991l	1991	04	09.33249	12	59	13.31	+09	20	02.0				675
/1991l	1991	04	09.86343	12	58	22.31	+09	20	04.4				046
/1991l	1991	04	09.87079	12	58	21.67	+09	20	04.3				046
/1991l	1991	04	12.29410	12	54	26.98	+09	19	49.4				293
/1991l	1991	04	12.30174	12	54	26.61	+09	19	48.9				293
/1991l	1991	04	12.36389	12	54	20.32	+09	19	48.3				675
/1991l	1991	04	12.39323	12	54	17.42	+09	19	48.2				675
/1991l	1991	04	12.87830	12	53	30.16	+09	19	39.1				046
/1991l	1991	04	12.88542	12	53	29.66	+09	19	38.6				046
/1991l	1991	04	14.72604	12	50	29.86	+09	18	46.6				402
/1991l	1991	04	14.73854	12	50	28.67	+09	18	47.1				402
/1991l	1991	04	15.85266	12	48	39.69	+09	18	00.1				046
/1991l	1991	04	15.85990	12	48	39.24	+09	17	58.7				046
/1991l	1991	04	20.68912	12	40	45.91	+09	12	39.1				413
/1991l	1991	04	30.49253	12	25	06.54	+08	50	35.7	15	T		372

Periodic Comet Faye

/1991n	1991	04	16.79861	21	59	22.99	-04	36	56.3	18.5	T	372
/1991n	1991	04	19.80816	22	04	06.88	-04	08	44.5	18.0	T	372

Note 1: correction to MPC 9817. 2: comet involved with star. 3: comet image trailed. 4: coma diameter 60"; fanshaped tail 2’.0 long in p.a. 252 . 5: prediscovery image.

* * * * *

OBSERVATIONS OF MINOR PLANETS.

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

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

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

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
010 Caussols							
C. Pollas, CERGA Caussols, F-06460 Saint Vallier de Thiey, France							
Observer C. Pollas							
0.9-m Schmidt telescope							
1990 VB	1990 11	23.85625	23 28 44.59	+19 36 39.9			010
1990 VB	1990 11	23.89097	23 28 53.88	+19 36 16.1			010
1990 VB	1990 12	07.74792	00 28 33.52	+17 02 06.4		U	010
1990 VB	1990 12	07.78264	00 28 41.05	+17 01 48.7			010
1990 VB	1990 12	07.78958	00 28 43.17	+17 01 43.6			010
1990 VB	1990 12	07.79666	00 28 44.71	+17 01 39.7			010
1990 VB	1991 01	18.77292	02 35 40.32	+14 20 38.0	19	V	010
1990 VB	1991 01	18.77986	02 35 41.58	+14 20 38.7		V	010
1990 VB	1991 01	18.78681	02 35 42.64	+14 20 39.6		V	010
1990 VB	1991 01	18.82153	02 35 47.75	+14 20 38.4		V	010
033 Tautenburg							
F. Borngen, Karl Schwarzschild Observatorium, O-6901 Tautenburg, Federal Republic of Germany							
1.3-m Schmidt telescope							
PPM							
1989 SV1	1991 01	15.06806	09 20 53.29	+15 48 52.2			033
1989 SV1	1991 01	15.11667	09 20 51.29	+15 49 02.3			033
1989 SV1	1991 01	16.14722	09 20 08.72	+15 53 11.3			033
1989 SV1	1991 01	17.02639	09 19 31.88	+15 56 46.3	18.8		033
1991 AD2	1991 01	15.06806	09 14 16.13	+14 33 01.3			033
1991 AD2	1991 01	15.11667	09 14 13.76	+14 33 16.3			033
1991 AD2	1991 01	16.14722	09 13 24.84	+14 38 17.0			033
1991 AD2	1991 01	17.02639	09 12 42.41	+14 42 37.6	18.3		033
046 Klet							
A. Mrkos, Dept. of Astronomy and Astrophysics, Charles University, Svedska 8, C-15000 Prague 5, Czechoslovakia							
Observers A. Mrkos, Z. Vavrova							
0.6-m Maksutov reflector							

1977	JD		1991	04	15.95694	14	02	38.53	-09	14	44.7	046
1977	JD		1991	04	15.96968	14	02	37.90	-09	14	42.2	046
1984	EM		1991	04	08.94655	12	41	39.24	-02	12	05.0	046
1984	EM		1991	04	08.96275	12	41	38.30	-02	11	59.2	046
1984	EM		1991	04	09.91586	12	40	46.97	-02	04	59.0	046
1984	EM		1991	04	09.93090	12	40	45.98	-02	04	51.0	046
1984	FU		1991	04	09.95278	14	08	01.73	-13	56	42.6	046
1984	FU		1991	04	09.96701	14	08	01.07	-13	56	43.7	046
1984	FU		1991	04	15.91800	14	01	59.32	-13	53	07.5	046
1984	FU		1991	04	15.93385	14	01	58.14	-13	53	07.1	046
1990	VM8	*	1990	11	10.83642	01	31	34.10	+14	29	22.6	16.8 046
1990	VM8		1990	11	10.85066	01	31	33.45	+14	29	18.5	046
1990	VN8	*	1990	11	13.82587	01	30	35.77	+16	01	25.1	15.8 046
1990	VN8		1990	11	13.84311	01	30	35.33	+16	01	18.1	046
57			1991	04	12.90972	12	47	59.51	-06	18	55.6	046
57			1991	04	12.92378	12	47	58.88	-06	18	49.3	046
57			1991	04	15.87807	12	46	04.80	-05	56	05.8	046
57			1991	04	15.89184	12	46	04.34	-05	56	00.1	046
299			1991	04	12.90972	12	44	54.44	-06	48	46.3	046
299			1991	04	12.92378	12	44	53.58	-06	48	40.7	046
299			1991	04	15.87807	12	42	21.43	-06	30	42.2	046
299			1991	04	15.89184	12	42	20.63	-06	30	35.7	046
358			1991	04	08.94655	12	41	54.26	-02	28	00.0	046
358			1991	04	08.96275	12	41	53.56	-02	27	55.0	046
358			1991	04	09.91586	12	41	10.56	-02	22	34.9	046
358			1991	04	09.93090	12	41	09.88	-02	22	29.9	046
450			1991	04	12.90972	12	45	46.14	-05	15	44.8	046
450			1991	04	12.92378	12	45	45.36	-05	15	43.5	046
450			1991	04	15.87807	12	43	24.40	-05	08	09.3	046
450			1991	04	15.89184	12	43	23.67	-05	08	07.6	046
936			1991	04	15.95694	14	07	56.18	-11	03	51.1	046
936			1991	04	15.96968	14	07	55.63	-11	03	47.3	046
1186			1991	04	15.95694	14	02	48.82	-08	39	16.5	046
1186			1991	04	15.96968	14	02	48.17	-08	39	15.5	046
1522			1991	04	15.95694	13	59	29.82	-07	02	44.0	046
1522			1991	04	15.96968	13	59	28.89	-07	02	41.8	046
1824			1991	04	12.90972	12	45	33.95	-04	56	48.8	046
1824			1991	04	12.92378	12	45	33.28	-04	56	44.9	046
1824			1991	04	15.87807	12	43	16.71	-04	44	12.2	046
1824			1991	04	15.89184	12	43	16.08	-04	44	07.9	046
2004			1991	04	12.90972	12	47	09.96	-06	08	29.7	046
2004			1991	04	12.92378	12	47	09.17	-06	08	28.0	046
2004			1991	04	15.87807	12	44	13.34	-05	53	33.7	046
2004			1991	04	15.89184	12	44	12.53	-05	53	30.5	046
2276			1991	04	09.95278	14	03	37.64	-13	14	43.9	046
2276			1991	04	09.96701	14	03	37.05	-13	14	40.7	046
2276			1991	04	12.95208	14	01	12.10	-12	57	14.2	046
2276			1991	04	12.96632	14	01	11.41	-12	57	10.3	046
2276			1991	04	15.91800	13	58	40.40	-12	38	56.7	046
2276			1991	04	15.93385	13	58	39.63	-12	38	50.6	046
2315			1991	04	09.95278	14	02	15.75	-12	02	46.4	046
2315			1991	04	09.96701	14	02	15.04	-12	02	45.9	046
2439			1991	04	12.90972	12	46	46.61	-04	35	09.9	046
2439			1991	04	12.92378	12	46	45.87	-04	35	06.7	046
2439			1991	04	15.87807	12	44	39.29	-04	21	51.1	046
2439			1991	04	15.89184	12	44	38.70	-04	21	45.2	046
2658			1991	04	09.95278	14	14	11.08	-15	26	17.0	16.6 046
2658			1991	04	09.96701	14	14	10.41	-15	26	07.3	046
2956			1991	04	08.94655	12	39	51.06	+00	42	41.9	046

2956	1991 04 08.96275	12 39 50.29	+00 42 46.2			046
2956	1991 04 09.91586	12 39 04.77	+00 47 36.6			046
2956	1991 04 09.93090	12 39 04.14	+00 47 40.7			046
4519	1991 04 09.91586	12 42 22.33	-01 19 42.4			046
4519	1991 04 09.93090	12 42 21.72	-01 19 38.0			046

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P. Rychtarcik, M. Antal, J. Fabricius
0.3-m f/5 astrograph

3	1977 05 24.99063	15 25 03.15	-01 37 38.9			056
3	1977 05 25.02396	15 25 01.59	-01 37 33.5			056
3	1977 06 09.92674	15 13 43.91	-01 09 00.4			056
3	1977 06 09.97326	15 13 42.08	-01 08 59.5			056
11	1976 02 09.86042	10 21 44.77	+13 13 26.8			056
11	1977 05 25.02951	18 19 59.53	-18 01 31.5			056
11	1977 05 25.05243	18 19 58.81	-18 01 32.5			056
11	1977 06 09.94549	18 08 43.20	-18 15 42.5			056
11	1977 06 09.98854	18 08 40.83	-18 15 45.9			056
18	1977 05 24.93299	16 33 15.67	-05 13 05.5			056
18	1977 05 24.96493	16 33 13.70	-05 13 00.7			056
18	1977 06 09.93160	16 17 05.42	-04 43 44.6			056
25	1976 06 20.00660	18 56 18.82	+16 58 34.2			056
25	1976 06 20.03021	18 56 17.91	+16 58 56.0			056
25	1977 10 14.99236	06 35 30.42	+05 20 46.3			056
25	1977 10 15.01319	06 35 30.96	+05 20 35.1			056
25	1977 10 16.00590	06 35 51.71	+05 10 45.3			056
25	1977 10 21.01493	06 37 13.77	+04 20 42.5			056
25	1977 12 15.95729	06 10 15.01	-03 35 14.2			056
25	1977 12 15.98194	06 10 13.51	-03 35 21.1			056
25	1977 12 19.05243	06 07 07.06	-03 47 28.7			056
25	1977 12 19.09479	06 07 04.38	-03 47 36.9			056
39	1976 02 09.98681	12 33 22.28	+00 45 54.7			056
39	1976 03 24.03542	12 09 57.79	+05 48 19.1			056
39	1977 05 24.92604	17 53 47.07	-08 13 29.8			056
39	1977 05 24.96910	17 53 45.38	-08 13 23.4			056
39	1977 06 09.93854	17 41 43.07	-07 49 56.1			056
39	1977 06 09.98299	17 41 40.71	-07 49 54.9			056
40	1977 10 15.97813	05 11 36.00	+19 07 32.6		T	056
51	1976 10 07.99167	01 44 56.44	+03 14 44.1			056
51	1976 10 08.03611	01 44 54.22	+03 14 18.9			056
51	1976 10 10.88438	01 42 32.52	+02 47 37.1			056
51	1976 10 10.93021	01 42 30.15	+02 47 11.6			056
51	1976 10 23.98299	01 31 08.98	+00 50 21.2			056
51	1976 10 24.00799	01 31 07.64	+00 50 08.8			056
51	1976 10 24.99944	01 30 16.63	+00 42 00.2			056
51	1976 10 25.04111	01 30 14.38	+00 41 39.2			056
51	1976 10 25.82031	01 29 34.92	+00 35 22.0			056
51	1976 10 25.82240	01 29 34.84	+00 35 20.3			056
51	1976 10 25.84115	01 29 33.84	+00 35 12.0			056
148	1977 10 13.06146	04 19 41.27	-17 44 46.7			056
148	1977 10 13.08229	04 19 41.12	-17 45 02.7			056
148	1977 10 15.02720	04 19 31.67	-18 10 10.0			056
148	1977 10 19.97500	04 18 35.13	-19 11 21.1		T	056
148	1977 10 20.01389	04 18 34.41	-19 11 48.8			056
148	1977 12 15.94514	03 39 19.04	-20 39 50.6			056
148	1977 12 15.96528	03 39 18.30	-20 39 38.1			056

511	1977	06	22.95903	17	59	38.08	-16	44	15.4	056
704	1976	02	01.97292	06	34	40.08	+19	42	43.0	056
704	1976	02	02.01667	06	34	38.47	+19	42	34.4	056
704	1976	02	03.98507	06	33	31.41	+19	36	11.6	056
704	1976	02	03.98750	06	33	31.27	+19	36	11.0	056
704	1976	02	04.01076	06	33	30.48	+19	36	06.7	056
944	1976	10	24.88611	01	20	06.41	+21	32	55.4	056
944	1976	10	24.92778	01	20	01.48	+21	33	34.3	056
944	1976	10	25.93750	01	18	05.80	+21	48	27.7	056
944	1976	10	26.92361	01	16	12.68	+22	02	51.8	056
944	1976	10	26.96528	01	16	07.90	+22	03	27.4	056
1392	1976	10	24.88611	01	22	47.86	+21	48	15.8	056
1392	1976	10	24.92778	01	22	44.96	+21	48	18.1	056
1392	1976	10	25.93750	01	21	38.20	+21	49	17.5	056
1392	1976	10	26.92361	01	20	33.78	+21	50	06.5	056
1392	1976	10	26.96528	01	20	30.99	+21	50	07.7	056

062 Turku
L. Oterma, Sirkkalank 31, SF-20700 Turku, Finland
Observers H. Alikoski, L. Oterma, Y. Vaisala
Measurer A. Niemi

165	1938	11	16.05332	02	51	55.66	+32	29	45.2	062
165	1943	10	05.85949	00	09	24.36	+17	35	50.1	062
165	1949	10	29.96894	02	42	55.48	+32	18	06.6	062
165	1954	08	29.94092	00	14	15.48	+15	50	25.5	062
165	1954	09	29.89046	23	51	03.06	+14	57	07.4	062
165	1954	10	01.86731	23	49	30.39	+14	49	05.7	062
203	1938	10	15.89922	01	47	28.51	+14	32	57.4	062
203	1938	10	16.89091	01	46	35.83	+14	29	23.0	062
203	1940	01	15.98492	09	56	45.63	+15	17	34.9	062
203	1949	02	18.89351	09	00	02.92	+19	37	09.7	062
203	1949	02	25.84930	08	54	35.95	+19	49	29.0	062
203	1949	02	25.85626	08	54	35.65	+19	49	28.9	062
203	1949	03	01.97137	08	51	49.88	+19	54	24.5	062
255	1938	10	15.89922	01	58	47.91	+16	13	38.6	062
255	1938	10	16.89091	01	57	52.28	+16	12	00.5	062
255	1938	11	16.82646	01	30	24.25	+14	59	59.6	062
255	1945	04	14.90614	12	30	56.00	-03	34	39.2	15.1 062
348	1935	03	04.90888	11	38	01.62	+18	00	26.6	062
348	1938	10	23.09226	03	57	18.22	+10	44	16.4	062
348	1945	03	05.84014	09	41	42.98	+26	45	24.8	14.5 062

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

1988 UH	1991	05	05.63750	15	05	18.11	-15	00	57.3	17 372
1988 UH	1991	05	05.64889	15	05	17.63	-15	00	53.0	372
1988 UH	1991	05	10.63264	15	01	23.88	-14	38	42.1	17 372
1988 UH	1991	05	10.67674	15	01	21.61	-14	38	31.2	372
1988 VB	1991	05	05.54965	13	51	10.20	-09	03	51.6	18.5 372
1988 VB	1991	05	05.56167	13	51	09.46	-09	03	44.2	372
1989 CW1	1991	04	16.61042	13	33	59.66	-20	51	55.8	18 372
1989 CW1	1991	04	16.62083	13	33	59.46	-20	51	54.6	372
1989 UO3	1991	04	16.65555	13	48	03.19	-04	59	42.6	17.5 372
1989 UO3	1991	04	16.66615	13	48	02.79	-04	59	37.8	372
1989 UO3	1991	04	19.62726	13	45	14.24	-04	41	12.5	17.5 372
1989 UO3	1991	04	19.63819	13	45	13.57	-04	41	10.0	372
1989 UO3	1991	05	03.57326	13	32	43.40	-03	26	02.9	18 372
1989 UO3	1991	05	04.65382	13	31	51.35	-03	21	13.8	372

1989	YH		1991	04	16.63212	13	14	07.60	-20	01	56.5	18		372
1989	YH		1991	04	16.64340	13	14	06.90	-20	01	53.0			372
1989	YH		1991	05	04.58177	13	00	06.23	-18	30	21.8	18.5		372
1989	YH		1991	05	04.59340	13	00	05.78	-18	30	18.2			372
1990	TF8		1990	11	23.58681	02	15	50.55	+09	42	44.0	17.5		372
1990	TF8		1990	11	23.59861	02	15	50.34	+09	42	37.5			372
1990	UV		1990	11	10.58958	01	03	42.90	-04	24	03.1	18		372
1990	UV		1990	11	10.60139	01	03	42.51	-04	24	03.5			372
1990	UF2		1990	11	23.58681	02	17	51.26	+09	41	54.4	18		372
1990	UF2		1990	11	23.59861	02	17	50.89	+09	41	50.3			372
1990	VS2		1990	11	14.59340	04	09	32.73	+11	18	32.2	17		372
1990	VS2		1990	11	14.60486	04	09	32.01	+11	18	34.6			372
1990	VQ4		1990	11	14.59340	04	05	50.75	+11	47	12.4	17		372
1990	VQ4		1990	11	14.60486	04	05	50.08	+11	47	11.1			372
1990	VL8		1990	11	23.58681	02	15	58.83	+09	47	50.0	18		372
1990	VL8		1990	11	23.59861	02	15	58.53	+09	47	49.2			372
1990	WN5	*	1990	11	17.65417	02	22	38.87	+09	39	34.1	18		372
1990	WN5		1990	11	17.66493	02	22	38.26	+09	39	33.9			372
1990	WN5		1990	11	23.58681	02	18	09.14	+09	37	40.6	17.5		372
1990	WN5		1990	11	23.59861	02	18	08.72	+09	37	40.6			372
1991	GT1		1991	05	05.63750	15	05	24.59	-14	46	32.7	14	d	372
1991	GT1		1991	05	05.64889	15	05	23.27	-14	46	40.8		d	372
1991	HK		1991	04	16.72465	14	37	56.36	-07	10	43.0	18		372
1991	HK		1991	04	16.73611	14	37	55.44	-07	10	34.8			372
1991	JU	*	1991	05	05.63750	15	05	44.56	-15	18	05.9	16.5		372
1991	JU		1991	05	05.64889	15	05	43.69	-15	18	05.6			372
1991	JU		1991	05	10.60729	15	00	12.59	-15	22	52.7	16.5		372
1186			1991	05	05.59618	13	46	23.34	-08	04	47.1	13		372
1186			1991	05	05.60660	13	46	22.81	-08	04	44.5			372
2341			1991	05	05.59618	13	44	55.28	-07	34	20.6	16.5		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
SAOC

1991	JP	*	1991	05	03.56042	14	10	00.86	-09	52	06.0	16.0		374
1991	JP		1991	05	03.58125	14	09	59.74	-09	51	48.3	16.0		374
1991	JP		1991	05	05.56354	14	08	31.43	-09	26	22.0	16.0		374
1991	JP		1991	05	05.58437	14	08	30.38	-09	26	08.3	16.0		374
1991	JQ	*	1991	05	03.56042	14	16	26.18	-09	46	32.7	16.0		374
1991	JQ		1991	05	03.58125	14	16	25.26	-09	46	16.1	16.0		374
1991	JQ		1991	05	05.56354	14	15	07.77	-09	19	48.6	16.0		374
1991	JQ		1991	05	05.58437	14	15	06.91	-09	19	32.2	16.0		374

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

1984	FU		1991	04	16.58993	14	01	16.66	-13	52	28.9		N	376
1988	VL		1991	05	07.61493	15	01	08.8	-06	51	02	17.5	W	376
1988	VL		1991	05	07.64618	15	01	07.2	-06	50	49		W	376
1991	GW	*	1991	04	03.52882	12	29	05.22	+05	33	53.7	17		376
1991	GW		1991	04	03.55660	12	29	03.41	+05	33	54.2			376
1991	GW		1991	04	16.48785	12	16	49.92	+05	14	35.2			376
1991	GW		1991	04	16.51424	12	16	48.54	+05	14	32.1			376
1991	GW		1991	05	07.50208	12	06	24.69	+03	28	51.2			376
1991	GW		1991	05	07.53611	12	06	24.25	+03	28	35.1			376
1991	HB	*	1991	04	16.54826	14	18	37.68	-05	55	08.4	17		376

1991	HB		1991	04	16.57674	14	18	36.10	-05	55	06.7			376
1991	HC	*	1991	04	16.54826	14	18	43.70	-05	50	39.3	17.5		376
1991	HC		1991	04	16.57674	14	18	42.19	-05	50	34.5			376
1991	HC		1991	05	07.57153	13	58	15.51	-04	39	56.8			376
1991	HC		1991	05	07.59792	13	58	13.81	-04	39	52.8			376
3033			1991	05	07.61493	14	54	24.4	-08	16	09	17	N	376
3033			1991	05	07.64618	14	54	22.4	-08	15	57		N	376

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

1988	UJ		1991	05	05.61250	14	37	35.01	-15	10	53.4	16.5		385
1988	UJ		1991	05	05.63125	14	37	33.9	-15	10	52		G	385
1990	TD1		1990	11	22.46528	01	47	39.01	+08	33	34.4	16.5		385
1990	TD1		1990	11	22.49653	01	47	38.07	+08	33	40.4			385
1990	UC		1990	11	22.48125	01	57	06.29	+00	50	03.3	16.5		385
1990	UC		1990	11	22.51181	01	57	05.76	+00	49	57.3			385
1990	UD		1990	11	22.46528	01	46	49.22	+07	17	42.4	16		385
1990	UD		1990	11	22.49653	01	46	48.40	+07	17	48.8			385
1990	UK		1990	11	22.46528	01	46	57.45	+06	06	23.5	17		385
1990	UK		1990	11	22.49653	01	46	56.03	+06	06	33.6			385
1990	UZ1		1990	11	22.58819	02	14	00.69	+04	01	24.7	17		385
1990	UZ1		1990	11	22.62153	02	13	59.48	+04	01	27.7			385
1990	UA2		1990	11	22.60347	02	17	34.80	+05	27	12.2	17		385
1990	UA2		1990	11	22.63681	02	17	33.54	+05	27	14.9			385
1990	UL4		1990	10	21.65347	02	43	22.12	+06	17	15.5	17		385
1990	UL4		1990	10	21.67708	02	43	20.63	+06	17	09.9			385
1990	UM4		1990	10	26.66944	02	40	41.84	+06	35	18.3	17		385
1990	UV5		1990	10	21.65347	02	37	24.54	+05	49	11.7	16.5	N	385
1990	UV5		1990	10	21.67708	02	37	23.17	+05	49	06.5		N	385
1990	UV5	*	1990	10	26.64236	02	33	57.9	+05	41	12	17	N	385
1990	UV5		1990	10	26.66944	02	33	56.6	+05	41	10		N	385
1990	UW5		1990	10	21.65347	02	41	01.29	+05	04	34.5	16.5	I	385
1990	UW5		1990	10	21.67708	02	40	59.64	+05	04	45.5			385
1990	UW5	*	1990	10	26.64236	02	35	17.43	+05	38	34.8	17		385
1990	UW5		1990	10	26.66944	02	35	15.44	+05	38	47.9			385
1990	UW5		1990	11	11.64236	02	16	34.42	+07	45	13.1	16.5	F	385
1990	UW5		1990	11	16.63889	02	11	32.48	+08	29	32.7	16.5	F	385
1990	VH1		1990	10	26.57986	02	12	12.90	+07	33	45.7	16.5		385
1990	VH1		1990	11	22.46528	01	45	09.62	+07	34	12.5	16.5		385
1990	VH1		1990	11	22.49653	01	45	08.18	+07	34	16.1			385
1990	VF2		1990	11	22.46528	01	44	59.25	+07	16	28.2	16.5		385
1990	VF2		1990	11	22.49653	01	44	58.28	+07	16	22.4			385
1990	VK2		1990	10	20.72222	02	17	28.39	+07	02	34.6	16.5		385
1990	VK2		1990	10	26.57986	02	12	04.20	+06	55	57.7	16.5		385
1990	VK2		1990	10	27.60690	02	11	07.29	+06	55	00.4	16.5		385
1990	VK2		1990	11	10.50972	01	59	02.20	+06	49	52.9	17	F	385
1990	VK2		1990	11	22.46528	01	51	06.89	+07	01	14.4	17		385
1990	VK2		1990	11	22.49653	01	51	05.75	+07	01	17.7			385
1990	VW6		1990	11	22.52708	02	06	02.25	+07	33	21.2	16.5		385
1990	VW6		1990	11	22.55764	02	06	01.00	+07	33	20.8			385
1991	DM1		1991	05	02.45868	11	37	40.94	+10	52	54.3	17		385
1991	DM1		1991	05	02.47384	11	37	40.79	+10	52	58.2			385
1991	DN1		1991	05	02.46632	11	39	49.87	+05	30	26.9	17		385
1991	DN1		1991	05	02.55799	11	39	49.40	+05	30	16.9			385
1991	JA	*	1991	05	02.53333	14	45	24.09	-11	36	26.5	17		385
1991	JA		1991	05	02.54549	14	45	23.22	-11	36	26.6			385
1991	JA		1991	05	03.54306	14	44	18.39	-11	36	20.1	17		385

1991 JA		1991 05 03.55556	14	44	17.31	-11	36	22.4				385
1991 JA		1991 05 05.60625	14	42	03.41	-11	36	18.7		16.5		385
1991 JB	*	1991 05 02.53958	14	36	48.22	-15	38	39.6		16.5		385
1991 JB		1991 05 02.55104	14	36	47.21	-15	38	35.9				385
1991 JB		1991 05 03.52361	14	35	43.40	-15	36	31.5		16		385
1991 JB		1991 05 03.53611	14	35	42.35	-15	36	27.4				385
1991 JC	*	1991 05 02.53333	14	36	38.08	-11	42	33.6		16.5		385
1991 JC		1991 05 02.54549	14	36	36.92	-11	42	30.4				385
1991 JC		1991 05 03.52986	14	35	39.48	-11	40	19.3		17	F	385
1991 JC		1991 05 05.60000	14	33	38.6	-11	35	46		16.5	d	385
1991 JC		1991 05 05.61875	14	33	37.3	-11	35	43			d	385
1991 JC		1991 05 07.64375	14	31	39.44	-11	31	33.5		16.5	V	385
1991 JD	*	1991 05 03.52361	14	40	04.34	-15	58	32.8		16.5		385
1991 JD		1991 05 03.53611	14	40	03.63	-15	58	31.9				385
1991 JD		1991 05 05.61250	14	37	57.17	-15	53	42.1		16.5		385
1991 JE	*	1991 05 03.56771	14	44	08.04	-20	38	30.3		16		385
1991 JE		1991 05 03.58056	14	44	07.17	-20	38	28.3				385
1991 JE		1991 05 05.64375	14	41	50.22	-20	32	31.9		16.5		385
1991 JE		1991 05 05.65000	14	41	49.79	-20	32	30.9				385
1991 JF	*	1991 05 03.56771	14	47	18.31	-19	15	42.6		16.5		385
1991 JF		1991 05 03.58056	14	47	17.64	-19	15	36.4				385
1991 JF		1991 05 05.64375	14	45	24.65	-18	59	34.2		16.5		385
1991 JF		1991 05 05.65000	14	45	24.48	-18	59	31.2				385
1991 JF		1991 05 07.67500	14	43	33.74	-18	43	29.6		16.5	F	385
1991 JF		1991 05 07.68125	14	43	33.41	-18	43	24.9			F	385
2322		1991 05 02.53958	14	46	00.49	-13	59	03.0		16.5		385
2322		1991 05 02.55104	14	45	59.79	-13	58	55.1				385

391 Sendai Observatory, Ayashi Station
M. Koishikawa, Sendai Municipal Observatory, 1-1 Sakuragaoka-koen, Sendai 980, Japan
Observer M. Koishikawa
0.30-m f/3.8 astrocamera

1989 WH1		1991 04 20.61979	13	56	53.33	-16	00	29.8		17.5		391
1989 WH1		1991 04 20.64028	13	56	52.13	-16	00	19.8				391
1989 WH1		1991 04 20.66111	13	56	51.11	-16	00	12.9				391

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
AGK3, SAOC

1950 DO		1991 01 14.67344	09	24	49.99	+13	19	37.1		16.5		399
1950 DO		1991 01 14.69132	09	24	49.27	+13	19	38.5				399
1950 DO		1991 01 23.68090	09	17	46.13	+13	41	56.0		16.5		399
1950 DO		1991 01 23.69583	09	17	45.21	+13	41	58.9				399
1950 DO		1991 01 23.71302	09	17	44.34	+13	41	59.6				399
1986 TN1		1990 11 17.63160	05	26	48.58	+17	50	11.5		16.5		399
1986 TN1		1990 11 17.64722	05	26	48.01	+17	50	05.3				399
1986 TN1		1990 11 21.57934	05	23	43.93	+17	20	10.8		16.5		399
1986 TN1		1990 11 21.59479	05	23	43.33	+17	20	01.3				399
1987 QD6		1991 04 11.58889	13	37	33.77	-05	27	20.7		16.5		399
1987 QD6		1991 04 11.60382	13	37	32.97	-05	27	15.2				399
1987 QD6		1991 04 14.55903	13	35	27.85	-05	04	52.0		16.5		399
1987 QD6		1991 04 14.57396	13	35	27.11	-05	04	46.2				399
1987 QD6		1991 04 18.54722	13	32	37.25	-04	35	01.0		16		399
1987 QD6		1991 04 18.56181	13	32	36.57	-04	34	53.6				399

1989	WK		1991	03	07.56609	11	23	35.14	+00	12	53.8	16.5	399
1989	WK		1991	03	07.58056	11	23	34.29	+00	12	58.6		399
1989	WK		1991	03	10.55382	11	20	39.99	+00	32	46.0	16.5	399
1989	WK		1991	03	10.57118	11	20	38.91	+00	32	54.4		399
1989	YK8		1989	12	31.67222	05	52	39.58	+18	53	04.8	17	399
1989	YK8		1989	12	31.68756	05	52	38.67	+18	53	06.2		399
1989	YK8		1989	12	31.70417	05	52	38.03	+18	53	09.2		399
1991	EC1		1989	12	06.62014	02	37	32.07	+20	59	17.1	17	399
1991	EC1		1989	12	06.64306	02	37	31.22	+20	59	13.4		399
1991	ES1	*	1991	03	07.49722	11	10	28.67	+05	49	54.4	16	399
1991	ES1		1991	03	07.51181	11	10	27.74	+05	50	05.7		399
1991	ES1		1991	03	10.48611	11	08	07.14	+06	22	25.5	15.5	399
1991	ES1		1991	03	10.50041	11	08	06.35	+06	22	35.3		399
1991	ES1		1991	03	13.57292	11	05	42.74	+06	55	28.5	16	399
1991	ES1		1991	03	13.58750	11	05	42.06	+06	55	36.3		399
1991	GH1	*	1991	04	11.58889	13	28	44.11	-03	27	03.4	16.5	399
1991	GH1		1991	04	11.60382	13	28	43.04	-03	27	02.4		399
1991	GH1		1991	04	14.55903	13	25	56.86	-03	15	26.4	16.5	399
1991	GH1		1991	04	14.57396	13	25	56.01	-03	15	24.2		399
1991	GH1		1991	04	18.54722	13	22	15.19	-03	01	03.3	16.5	399
1991	GH1		1991	04	18.56181	13	22	14.46	-03	01	01.6		399
1991	GJ1	*	1991	04	11.58889	13	35	58.62	-04	35	31.6	16.5	399
1991	GJ1		1991	04	11.60382	13	35	57.68	-04	35	32.1		399
1991	GJ1		1991	04	14.55903	13	32	45.62	-04	36	40.7	16.5	399
1991	GJ1		1991	04	14.57396	13	32	44.43	-04	36	42.3		399
1991	GJ1		1991	04	18.54722	13	28	27.57	-04	38	54.6	16.5	399
1991	GJ1		1991	04	18.56181	13	28	26.35	-04	38	55.8		399
1991	GL1	*	1991	04	14.59444	14	20	44.92	-05	33	44.2	16.5	399
1991	GL1		1991	04	14.60938	14	20	44.07	-05	33	40.4		399
1991	GL1		1991	04	14.62569	14	20	43.01	-05	33	31.6		399
1991	GL1		1991	04	16.58056	14	18	54.27	-05	21	44.2	16.5	399
1991	GL1		1991	04	16.59514	14	18	53.44	-05	21	41.0		399
1991	GL1		1991	05	04.56632	14	01	41.75	-03	45	47.3	16.5	399
1991	GL1		1991	05	04.58194	14	01	40.76	-03	45	43.9		399
1991	GL1		1991	05	05.52014	14	00	49.56	-03	41	41.2	17	399
1991	GL1		1991	05	05.53519	14	00	48.76	-03	41	36.8		399
1991	HB		1991	04	14.59444	14	20	31.04	-05	58	53.9	15.5	399
1991	HB		1991	04	14.60938	14	20	30.22	-05	58	52.1		399
1991	HB		1991	04	14.62569	14	20	29.18	-05	58	50.7		399
1991	HC		1991	04	14.59444	14	20	29.00	-05	58	58.1	16.5	399
1991	HC		1991	04	14.60938	14	20	28.13	-05	58	53.2		399
1991	HC		1991	04	14.62569	14	20	27.24	-05	58	50.6		399
1991	HC		1991	04	16.58056	14	18	41.74	-05	50	31.0	16	399
1991	HC		1991	04	16.59514	14	18	40.86	-05	50	29.5		399
1991	HE	*	1991	04	16.61325	14	17	04.07	-02	14	28.7	16.5	399
1991	HE		1991	04	16.62778	14	17	03.05	-02	14	22.5		399
1991	HE		1991	04	16.64444	14	17	02.25	-02	14	18.0		399
1991	HE		1991	04	18.61667	14	15	03.54	-02	03	31.5	16.5	399
1991	HE		1991	04	18.63160	14	15	02.52	-02	03	26.2		399
1991	HF	*	1991	04	16.61325	14	18	26.02	-02	15	23.3	16.5	399
1991	HF		1991	04	16.62778	14	18	25.29	-02	15	22.8		399
1991	HF		1991	04	16.64444	14	18	24.36	-02	15	21.6		399
1991	HF		1991	04	18.61667	14	16	41.68	-02	14	34.1	16.5	399
1991	HF		1991	04	18.63160	14	16	40.90	-02	14	34.4		399
1991	JG	*	1991	05	04.53160	13	55	01.65	+00	03	25.3	15.5	399
1991	JG		1991	05	04.54653	13	55	00.81	+00	03	22.9		399
1991	JG		1991	05	05.48576	13	54	09.03	+00	00	55.3	15.5	399
1991	JG		1991	05	05.50104	13	54	08.27	+00	00	53.4		399
1991	JH	*	1991	05	04.53160	13	56	24.04	+00	23	59.2	16.5	399

1991	JH		1991	05	04.54653	13	56	23.03	+00 23 59.5	399
1991	JH		1991	05	05.48576	13	55	27.33	+00 24 34.0	16.5 399
1991	JH		1991	05	05.50104	13	55	26.58	+00 24 38.0	399

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

1978	SP4		1991	04	11.52882	12	06	12.23	+02 39 20.8	16.5 400
1978	SP4		1991	04	11.54410	12	06	11.70	+02 39 20.6	400
1985	RK6		1991	04	14.63021	13	46	35.71	-09 41 11.3	16.0 400
1985	RK6		1991	04	14.64618	13	46	34.86	-09 41 03.9	400
1985	RK6		1991	04	18.57222	13	43	04.50	-09 03 50.8	15.5 400
1985	RK6		1991	04	18.58924	13	43	03.72	-09 03 41.2	400
1987	EP		1991	02	04.57326	09	52	18.22	+19 57 37.8	16.5 400
1987	EP		1991	02	04.58854	09	52	17.13	+19 57 39.0	400
1987	EP		1991	02	07.48924	09	49	15.11	+20 01 52.5	16.0 400
1987	EP		1991	02	07.50382	09	49	14.38	+20 01 53.3	400
1987	EP		1991	02	14.52396	09	41	44.04	+20 09 48.4	16.5 400
1987	EP		1991	02	14.53924	09	41	43.06	+20 09 48.7	400
1990	UT5		1990	10	24.57326	03	16	15.68	+11 08 16.7	17 400
1990	UT5		1990	10	24.58924	03	16	14.82	+11 08 11.9	400
1990	VM8		1990	11	15.54444	01	28	30.30	+14 15 07.9	16.5 400
1990	VM8		1990	11	15.56875	01	28	29.42	+14 15 02.6	400
1990	VN8		1990	11	15.54444	01	30	04.11	+15 49 41.1	16.0 400
1990	VN8		1990	11	15.56875	01	30	03.63	+15 49 30.3	400
1991	EC1		1991	04	02.46458	11	00	42.21	+13 56 29.6	16.5 400
1991	EC1		1991	04	02.48368	11	00	41.50	+13 56 29.4	400
1991	EC1		1991	04	11.46215	10	55	04.14	+13 44 16.7	16.0 400
1991	EC1		1991	04	11.47951	10	55	03.74	+13 44 16.7	400
1991	EE1		1991	04	11.49340	11	47	13.06	+04 05 44.3	16.0 400
1991	EE1		1991	04	11.50868	11	47	12.24	+04 05 44.8	400
1991	EG1		1991	04	11.55799	12	39	10.58	+03 37 53.1	16.0 400
1991	EG1		1991	04	11.57326	12	39	09.98	+03 38 04.2	400
1991	EJ1		1991	04	14.55417	11	31	20.44	+12 07 19.3	16.0 400
1991	EJ1		1991	04	14.57500	11	31	19.80	+12 07 23.8	400
1991	EK1		1991	04	14.49861	11	29	11.74	+09 14 10.1	15.5 400
1991	EK1		1991	04	14.53472	11	29	10.81	+09 13 59.2	400
1991	FO		1991	04	14.51979	13	20	39.16	-05 07 44.8	16.0 400
1991	FO		1991	04	14.53646	13	20	38.24	-05 07 35.8	400
1991	FF1		1991	04	09.59340	13	08	02.19	+02 38 14.2	16.5 400
1991	FF1		1991	04	09.60868	13	08	01.28	+02 38 19.5	400
1991	GO	*	1991	04	11.61111	13	46	43.05	-02 15 12.8	15.5 400
1991	GO		1991	04	11.62153	13	46	37.40	-02 16 50.2	400
1991	GO		1991	04	11.62778	13	46	34.15	-02 17 42.9	400
1991	GV	*	1991	04	02.49826	13	09	47.79	+05 10 52.9	16.5 400
1991	GV		1991	04	02.51354	13	09	46.95	+05 10 54.6	400
1991	GV		1991	04	14.47882	12	58	05.72	+05 53 12.5	16.0 400
1991	GV		1991	04	14.49826	12	58	04.43	+05 53 15.4	400
1991	GV		1991	04	16.51007	12	56	07.51	+05 58 14.1	16.0 400
1991	GV		1991	04	16.52396	12	56	06.71	+05 58 17.3	400
1991	GY		1991	04	14.60104	13	34	34.53	-13 43 44.7	15.0 400
1991	GY		1991	04	14.61632	13	34	33.56	-13 43 45.5	400
1991	GY		1991	04	16.62569	13	32	25.40	-13 45 39.4	15.0 400
1991	GZ	*	1991	04	14.60104	13	35	53.80	-13 24 07.1	16.0 400
1991	GZ		1991	04	14.61632	13	35	52.92	-13 24 02.7	400

1991	GZ		1991	04	16.62569	13	34	01.56	-13	08	49.7	16.0	400
1991	GC1		1991	04	16.56910	13	00	30.61	-10	09	55.1	16.0	400
1991	GC1		1991	04	16.58299	13	00	29.82	-10	09	58.1		400
1991	GC1		1991	04	18.51840	12	58	14.60	-10	16	24.2	16.0	400
1991	GC1		1991	04	18.54549	12	58	12.85	-10	16	29.1		400
1991	GF1	*	1991	04	14.63021	13	50	48.99	-09	18	39.8	16.5	400
1991	GF1		1991	04	14.64618	13	50	47.96	-09	18	32.8		400
1991	GF1		1991	04	18.57222	13	47	58.18	-08	49	50.8	16.0	400
1991	GF1		1991	04	18.58924	13	47	57.31	-08	49	45.5		400
1991	GG1	*	1991	04	11.51701	13	03	46.12	-18	57	11.1	16.5	400
1991	GG1		1991	04	11.53507	13	03	45.24	-18	57	13.5		400
1991	GG1		1991	04	14.53438	13	01	09.30	-18	47	52.5	16.0	400
1991	GG1		1991	04	14.55243	13	01	08.31	-18	47	49.3		400
1991	GK1	*	1991	04	14.51979	13	20	30.15	-05	50	19.8	16.5	400
1991	GK1		1991	04	14.53646	13	20	29.22	-05	50	15.7		400
1991	GK1		1991	04	16.53715	13	18	33.97	-05	42	18.4	16.5	400
1991	GK1		1991	04	16.55104	13	18	33.22	-05	42	16.0		400
77			1991	04	14.57118	13	16	01.70	-09	28	32.1	13.0	400
77			1991	04	14.58715	13	16	00.84	-09	28	28.3		400
283			1991	04	11.51701	13	05	03.30	-18	49	10.1	14.0	400
283			1991	04	11.53507	13	05	02.51	-18	49	07.9		400
283			1991	04	14.53438	13	02	40.68	-18	36	24.8	13.5	400
283			1991	04	14.55243	13	02	39.89	-18	36	20.3		400
283			1991	04	16.59618	13	01	04.21	-18	27	14.8	13.5	400
283			1991	04	16.61007	13	01	03.76	-18	27	12.1		400
483			1991	04	11.49340	11	48	07.22	+05	23	35.0	13.5	400
483			1991	04	11.50868	11	48	06.72	+05	23	42.3		400
542			1991	04	11.46215	10	56	46.97	+12	34	27.6	14.0	400
542			1991	04	11.47951	10	56	46.60	+12	34	31.9		400
1742			1991	04	11.52882	12	03	20.86	+01	50	52.6	16.0	400
1742			1991	04	11.54410	12	03	20.31	+01	50	56.3		400
2681			1991	04	11.58715	13	31	05.49	-04	30	37.7	16.0	400
2681			1991	04	11.60313	13	31	04.62	-04	30	34.1		400
3045			1991	04	14.63021	13	48	15.20	-10	25	10.3	16.0	400
3045			1991	04	14.64618	13	48	14.60	-10	25	07.7		400
3590			1991	04	14.47882	13	02	08.88	+05	44	34.3	15.5	400
3590			1991	04	14.49826	13	02	07.85	+05	44	39.8		400
3590			1991	04	16.51007	13	00	20.73	+05	55	36.3	15.5	400
3590			1991	04	16.52396	13	00	19.97	+05	55	39.7		400
3639			1991	04	14.57118	13	17	22.53	-09	28	39.9	16.5	400
3639			1991	04	14.58715	13	17	21.57	-09	28	35.2		400
3973			1991	04	18.57222	13	45	06.98	-08	33	03.2	16.0	400
3973			1991	04	18.58924	13	45	05.92	-08	32	59.5		400
3977			1991	04	14.60104	13	35	23.28	-14	37	48.7	15.5	400
3977			1991	04	14.61632	13	35	22.65	-14	37	44.7		400
4280			1991	04	11.46215	10	55	27.15	+13	15	16.0	16.5	400
4280			1991	04	11.47951	10	55	26.56	+13	15	17.5		400
4350			1991	04	11.58715	13	30	29.35	-04	38	26.3	16.0	400
4350			1991	04	11.60313	13	30	28.19	-04	38	28.9		400
4733			1991	01	14.53750	05	40	30.70	+29	59	57.8	16.5	400
4733			1991	01	14.56042	05	40	29.51	+29	59	57.3		400

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

1990	UU5	*	1990	10	20.61042	03	03	11.30	+05	11	28.8	17.0	402
1990	UU5		1990	10	20.62778	03	03	10.55	+05	11	30.7		402

1991	FX		1991	04	14.53750	11	16	23.36	-03	21	53.6	17.5	402
1991	FX		1991	04	14.55139	11	16	22.78	-03	21	47.5		402
1991	FJ1		1991	04	14.58611	12	28	47.58	-05	02	45.8	16.0	402
1991	FJ1		1991	04	14.60000	12	28	47.05	-05	02	36.1		402
1991	FJ1		1991	04	16.55417	12	27	32.93	-04	43	07.2		402
1991	FJ1		1991	04	16.56806	12	27	32.35	-04	42	57.0		402
1991	GH		1991	04	16.55417	12	17	18.69	-02	23	43.9	17.5	402
1991	GH		1991	04	16.56806	12	17	18.13	-02	23	32.2		402
1991	HD	*	1991	04	16.68889	14	38	12.06	-05	50	08.1	15.5	402
1991	HD		1991	04	16.70278	14	38	11.35	-05	50	03.5		402
1991	HD		1991	04	19.67639	14	35	41.34	-05	33	57.4	15.5	402
1991	HD		1991	04	19.69028	14	35	40.55	-05	33	53.0		402
1991	HD		1991	04	21.68333	14	33	54.58	-05	23	18.1	15.5	402
1991	HD		1991	04	21.69792	14	33	53.70	-05	23	14.3		402
1991	HD		1991	05	05.55764	14	20	36.76	-04	20	44.5	16.0	402
1991	HD		1991	05	05.57309	14	20	35.82	-04	20	41.8		402
1991	HJ	*	1991	04	16.68889	14	35	54.24	-06	27	24.5	16.5	402
1991	HJ		1991	04	16.70278	14	35	53.43	-06	27	19.0		402
1991	HJ		1991	04	19.67639	14	33	19.92	-06	08	08.5		402
1991	HJ		1991	04	19.69028	14	33	19.11	-06	08	02.5		402
1991	HJ		1991	04	21.68333	14	31	31.84	-05	55	15.9		402
1991	HJ		1991	04	21.69792	14	31	31.06	-05	55	09.4		402
1991	HJ		1991	05	05.55764	14	18	23.16	-04	34	55.7	16.5	402
1991	HJ		1991	05	05.57309	14	18	22.25	-04	34	51.0		402
1991	HK	*	1991	04	16.68889	14	37	58.12	-07	10	56.8	17.0	402
1991	HK		1991	04	16.70278	14	37	57.41	-07	10	51.5		402
1991	HK		1991	04	21.68333	14	34	22.39	-06	28	48.2	17.0	402
1991	HK		1991	04	21.69792	14	34	21.65	-06	28	40.0		402
1991	HL	*	1991	04	19.67639	14	35	37.21	-06	34	19.3	17.0	402
1991	HL		1991	04	19.69028	14	35	35.91	-06	34	08.9		402
1991	HL		1991	04	21.68333	14	33	43.65	-06	10	07.1		402
1991	HL		1991	04	21.69792	14	33	42.53	-06	09	57.8		402
4807			1991	03	18.54514	11	02	44.10	+05	49	04.0	17.5	402
4807			1991	03	18.55903	11	02	43.33	+05	49	08.2		402
4807			1991	03	19.56215	11	01	48.51	+05	54	36.3		402
4807			1991	03	19.57535	11	01	47.83	+05	54	45.2		402

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

1991	JJ	*	1991	05	04.62569	15	30	47.3	-12	59	39	15.5	403
1991	JJ		1991	05	04.63594	15	30	46.6	-12	59	42		403
1991	JJ		1991	05	05.65313	15	29	44.03	-13	03	23.5		403
1991	JJ		1991	05	05.66302	15	29	43.40	-13	03	25.3		403

413 Siding Spring
R. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2357, Australia
Observers S. M. Hughes, R. H. McNaught, A. Savage, D. I. Steel
Measurer R. H. McNaught
1.2-m U.K. Schmidt, Uppsala Southern Schmidt

1957	VA		1975	06	08.51089	16	30	56.01	-47	36	37.4		413
1957	VA		1975	06	08.53172	16	30	53.30	-47	36	49.8	I	413
1957	VA		1975	07	07.45457	15	42	38.55	-49	22	41.8		413
1979	MR3		1990	11	19.44441	01	08	06.85	-05	39	30.3	17.5V	413
1979	MR3		1990	11	19.49649	01	08	05.77	-05	39	21.4		413

1986	CG		1991	03	21.65719	12	07	39.07	-12	51	08.0		413
1986	CG		1991	03	27.76285	12	02	32.06	-12	16	11.4		413
1986	QQ2		1990	10	20.55747	02	56	57.20	+02	34	59.9		413
1986	QQ2		1990	10	20.61302	02	56	54.73	+02	34	40.5		413
1988	BH5		1985	09	07.42918	20	09	06.69	-06	43	58.4	19 V	413
1988	BH5		1985	09	07.48126	20	09	05.70	-06	44	05.6		413
1988	CF7		1990	10	27.41579	22	53	48.36	+02	45	44.6	16 V	413
1988	CF7		1990	10	27.47829	22	53	49.30	+02	45	24.2		413
1988	PG1		1991	04	12.42796	10	47	24.52	-04	15	41.8	18.5V F	413
1988	PG1		1991	04	12.46963	10	47	23.18	-04	15	32.2	V	413
1988	PG1		1991	05	06.43938	10	41	21.22	-03	14	54.3		413
1988	PJ1		1991	04	12.42796	10	46	40.00	-08	09	02.9		413
1988	PJ1		1991	04	12.46963	10	46	38.40	-08	08	53.3		413
1988	PJ1		1991	05	06.43938	10	41	02.72	-07	09	40.4		413
1988	RB		1991	05	06.43938	10	45	26.39	-07	53	05.7		413
1989	PA		1991	03	24.54703	11	36	54.35	-43	02	29.9	F	413
1989	PA		1991	03	24.60953	11	36	49.34	-43	02	20.2	I	413
1990	SP		1991	04	10.74502	15	45	16.19	-09	26	36.6		413
1990	SP		1991	04	20.71481	15	18	21.21	-11	18	10.6	16.5V	413
1990	SQ		1991	04	06.41042	07	37	36.74	+33	52	43.6		413
1990	WA5		1990	12	26.55191	04	13	33.77	+14	29	54.7	16.5V V	413
1991	AF		1982	07	21.48619	18	27	41.43	-17	31	16.3	18 V	413
1991	AF		1982	07	21.51744	18	27	39.70	-17	31	15.9		413
1991	AF		1991	02	09.59963	06	03	11.47	+17	17	00.0	17.5V	413
1991	BB		1991	04	06.42083	05	22	10.97	-31	12	26.8		413
1991	BB		1991	04	18.39456	05	23	23.99	-32	54	33.0	F	413
1991	CO3		1991	04	06.45000	10	51	41.01	-37	20	13.0		413
1991	DA		1991	04	06.43479	06	29	38.59	-69	06	18.9		413
1991	DA		1991	04	11.43821	06	29	07.42	-68	21	08.5		413
1991	DA		1991	04	15.41771	06	30	11.11	-67	48	37.2		413
1991	FF		1987	10	18.42976	21	31	56.95	-15	43	17.5	19 V	413
1991	FF		1991	03	21.65719	12	07	15.65	-14	21	10.5		413
1991	FF		1991	04	06.46562	11	53	02.63	-14	06	18.5		413
1991	FF		1991	04	13.51602	11	47	24.60	-13	53	06.6		413
1991	FF		1991	05	07.44496	11	35	16.59	-13	06	35.8	17.5V	413
1991	FG		1991	02	10.67906	12	14	35.78	-17	54	13.0		413
1991	FG		1991	03	21.65719	12	12	49.94	-12	44	15.8		413
1991	FG		1991	03	27.76285	12	10	20.24	-11	04	32.6		413
1991	FG		1991	04	10.53656	12	05	48.10	-07	08	13.4		413
1991	FH		1991	02	10.67905	12	29	32.21	-17	54	55.2		413
1991	FH		1991	03	21.65719	12	14	41.10	-13	56	36.4		413
1991	FH		1991	03	27.76285	12	10	46.53	-12	48	49.4		413
1991	FH		1991	04	10.55486	12	02	34.90	-10	03	21.6		413
1991	FU		1991	04	12.42796	10	37	10.96	-07	35	56.6	15 V	413
1991	FU		1991	04	12.46963	10	37	09.89	-07	35	48.8		413
1991	FV		1991	04	12.42796	10	42	07.95	-05	58	18.9	16 V	413
1991	FV		1991	04	12.46963	10	42	06.91	-05	58	05.9		413
1991	GD		1991	04	09.61726	11	33	58.08	-31	48	10.0		413
1991	GD		1991	04	15.56256	11	30	23.46	-30	00	47.1		413
1991	GD		1991	04	20.69931	11	28	22.26	-28	23	52.8		413
1991	GO		1991	04	18.41887	13	15	26.83	-11	11	13.4	F	413
1991	GO		1991	04	20.72200	13	10	45.51	-12	29	10.6	16 V	413
1991	GN1	*	1991	04	06.60848	14	09	14.56	-32	00	51.4	16 V	413
1991	GN1		1991	04	06.67098	14	09	11.60	-32	00	42.8		413
1991	GN1		1991	04	08.77998	14	07	31.69	-31	55	24.1		413
1991	GN1		1991	04	11.67144	14	05	07.90	-31	46	00.8		413
1991	GN1		1991	04	15.58219	14	01	42.63	-31	29	23.2		413
1991	GN1		1991	04	20.73808	13	57	00.32	-31	00	50.7		413
1991	JT		1991	02	10.67905	12	16	55.54	-16	14	27.9		413

1991	JT		1991	04	13.49519	11	40	03.09	-12	07	21.2	15.5V	413
1991	JT		1991	04	13.53685	11	40	01.56	-12	06	57.6		413
1991	JT	*	1991	05	07.44495	11	34	48.99	-08	35	49.6	16 V	413
1991	JT		1991	05	10.58310	11	35	26.87	-08	14	34.5		413
230			1991	05	06.43938	10	52	08.44	-03	58	34.1		413
322			1991	03	27.76285	12	01	37.33	-11	28	51.8		413
407			1991	03	21.65719	12	13	58.36	-13	30	51.6		413
407			1991	03	27.76285	12	08	31.44	-13	04	07.4		413
576			1991	04	12.42796	10	44	43.42	-04	02	34.1		413
576			1991	04	12.46963	10	44	42.20	-04	02	23.8		413
576			1991	05	06.43938	10	39	38.74	-02	52	13.0		413
934			1991	04	12.42796	10	48	01.57	-03	01	24.2		413
934			1991	04	12.46963	10	48	00.21	-03	01	16.5		413
934			1991	05	06.43938	10	42	21.53	-02	23	04.0		413
1573			1991	04	10.45704	10	14	32.82	-08	17	30.4		413
1871			1990	10	27.72469	03	21	05.36	+07	45	46.2		413
1873			1990	10	27.72469	03	18	19.15	+04	44	14.4		413
3044			1991	04	10.47787	10	25	18.94	-08	40	52.9		413
4384			1991	04	13.51602	11	36	37.79	-13	56	07.5		413
4673			1990	11	20.63809	04	41	39.13	+04	34	01.5		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

1975	AN		1990	03	02.50767	09	26	08.00	-15	14	28.9	17.9	474
1975	AN		1990	03	02.54228	09	26	05.98	-15	14	19.0		474
1985	KC		1991	03	09.52580	09	48	34.06	+14	56	11.1	18.2	474
1985	KC		1991	03	09.54848	09	48	32.78	+14	56	12.7		474
1985	KC		1991	03	12.51689	09	45	55.83	+14	59	06.9		474
1985	KC		1991	03	12.54125	09	45	54.51	+14	59	07.7		474
1988	BJ		1991	03	08.68801	12	32	44.02	-43	05	18.4	18.2	474
1988	BJ		1991	03	08.70630	12	32	42.67	-43	05	37.8		474
1988	BJ		1991	03	12.57921	12	27	41.09	-44	11	05.3		474
1988	BJ		1991	03	12.59738	12	27	39.53	-44	11	22.2		474
1989	BA1		1990	02	27.61068	11	01	43.77	-46	30	46.1	19.1	474
1989	BA1		1990	02	27.64760	11	01	41.48	-46	30	42.9		474
1989	JA		1989	09	05.73012	04	37	04.26	-12	00	38.6	19.1	474
1989	PA		1991	03	11.63946	11	55	33.32	-42	58	04.4	18.1	474
1989	PA		1991	03	11.65491	11	55	32.09	-42	58	07.5		474
1989	VP		1991	02	06.65972	09	43	23.01	-37	36	42.2		474
1989	VP		1991	02	06.67326	09	43	22.38	-37	36	43.1		474
1989	VP		1991	03	11.56301	09	16	43.19	-33	30	57.6	17.8	474
1989	VP		1991	03	11.57563	09	16	42.73	-33	30	47.6		474
1990	BQ1		1991	03	12.62238	12	25	13.96	-50	48	54.5	17.8	474
1990	BQ1		1991	03	12.63731	12	25	12.84	-50	49	00.6		474
1991	FB		1991	04	16.53216	17	12	53.23	-40	24	11.8	17.3	474
1991	FB		1991	04	16.54802	17	13	06.13	-40	25	53.1		474
1991	FB		1991	04	21.70635	18	31	05.80	-47	33	34.0	t	474
1991	FB		1991	04	21.72406	18	31	22.00	-47	34	34.5		474
951			1991	03	11.69119	16	17	31.47	-23	43	07.6		474
951			1991	03	11.70965	16	17	32.25	-23	43	08.9		474
1685			1989	04	01.37451	11	47	27.89	-21	46	15.3	15	474
1685			1989	04	01.38516	11	47	26.70	-21	46	04.4		474
1685			1989	04	03.37938	11	44	03.49	-21	11	55.2	17.0	474
1685			1989	04	03.38644	11	44	02.78	-21	11	47.4		474

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

1989 SZ13	1989 10 05.01805	01 22 48.00	+28 49 28.5					493

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

155	1991 04 15.88121	09 33 31.04	+28 16 44.3					494
155	1991 04 15.89140	09 33 31.44	+28 16 38.0					494
243	1990 07 18.05415	23 18 56.18	-04 10 56.8					494
243	1990 07 18.06520	23 18 56.15	-04 10 56.2					494
243	1990 07 25.03819	23 18 13.80	-04 12 29.0				C	494
243	1990 07 25.05462	23 18 13.58	-04 12 30.0				C	494
243	1990 07 31.02012	23 16 46.08	-04 19 08.7				p	494
243	1990 07 31.03141	23 16 45.86	-04 19 09.5				T	494
243	1990 07 31.04097	23 16 45.65	-04 19 10.4					494
243	1990 10 07.91696	22 32 35.40	-08 25 44.5				C	494
243	1990 10 12.84229	22 30 53.22	-08 35 04.7				C	494
243	1990 10 12.85855	22 30 52.92	-08 35 06.1				C	494
243	1990 10 12.87094	22 30 52.71	-08 35 07.0				C	494
243	1990 11 20.76708	22 37 01.10	-07 57 01.9					494
243	1990 11 20.78331	22 37 01.60	-07 56 58.9					494
243	1990 12 04.74453	22 46 41.96	-06 58 57.0					494
243	1990 12 04.76266	22 46 42.84	-06 58 51.4					494
243	1990 12 12.77416	22 53 37.22	-06 16 46.9					494
243	1990 12 19.74734	23 00 19.41	-05 35 27.2					494
243	1991 01 02.75042	23 15 25.30	-04 00 47.2					494
243	1991 01 02.77376	23 15 26.86	-04 00 38.0					494
243	1991 01 04.74373	23 17 43.40	-03 46 12.0					494
243	1991 01 04.75978	23 17 44.52	-03 46 04.4				S	494

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

1991 FJ	1991 03 11.98715	12 11 34.67	-04 20 28.4			17.7		511
1991 FJ	1991 03 12.01632	12 11 33.19	-04 20 25.7					511
1991 FJ	1991 03 15.94618	12 08 21.83	-04 12 36.9					511
1991 FJ	1991 03 15.97396	12 08 20.54	-04 12 35.2					511
1991 FE1	1991 03 11.98715	12 05 58.33	-05 06 02.9			18.0		511
1991 FE1	1991 03 12.01632	12 05 56.68	-05 05 54.0					511
1991 FE1	1991 03 15.94618	12 02 03.72	-04 45 59.2					511
1991 FE1	1991 03 15.97396	12 02 02.06	-04 45 50.0					511
192	1991 03 11.98715	12 14 24.41	-04 52 11.8			14.0		511
192	1991 03 12.01632	12 14 22.79	-04 52 05.3					511
192	1991 03 15.94618	12 10 44.47	-04 36 59.4					511
192	1991 03 15.97396	12 10 42.84	-04 36 53.0					511
1256	1991 03 11.98715	12 13 56.53	-06 23 38.7			17.5		511
1256	1991 03 12.01632	12 13 55.42	-06 23 32.6					511
1256	1991 03 15.94618	12 11 40.90	-06 08 50.3					511
1256	1991 03 15.97396	12 11 39.83	-06 08 44.1					511
1279	1991 03 11.98715	12 13 25.52	-05 50 04.8			17.0		511
1279	1991 03 12.01632	12 13 23.86	-05 49 59.9					511
1279	1991 03 15.94618	12 09 37.72	-05 40 20.8					511
1279	1991 03 15.97396	12 09 36.08	-05 40 16.5					511

1822	1991 03 11.98715	12 19 06.71	-03 25 14.5		17.2		511
1822	1991 03 12.01632	12 19 05.23	-03 25 02.5				511
3385	1991 03 11.98715	12 07 46.15	-05 16 08.8		17.0		511
3385	1991 03 12.01632	12 07 44.65	-05 15 54.4				511
3385	1991 03 15.94618	12 04 24.44	-04 41 00.5				511
3385	1991 03 15.97396	12 04 22.90	-04 40 44.2				511

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

1991 GL	1991 04 13.91806	12 41 26.48	-03 32 47.6		17.0		552
1991 GL	1991 04 13.94444	12 41 25.19	-03 32 44.9				552
1991 GL	1991 04 14.91667	12 40 38.87	-03 31 13.1				552
1991 GL	1991 04 14.95903	12 40 36.73	-03 31 09.5				552
1991 GL	1991 04 15.89861	12 39 52.51	-03 29 42.6				552
1991 GL	1991 04 15.92153	12 39 51.42	-03 29 39.6				552
1453	1981 12 26.91111	07 00 17.24	+67 19 15.6				552
1453	1981 12 26.92986	07 00 14.29	+67 19 20.6				552
1510	1981 11 28.90694	04 25 10.48	+41 13 17.2				552
1510	1981 11 28.94583	04 25 07.66	+41 13 11.0				552
1510	1981 11 28.96875	04 25 05.92	+41 13 10.1				552
2183	1981 12 26.95347	07 18 36.15	+29 19 08.4				552
2183	1981 12 26.97014	07 18 35.17	+29 19 13.2				552

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

45	1991 03 14.85352	11 23 44.90	+08 25 23.5				565
45	1991 03 14.89176	11 23 43.33	+08 25 40.8				565
178	1991 03 14.85352	11 21 45.65	+07 07 57.9				565
178	1991 03 14.89176	11 21 43.48	+07 08 12.8				565

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

259	1991 04 09.84149	12 45 43.79	+12 06 50.4				573
259	1991 04 09.84497	12 45 43.63	+12 06 51.2				573
347	1991 04 09.82911	12 25 49.94	+19 11 14.2				573
347	1991 04 09.83270	12 25 49.77	+19 11 14.9				573
488	1991 03 13.83935	11 42 28.45	+21 55 59.7				573
488	1991 03 13.85307	11 42 27.79	+21 56 03.7				573
753	1991 04 10.83698	11 54 08.74	+16 54 08.5				573
753	1991 04 10.84566	11 54 08.25	+16 54 08.0				573

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

1990 SQ	1991 01 28.87014	02 54 19.10	+57 27 13.6				595
1990 SQ	1991 01 31.84861	03 15 08.55	+57 01 17.8				595
1990 SQ	1991 02 01.85000	03 21 58.99	+56 50 16.3				595

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1990 SQ    1991 02 01.87083  03 22 07.46  +56 50 02.2                    595
1990 SQ    1991 03 14.87986  06 36 01.70  +42 02 17.8                    595
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657 Victoria, Climenhaga Observatory
J. B. Tatum, Dept. of Physics, University of Victoria, P.O. Box 1700, Victoria, BC V8W 2Y2, Canada
Observers J. B. Tatum, D. D. Balam

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1985 RK6   1991 04 12.27924  13 48 38.38  -10 03 03.1                    657
1985 RK6   1991 04 12.37021  13 48 33.66  -10 02 11.9                    657
1985 RK6   1991 04 17.30694  13 44 12.82  -09 15 56.5                    657
1985 RK6   1991 04 17.37153  13 44 09.10  -09 15 19.5                    657
1987 DF    1991 05 02.24729  16 32 32.51  +21 39 50.5                    657
1987 DF    1991 05 02.28479  16 32 31.80  +21 40 25.5                    657
1991 DB    1991 03 21.27611  11 54 14.51  +49 13 29.5                    657
1991 DB    1991 03 21.28583  11 54 19.75  +49 14 39.6                    657
 518       1991 04 11.37368  15 08 11.33  -14 54 18.3                    657
 518       1991 04 11.42646  15 08 09.55  -14 54 00.7                    657
 518       1991 04 17.32014  15 04 34.07  -14 18 55.9                    657
 518       1991 04 17.38507  15 04 31.41  -14 18 29.2                    657
 954       1991 02 09.27646  09 22 35.51  +14 41 26.7                    657
 954       1991 02 09.29799  09 22 34.70  +14 41 33.3                    657
1152       1991 03 21.26569  12 32 46.05  -08 58 33.4                    657
1152       1991 03 21.30528  12 32 43.69  -08 58 28.0                    657
1793       1991 02 09.27646  09 14 41.48  +12 58 14.5                    657
1793       1991 02 09.29833  09 14 40.13  +12 58 22.5                    657
3024       1991 04 12.27924  13 47 17.64  -10 40 30.0                    657
3024       1991 04 12.37021  13 47 13.30  -10 40 21.0                    657
3024       1991 04 17.30694  13 43 26.17  -10 32 56.8                    657
3024       1991 04 17.37153  13 43 23.14  -10 32 54.0                    657
```

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

```
1965 SO    1990 01 27.40746  08 59 52.50  +21 52 08.2           17.5  9 675
1965 SO    1990 01 27.44288  08 59 50.20  +21 52 18.8                 9 675
1965 SO    1990 02 23.18454  08 34 01.65  +23 19 06.7           17.8  9 675
1965 SO    1990 02 23.20642  08 34 00.48  +23 19 11.1                 9 675
1969 TL1   1977 02 11.22778  09 11 04.13  +20 04 09.6           17.0V 6 675
1969 TL1   1977 02 12.26077  09 10 13.64  +20 07 55.1                 6 675
1973 SW1   1991 04 19.33194  13 18 19.06  -06 28 28.5           18.0  3 675
1973 SW1   1991 04 19.36024  13 18 18.10  -06 28 24.9                 3 675
1974 SD3   1980 09 13.45799  00 29 03.78  +16 40 13.1           16.5V 6 675
1974 SD3   1980 09 14.48785  00 28 26.66  +16 36 33.2                 6 675
1975 SJ    1977 02 11.22778  09 34 00.28  +20 23 18.9           16.5V 6 675
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1975	SJ		1977	02	12.26077	09	33	01.78	+20	27	13.4		6 675
1977	CN		1977	02	11.22778	09	17	35.40	+18	03	46.3	16.0V	6 675
1977	CN		1977	02	12.26077	09	16	39.38	+18	14	49.4		6 675
1977	CP		1977	02	11.22778	09	20	09.65	+17	38	40.7	16.2V	6 675
1977	CP		1977	02	12.26077	09	19	07.22	+17	42	58.3		6 675
1977	CP1	*	1977	02	11.22778	09	12	19.53	+22	56	40.2	17.5V	6 675
1977	CP1		1977	02	12.26077	09	11	26.24	+22	59	24.9		6 675
1977	CQ1	*	1977	02	11.22778	09	12	27.11	+19	44	52.6	16.8V	6 675
1977	CQ1		1977	02	12.26077	09	11	29.06	+19	49	46.4		6 675
1977	CR1	*	1977	02	11.22778	09	13	20.91	+18	47	48.2	17.2V	6 675
1977	CR1		1977	02	12.26077	09	12	15.33	+18	52	30.1		6 675
1977	CS1	*	1977	02	11.22778	09	15	03.06	+18	38	15.8	17.0V	6 675
1977	CS1		1977	02	12.26077	09	14	12.69	+18	47	39.8		6 675
1977	CT1	*	1977	02	11.22778	09	16	10.62	+18	05	48.8	19.0V	6 675
1977	CT1		1977	02	12.26077	09	15	37.49	+18	09	42.2		6 675
1977	CU1	*	1977	02	11.22778	09	17	35.09	+22	27	53.8	17.2V	6 675
1977	CU1		1977	02	12.26077	09	16	41.69	+22	29	42.4		6 675
1977	CV1	*	1977	02	11.22778	09	18	04.25	+19	37	30.4	17.2V	6 675
1977	CV1		1977	02	12.26077	09	17	12.05	+19	41	30.3		6 675
1977	CW1	*	1977	02	11.22778	09	18	24.99	+23	21	58.1	16.2V	6 675
1977	CW1		1977	02	12.26077	09	17	11.21	+23	24	36.3		6 675
1977	CX1	*	1977	02	11.22778	09	18	26.20	+17	59	10.5	19.5V	6 675
1977	CX1		1977	02	12.26077	09	17	53.21	+18	01	48.3		6 675
1977	CY1	*	1977	02	11.22778	09	18	50.39	+21	05	48.0	19.0V	6 675
1977	CY1		1977	02	12.26077	09	18	17.04	+21	09	52.6		6 675
1977	CZ1	*	1977	02	11.22778	09	19	33.32	+23	20	26.1	16.8V	6 675
1977	CZ1		1977	02	12.26077	09	18	16.95	+23	17	15.3		6 675
1977	CA2	*	1977	02	11.22778	09	20	03.70	+18	53	12.2	17.2V	6 675
1977	CA2		1977	02	12.26077	09	19	04.50	+19	01	47.2		6 675
1977	CB2	*	1977	02	11.22778	09	20	52.57	+23	32	25.4	15.5V	6 675
1977	CB2		1977	02	12.26077	09	19	37.52	+23	29	15.9		6 675
1977	CC2	*	1977	02	11.22778	09	21	12.38	+17	30	46.3	16.8V	6 675
1977	CC2		1977	02	12.26077	09	20	04.36	+17	35	30.6		6 675
1977	CD2	*	1977	02	11.22778	09	21	19.44	+22	10	47.4	17.0V	6 675
1977	CD2		1977	02	12.26077	09	20	08.31	+22	09	10.9		6 675
1977	CE2	*	1977	02	11.22778	09	21	35.04	+20	18	56.9	17.5V	6 675
1977	CE2		1977	02	12.26077	09	20	54.08	+20	22	01.3		6 675
1977	CF2	*	1977	02	11.22778	09	24	54.81	+21	57	43.7	16.8V	6 675
1977	CF2		1977	02	12.26077	09	23	51.12	+22	00	06.7		6 675
1977	CG2	*	1977	02	11.22778	09	26	04.91	+20	44	00.2	17.2V	6 675
1977	CG2		1977	02	12.26077	09	25	05.20	+20	46	58.2		6 675
1977	CH2	*	1977	02	11.22778	09	26	37.42	+21	07	11.5	17.5V	6 675
1977	CH2		1977	02	12.26077	09	25	38.35	+21	11	04.0		6 675
1977	CJ2	*	1977	02	11.22778	09	26	44.98	+19	58	10.2	17.0V	6 675
1977	CJ2		1977	02	12.26077	09	25	43.60	+20	02	55.5		6 675
1977	CK2	*	1977	02	11.22778	09	27	43.88	+22	32	21.7	16.2V	6 675
1977	CK2		1977	02	12.26077	09	26	50.05	+22	40	11.0		6 675
1977	CL2	*	1977	02	11.22778	09	28	06.58	+17	43	33.0	16.8V	6 675
1977	CL2		1977	02	12.26077	09	27	03.00	+17	52	44.0		6 675
1977	CM2	*	1977	02	11.22778	09	28	16.55	+20	08	20.4	16.5V	6 675
1977	CM2		1977	02	12.26077	09	27	21.63	+20	15	48.7		6 675
1977	CN2	*	1977	02	11.22778	09	30	46.85	+21	24	38.2	17.2V	6 675
1977	CN2		1977	02	12.26077	09	29	56.07	+21	30	21.8		6 675
1977	CO2	*	1977	02	11.22778	09	31	45.83	+22	26	58.2	19.2V	6 675
1977	CO2		1977	02	12.26077	09	31	11.65	+22	29	09.6		6 675
1977	CP2	*	1977	02	11.22778	09	32	02.55	+17	51	02.8	16.5V	6 675
1977	CP2		1977	02	12.26077	09	30	51.19	+17	50	54.5		6 675
1977	CQ2	*	1977	02	11.22778	09	33	28.88	+18	45	07.0	18.5V	6 675
1977	CQ2		1977	02	12.26077	09	32	38.21	+18	48	12.9		6 675

1977	CR2	*	1977	02	11.22778	09	34	12.13	+22	12	03.3	18.8V	6 675
1977	CR2		1977	02	12.26077	09	33	21.80	+22	16	36.2		6 675
1977	CS2	*	1977	02	11.22778	09	36	05.35	+23	32	26.8	17.0V	6 675
1977	CS2		1977	02	12.26077	09	35	11.20	+23	35	35.5		6 675
1977	CT2	*	1977	02	11.22778	09	36	38.09	+18	13	53.2	17.2V	6 675
1977	CT2		1977	02	12.26077	09	35	45.04	+18	18	46.2		6 675
1977	CU2	*	1977	02	11.22778	09	36	57.59	+19	13	40.8	15.5V	6 675
1977	CU2		1977	02	12.26077	09	35	44.44	+19	11	28.1		6 675
1977	CV2	*	1977	02	12.20313	08	56	12.03	+30	07	22.4	16.2V	6 675
1977	CV2		1977	02	13.24410	08	55	01.53	+30	08	27.2		6 675
1977	CW2	*	1977	02	12.20313	08	57	59.36	+28	35	44.6	16.0V	6 675
1977	CW2		1977	02	13.24410	08	56	48.77	+28	39	43.9		6 675
1977	CX2	*	1977	02	12.20313	09	04	07.81	+27	48	38.2	16.8V	6 675
1977	CX2		1977	02	13.24410	09	03	18.20	+27	54	44.7		6 675
1977	CY2	*	1977	02	12.20313	09	04	55.16	+26	33	11.6	16.5V	6 675
1977	CY2		1977	02	13.24410	09	03	56.88	+26	39	32.9		6 675
1977	CZ2	*	1977	02	12.20313	09	06	08.09	+26	22	16.6	17.0V	6 675
1977	CZ2		1977	02	13.24410	09	04	59.70	+26	24	33.5		6 675
1977	CA3	*	1977	02	12.20313	09	11	22.61	+27	38	13.3	17.5V	6 675
1977	CA3		1977	02	13.24410	09	10	09.65	+27	42	42.0		6 675
1977	CB3	*	1977	02	12.20313	09	12	18.35	+26	15	31.5	16.8V	6 675
1977	CB3		1977	02	13.24410	09	11	12.46	+26	18	18.8		6 675
1977	CC3	*	1977	02	12.20313	09	13	08.03	+25	49	03.7	17.0V	6 675
1977	CC3		1977	02	13.24410	09	11	58.58	+25	53	34.9		6 675
1977	CD3	*	1977	02	12.20313	09	14	48.85	+26	26	33.7	16.8V	6 675
1977	CD3		1977	02	13.24410	09	13	52.45	+26	37	03.4		6 675
1977	CE3	*	1977	02	12.20313	09	16	29.90	+27	30	23.5	16.5V	6 675
1977	CE3		1977	02	13.24410	09	15	32.32	+27	40	30.0		6 675
1977	CF3	*	1977	02	12.20313	09	17	19.61	+25	43	03.2	18.5V	6 675
1977	CF3		1977	02	13.24410	09	16	25.85	+25	45	31.1		6 675
1977	CG3	*	1977	02	12.20313	09	17	37.35	+25	57	46.2	17.5V	6 675
1977	CG3		1977	02	13.24410	09	16	26.82	+25	58	57.1		6 675
1977	CH3	*	1977	02	12.20313	09	20	37.49	+27	21	27.5	17.5V	6 675
1977	CH3		1977	02	13.24410	09	19	31.04	+27	28	45.0		6 675
1977	CJ3	*	1977	02	12.20313	09	20	48.07	+30	59	17.2	19.0V	6 675
1977	CJ3		1977	02	13.24410	09	20	10.12	+31	01	29.6		6 675
1977	CK3	*	1977	02	12.20313	09	21	33.74	+30	16	23.7	16.8V	6 675
1977	CK3		1977	02	13.24410	09	20	38.35	+30	21	16.5		6 675
1978	VG5		1991	04	09.25816	12	22	49.41	-03	09	43.4	16.5	2 675
1978	VG5		1991	04	09.28628	12	22	48.04	-03	09	35.9		2 675
1978	VG5		1991	04	11.26615	12	21	24.60	-03	00	44.0		2 675
1978	VG5		1991	04	11.29010	12	21	23.59	-03	00	36.9		2 675
1978	VL11		1991	04	10.19844	10	58	26.20	+16	54	31.7	15.7	2 675
1978	VL11		1991	04	10.22292	10	58	25.52	+16	54	29.1		2 675
1978	VL11		1991	04	12.25972	10	57	39.39	+16	50	38.6		2 675
1978	VL11		1991	04	12.28750	10	57	38.79	+16	50	35.7		2 675
1979	SD		1979	09	20.29965	00	08	56.45	-04	19	33.9	18.0V	6 675
1979	SD		1979	09	21.29827	00	08	05.21	-04	23	58.2		6 675
1979	SS		1990	09	19.24244	22	29	40.02	-06	44	05.3	16.8	9 675
1979	SS		1990	09	19.27587	22	29	38.32	-06	44	06.2		9 675
1979	SU12	*	1979	09	20.29965	00	00	15.57	-03	21	30.7	17.0V	6 675
1979	SU12		1979	09	21.29827	23	59	29.95	-03	32	33.9		6 675
1979	SV12	*	1979	09	20.29965	00	00	56.20	-07	27	07.0	17.0V	6 675
1979	SV12		1979	09	21.29827	00	00	08.69	-07	34	55.1		6 675
1979	SW12	*	1979	09	20.29965	00	01	02.94	-05	34	41.5	17.5V	6 675
1979	SW12		1979	09	21.29827	00	00	11.82	-05	39	17.5		6 675
1979	SX12	*	1979	09	20.29965	00	01	28.48	-03	27	47.5	17.2V	6 675
1979	SX12		1979	09	21.29827	00	00	31.28	-03	29	28.0		6 675
1979	SY12	*	1979	09	20.29965	00	01	43.35	-05	06	35.6	16.0V	6 675

1979	SY12	1979	09	21.29827	00	00	59.05	-05	11	08.1		6	675
1979	SZ12*	1979	09	20.29965	00	01	47.42	-04	39	19.8	15.8V	6	675
1979	SZ12	1979	09	21.29827	00	01	07.95	-04	48	18.9		6	675
1979	SA13*	1979	09	20.29965	00	01	53.57	-06	44	57.4	15.5V	6	675
1979	SA13	1979	09	21.29827	00	00	59.95	-06	51	19.5		6	675
1979	SB13*	1979	09	20.29965	00	01	57.79	-05	36	37.2	17.0V	6	675
1979	SB13	1979	09	21.29827	00	01	03.90	-05	42	59.7		6	675
1979	SC13*	1979	09	20.29965	00	02	06.26	-07	19	57.6	17.2V	6	675
1979	SC13	1979	09	21.29827	00	01	21.78	-07	25	15.0		6	675
1979	SD13*	1979	09	20.29965	00	02	17.91	-03	12	31.0	16.8V	6	675
1979	SD13	1979	09	21.29827	00	01	18.49	-03	14	06.9		6	675
1979	SE13*	1979	09	20.29965	00	02	31.73	-03	10	37.8	17.2V	6	675
1979	SE13	1979	09	21.29827	00	01	46.56	-03	16	22.1		6	675
1979	SF13*	1979	09	20.29965	00	03	00.34	-04	40	25.2	16.0V	6	675
1979	SF13	1979	09	21.29827	00	02	16.88	-04	45	31.1		6	675
1979	SG13*	1979	09	20.29965	00	03	58.10	-03	47	58.1	17.0V	6	675
1979	SG13	1979	09	21.29827	00	02	59.32	-03	51	35.0		6	675
1979	SH13*	1979	09	20.29965	00	04	29.37	-05	42	41.7	16.8V	6	675
1979	SH13	1979	09	21.29827	00	03	43.55	-05	35	22.9		6	675
1979	SJ13*	1979	09	20.29965	00	04	36.11	-03	33	49.1	16.0V	6	675
1979	SJ13	1979	09	21.29827	00	03	36.70	-03	40	38.8		6	675
1979	SK13*	1979	09	20.29965	00	05	09.37	-03	45	49.7	15.8V	6	675
1979	SK13	1979	09	21.29827	00	04	04.17	-03	46	05.3		6	675
1979	SL13*	1979	09	20.29965	00	05	15.32	-02	41	48.8	17.5V	6	675
1979	SL13	1979	09	21.29827	00	04	24.34	-02	46	02.9		6	675
1979	SM13*	1979	09	20.29965	00	05	32.40	-02	26	57.6	17.2V	6	675
1979	SM13	1979	09	21.29827	00	04	34.83	-02	32	02.7		6	675
1979	SN13*	1979	09	20.29965	00	05	45.41	-08	25	20.0	16.0V	6	675
1979	SN13	1979	09	21.29827	00	05	00.49	-08	34	32.9		6	675
1979	SO13*	1979	09	20.29965	00	06	40.39	-08	10	10.0	16.8V	6	675
1979	SO13	1979	09	21.29827	00	05	43.24	-08	12	28.0		6	675
1979	SP13*	1979	09	20.29965	00	06	57.47	-07	35	24.4	14.5V	6	675
1979	SP13	1979	09	21.29827	00	06	06.74	-07	41	42.9		6	675
1979	SQ13*	1979	09	20.29965	00	08	01.79	-03	47	06.1	17.5V	6	675
1979	SQ13	1979	09	21.29827	00	07	15.62	-03	52	56.6		6	675
1979	SR13*	1979	09	20.29965	00	08	36.58	-03	14	26.8	16.2V	6	675
1979	SR13	1979	09	21.29827	00	07	54.14	-03	22	22.5		6	675
1979	SS13*	1979	09	20.29965	00	09	34.50	-05	25	46.6	16.8V	6	675
1979	SS13	1979	09	21.29827	00	08	30.67	-05	29	10.5		6	675
1979	ST13*	1979	09	20.29965	00	09	44.14	-07	01	44.0	16.5V	6	675
1979	ST13	1979	09	21.29827	00	08	45.83	-07	04	28.8		6	675
1979	SU13*	1979	09	20.29965	00	11	34.00	-04	13	02.7	17.0V	6	675
1979	SU13	1979	09	21.29827	00	10	36.59	-04	14	50.3		6	675
1979	SV13*	1979	09	20.29965	23	47	37.19	-06	36	33.1	16.5V	6	675
1979	SV13	1979	09	21.29827	23	46	50.22	-06	40	42.7		6	675
1979	SW13*	1979	09	20.29965	23	47	54.00	-03	31	29.4	17.2V	6	675
1979	SW13	1979	09	21.29827	23	47	07.90	-03	35	56.6		6	675
1979	SX13*	1979	09	20.29965	23	48	03.09	-08	22	52.2	17.2V	6	675
1979	SX13	1979	09	21.29827	23	47	17.98	-08	28	56.2		6	675
1979	SY13*	1979	09	20.29965	23	48	29.87	-03	06	11.5	17.0V	6	675
1979	SY13	1979	09	21.29827	23	47	41.50	-03	10	41.0		6	675
1979	SZ13*	1979	09	20.29965	23	48	38.63	-05	39	59.6	16.2V	6	675
1979	SZ13	1979	09	21.29827	23	47	59.96	-05	49	41.0		6	675
1979	SA14*	1979	09	20.29965	23	49	22.31	-07	23	01.8	17.2V	6	675
1979	SA14	1979	09	21.29827	23	48	33.53	-07	28	12.9		6	675
1979	SB14*	1979	09	20.29965	23	50	01.36	-02	46	18.6	17.0V	6	675
1979	SB14	1979	09	21.29827	23	49	13.07	-02	53	42.8		6	675
1979	SC14*	1979	09	20.29965	23	50	06.42	-03	00	30.5	17.2V	6	675
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1980 LU    1991 04 11.26615  12 17 16.55  +00 21 42.8                2 675
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1980	LU		1991	04	11.29010	12	17	15.25	+00	21	52.8		2 675
1980	RK5	*	1980	09	13.34340	23	24	59.24	+09	41	50.1	17.5V	6 675
1980	RK5		1980	09	14.37327	23	24	11.12	+09	36	33.4		6 675
1980	RL5	*	1980	09	13.34340	23	26	43.37	+08	31	34.1	16.2V	6 675
1980	RL5		1980	09	14.37327	23	25	52.23	+08	20	46.0		6 675
1980	RM5	*	1980	09	13.34340	23	26	58.44	+10	30	25.0	17.0V	6 675
1980	RM5		1980	09	14.37327	23	26	04.28	+10	26	24.1		6 675
1980	RN5	*	1980	09	13.34340	23	27	43.36	+11	02	38.5	17.2V	6 675
1980	RN5		1980	09	14.37327	23	26	52.79	+10	53	19.7		6 675
1980	RO5	*	1980	09	13.34340	23	29	26.44	+06	29	47.2	17.0V	6 675
1980	RO5		1980	09	14.37327	23	28	26.88	+06	25	38.5		6 675
1980	RP5	*	1980	09	13.34340	23	29	38.58	+08	40	05.9	17.2V	6 675
1980	RP5		1980	09	14.37327	23	28	42.67	+08	36	27.7		6 675
1980	RQ5	*	1980	09	13.34340	23	31	16.33	+09	55	11.0	16.2V	6 675
1980	RQ5		1980	09	14.37327	23	30	02.81	+09	59	53.8		6 675
1980	RR5	*	1980	09	13.34340	23	31	32.82	+10	14	48.6	16.8V	6 675
1980	RR5		1980	09	14.37327	23	30	49.36	+10	07	33.6		6 675
1980	RS5	*	1980	09	13.34340	23	33	50.06	+06	32	58.1	17.2V	6 675
1980	RS5		1980	09	14.37327	23	32	55.83	+06	26	36.7		6 675
1980	RT5	*	1980	09	13.34340	23	34	03.82	+06	09	49.5	16.8V	6 675
1980	RT5		1980	09	14.37327	23	33	23.02	+06	02	16.0		6 675
1980	RU5	*	1980	09	13.34340	23	34	29.91	+06	40	50.3	17.5V	6 675
1980	RU5		1980	09	14.37327	23	33	42.02	+06	31	45.9		6 675
1980	RV5	*	1980	09	13.34340	23	36	33.90	+10	08	49.1	17.0V	6 675
1980	RV5		1980	09	14.37327	23	35	37.26	+10	02	43.2		6 675
1980	RW5	*	1980	09	13.34340	23	38	44.27	+08	33	57.8	17.0V	6 675
1980	RW5		1980	09	14.37327	23	37	47.66	+08	28	29.9		6 675
1980	RX5	*	1980	09	13.34340	23	39	52.75	+06	38	01.5	15.2V	6 675
1980	RX5		1980	09	14.37327	23	38	53.93	+06	33	46.8		6 675
1980	RY5	*	1980	09	13.34340	23	40	18.52	+07	35	42.6	16.5V	6 675
1980	RY5		1980	09	14.37327	23	39	31.45	+07	23	35.0		6 675
1980	RZ5	*	1980	09	13.34340	23	40	18.71	+08	36	15.4	16.8V	6 675
1980	RZ5		1980	09	14.37327	23	39	18.17	+08	33	32.4		6 675
1980	RA6	*	1980	09	13.34340	23	46	40.11	+08	38	41.5	17.0V	6 675
1980	RA6		1980	09	14.37327	23	45	45.69	+08	31	56.4		6 675
1980	RB6	*	1980	09	13.40035	00	00	05.64	+10	48	27.9	17.2V	6 675
1980	RB6		1980	09	14.43021	23	59	18.09	+10	38	17.9		6 675
1980	RC6	*	1980	09	13.40035	00	00	30.45	+11	53	04.0	17.5V	6 675
1980	RC6		1980	09	14.43021	00	00	08.66	+11	34	52.5		6 675
1980	RD6	*	1980	09	13.40035	00	00	37.09	+09	39	06.2	17.0V	6 675
1980	RD6		1980	09	14.43021	23	59	54.50	+09	35	13.5		6 675
1980	RE6	*	1980	09	13.40035	00	01	20.00	+10	06	30.6	16.8V	6 675
1980	RE6		1980	09	14.43021	00	00	29.09	+10	01	30.4		6 675
1980	RF6	*	1980	09	13.40035	00	02	26.03	+09	31	21.0	16.8V	6 675
1980	RF6		1980	09	14.43021	00	01	27.97	+09	29	10.1		6 675
1980	RG6	*	1980	09	13.40035	00	03	08.42	+09	50	48.3	17.0V	6 675
1980	RG6		1980	09	14.43021	00	02	14.57	+09	43	59.5		6 675
1980	RH6	*	1980	09	13.40035	00	03	15.76	+14	32	57.3	17.0V	6 675
1980	RH6		1980	09	14.43021	00	02	27.98	+14	24	10.8		6 675
1980	RJ6	*	1980	09	13.40035	00	04	15.74	+09	46	48.5	17.2V	6 675
1980	RJ6		1980	09	14.43021	00	03	28.42	+09	39	53.2		6 675
1980	RK6	*	1980	09	13.40035	00	04	46.83	+13	05	53.7	16.2V	6 675
1980	RK6		1980	09	14.43021	00	04	15.58	+12	57	12.1		6 675
1980	RL6	*	1980	09	13.40035	00	07	22.22	+11	49	20.4	17.5V	6 675
1980	RL6		1980	09	14.43021	00	06	38.32	+11	44	28.5		6 675
1980	RM6	*	1980	09	13.40035	00	07	49.06	+12	08	00.0	17.2V	6 675
1980	RM6		1980	09	14.43021	00	06	58.23	+12	05	34.6		6 675
1980	RN6	*	1980	09	13.40035	00	08	11.01	+11	18	21.9	17.8V	6 675
1980	RN6		1980	09	14.43021	00	07	13.24	+11	19	04.1		6 675

1980	RO6	*	1980	09	13.40035	00	08	12.23	+11	53	04.3	17.0V	6 675
1980	RO6		1980	09	14.43021	00	07	29.61	+11	46	53.4		6 675
1980	RP6	*	1980	09	13.40035	00	08	38.19	+12	17	57.5	16.5V	6 675
1980	RP6		1980	09	14.43021	00	07	02.09	+12	32	31.5		6 675
1980	RQ6	*	1980	09	13.40035	00	09	39.15	+14	02	22.5	17.0V	6 675
1980	RQ6		1980	09	14.43021	00	08	48.72	+13	57	44.2		6 675
1980	RR6	*	1980	09	13.40035	00	11	41.64	+13	53	07.7	17.0V	6 675
1980	RR6		1980	09	14.43021	00	10	44.41	+13	49	46.2		6 675
1980	RS6	*	1980	09	13.40035	00	12	16.45	+10	25	55.6	16.5V	6 675
1980	RS6		1980	09	14.43021	00	11	18.55	+10	25	11.3		6 675
1980	RT6	*	1980	09	13.40035	00	12	39.03	+10	23	51.7	17.5V	6 675
1980	RT6		1980	09	14.43021	00	11	51.46	+10	16	36.2		6 675
1980	RU6	*	1980	09	13.40035	23	49	43.84	+13	33	50.1	16.0V	6 675
1980	RU6		1980	09	14.43021	23	48	37.14	+13	37	07.3		6 675
1980	RV6	*	1980	09	13.40035	23	51	31.46	+09	00	23.6	16.8V	6 675
1980	RV6		1980	09	14.43021	23	50	33.01	+08	55	15.8		6 675
1980	RW6	*	1980	09	13.40035	23	52	03.78	+11	44	29.4	17.5V	6 675
1980	RW6		1980	09	14.43021	23	51	05.66	+11	41	18.3		6 675
1980	RX6	*	1980	09	13.40035	23	52	08.53	+09	42	09.2	17.2V	6 675
1980	RX6		1980	09	14.43021	23	51	26.51	+09	34	58.6		6 675
1980	RY6	*	1980	09	13.40035	23	52	25.28	+09	52	53.7	17.5V	6 675
1980	RY6		1980	09	14.43021	23	51	20.39	+09	59	39.3		6 675
1980	RZ6	*	1980	09	13.40035	23	52	39.98	+09	27	43.8	17.8V	6 675
1980	RZ6		1980	09	14.43021	23	51	43.80	+09	23	33.2		6 675
1980	RA7	*	1980	09	13.40035	23	54	28.40	+09	57	20.4	17.2V	6 675
1980	RA7		1980	09	14.43021	23	53	30.82	+09	55	51.7		6 675
1980	RB7	*	1980	09	13.40035	23	54	48.32	+11	35	14.2	16.8V	6 675
1980	RB7		1980	09	14.43021	23	53	58.67	+11	32	26.6		6 675
1980	RC7	*	1980	09	13.40035	23	55	08.99	+11	40	28.5	17.5V	6 675
1980	RC7		1980	09	14.43021	23	54	26.45	+11	34	37.5		6 675
1980	RD7	*	1980	09	13.40035	23	56	19.07	+10	06	33.5	17.5V	6 675
1980	RD7		1980	09	14.43021	23	55	19.07	+10	08	45.2		6 675
1980	RE7	*	1980	09	13.40035	23	56	23.75	+12	48	08.4	16.0V	6 675
1980	RE7		1980	09	14.43021	23	55	40.44	+12	39	28.8		6 675
1980	RF7	*	1980	09	13.40035	23	56	41.25	+09	56	29.1	17.2V	6 675
1980	RF7		1980	09	14.43021	23	55	43.13	+09	52	15.9		6 675
1980	RG7	*	1980	09	13.40035	23	57	36.28	+10	20	03.1	17.8V	6 675
1980	RG7		1980	09	14.43021	23	56	29.57	+10	18	49.6		6 675
1980	RH7	*	1980	09	13.40035	23	57	37.62	+10	18	26.1	17.8V	6 675
1980	RH7		1980	09	14.43021	23	56	41.73	+10	16	11.9		6 675
1980	RJ7	*	1980	09	13.40035	23	58	02.79	+10	37	04.3	17.0V	6 675
1980	RJ7		1980	09	14.43021	23	57	21.19	+10	25	35.2		6 675
1980	RK7	*	1980	09	13.40035	23	59	54.55	+10	15	13.1	17.2V	6 675
1980	RK7		1980	09	14.43021	23	59	07.61	+10	11	39.9		6 675
1980	RL7	*	1980	09	13.45799	00	16	41.05	+16	28	24.5	15.5V	6 675
1980	RL7		1980	09	14.48785	00	15	55.63	+16	24	00.8		6 675
1980	RM7	*	1980	09	13.45799	00	18	38.39	+13	37	16.5	17.5V	6 675
1980	RM7		1980	09	14.48785	00	17	50.17	+13	35	08.2		6 675
1980	RN7	*	1980	09	13.45799	00	19	16.37	+11	07	44.5	17.2V	6 675
1980	RN7		1980	09	14.48785	00	18	20.92	+11	06	37.1		6 675
1980	RO7	*	1980	09	13.45799	00	19	43.99	+13	21	06.4	16.0V	6 675
1980	RO7		1980	09	14.48785	00	18	46.22	+13	23	56.0		6 675
1980	RP7	*	1980	09	13.45799	00	20	31.86	+13	44	28.6	17.0V	6 675
1980	RP7		1980	09	14.48785	00	19	53.70	+13	40	42.3		6 675
1980	RQ7	*	1980	09	13.45799	00	21	31.68	+16	40	58.8	19.0V	6 675
1980	RQ7		1980	09	14.48785	00	21	03.66	+16	36	54.7		6 675
1980	RR7	*	1980	09	13.45799	00	21	54.57	+13	51	53.6	17.2V	6 675
1980	RR7		1980	09	14.48785	00	20	59.93	+13	50	56.9		6 675
1980	RS7	*	1980	09	13.45799	00	22	02.84	+16	38	10.6	16.8V	6 675

1980	RS7		1980	09	14.48785	00	21	10.76	+16	34	01.0		6 675
1980	RT7	*	1980	09	13.45799	00	22	24.54	+14	14	38.0	17.2V	6 675
1980	RT7		1980	09	14.48785	00	21	39.81	+13	53	17.5		6 675
1980	RU7	*	1980	09	13.45799	00	23	38.99	+14	01	37.3	17.2V	6 675
1980	RU7		1980	09	14.48785	00	22	51.31	+14	01	11.1		6 675
1980	RV7	*	1980	09	13.45799	00	24	47.91	+12	58	51.5	16.8V	6 675
1980	RV7		1980	09	14.48785	00	24	17.57	+12	38	43.7		6 675
1980	RW7	*	1980	09	13.45799	00	25	00.40	+14	26	58.9	15.2V	6 675
1980	RW7		1980	09	14.48785	00	24	15.15	+14	20	56.4		6 675
1980	RX7	*	1980	09	13.45799	00	25	26.15	+12	09	40.2	17.0V	6 675
1980	RX7		1980	09	14.48785	00	24	38.30	+12	08	49.7		6 675
1980	RY7	*	1980	09	13.45799	00	25	26.67	+12	26	56.2	17.0V	6 675
1980	RY7		1980	09	14.48785	00	24	38.69	+12	22	55.5		6 675
1980	RZ7	*	1980	09	13.45799	00	25	42.74	+12	24	46.5	16.0V	6 675
1980	RZ7		1980	09	14.48785	00	24	44.48	+12	29	00.6		6 675
1980	RA8	*	1980	09	13.45799	00	25	47.82	+15	45	27.9	17.5V	6 675
1980	RA8		1980	09	14.48785	00	25	08.95	+15	41	02.2		6 675
1980	RB8	*	1980	09	13.45799	00	26	47.46	+11	07	50.5	17.0V	6 675
1980	RB8		1980	09	14.48785	00	25	56.99	+11	02	18.3		6 675
1980	RC8	*	1980	09	13.45799	00	29	22.53	+12	19	30.6	16.8V	6 675
1980	RC8		1980	09	14.48785	00	28	31.37	+12	15	16.3		6 675
1980	RD8	*	1980	09	13.45799	00	29	51.54	+16	37	17.3	16.8V	6 675
1980	RD8		1980	09	14.48785	00	29	08.02	+16	30	46.2		6 675
1980	RE8	*	1980	09	13.45799	00	30	14.36	+14	58	18.7	18.5V	6 675
1980	RE8		1980	09	14.48785	00	29	22.65	+14	54	43.2		6 675
1980	RF8	*	1980	09	13.45799	00	30	45.51	+11	09	42.9	17.0V	6 675
1980	RF8		1980	09	14.48785	00	29	50.33	+11	06	38.4		6 675
1980	RG8	*	1980	09	13.45799	00	32	19.94	+11	06	42.4	17.2V	6 675
1980	RG8		1980	09	14.48785	00	31	29.90	+11	04	24.6		6 675
1980	RH8	*	1980	09	13.45799	00	33	26.37	+14	09	34.6	16.5V	6 675
1980	RH8		1980	09	14.48785	00	32	42.89	+14	06	49.5		6 675
1980	RJ8	*	1980	09	13.45799	00	33	42.64	+13	36	11.2	17.5V	6 675
1980	RJ8		1980	09	14.48785	00	32	55.25	+13	36	19.0		6 675
1980	RK8	*	1980	09	13.45799	00	33	59.27	+14	47	44.7	17.0V	6 675
1980	RK8		1980	09	14.48785	00	33	08.54	+14	45	47.4		6 675
1980	RL8	*	1980	09	13.45799	00	34	02.37	+14	38	43.4	17.5V	6 675
1980	RL8		1980	09	14.48785	00	33	14.71	+14	43	49.0		6 675
1980	RM8	*	1980	09	13.45799	00	34	20.42	+14	11	34.4	17.2V	6 675
1980	RM8		1980	09	14.48785	00	33	28.51	+14	12	01.4		6 675
1980	RN8	*	1980	09	13.45799	00	34	44.72	+12	16	25.9	17.0V	6 675
1980	RN8		1980	09	14.48785	00	34	05.32	+12	10	44.6		6 675
1980	SJ		1980	09	13.40035	00	06	01.03	+09	26	16.3	16.5V	6 675
1980	SJ		1980	09	14.43021	00	05	14.60	+09	20	15.1		6 675
1980	TK6		1980	09	13.45799	00	21	35.97	+11	12	37.0	16.0V	6 675
1980	TK6		1980	09	14.48785	00	20	52.25	+11	06	14.9		6 675
1981	DE		1990	09	16.25504	22	21	50.79	-00	19	33.4	17.8	9 675
1981	DE		1990	09	16.29149	22	21	49.04	-00	19	49.8		9 675
1981	DE		1990	09	19.24244	22	19	34.25	-00	38	58.1	17.5	9 675
1981	DE		1990	09	19.27587	22	19	32.79	-00	39	09.5		9 675
1981	ED37		1977	02	11.22778	09	11	22.12	+22	26	51.4	18.5V	6 675
1981	ED37		1977	02	12.26077	09	10	15.99	+22	30	44.8		6 675
1982	SA4		1977	02	11.22778	09	18	49.30	+23	37	27.1	17.2V	6 675
1982	SA4		1977	02	12.26077	09	17	40.59	+23	41	29.6		6 675
1985	FB2		1979	09	20.29965	00	07	16.86	-08	27	20.8	16.5V	6 675
1985	FB2		1979	09	21.29827	00	06	26.44	-08	36	26.0		6 675
1985	RZ		1980	09	13.34340	23	37	45.47	+06	29	59.4	14.5V	6 675
1985	RZ		1980	09	14.37327	23	36	40.47	+06	31	41.0		6 675
1985	SJ3		1977	02	11.22778	09	12	43.96	+18	51	12.8	16.8V	6 675
1985	SJ3		1977	02	12.26077	09	11	31.29	+18	53	33.6		6 675

1985	VD	1979	09	20.29965	23	57	03.95	-07	51	34.6		15.8V	6 675
1985	VD	1979	09	21.29827	23	56	21.52	-07	57	40.7			6 675
1986	JQ	1991	04	09.16285	09	55	04.62	-13	35	04.2		16.7	2 675
1986	JQ	1991	04	09.18767	09	55	04.68	-13	34	36.4			2 675
1986	JQ	1991	04	11.19497	09	55	16.00	-12	58	08.5			2 675
1986	JQ	1991	04	11.22309	09	55	15.89	-12	57	39.5			2 675
1986	WL1	1977	02	12.20313	09	19	50.00	+27	37	54.9		16.5V	6 675
1986	WL1	1977	02	13.24410	09	18	40.22	+27	41	07.3			6 675
1987	EH	1979	09	20.29965	00	03	03.95	-02	20	10.9		16.2V	6 675
1987	EH	1979	09	21.29827	00	02	22.56	-02	27	52.1			6 675
1987	KB	1991	05	10.45035	21	47	09.63	-03	49	05.1		16.7	2 675
1987	KB	1991	05	10.47118	21	47	12.07	-03	48	42.5			2 675
1987	KB	1991	05	11.47465	21	49	08.19	-03	31	16.4			2 675
1987	KB	1991	05	12.43924	21	50	59.29	-03	14	25.9			2 675
1987	KB	1991	05	12.46762	21	51	02.66	-03	13	55.7			2 675
1987	QD6	1991	04	08.34444	13	39	48.60	-05	51	53.1		15.8	2 675
1987	QD6	1991	04	08.36267	13	39	47.79	-05	51	45.9			2 675
1987	QD6	1991	04	10.35243	13	38	25.46	-05	36	42.3			2 675
1987	QD6	1991	04	10.37465	13	38	24.47	-05	36	31.8			2 675
1987	SL10	1979	09	20.29965	23	51	43.84	-05	08	21.0		16.5V	6 675
1987	SL10	1979	09	21.29827	23	51	08.17	-05	14	57.8			6 675
1988	DJ	1980	09	13.45799	00	22	02.81	+14	03	37.4		16.8V	6 675
1988	DJ	1980	09	14.48785	00	21	22.07	+13	59	19.2			6 675
1988	DD3	1980	09	13.34340	23	36	57.84	+11	52	53.6		18.0V	6 675
1988	DD3	1980	09	14.37327	23	36	10.23	+11	48	42.5			6 675
1988	JL	1989	11	28.47830	07	25	15.58	+28	40	10.6		17.8	3 675
1988	JL	1989	11	28.52500	07	25	14.31	+28	40	54.7			3 675
1988	ME	1991	04	10.20417	11	21	22.15	-00	31	58.4		16.7	2 675
1988	ME	1991	04	10.23507	11	21	21.07	-00	31	47.2			2 675
1988	ME	1991	04	12.26649	11	20	07.78	-00	17	11.7			2 675
1988	ME	1991	04	12.29444	11	20	06.76	-00	17	01.7			2 675
1988	PF1	1988	09	11.20555	21	43	48.16	-07	26	05.1		18.4	3 675
1988	PF1	1988	09	11.24079	21	43	47.60	-07	25	58.4			3 675
1988	PF1	1988	09	13.23038	21	43	27.28	-07	20	20.1			3 675
1988	PF1	1988	09	13.26579	21	43	26.79	-07	20	14.1			3 675
1988	PF1	1988	09	16.20330	21	43	11.93	-07	11	38.0			3 675
1988	PF1	1988	09	16.23368	21	43	11.58	-07	11	33.0			3 675
1988	PL1	1988	09	11.14931	20	58	57.25	+22	01	04.7			3 675
1988	PL1	1988	09	13.17118	20	57	56.53	+21	36	38.7		17.5	3 675
1988	PH4	1988	09	10.22500	21	41	39.79	-03	36	48.4		18.0	3 675
1988	PH4	1988	09	10.26146	21	41	40.99	-03	37	29.9			3 675
1988	PH4	1988	09	11.24079	21	42	22.72	-03	55	45.7		18.0	3 675
1988	PH4	1988	09	13.26579	21	43	54.60	-04	33	06.4			3 675
1988	PH4	1988	09	16.20330	21	46	22.86	-05	25	52.5			3 675
1988	RV	1989	11	01.21059	23	54	14.11	+04	21	00.6		18.0	3 675
1988	RV	1990	10	22.27951	02	02	27.48	+26	00	59.2		17.8	3 675
1988	RV	1990	10	22.32083	02	02	26.05	+26	00	57.3			3 675
1988	RV	1990	10	23.33264	02	01	50.30	+25	59	35.5			3 675
1988	RV	1990	10	23.38448	02	01	48.41	+25	59	31.2			3 675
1988	RV	1990	11	11.27135	01	50	55.16	+25	23	03.5		17.8	3 675
1988	RV	1990	11	11.30382	01	50	54.16	+25	22	58.7			3 675
1988	RV	1990	11	15.23663	01	48	50.10	+25	13	22.1			3 675
1988	RV	1990	11	15.26753	01	48	49.18	+25	13	17.3			3 675
1988	RG1	1988	08	15.45087	23	45	13.99	-06	38	29.9		17.8	3 675
1988	RG1	1988	08	15.48906	23	45	13.40	-06	38	44.4			3 675
1988	RG1	1989	09	28.44444	02	08	23.18	-08	51	46.6		18.4	3 675
1988	RG1	1989	09	28.48889	02	08	22.20	-08	52	02.6			3 675
1988	RG1	1989	11	02.33646	01	52	50.17	-11	32	32.0		18.4	3 675
1988	RG1	1989	11	02.37188	01	52	49.13	-11	32	34.1			3 675

1988	RG1		1989	11	03.29983	01	52	23.73	-11	35	18.4		3 675
1988	RG1		1990	10	21.47934	04	23	22.12	-06	18	15.0	18.7	3 675
1988	RG1		1990	10	24.49618	04	22	24.94	-06	31	39.2		3 675
1988	RG1		1990	10	24.53125	04	22	24.27	-06	31	48.7		3 675
1988	RG1		1990	10	26.49531	04	21	43.90	-06	40	13.1		3 675
1988	RG1		1990	11	13.39184	04	14	08.83	-07	44	33.8	18.3	3 675
1988	RG1		1990	11	14.37639	04	13	40.28	-07	47	16.3		3 675
1988	RM1		1988	11	08.10417	22	25	10.37	-01	41	32.8	18.5	3 675
1988	RM1		1988	11	08.14063	22	25	10.65	-01	41	35.9		3 675
1988	RM1		1990	11	13.32517	03	42	03.64	+16	55	27.5	18.4	3 675
1988	RM1		1990	11	14.35191	03	41	30.10	+16	52	33.5		3 675
1988	TH1		1988	09	10.44931	01	03	55.62	+02	13	25.8	17.6	3 675
1988	TH1		1988	09	10.49549	01	03	54.59	+02	13	14.7		3 675
1988	TJ1		1989	01	18.17620	03	44	32.15	-19	31	59.2		1 675
1988	TJ1		1989	01	18.18182	03	44	32.92	-19	31	54.3		1 675
1988	TJ1		1989	01	18.18946	03	44	33.93	-19	31	47.1		1 675
1988	TU1		1989	10	30.39080	03	55	11.50	-03	35	27.2	17.3	3 675
1988	TU1		1989	10	30.42830	03	55	10.39	-03	35	32.4		3 675
1988	TU1		1989	11	01.47378	03	54	12.83	-03	41	28.0		3 675
1988	TU1		1989	11	22.34115	03	43	18.43	-04	20	43.9	17.1	3 675
1988	TU1		1989	11	22.37500	03	43	17.23	-04	20	48.3		3 675
1988	TU1		1989	11	25.31441	03	41	42.37	-04	22	40.5		3 675
1988	TU1		1989	11	25.34375	03	41	41.37	-04	22	41.4		3 675
1988	TU1		1990	11	13.50694	06	13	06.22	+06	22	03.8	18.0	3 675
1988	TU1		1990	11	14.50573	06	12	47.62	+06	21	03.0		3 675
1988	TU1		1990	11	14.53646	06	12	46.99	+06	21	00.5		3 675
1988	TA3		1988	11	05.19427	00	01	24.15	-06	41	01.9	18.3	3 675
1988	TA3		1988	11	07.21858	00	00	57.79	-06	43	41.2		3 675
1989	AN2		1991	04	14.31024	12	41	15.48	+00	11	44.0	16.5	3 675
1989	AN2		1991	04	16.33333	12	40	22.32	+00	18	48.7		3 675
1989	CW1		1991	04	15.33785	13	34	40.36	-20	54	55.7	17.8	3 675
1989	CW1		1991	04	19.37509	13	32	31.99	-20	45	13.3		3 675
1989	EL1		1990	09	16.25504	22	30	48.41	-06	08	41.1	17.2	9 675
1989	EL1		1990	09	16.29149	22	30	47.19	-06	09	01.0		9 675
1989	EL1		1990	09	19.24244	22	28	49.20	-06	33	54.6	17.5	9 675
1989	EL1		1990	09	19.27587	22	28	47.76	-06	34	09.2		9 675
1989	GF4		1990	09	16.25504	22	19	03.66	-00	27	38.3	16.5	9 675
1989	GF4		1990	09	16.29149	22	19	02.40	-00	27	55.9		9 675
1989	GF4		1990	09	19.24244	22	17	28.61	-00	49	49.9	17.0	9 675
1989	GF4		1990	09	19.27587	22	17	27.60	-00	50	04.9		9 675
1989	NR		1990	12	17.48802	08	35	09.54	+24	26	06.3	16.8	2 675
1989	NR		1990	12	17.50938	08	35	08.77	+24	26	08.4		2 675
1989	PE		1991	04	10.43385	15	13	10.23	+29	49	44.2	16.5	2 675
1989	PE		1991	04	10.46076	15	13	09.32	+29	50	17.6		2 675
1989	PE		1991	04	12.47847	15	12	06.14	+30	32	31.6		2 675
1989	PE		1991	04	12.49965	15	12	05.53	+30	32	56.8		2 675
1989	SZ		1988	10	08.14149	22	38	06.62	-00	21	44.3	17.4	3 675
1989	SZ		1988	10	10.12674	22	37	18.83	-00	22	59.6		3 675
1989	SZ		1988	11	06.17517	22	31	09.23	-00	23	56.4		3 675
1989	SZ		1988	11	06.20868	22	31	09.06	-00	23	55.1		3 675
1989	UH2		1991	04	09.45295	15	11	40.91	-05	30	42.3	16.0	2 675
1989	UH2		1991	04	11.46615	15	09	29.46	-05	42	58.3		2 675
1989	UH2		1991	04	11.49340	15	09	27.44	-05	43	08.8		2 675
1989	UN2		1991	04	09.44618	14	32	21.82	+01	34	10.1	16.5	2 675
1989	UN2		1991	04	11.42118	14	31	06.24	+02	21	32.2		2 675
1989	UN2		1991	04	11.44479	14	31	05.24	+02	22	06.6		2 675
1989	WH7	*	1989	11	22.34115	03	33	04.52	-07	05	19.7	16.0	3 675
1989	WH7		1989	11	22.37500	03	33	02.75	-07	05	51.2		3 675
1989	WH7		1989	11	25.31441	03	29	59.38	-07	37	20.1		3 675

1989	WH7	1989	11	25.34375	03	29	56.65	-07	36	48.9		3 675
1990	BK	1990	01	27.40746	08	50	37.59	+20	35	46.4	17.5	9 675
1990	BK	1990	01	27.44288	08	50	35.66	+20	35	59.4		9 675
1990	BK	1990	02	23.18454	08	30	04.96	+22	01	20.3	17.8	9 675
1990	BK	1990	02	23.20642	08	30	04.18	+22	01	22.6		9 675
1990	BS	1990	01	27.40746	09	17	56.50	+21	33	32.2	16.8	9 675
1990	BS	1990	01	27.44288	09	17	54.06	+21	33	44.6		9 675
1990	BS	1990	01	30.32586	09	14	45.97	+21	49	25.6	16.8	9 675
1990	BS	1990	01	30.35833	09	14	43.73	+21	49	36.8		9 675
1990	BS	1990	02	23.18454	08	50	37.01	+23	19	17.8	17.5	9 675
1990	BS	1990	02	23.20642	08	50	35.86	+23	19	18.9		9 675
1990	BX	1990	02	23.18454	08	24	38.25	+21	14	30.1	17.8	9 675
1990	BX	1990	02	23.20642	08	24	37.14	+21	14	37.0		9 675
1990	BG1	1990	01	30.32586	09	20	19.09	+24	39	59.6	16.2	9 675
1990	BG1	1990	01	30.35833	09	20	17.33	+24	40	11.1		9 675
1990	BH1	1990	01	27.40746	09	04	39.64	+25	33	04.3	17.2	9 675
1990	BH1	1990	01	27.44288	09	04	37.56	+25	33	18.1	16.0	9 675
1990	BH1	1990	01	30.32586	09	01	53.16	+25	50	33.9	16.5	9 675
1990	BH1	1990	01	30.35833	09	01	51.18	+25	50	45.6		9 675
1990	BH1	1990	02	23.18454	08	40	41.03	+27	22	32.6	17.0	9 675
1990	BH1	1990	02	23.20642	08	40	40.02	+27	22	35.5		9 675
1990	BE2	1990	01	27.40746	09	10	24.45	+23	41	37.7	16.5	9 675
1990	BE2	1990	01	27.44288	09	10	22.20	+23	41	43.9		9 675
1990	BE2	1990	01	30.32586	09	07	22.12	+23	48	42.8	16.5	9 675
1990	BE2	1990	01	30.35833	09	07	19.99	+23	48	47.9		9 675
1990	BE2	1990	02	23.18454	08	44	58.13	+23	57	33.2	17.0	9 675
1990	BE2	1990	02	23.20642	08	44	57.19	+23	57	30.8		9 675
1990	BF2	1990	01	27.40746	08	57	28.23	+23	25	16.9	17.0	9 675
1990	BF2	1990	01	27.44288	08	57	25.84	+23	25	29.7		9 675
1990	BF2	1990	01	30.32586	08	54	14.96	+23	43	28.7	17.0	9 675
1990	BF2	1990	01	30.35833	08	54	12.67	+23	43	41.7		9 675
1990	BF2	1990	02	23.18454	08	30	47.78	+25	22	25.6	17.5	9 675
1990	BF2	1990	02	23.20642	08	30	46.69	+25	22	27.4		9 675
1990	DA	1990	02	23.18454	08	32	44.46	+22	58	33.4	15.5	9 675
1990	DA	1990	02	23.20642	08	32	45.68	+22	59	40.3		9 675
1990	OE4	1990	09	20.21181	21	37	32.02	-02	51	03.9	16.8	9 675
1990	OE4	1990	09	20.24184	21	37	31.87	-02	51	18.6		9 675
1990	QB	1990	09	17.16302	21	39	00.45	-07	20	38.0	16.5	9 675
1990	QB	1990	09	20.21181	21	35	41.91	-06	44	28.6	17.5	9 675
1990	QB	1990	09	20.24184	21	35	39.94	-06	44	07.7		9 675
1990	QG	1990	09	16.25504	22	20	07.83	-07	11	48.5	16.5	9 675
1990	QG	1990	09	16.29149	22	20	06.16	-07	11	47.5		9 675
1990	QG	1990	09	19.24244	22	18	06.22	-07	09	38.1	16.8	9 675
1990	QG	1990	09	19.27587	22	18	04.80	-07	09	35.7		9 675
1990	QQ	1990	09	17.16302	21	55	45.50	-03	11	05.5	17.2	9 675
1990	QQ	1990	09	17.19462	21	55	44.08	-03	11	09.1		9 675
1990	QQ	1990	09	20.21181	21	53	42.87	-03	17	37.6	17.5	9 675
1990	QQ	1990	09	20.24184	21	53	41.65	-03	17	42.2		9 675
1990	QR	1990	09	16.25504	22	09	41.12	-07	50	04.8	16.5	9 675
1990	QR	1990	09	16.29149	22	09	39.99	-07	50	30.5		9 675
1990	QC1	1990	09	17.16302	21	41	10.65	-05	54	30.1	17.0	9 675
1990	QC1	1990	09	17.19462	21	41	09.44	-05	54	33.2		9 675
1990	QC1	1990	09	20.21181	21	39	32.15	-05	58	40.0	17.2	9 675
1990	QC1	1990	09	20.24184	21	39	31.20	-05	58	42.7		9 675
1990	QU5	1990	09	16.25504	22	17	36.26	-08	03	28.2	16.5	9 675
1990	QU5	1990	09	19.24244	22	15	51.55	-08	18	23.5	17.5	9 675
1990	QU5	1990	09	19.27587	22	15	50.21	-08	18	33.8		9 675
1990	QW5	1990	09	16.25504	22	18	55.87	-06	14	09.5	17.5	9 675
1990	QW5	1990	09	16.29149	22	18	53.83	-06	14	06.1		9 675

1990	QW5		1990	09	19.24244	22	16	14.92	-06	09	26.9	17.8	9 675
1990	QW5		1990	09	19.27587	22	16	13.14	-06	09	24.1		9 675
1990	QX5		1990	09	16.25504	22	23	02.32	-05	19	44.7	17.5	9 675
1990	QX5		1990	09	16.29149	22	23	00.11	-05	19	41.6		9 675
1990	QX5		1990	09	19.24244	22	20	12.70	-05	15	06.7	17.5	9 675
1990	QX5		1990	09	19.27587	22	20	10.64	-05	15	01.7		9 675
1990	QY5		1990	09	16.25504	22	23	57.36	-05	10	49.1	17.0	9 675
1990	QY5		1990	09	16.29149	22	23	55.25	-05	10	44.8		9 675
1990	QY5		1990	09	19.24244	22	21	20.76	-05	04	18.3	17.2	9 675
1990	QY5		1990	09	19.27587	22	21	18.92	-05	04	13.9		9 675
1990	RA9		1990	09	19.24244	22	23	38.57	-00	58	16.2	17.0	9 675
1990	RA9		1990	09	19.27587	22	23	37.33	-00	58	37.7		9 675
1990	RP9		1990	09	19.24244	22	05	00.44	-01	07	12.8	17.5	9 675
1990	RP9		1990	09	19.27587	22	04	59.23	-01	07	31.1		9 675
1990	RQ9	*	1990	09	14.25503	21	51	12.27	-03	19	58.7	16.8	9 675
1990	RQ9		1990	09	14.29497	21	51	11.12	-03	20	19.0		9 675
1990	RQ9		1990	09	17.16302	21	50	07.20	-03	44	54.2	16.8	9 675
1990	RQ9		1990	09	17.19462	21	50	06.42	-03	45	10.4		9 675
1990	RQ9		1990	09	20.21181	21	49	15.43	-04	10	11.8	17.0	9 675
1990	RQ9		1990	09	20.24184	21	49	14.87	-04	10	26.7		9 675
1990	RR9	*	1990	09	15.31146	22	34	59.65	-04	34	14.6	17.2	9 675
1990	RR9		1990	09	15.34701	22	34	58.14	-04	34	33.8		9 675
1990	RR9		1990	09	19.24244	22	32	38.78	-05	09	36.2	17.8	9 675
1990	RR9		1990	09	19.27587	22	32	37.53	-05	09	55.6		9 675
1990	SQ		1991	04	09.14479	07	44	06.80	+32	58	29.8	15.5	2 675
1990	SQ		1991	04	09.16962	07	44	10.12	+32	58	00.9		2 675
1990	SQ		1991	04	13.21198	07	53	30.04	+31	39	56.5		2 675
1990	SQ		1991	04	13.24149	07	53	34.05	+31	39	22.2		2 675
1990	ST4		1990	09	16.25504	22	28	46.07	-07	08	54.6	16.8	9 675
1990	ST4		1990	09	16.29149	22	28	45.00	-07	09	13.8		9 675
1990	ST4		1990	09	19.24244	22	27	32.55	-07	35	11.5	17.0	9 675
1990	ST4		1990	09	19.27587	22	27	31.58	-07	35	28.4		9 675
1990	SS15	*	1990	09	16.25504	22	00	51.43	-06	04	52.9	17.8	9 675
1990	SS15		1990	09	16.29149	22	00	49.81	-06	04	52.8		9 675
1990	SS15		1990	09	20.21181	21	58	26.91	-06	05	26.4	17.5	9 675
1990	SS15		1990	09	20.24184	21	58	25.73	-06	05	27.4		9 675
1990	ST15	*	1990	09	16.25504	22	07	04.82	-06	01	28.9	17.0	9 675
1990	ST15		1990	09	16.29149	22	07	03.10	-06	01	35.5		9 675
1990	ST15		1990	09	17.19462	22	06	22.59	-06	03	52.8	17.2	9 675
1990	ST15		1990	09	19.24244	22	04	54.55	-06	08	58.1	17.5	9 675
1990	ST15		1990	09	19.27587	22	04	53.12	-06	09	02.4		9 675
1990	ST15		1990	09	20.21181	22	04	15.20	-06	11	15.7	17.5	9 675
1990	ST15		1990	09	20.24184	22	04	13.89	-06	11	19.0		9 675
1990	SU15	*	1990	09	16.25504	22	09	33.43	-04	15	57.3	17.0	9 675
1990	SU15		1990	09	16.29149	22	09	32.45	-04	16	24.9		9 675
1990	SU15		1990	09	19.24244	22	08	28.51	-04	52	26.2	17.5	9 675
1990	SU15		1990	09	19.27587	22	08	27.79	-04	52	50.0		9 675
1990	SU15		1990	09	20.21181	22	08	10.02	-05	04	00.9	17.5	9 675
1990	SU15		1990	09	20.24184	22	08	09.38	-05	04	22.8		9 675
1990	SV15	*	1990	09	16.25504	22	09	42.61	-06	18	57.5	17.2	9 675
1990	SV15		1990	09	16.29149	22	09	41.15	-06	19	09.2		9 675
1990	SV15		1990	09	19.24244	22	07	48.77	-06	33	55.7	17.2	9 675
1990	SV15		1990	09	19.27587	22	07	47.41	-06	34	06.2		9 675
1990	SV15		1990	09	20.21181	22	07	13.75	-06	38	38.5	17.5	9 675
1990	SV15		1990	09	20.24184	22	07	12.61	-06	38	46.9		9 675
1990	SW15	*	1990	09	16.25504	22	16	33.42	-04	05	57.3	17.2	9 675
1990	SW15		1990	09	16.29149	22	16	32.22	-04	06	12.5		9 675
1990	SW15		1990	09	19.24244	22	15	01.76	-04	26	23.7	17.5	9 675
1990	SW15		1990	09	19.27587	22	15	00.76	-04	26	36.6		9 675

1990	SX15*	1990	09	16.25504	22	16	52.49	-06	46	15.1		16.5	9 675
1990	SX15	1990	09	16.29149	22	16	50.58	-06	46	21.4			9 675
1990	SX15	1990	09	19.24244	22	14	28.14	-06	54	16.5		16.8	9 675
1990	SX15	1990	09	19.27587	22	14	26.52	-06	54	22.1			9 675
1990	SY15*	1990	09	16.25504	22	27	15.48	-03	29	57.0		16.8	9 675
1990	SY15	1990	09	16.29149	22	27	13.94	-03	30	16.3			9 675
1990	SY15	1990	09	19.24244	22	25	23.68	-03	57	28.7		17.2	9 675
1990	SY15	1990	09	19.27587	22	25	22.25	-03	57	47.3			9 675
1990	SZ15*	1990	09	16.25504	22	27	32.54	-05	18	59.7		16.8	9 675
1990	SZ15	1990	09	16.29149	22	27	31.71	-05	19	41.4			9 675
1990	SZ15	1990	09	19.24244	22	26	40.06	-06	14	38.0		17.0	9 675
1990	SZ15	1990	09	19.27587	22	26	39.43	-06	15	17.9			9 675
1990	SA16*	1990	09	16.25504	22	28	20.05	-03	28	41.3		16.8	9 675
1990	SA16	1990	09	16.29149	22	28	18.13	-03	28	54.2			9 675
1990	SA16	1990	09	19.24244	22	25	51.65	-03	46	28.2		17.2	9 675
1990	SA16	1990	09	19.27587	22	25	49.94	-03	46	40.7			9 675
1990	SB16*	1990	09	17.16302	21	40	38.97	-07	33	35.0		17.8	9 675
1990	SB16	1990	09	17.19462	21	40	37.85	-07	33	42.9			9 675
1990	SB16	1990	09	20.21181	21	39	18.94	-07	44	24.9		18.0	9 675
1990	SB16	1990	09	20.24184	21	39	18.09	-07	44	33.1			9 675
1990	SC16*	1990	09	17.16302	21	40	39.84	-08	00	12.1		17.2	9 675
1990	SC16	1990	09	17.19462	21	40	39.01	-08	00	26.7			9 675
1990	SC16	1990	09	20.21181	21	39	39.80	-08	21	51.6		17.5	9 675
1990	SC16	1990	09	20.24184	21	39	39.13	-08	22	04.4			9 675
1990	SD16*	1990	09	17.16302	21	43	09.86	-07	03	21.0		16.8	9 675
1990	SD16	1990	09	17.19462	21	43	08.98	-07	03	35.0			9 675
1990	SD16	1990	09	20.21181	21	42	03.76	-07	25	13.8		17.2	9 675
1990	SD16	1990	09	20.24184	21	42	03.09	-07	25	26.7			9 675
1990	SE16*	1990	09	17.16302	21	55	53.02	-06	49	45.4		18.5	9 675
1990	SE16	1990	09	17.19462	21	55	51.83	-06	49	50.1			9 675
1990	SE16	1990	09	20.21181	21	54	16.83	-06	58	45.7		18.0	9 675
1990	SE16	1990	09	20.24184	21	54	16.05	-06	58	50.4			9 675
1990	SF16*	1990	09	17.16302	22	00	22.43	-05	29	12.2		18.0	9 675
1990	SF16	1990	09	17.19462	22	00	21.34	-05	29	27.3			9 675
1990	SF16	1990	09	20.21181	21	58	54.65	-05	52	02.7		17.5	9 675
1990	SF16	1990	09	20.24184	21	58	53.73	-05	52	15.9			9 675
1990	SG16*	1990	09	17.16302	22	01	32.02	-06	30	41.7		18.2	9 675
1990	SG16	1990	09	17.19462	22	01	30.46	-06	30	43.8			9 675
1990	SG16	1990	09	20.21181	21	58	50.66	-06	31	03.3		18.0	9 675
1990	SG16	1990	09	20.24184	21	58	49.52	-06	31	05.0			9 675
1990	SH16*	1990	09	17.16302	22	01	34.62	-08	39	47.6		17.5	9 675
1990	SH16	1990	09	17.19462	22	01	33.03	-08	39	42.2			9 675
1990	SH16	1990	09	20.21181	21	59	17.10	-08	31	58.0		17.5	9 675
1990	SH16	1990	09	20.24184	21	59	15.64	-08	31	53.2			9 675
1990	SJ16*	1990	09	17.16302	22	02	34.60	-05	58	51.7		17.5	9 675
1990	SJ16	1990	09	17.19462	22	02	33.44	-05	58	55.6			9 675
1990	SJ16	1990	09	19.24244	22	01	22.73	-06	03	49.4		17.5	9 675
1990	SJ16	1990	09	19.27587	22	01	21.48	-06	03	53.2			9 675
1990	SJ16	1990	09	20.21181	22	00	50.96	-06	06	02.8		17.5	9 675
1990	SJ16	1990	09	20.24184	22	00	49.90	-06	06	07.1			9 675
1990	SK16*	1990	09	17.16302	22	02	59.71	-08	06	36.8		16.8	9 675
1990	SK16	1990	09	17.19462	22	02	58.02	-08	06	40.2			9 675
1990	SK16	1990	09	20.21181	22	00	32.03	-08	11	29.8		16.8	9 675
1990	SK16	1990	09	20.24184	22	00	30.51	-08	11	32.2			9 675
1991	AD2	1991	02	09.24236	08	51	28.69	+16	47	36.0		17.2	9 675
1991	AD2	1991	02	09.27309	08	51	26.97	+16	47	45.4			9 675
1991	BA2	1980	09	13.45799	00	20	44.77	+11	28	35.8		16.2V	6 675
1991	BA2	1980	09	14.48785	00	19	53.04	+11	23	09.5			6 675
1991	DV	1979	09	20.29965	00	08	05.21	-05	04	01.9		15.5V	6 675

1991	DV		1979	09	21.29827	00	07	09.72	-05	12	22.3		6 675
1991	FC		1991	04	09.21354	10	51	52.27	+00	59	16.3	16.3	2 675
1991	FC		1991	04	09.23941	10	51	51.90	+00	59	52.9		2 675
1991	FC		1991	04	12.21701	10	51	31.98	+02	07	25.1		2 675
1991	FC		1991	04	12.24010	10	51	31.85	+02	07	54.5		2 675
1991	FC		1991	04	13.24948	10	51	29.31	+02	29	55.0		2 675
1991	FC		1991	04	13.27448	10	51	29.16	+02	30	26.1		2 675
1991	FC		1991	04	15.16215	10	51	30.87	+03	10	20.6	17.7	3 675
1991	FC		1991	04	15.19583	10	51	30.98	+03	11	02.2		3 675
1991	FC		1991	04	16.15521	10	51	34.90	+03	30	39.7		3 675
1991	FD		1991	03	17.39549	13	06	20.24	+09	02	59.9	16.0	2 675
1991	FD		1991	03	17.41927	13	06	19.22	+09	03	34.7		2 675
1991	FD		1991	04	09.26927	12	53	28.18	+17	58	21.6	16.0	2 675
1991	FD		1991	04	09.29740	12	53	27.05	+17	58	55.4		2 675
1991	FD		1991	04	11.36563	12	52	11.56	+18	36	54.1		2 675
1991	FD		1991	04	11.38872	12	52	10.66	+18	37	20.1		2 675
1991	FG		1991	04	12.31042	12	05	26.19	-06	38	52.4	14.5	2 675
1991	FG		1991	04	12.33628	12	05	25.94	-06	38	27.2		2 675
1991	FG		1991	04	13.30122	12	05	16.02	-06	22	37.9		2 675
1991	FG		1991	04	13.33073	12	05	15.61	-06	22	08.3		2 675
1991	FK		1991	03	18.38576	12	22	17.56	-05	06	51.7	15.0	2 675
1991	FK		1991	03	18.40955	12	22	15.14	-05	07	04.0		2 675
1991	FK		1991	04	10.20990	11	44	35.82	-08	07	46.7	15.0	2 675
1991	FK		1991	04	10.24080	11	44	32.95	-08	07	59.6		2 675
1991	FK		1991	04	13.25590	11	40	24.19	-08	28	16.7		2 675
1991	FK		1991	04	13.28090	11	40	22.05	-08	28	27.4		2 675
1991	FN		1991	04	10.30035	12	57	15.22	-15	44	02.9	16.0	2 675
1991	FN		1991	04	10.32135	12	57	12.88	-15	44	13.5		2 675
1991	FN		1991	04	12.32899	12	53	43.95	-16	00	15.9		2 675
1991	FN		1991	04	12.35434	12	53	41.22	-16	00	28.4		2 675
1991	FO		1991	04	08.34444	13	25	50.39	-06	05	27.2	16.0	2 675
1991	FO		1991	04	08.36267	13	25	49.39	-06	05	18.0		2 675
1991	FO		1991	04	10.35243	13	24	09.77	-05	46	38.2		2 675
1991	FO		1991	04	10.37465	13	24	08.50	-05	46	25.0		2 675
1991	FP		1991	04	09.38455	13	30	19.68	-03	30	40.8	16.0	2 675
1991	FP		1991	04	09.41528	13	30	18.41	-03	30	21.5		2 675
1991	FP		1991	04	12.43438	13	28	24.33	-02	58	29.7		2 675
1991	FP		1991	04	12.45781	13	28	23.47	-02	58	15.2		2 675
1991	FU		1991	04	10.19253	10	38	01.44	-07	42	28.6	16.2	2 675
1991	FU		1991	04	10.21684	10	38	00.74	-07	42	24.9		2 675
1991	FU		1991	04	12.22257	10	37	15.16	-07	36	37.6		2 675
1991	FU		1991	04	12.24583	10	37	14.56	-07	36	34.1		2 675
1991	FK1	*	1991	03	18.22396	10	04	05.45	-23	44	30.5	15.5	2 675
1991	FK1		1991	03	18.25677	10	04	04.88	-23	43	47.3		2 675
1991	FK1		1991	04	09.16285	10	08	54.11	-15	25	51.8	15.7	2 675
1991	FK1		1991	04	09.18767	10	08	54.90	-15	25	19.0		2 675
1991	FK1		1991	04	11.19497	10	10	08.50	-14	42	21.2		2 675
1991	FK1		1991	04	11.22309	10	10	09.45	-14	41	45.3		2 675
1991	GC		1991	04	14.37326	13	16	41.03	+09	12	54.8	17.3	3 675
1991	GC		1991	04	14.40451	13	16	40.03	+09	13	44.6	17.3	3 675
1991	GC		1991	04	15.29097	13	16	13.96	+09	37	55.8		3 675
1991	GC		1991	04	15.32326	13	16	12.84	+09	38	49.0		3 675
1991	GC		1991	04	17.30069	13	15	14.27	+10	31	35.4		3 675
1991	GC		1991	04	17.34063	13	15	12.98	+10	32	37.7		3 675
1991	GO		1991	04	12.43438	13	40	09.78	-04	08	16.9	15	2 675
1991	GO		1991	04	12.45781	13	39	59.14	-04	11	10.6		2 675
1991	GO		1991	04	13.37847	13	34	07.93	-05	53	20.6		2 675
1991	GO		1991	04	19.33194	13	13	22.59	-11	46	15.5	16.2	3 675
1991	GO		1991	04	19.36024	13	13	18.71	-11	47	13.4		3 675

1991	GP	*	1991	04	08.38368	13	41	19.79	-19	30	04.2	16.5	2 675
1991	GP		1991	04	08.41701	13	41	19.32	-19	29	54.7		2 675
1991	GP		1991	04	10.38160	13	41	16.88	-19	21	47.0		2 675
1991	GP		1991	04	10.40694	13	41	16.62	-19	21	40.1		2 675
1991	GQ	*	1991	04	08.38368	13	52	34.11	-16	38	09.1	17.0	2 675
1991	GQ		1991	04	08.41701	13	52	32.66	-16	37	51.5		2 675
1991	GQ		1991	04	10.38160	13	51	14.41	-16	22	25.9		2 675
1991	GQ		1991	04	10.40694	13	51	13.46	-16	22	14.5		2 675
1991	GR	*	1991	04	08.38368	13	58	12.57	-16	02	54.3	16.3	2 675
1991	GR		1991	04	08.41701	13	58	10.55	-16	02	53.4		2 675
1991	GR		1991	04	10.38160	13	56	13.18	-16	03	00.9		2 675
1991	GR		1991	04	10.40694	13	56	11.56	-16	03	00.8		2 675
1991	GS	*	1991	04	09.16285	10	06	17.72	-15	00	01.7	16.0	2 675
1991	GS		1991	04	09.18767	10	06	17.49	-14	59	42.6		2 675
1991	GS		1991	04	11.19497	10	06	08.96	-14	34	41.6		2 675
1991	GS		1991	04	11.22309	10	06	08.73	-14	34	21.5		2 675
1991	GT	*	1991	04	10.20417	11	38	00.61	-03	56	44.8	16.0	2 675
1991	GT		1991	04	10.23507	11	37	59.28	-03	56	05.3		2 675
1991	GT		1991	04	12.29444	11	36	41.89	-03	13	08.7		2 675
1991	GU	*	1991	04	12.31042	12	07	23.90	-05	51	19.9	15.8	2 675
1991	GU		1991	04	12.33628	12	07	22.91	-05	51	02.2		2 675
1991	GU		1991	04	13.30122	12	06	47.67	-05	39	14.8		2 675
1991	GU		1991	04	13.33073	12	06	46.56	-05	38	54.1		2 675
1991	GW		1991	04	11.27153	12	21	25.76	+05	26	30.9	16.5	2 675
1991	GW		1991	04	11.29635	12	21	24.19	+05	26	27.8		2 675
1991	GW		1991	04	13.30747	12	19	33.73	+05	22	34.4		2 675
1991	GW		1991	04	13.33663	12	19	31.78	+05	22	30.1		2 675
1991	GX	*	1991	04	09.26927	12	50	45.40	+17	09	56.4	15.8	2 675
1991	GX		1991	04	09.29740	12	50	44.06	+17	10	04.7		2 675
1991	GX		1991	04	11.36563	12	49	06.44	+17	19	28.8		2 675
1991	GX		1991	04	11.38872	12	49	05.30	+17	19	33.5		2 675
1991	GA1	*	1991	04	08.31840	13	03	58.42	+00	25	38.3	15.2	2 675
1991	GA1		1991	04	08.33802	13	03	57.42	+00	26	01.3	15.2	2 675
1991	GA1		1991	04	09.39080	13	03	06.94	+00	47	48.5		2 675
1991	GA1		1991	04	12.37153	13	00	43.65	+01	49	20.6		2 675
1991	GA1		1991	04	12.40208	13	00	42.09	+01	49	59.8		2 675
1991	GA1		1991	04	14.31024	12	59	10.70	+02	29	00.6	17.5	3 675
1991	GA1		1991	04	16.33333	12	57	34.50	+03	09	58.4		3 675
1991	GB1	*	1991	04	08.31840	13	11	32.33	-02	14	27.3	16.3	2 675
1991	GB1		1991	04	08.33802	13	11	30.36	-02	14	36.0	16.3	2 675
1991	GB1		1991	04	09.39080	13	09	43.29	-02	22	59.9		2 675
1991	GB1		1991	04	12.37153	13	04	40.19	-02	47	18.9		2 675
1991	GB1		1991	04	12.40208	13	04	36.91	-02	47	33.4		2 675
1991	GC1	*	1991	04	10.30764	13	07	55.66	-09	48	36.3	15.8	2 675
1991	GC1		1991	04	10.32830	13	07	54.19	-09	48	41.5		2 675
1991	GC1		1991	04	12.37813	13	05	27.81	-09	55	48.5		2 675
1991	GC1		1991	04	12.40885	13	05	25.51	-09	55	54.0		2 675
1991	GD1	*	1991	04	10.30764	13	29	49.47	-07	29	45.2	16.2	2 675
1991	GD1		1991	04	10.32830	13	29	48.56	-07	29	36.8		2 675
1991	GD1		1991	04	12.37813	13	28	13.02	-07	14	13.7		2 675
1991	GD1		1991	04	12.40885	13	28	11.62	-07	14	00.7		2 675
1991	GJ1		1991	04	09.38455	13	38	20.49	-04	34	49.5	16.3	2 675
1991	GJ1		1991	04	09.41528	13	38	18.55	-04	34	49.1		2 675
1991	GJ1		1991	04	12.43438	13	35	03.35	-04	35	47.3		2 675
1991	GJ1		1991	04	12.45781	13	35	01.72	-04	35	49.0		2 675
1991	GM1	*	1991	04	09.19410	10	19	44.67	-12	38	43.9	16.5	2 675
1991	GM1		1991	04	09.21962	10	19	44.13	-12	38	32.6		2 675
1991	GM1		1991	04	11.20200	10	19	10.77	-12	24	10.6		2 675
1991	GM1		1991	04	11.22986	10	19	10.31	-12	23	57.2		2 675

1991	GO1	*	1991	04	09.38455	13	43	30.84	-02	43	39.8	16.8	2 675
1991	GO1		1991	04	09.41528	13	43	28.98	-02	43	11.9		2 675
1991	GO1		1991	04	12.43438	13	40	42.61	-01	59	33.7		2 675
1991	GO1		1991	04	12.45781	13	40	41.17	-01	59	14.5		2 675
1991	GP1	*	1991	04	09.32500	13	24	25.78	+15	31	48.4	15.0	2 675
1991	GP1		1991	04	09.36806	13	24	23.79	+15	32	10.5		2 675
1991	GP1		1991	04	12.38576	13	22	11.62	+15	57	16.8		2 675
1991	GP1		1991	04	12.41528	13	22	10.28	+15	57	30.8		2 675
1991	GQ1	*	1991	04	10.44028	15	34	57.34	-06	00	22.1	16.0	2 675
1991	GQ1		1991	04	10.46719	15	34	56.59	-06	00	18.6		2 675
1991	GQ1		1991	04	12.48507	15	33	58.81	-05	55	45.2		2 675
1991	GQ1		1991	04	12.50694	15	33	58.11	-05	55	43.0		2 675
1991	GR1	*	1991	04	10.44028	15	40	29.23	-07	29	18.0	16.2	2 675
1991	GR1		1991	04	10.46719	15	40	28.71	-07	29	08.5		2 675
1991	GR1		1991	04	12.48507	15	39	50.94	-07	17	06.1		2 675
1991	GR1		1991	04	12.50694	15	39	50.52	-07	16	58.3		2 675
1991	GS1	*	1991	04	10.44028	15	41	43.87	-07	09	43.5	16.5	2 675
1991	GS1		1991	04	10.46719	15	41	43.18	-07	09	41.0		2 675
1991	GS1		1991	04	12.48507	15	40	44.23	-07	07	07.9		2 675
1991	GS1		1991	04	12.50694	15	40	43.45	-07	07	07.0		2 675
1991	GT1	*	1991	04	10.44028	15	44	44.03	-08	54	54.8	15.8	2 675
1991	GT1		1991	04	10.46719	15	44	42.34	-08	55	15.0		2 675
1991	GT1		1991	04	12.48507	15	42	30.74	-09	20	54.5		2 675
1991	GT1		1991	04	12.50694	15	42	29.17	-09	21	10.2		2 675
1991	GT1		1991	05	07.34809	15	02	08.14	-15	11	17.3	15	2 675
1991	GT1		1991	05	07.40017	15	02	01.78	-15	11	59.2	15	2 675
1991	GT1		1991	05	09.33733	14	58	18.21	-15	39	43.3		2 675
1991	GT1		1991	05	09.36441	14	58	14.81	-15	40	02.8		2 675
1991	GT1		1991	05	10.29774	14	56	27.32	-15	53	26.2		2 675
1991	GU1	*	1991	04	10.44028	15	52	18.08	-07	17	19.2	15.8	2 675
1991	GU1		1991	04	10.46719	15	52	17.54	-07	17	05.0		2 675
1991	GU1		1991	04	12.48507	15	51	33.23	-06	59	00.2		2 675
1991	GU1		1991	04	12.50694	15	51	32.76	-06	58	47.7		2 675
1991	GV1		1991	03	17.39549	13	10	41.84	+05	26	36.5	15.5	2 675
1991	GV1		1991	03	17.41927	13	10	40.87	+05	26	49.9		2 675
1991	GV1	*	1991	04	09.26372	12	52	38.68	+08	43	01.9	16.0	2 675
1991	GV1		1991	04	09.29184	12	52	37.27	+08	43	13.9		2 675
1991	GV1		1991	04	11.31753	12	50	50.63	+08	57	40.1		2 675
1991	GV1		1991	04	11.34566	12	50	48.97	+08	57	51.9		2 675
1991	GV1		1991	04	13.36250	12	49	03.55	+09	11	23.0		2 675
1991	GW1		1991	04	14.45799	15	07	42.88	-20	22	23.1	17.5	3 675
1991	GW1	*	1991	04	14.49566	15	07	41.74	-20	21	28.6	17.5	3 675
1991	GW1		1991	04	17.46337	15	06	11.57	-19	10	00.6		3 675
1991	GX1	*	1991	04	15.30625	13	18	09.44	-20	58	19.9	17.8	3 675
1991	GX1		1991	04	15.33785	13	18	08.34	-20	58	13.2		3 675
1991	GX1		1991	04	19.34618	13	16	03.77	-20	46	21.7		3 675
1991	GX1		1991	04	19.37509	13	16	02.87	-20	46	16.3		3 675
1991	GY1	*	1991	04	15.42535	15	57	46.58	-08	50	24.1	17.0	3 675
1991	GY1		1991	04	15.47552	15	57	45.93	-08	50	07.3		3 675
1991	GY1		1991	04	19.47552	15	56	40.10	-08	30	24.4		3 675
1991	GZ1	*	1991	04	15.29861	13	29	08.75	+17	35	15.3	17.2	3 675
1991	GZ1		1991	04	17.30747	13	25	40.22	+17	12	07.6		3 675
1991	GZ1		1991	04	17.34826	13	25	35.84	+17	11	37.7		3 675
1991	GA2	*	1991	04	15.43247	15	43	24.91	+03	35	43.6	17.9	3 675
1991	GA2		1991	04	17.43316	15	42	49.43	+04	13	28.5		3 675
1991	GA2		1991	04	19.45313	15	42	06.74	+04	51	48.3		3 675
1991	HN	*	1991	04	19.33889	13	26	10.78	+01	15	33.7	18.3	3 675
1991	HN		1991	04	19.36736	13	26	09.97	+01	15	39.8		3 675
1991	HN		1991	04	20.30087	13	25	42.23	+01	17	49.7		3 675

1991	HN		1991	04	20.33264	13	25	41.30	+01	17	53.4		3 675
1991	JO	*	1991	05	08.34271	14	51	18.97	-10	00	39.0	15.5	2 675
1991	JO		1991	05	09.37170	14	50	32.07	-09	33	55.5		2 675
1991	JQ		1991	05	08.29896	14	13	24.35	-08	44	02.8	15.0	2 675
1991	JQ		1991	05	08.32344	14	13	23.35	-08	43	39.1		2 675
1991	JQ		1991	05	10.30347	14	12	11.71	-08	18	28.4		2 675
1991	JS	*	1991	05	08.29896	14	20	25.17	-09	59	17.4	16.5	2 675
1991	JS		1991	05	08.32344	14	20	23.80	-09	58	47.8		2 675
1991	JS		1991	05	10.30347	14	18	35.60	-09	18	13.5		2 675
1991	JW		1991	04	19.39670	14	10	48.04	+18	53	04.9	17	3 675
1991	JW		1991	04	19.42865	14	10	39.94	+18	52	40.9		3 675
1991	JW	*	1991	05	08.24826	12	49	56.97	+10	05	51.9	17.0	2 675
1991	JW		1991	05	09.22795	12	45	59.83	+09	24	29.0		2 675
1991	JW		1991	05	09.25226	12	45	53.26	+09	23	24.4		2 675
1991	JW		1991	05	10.23576	12	42	00.03	+08	40	55.3		2 675
1991	JW		1991	05	10.26146	12	41	53.43	+08	39	46.4		2 675
1991	JW		1991	05	12.25295	12	34	17.32	+07	11	20.9		2 675
1991	JW		1991	05	12.28056	12	34	10.62	+07	10	03.8		2 675
2562	P-L		1990	01	27.40746	08	56	00.06	+20	15	29.3	16.5	9 675
2562	P-L		1990	01	27.44288	08	55	57.68	+20	15	39.8		9 675
2562	P-L		1990	01	30.32586	08	52	53.97	+20	28	48.6	16.2	9 675
2562	P-L		1990	01	30.35833	08	52	51.76	+20	28	57.3		9 675
2562	P-L		1990	02	23.18454	08	29	48.14	+21	47	06.7	17.2	9 675
2562	P-L		1990	02	23.20642	08	29	47.09	+21	47	11.7		9 675
4081	P-L		1990	09	16.25504	22	17	35.38	-01	46	22.2	16.8	9 675
4081	P-L		1990	09	16.29149	22	17	33.98	-01	46	44.8		9 675
4081	P-L		1990	09	19.24244	22	15	54.15	-02	17	11.7	17.2	9 675
4081	P-L		1990	09	19.27587	22	15	52.99	-02	17	32.0		9 675
6612	P-L	*	1960	09	24.35002	23	48	50.16	-02	05	22.9	18.0	4 675
6612	P-L		1960	09	26.28543	23	47	20.79	-02	19	26.3		4 675
6612	P-L		1960	10	17.22501	23	34	37.68	-04	22	27.7		4 675
6612	P-L		1960	10	22.16324	23	32	59.78	-04	40	29.9		4 675
6612	P-L		1960	10	24.23753	23	32	30.10	-04	46	35.9		4 675
6612	P-L		1960	10	26.27157	23	32	07.74	-04	51	42.9		4 675
7604	P-L		1977	02	11.22778	09	13	00.61	+22	03	10.7	16.2V	6 675
7604	P-L		1977	02	12.26077	09	11	58.90	+22	08	31.7		6 675
7618	P-L		1988	11	05.12726	22	10	57.46	-14	58	34.9	18.1	3 675
7618	P-L		1988	11	05.17674	22	10	58.22	-14	58	28.6		3 675
9507	P-L		1977	02	11.22778	09	36	34.64	+20	26	28.7	18.2V	6 675
9507	P-L		1977	02	12.26077	09	36	01.81	+20	28	54.8		6 675
3365	T-2		1973	09	19.21250	00	02	54.90	-02	55	21.3		4 675
3365	T-2		1973	09	19.26354	00	02	52.57	-02	55	34.5		4 675
3365	T-2		1973	09	20.27795	00	02	07.29	-03	00	03.9		4 675
3365	T-2		1973	09	24.37431	23	59	02.38	-03	18	00.0		4 675
3365	T-2		1973	09	24.44167	23	58	59.28	-03	18	17.3		4 675
3365	T-2	*	1973	09	25.26875	23	58	22.29	-03	21	54.6	18.2	4 675
3365	T-2		1973	09	25.33299	23	58	19.23	-03	22	09.9		4 675
4047	T-2		1973	09	19.22500	00	31	19.33	-00	27	50.9		4 675
4047	T-2		1973	09	19.27865	00	31	16.15	-00	27	54.6		4 675
4047	T-2		1973	09	20.30278	00	30	18.08	-00	29	13.7		4 675
4047	T-2		1973	09	24.38750	00	26	20.86	-00	34	31.2		4 675
4047	T-2		1973	09	24.45434	00	26	16.79	-00	34	38.5		4 675
4047	T-2		1973	09	25.28125	00	25	28.29	-00	35	43.9		4 675
4047	T-2		1973	09	25.34601	00	25	24.30	-00	35	48.5		4 675
4047	T-2	*	1973	09	29.29219	00	21	29.18	-00	40	51.2	18.3	4 675
4047	T-2		1973	09	29.34375	00	21	26.09	-00	40	50.3		4 675
4047	T-2		1973	09	30.21007	00	20	34.26	-00	41	56.6		4 675
4047	T-2		1973	09	30.23524	00	20	32.69	-00	41	56.3		4 675
4047	T-2		1973	09	30.24826	00	20	31.96	-00	41	59.0		4 675

4047	T-2		1973	09	30.27431	00	20	30.32	-00	42	01.7		4 675
4047	T-2		1973	09	30.30174	00	20	28.62	-00	42	01.1		4 675
4047	T-2		1973	09	30.31476	00	20	27.93	-00	42	03.5		4 675
4047	T-2		1973	10	04.28958	00	16	30.60	-00	46	32.5		4 675
4047	T-2		1973	10	04.32708	00	16	28.24	-00	46	34.5		4 675
4047	T-2		1973	10	04.35208	00	16	26.80	-00	46	36.4		4 675
4047	T-2		1973	10	04.38889	00	16	24.48	-00	46	37.7		4 675
4047	T-2		1973	10	05.31684	00	15	29.78	-00	47	35.9		4 675
4047	T-2		1973	10	05.34167	00	15	28.43	-00	47	33.6		4 675
4047	T-2		1973	10	05.35382	00	15	27.45	-00	47	37.2		4 675
4047	T-2		1973	10	05.37917	00	15	26.06	-00	47	38.5		4 675
4047	T-2		1973	10	05.40347	00	15	24.71	-00	47	38.9		4 675
4047	T-2		1973	10	05.41597	00	15	23.73	-00	47	40.5		4 675
5469	T-2		1973	09	29.24062	00	24	09.04	+14	19	37.5		4 675
5469	T-2		1973	09	29.30486	00	24	05.32	+14	19	11.4		4 675
5469	T-2	*	1973	09	30.19722	00	23	15.96	+14	12	53.6	17.6	4 675
5469	T-2		1973	09	30.35295	00	23	07.03	+14	11	46.2		4 675
5469	T-2		1973	10	04.27708	00	19	29.57	+13	42	31.0		4 675
5469	T-2		1973	10	04.33906	00	19	26.00	+13	42	03.3		4 675
5469	T-2		1973	10	05.36632	00	18	29.60	+13	34	02.0		4 675
5469	T-2		1973	10	05.42847	00	18	26.08	+13	33	30.8		4 675
3197	T-3		1990	02	23.18454	08	24	14.73	+22	55	18.1	18.0	9 675
7			1980	09	13.34340	23	47	08.36	+10	41	18.7		6 675
7			1980	09	14.37327	23	46	17.99	+10	37	16.1		6 675
38			1990	09	19.24244	22	26	59.06	-01	16	47.2		9 675
38			1990	09	19.27587	22	26	57.47	-01	16	54.9		9 675
47			1977	02	11.22778	09	36	02.49	+19	24	08.3		6 675
47			1977	02	12.26077	09	35	07.54	+19	27	33.7		6 675
117			1977	02	12.20313	09	18	05.05	+28	19	47.8		6 675
117			1977	02	13.24410	09	17	01.66	+28	19	23.8		6 675
137			1980	09	13.34340	23	38	33.53	+08	37	25.8		6 675
137			1980	09	14.37327	23	37	53.48	+08	27	28.1		6 675
144			1990	01	27.40746	09	00	47.04	+23	08	59.1		9 675
144			1990	01	27.44288	09	00	44.85	+23	09	10.5		9 675
144			1990	01	30.32586	08	57	52.48	+23	23	26.4		9 675
144			1990	01	30.35833	08	57	50.48	+23	23	36.2		9 675
144			1990	02	23.18454	08	36	18.04	+24	46	31.0		9 675
144			1990	02	23.20642	08	36	17.07	+24	46	33.3		9 675
200			1990	02	23.18454	08	22	55.63	+21	18	19.9		9 675
200			1990	02	23.20642	08	22	54.59	+21	18	17.6		9 675
288			1977	02	11.22778	09	13	34.10	+18	24	11.0		6 675
288			1977	02	12.26077	09	12	37.63	+18	30	24.3		6 675
368			1980	09	13.45799	00	24	35.81	+12	16	48.0		6 675
368			1980	09	14.48785	00	23	55.97	+12	11	04.7		6 675
465			1990	09	16.25504	22	15	57.71	-06	15	21.7		9 675
465			1990	09	16.29149	22	15	56.21	-06	15	29.8		9 675
465			1990	09	19.24244	22	14	04.09	-06	25	30.0		9 675
465			1990	09	19.27587	22	14	02.74	-06	25	36.8		9 675
494			1979	09	20.29965	23	57	42.03	-08	00	59.9		6 675
494			1979	09	21.29827	23	56	53.11	-08	04	27.1		6 675
521			1977	02	12.20313	09	20	33.18	+28	46	29.7		6 675
521			1977	02	13.24410	09	19	32.40	+28	52	15.1		6 675
541			1980	09	13.45799	00	27	48.31	+12	49	35.9		6 675
541			1980	09	14.48785	00	27	03.30	+12	45	57.3		6 675
624			1977	02	12.20313	09	15	41.25	+26	58	48.9		6 675
624			1977	02	13.24410	09	15	01.53	+26	59	11.7		6 675
763			1990	09	17.16302	21	38	30.92	-07	40	55.4		9 675
763			1990	09	17.19462	21	38	29.77	-07	41	00.0		9 675
763			1990	09	20.21181	21	37	00.64	-07	47	44.3		9 675

763	1990	09	20.24184	21	36	59.72	-07	47	48.3		9	675
767	1979	09	20.29965	23	49	44.72	-05	27	34.9		6	675
767	1979	09	21.29827	23	49	00.08	-05	32	08.6		6	675
778	1980	09	13.40035	23	57	10.22	+12	25	53.4		6	675
778	1980	09	14.43021	23	56	18.20	+12	25	22.3		6	675
857	1990	01	27.40746	09	23	08.83	+22	32	24.6	15.2	9	675
857	1990	01	27.44288	09	23	06.56	+22	32	40.0		9	675
857	1990	01	30.32586	09	20	00.29	+22	52	53.6	15.5	9	675
857	1990	01	30.35833	09	19	58.08	+22	53	07.0		9	675
857	1990	02	23.18454	08	54	23.63	+25	00	09.9		9	675
857	1990	02	23.20642	08	54	22.31	+25	00	14.4		9	675
913	1990	01	27.40746	09	02	42.34	+22	35	17.9		9	675
913	1990	01	27.44288	09	02	39.92	+22	35	32.7		9	675
913	1990	01	30.32586	08	59	27.14	+22	55	01.0		9	675
913	1990	01	30.35833	08	59	24.89	+22	55	15.4		9	675
913	1990	02	23.18454	08	34	09.66	+24	59	04.3		9	675
913	1990	02	23.20642	08	34	08.46	+24	59	09.0		9	675
1125	1979	09	20.29965	23	52	48.60	-05	28	02.8		6	675
1125	1979	09	21.29827	23	52	04.18	-05	33	00.6		6	675
1169	1990	09	16.25504	22	00	34.47	-04	42	53.4	16.2	9	675
1169	1990	09	16.29149	22	00	32.36	-04	42	58.7		9	675
1169	1990	09	17.16302	21	59	53.37	-04	47	49.2	16.5	9	675
1169	1990	09	17.19462	21	59	51.87	-04	47	59.2		9	675
1169	1990	09	20.21181	21	57	43.16	-05	04	02.1		9	675
1169	1990	09	20.24184	21	57	41.87	-05	04	12.0		9	675
1188	1977	02	11.22778	09	37	07.75	+20	16	07.8		6	675
1188	1977	02	12.26077	09	35	54.63	+20	20	02.3		6	675
1215	1990	01	27.40746	08	57	37.60	+20	09	12.4		9	675
1215	1990	01	27.44288	08	57	35.53	+20	09	35.2		9	675
1215	1990	01	30.32586	08	54	52.20	+20	39	01.4		9	675
1215	1990	01	30.35833	08	54	50.27	+20	39	20.4		9	675
1215	1990	02	23.18454	08	34	24.45	+24	06	30.4		9	675
1215	1990	02	23.20642	08	34	23.55	+24	06	39.5		9	675
1302	1979	09	20.29965	00	06	44.44	-03	30	26.5		6	675
1302	1979	09	21.29827	00	05	59.93	-03	35	24.6		6	675
1308	1990	01	27.40746	08	52	58.05	+23	49	01.4	15.5	9	675
1308	1990	01	27.44288	08	52	56.02	+23	49	06.2		9	675
1308	1990	01	30.32586	08	50	11.80	+23	56	08.1		9	675
1308	1990	01	30.35833	08	50	09.88	+23	56	15.0		9	675
1308	1990	02	23.18454	08	29	40.12	+24	23	56.7	16.5	9	675
1308	1990	02	23.20642	08	29	39.19	+24	23	57.6		9	675
1312	1990	01	27.40746	09	01	03.48	+18	01	04.0		9	675
1312	1990	01	27.44288	09	01	01.72	+18	01	26.8		9	675
1312	1990	01	30.32586	08	58	37.76	+18	29	35.4		9	675
1312	1990	01	30.35833	08	58	36.11	+18	29	54.3		9	675
1312	1990	02	23.18454	08	40	14.20	+21	58	45.5		9	675
1312	1990	02	23.20642	08	40	13.33	+21	58	55.1		9	675
1332	1977	02	11.22778	09	13	00.46	+19	10	57.2		6	675
1332	1977	02	12.26077	09	12	09.07	+19	14	13.0		6	675
1362	1990	01	27.40746	08	53	00.32	+22	46	02.7		9	675
1362	1990	01	27.44288	08	52	58.40	+22	46	22.1		9	675
1362	1990	01	30.32586	08	50	23.37	+23	14	14.5		9	675
1362	1990	01	30.35833	08	50	21.50	+23	14	33.4		9	675
1362	1990	02	23.18454	08	31	16.28	+26	23	29.8		9	675
1362	1990	02	23.20642	08	31	15.39	+26	23	38.0		9	675
1399	1979	09	20.29965	00	06	57.97	-03	40	29.3		6	675
1399	1979	09	21.29827	00	06	13.72	-03	51	45.5		6	675
1420	1990	09	16.25504	22	16	42.47	-04	43	58.5	15.8	9	675
1420	1990	09	16.29149	22	16	40.94	-04	44	08.9		9	675

1420	1990	09	19.24244	22	14	46.25	-04	57	31.9		9 675
1420	1990	09	19.27587	22	14	44.93	-04	57	39.7		9 675
1433	1990	01	27.40746	08	48	07.60	+21	04	07.4		9 675
1433	1990	01	27.44288	08	48	05.32	+21	04	10.8		9 675
1478	1990	09	16.25504	22	18	29.22	-05	11	50.5	16.5	9 675
1478	1990	09	16.29149	22	18	27.31	-05	11	57.0		9 675
1478	1990	09	19.24244	22	16	01.12	-05	20	06.7	17.0	9 675
1478	1990	09	19.27587	22	15	59.47	-05	20	11.4		9 675
1481	1990	01	27.40746	09	18	39.25	+19	08	06.5		9 675
1481	1990	01	27.44288	09	18	37.42	+19	08	14.7		9 675
1481	1990	01	30.32586	09	16	11.40	+19	17	37.2		9 675
1481	1990	01	30.35833	09	16	09.79	+19	17	43.9		9 675
1532	1977	02	11.22778	09	26	54.86	+17	45	29.2		6 675
1532	1977	02	12.26077	09	25	57.50	+17	46	52.9		6 675
1549	1990	01	27.40746	09	04	30.29	+24	24	25.5		9 675
1549	1990	01	27.44288	09	04	27.94	+24	24	41.1		9 675
1549	1990	01	30.32586	09	01	22.18	+24	45	50.0		9 675
1549	1990	01	30.35833	09	01	19.89	+24	46	03.9		9 675
1549	1990	02	23.18454	08	38	12.50	+26	42	11.6		9 675
1549	1990	02	23.20642	08	38	11.50	+26	42	14.6		9 675
1598	1980	09	13.34340	23	43	55.37	+10	10	04.3		6 675
1598	1980	09	14.37327	23	42	54.22	+10	06	12.7		6 675
1605	1990	09	17.16302	21	57	42.91	-07	42	51.4	15.5	9 675
1605	1990	09	17.19462	21	57	41.83	-07	43	03.5		9 675
1605	1990	09	20.21181	21	56	08.37	-08	02	31.8		9 675
1605	1990	09	20.24184	21	56	07.40	-08	02	43.5		9 675
1640	1977	02	11.22778	09	32	29.40	+21	12	55.8		6 675
1640	1977	02	12.26077	09	31	19.09	+21	16	26.1		6 675
1738	1990	01	30.32586	09	18	22.43	+23	54	16.0		9 675
1738	1990	02	23.18454	08	51	55.12	+25	25	32.2	17.5	9 675
1738	1990	02	23.20642	08	51	53.83	+25	25	35.0		9 675
1760	1980	09	13.40035	23	52	43.62	+09	38	14.6		6 675
1760	1980	09	14.43021	23	52	01.32	+09	33	05.9		6 675
1897	1990	01	27.40746	09	24	38.45	+21	38	34.0		9 675
1897	1990	01	27.44288	09	24	36.11	+21	38	47.4		9 675
1897	1990	01	30.32586	09	21	34.42	+21	55	23.7		9 675
1897	1990	01	30.35833	09	21	32.32	+21	55	34.8		9 675
1897	1990	02	23.20642	08	56	35.00	+23	40	39.1		9 675
2013	1990	01	27.40746	09	02	38.44	+23	37	04.5	16.5	9 675
2013	1990	01	27.44288	09	02	36.15	+23	37	18.6		9 675
2013	1990	01	30.32586	08	59	28.81	+23	56	11.1		9 675
2013	1990	01	30.35833	08	59	26.73	+23	56	25.5		9 675
2013	1990	02	23.18454	08	35	29.84	+25	52	19.7	17.2	9 675
2013	1990	02	23.20642	08	35	28.75	+25	52	23.7		9 675
2052	1980	09	13.40035	00	13	46.36	+10	02	00.5		6 675
2052	1980	09	14.43021	00	13	06.01	+09	55	43.6		6 675
2117	1977	02	11.22778	09	35	16.13	+18	52	43.0		6 675
2117	1977	02	12.26077	09	34	21.97	+18	57	08.0		6 675
2178	1977	02	11.22778	09	31	58.44	+18	51	01.7		6 675
2178	1977	02	12.26077	09	30	48.14	+18	55	30.3		6 675
2251	1990	09	17.16302	21	45	29.61	-05	59	11.9	15.5	9 675
2251	1990	09	17.19462	21	45	28.65	-05	59	25.6		9 675
2251	1990	09	20.21181	21	44	09.87	-06	21	09.0	16.8	9 675
2251	1990	09	20.24184	21	44	09.10	-06	21	22.1		9 675
2257	1990	09	16.25504	22	02	59.59	-01	38	59.2		9 675
2257	1990	09	16.29149	22	02	58.38	-01	39	13.7		9 675
2257	1990	09	20.21181	22	01	13.03	-02	04	23.4		9 675
2257	1990	09	20.24184	22	01	12.21	-02	04	34.2		9 675
2339	1990	01	27.40746	08	57	42.57	+24	05	26.1	17.8	9 675

2339	1990	01	27.44288	08	57	40.33	+24	05	33.0		9 675
2339	1990	01	30.32586	08	54	37.56	+24	15	35.7	17.5	9 675
2339	1990	01	30.35833	08	54	35.41	+24	15	42.8		9 675
2339	1990	02	23.18454	08	31	50.10	+25	02	47.7	18.2	9 675
2339	1990	02	23.20642	08	31	49.12	+25	02	51.5		9 675
2345	1990	09	16.25504	22	17	38.32	-01	48	06.3		9 675
2345	1990	09	16.29149	22	17	36.73	-01	48	13.1		9 675
2345	1990	09	19.24244	22	15	33.38	-01	57	07.4	16.5	9 675
2345	1990	09	19.27587	22	15	32.04	-01	57	13.2		9 675
2487	1990	01	30.32586	09	15	21.12	+18	40	58.2		9 675
2487	1990	01	30.35833	09	15	18.90	+18	41	04.6		9 675
2521	1990	09	17.16302	21	56	03.86	-02	35	09.0	16.5	9 675
2521	1990	09	17.19462	21	56	02.56	-02	35	14.1		9 675
2521	1990	09	20.21181	21	54	12.04	-02	47	07.2		9 675
2521	1990	09	20.24184	21	54	11.00	-02	47	14.3		9 675
2566	1990	01	27.40746	09	19	09.93	+24	54	20.5		9 675
2566	1990	01	27.44288	09	19	07.85	+24	54	32.4		9 675
2566	1990	01	30.32586	09	16	14.13	+25	10	24.5		9 675
2566	1990	01	30.35833	09	16	12.04	+25	10	34.4		9 675
2566	1990	02	23.18454	08	52	49.94	+26	31	43.4		9 675
2566	1990	02	23.20642	08	52	48.84	+26	31	44.1		9 675
2600	1977	02	12.20313	09	05	33.86	+27	40	14.8		6 675
2600	1977	02	13.24410	09	04	41.52	+27	45	10.0		6 675
2629	1980	09	13.34340	23	23	12.36	+06	36	01.9		6 675
2650	1980	09	13.34340	23	42	36.60	+09	34	55.2		6 675
2650	1980	09	14.37327	23	41	29.80	+09	38	23.5		6 675
2842	1980	09	13.34340	23	25	23.22	+10	02	24.9		6 675
2842	1980	09	14.37327	23	24	25.56	+09	59	35.9		6 675
2858	1991	04	09.26372	12	46	07.66	+06	13	30.1	16.5	2 675
2858	1991	04	09.29184	12	46	06.00	+06	13	41.1		2 675
2858	1991	04	11.31753	12	44	09.82	+06	27	39.5		2 675
2858	1991	04	11.34566	12	44	08.20	+06	27	49.5		2 675
2858	1991	04	13.36250	12	42	13.90	+06	40	59.1		2 675
2947	1990	09	19.24244	22	32	22.92	-04	04	54.6		9 675
2947	1990	09	19.27587	22	32	21.07	-04	05	05.3		9 675
2963	1990	01	27.40746	09	16	58.16	+20	05	40.2		9 675
2963	1990	01	27.44288	09	16	56.28	+20	05	52.5		9 675
2963	1990	01	30.32586	09	14	23.39	+20	18	00.8		9 675
2963	1990	01	30.35833	09	14	21.61	+20	18	09.2		9 675
2963	1990	02	23.18454	08	53	52.94	+21	37	21.0	17.8	9 675
2963	1990	02	23.20642	08	53	52.13	+21	37	27.0		9 675
2985	1990	01	27.40746	09	09	58.91	+20	26	11.1		9 675
2985	1990	01	27.44288	09	09	56.99	+20	26	20.3		9 675
2985	1990	01	30.32586	09	07	22.47	+20	37	36.0		9 675
2985	1990	01	30.35833	09	07	20.67	+20	37	43.7		9 675
2985	1990	02	23.18454	08	46	51.30	+21	50	14.6		9 675
2985	1990	02	23.20642	08	46	50.30	+21	50	16.2		9 675
3141	1990	09	16.25504	22	18	11.02	-05	33	11.4	16.5	9 675
3141	1990	09	16.29149	22	18	09.52	-05	33	16.2		9 675
3141	1990	09	19.24244	22	16	14.68	-05	39	06.7	16.8	9 675
3141	1990	09	19.27587	22	16	13.36	-05	39	10.8		9 675
3238	1979	09	20.29965	00	01	33.84	-05	12	41.1		6 675
3238	1979	09	21.29827	00	00	32.02	-05	13	03.7		6 675
3274	1990	01	27.40746	09	01	57.27	+18	41	51.0		9 675
3274	1990	01	27.44288	09	01	55.60	+18	41	56.0		9 675
3274	1990	01	30.32586	08	59	34.58	+18	51	46.5		9 675
3274	1990	01	30.35833	08	59	32.93	+18	51	53.1		9 675
3274	1990	02	23.18454	08	40	58.96	+20	00	39.6		9 675
3274	1990	02	23.20642	08	40	57.99	+20	00	41.6		9 675

3299	1990	09	17.16302	21	40	49.18	-04	32	56.3		17.8	9 675
3299	1990	09	17.19462	21	40	47.89	-04	33	06.2			9 675
3299	1990	09	20.21181	21	39	00.11	-04	48	57.3			9 675
3299	1990	09	20.24184	21	38	59.03	-04	49	08.1			9 675
3402	1977	02	11.22778	09	27	47.29	+19	58	52.2			6 675
3402	1977	02	12.26077	09	26	33.97	+20	03	07.9			6 675
3618	1990	09	16.25504	22	31	12.61	-06	00	58.6			9 675
3618	1990	09	16.29149	22	31	11.20	-06	01	07.8			9 675
3618	1990	09	19.24244	22	29	24.32	-06	14	08.8		16.5	9 675
3618	1990	09	19.27587	22	29	23.07	-06	14	17.9			9 675
3669	1990	01	30.32586	09	23	42.24	+21	51	52.7			9 675
3669	1990	01	30.35833	09	23	40.14	+21	52	08.1			9 675
3684	1990	01	27.40746	08	55	40.45	+25	07	11.4		16.5	9 675
3684	1990	01	27.44288	08	55	38.28	+25	07	30.0			9 675
3829	1990	09	16.25504	22	17	31.23	-04	56	04.3		17.0	9 675
3829	1990	09	16.29149	22	17	29.76	-04	56	20.3			9 675
3829	1990	09	19.24244	22	15	35.44	-05	14	20.2		17.2	9 675
3829	1990	09	19.27587	22	15	34.12	-05	14	31.9			9 675
3912	1990	01	30.32586	09	22	11.44	+19	33	58.4			9 675
3912	1990	01	30.35833	09	22	09.38	+19	34	06.8			9 675
3920	1990	01	27.40746	08	52	02.43	+20	53	59.1			9 675
3920	1990	01	27.44288	08	51	59.97	+20	54	17.0			9 675
3920	1990	01	30.32586	08	48	47.09	+21	16	07.0			9 675
3920	1990	01	30.35833	08	48	44.83	+21	16	21.3			9 675
3920	1990	02	23.18454	08	25	21.95	+23	38	29.0		17.8	9 675
3920	1990	02	23.20642	08	25	20.93	+23	38	34.4			9 675
3922	1990	01	30.32586	09	09	38.21	+18	08	55.7			9 675
3922	1990	01	30.35833	09	09	36.55	+18	09	01.8			9 675
3930	1990	02	23.18454	08	30	32.00	+20	38	43.5			9 675
3930	1990	02	23.20642	08	30	31.12	+20	38	46.9			9 675
3964	1990	01	30.32586	09	22	16.74	+19	46	29.7		18.0	9 675
3964	1990	01	30.35833	09	22	14.85	+19	46	33.0			9 675
3983	1990	01	27.40746	09	09	06.85	+17	52	41.2			9 675
3983	1990	01	27.44288	09	09	04.69	+17	52	49.8			9 675
3983	1990	01	30.32586	09	06	08.11	+18	01	57.2			9 675
3983	1990	01	30.35833	09	06	05.99	+18	02	01.8			9 675
4070	1990	09	17.16302	21	49	19.39	-05	14	00.0		16.0	9 675
4070	1990	09	17.19462	21	49	18.23	-05	14	09.2			9 675
4070	1990	09	20.21181	21	47	45.92	-05	28	34.4			9 675
4070	1990	09	20.24184	21	47	44.97	-05	28	43.4			9 675
4105	1990	09	16.25504	22	06	34.07	-03	55	18.7			9 675
4105	1990	09	16.29149	22	06	32.78	-03	55	34.3			9 675
4105	1990	09	17.16302	22	06	03.62	-04	01	41.1		16.5	9 675
4105	1990	09	17.19462	22	06	02.50	-04	01	54.1			9 675
4105	1990	09	19.24244	22	04	57.53	-04	15	58.9		17.0	9 675
4105	1990	09	19.27587	22	04	56.30	-04	16	15.2			9 675
4105	1990	09	20.21181	22	04	28.51	-04	22	34.5		17.2	9 675
4105	1990	09	20.24184	22	04	27.53	-04	22	46.8			9 675
4176	1979	09	20.29965	23	48	13.18	-04	52	36.5			6 675
4176	1979	09	21.29827	23	47	29.35	-04	57	38.0			6 675
4251	1977	02	11.22778	09	23	53.93	+17	42	10.5			6 675
4251	1977	02	12.26077	09	22	50.32	+17	48	29.5			6 675
4266	1990	09	19.24244	22	25	38.16	-01	01	44.2		17.5	9 675
4266	1990	09	19.27587	22	25	36.64	-01	01	48.8			9 675
4296	1977	02	12.20313	08	57	37.90	+26	46	42.7			6 675
4296	1977	02	13.24410	08	56	27.90	+26	47	36.6			6 675
4325	1979	09	20.29965	23	59	14.09	-08	31	48.8			6 675
4325	1979	09	21.29827	23	58	24.06	-08	36	20.3			6 675
4329	1977	02	11.22778	09	24	58.11	+23	19	12.0			6 675

4329		1977	02	12.26077	09	23	46.12	+23	21	44.5		6 675
4337		1990	02	23.18454	08	25	20.50	+22	31	44.1		9 675
4337		1990	02	23.20642	08	25	19.69	+22	31	47.3		9 675
4458		1990	01	27.40746	09	08	51.30	+20	46	11.3		9 675
4458		1990	01	27.44288	09	08	49.11	+20	46	26.7		9 675
4458		1990	01	30.32586	09	05	59.44	+21	05	35.1		9 675
4458		1990	01	30.35833	09	05	57.43	+21	05	48.7		9 675
4458		1990	02	23.18454	08	44	34.38	+23	05	54.5	16.5	9 675
4458		1990	02	23.20642	08	44	33.33	+23	05	57.5		9 675
4573		1980	09	13.34340	23	44	15.08	+10	54	32.4		6 675
4573		1980	09	14.37327	23	43	26.87	+10	51	23.7		6 675
4589		1990	09	17.16302	21	58	18.54	-09	28	10.2		9 675
4589		1990	09	17.19462	21	58	17.59	-09	28	19.4		9 675
4589		1990	09	20.21181	21	56	58.24	-09	42	12.6		9 675
4589		1990	09	20.24184	21	56	57.41	-09	42	19.2		9 675
4593		1990	01	27.40746	09	16	46.92	+25	25	23.8	17.2	9 675
4593		1990	01	27.44288	09	16	44.94	+25	25	29.0		9 675
4593		1990	01	30.32586	09	14	01.09	+25	31	41.1		9 675
4593		1990	01	30.35833	09	13	59.17	+25	31	44.2		9 675
4593		1990	02	23.20642	08	52	20.00	+25	48	15.1	18.0	9 675
4598		1990	09	16.25504	22	08	15.53	-03	01	08.5	16.8	9 675
4598		1990	09	16.29149	22	08	14.29	-03	01	25.4		9 675
4598		1990	09	19.24244	22	06	39.65	-03	24	07.3		9 675
4598		1990	09	19.27587	22	06	38.56	-03	24	21.3		9 675
4598		1990	09	20.21181	22	06	10.37	-03	31	28.1		9 675
4598		1990	09	20.24184	22	06	09.42	-03	31	41.5		9 675
4606		1990	09	17.16302	21	50	35.53	-08	34	01.8	17.0	9 675
4606		1990	09	17.19462	21	50	34.07	-08	34	10.4		9 675
4606		1990	09	20.21181	21	48	35.11	-08	48	20.5		9 675
4606		1990	09	20.24184	21	48	33.81	-08	48	29.3		9 675
4638		1990	09	17.16302	21	53	38.30	-07	20	52.0	17.5	9 675
4638		1990	09	17.19462	21	53	36.78	-07	20	59.6		9 675
4638		1990	09	20.21181	21	51	34.02	-07	33	48.3		9 675
4638		1990	09	20.24184	21	51	32.84	-07	33	56.3		9 675
4650		1990	09	16.29149	22	08	33.67	-05	44	40.5	16.2	9 675
4650		1990	09	17.16302	22	07	51.45	-05	47	04.9	16.5	9 675
4650		1990	09	17.19462	22	07	49.81	-05	47	10.4		9 675
4650		1990	09	19.24244	22	06	14.54	-05	52	39.2	16.5	9 675
4650		1990	09	19.27587	22	06	12.97	-05	52	44.7		9 675
4650		1990	09	20.21181	22	05	31.96	-05	55	08.2		9 675
4650		1990	09	20.24184	22	05	30.54	-05	55	13.3		9 675
4659		1977	02	11.22778	09	35	53.44	+17	58	31.8		6 675
4659		1977	02	12.26077	09	34	46.42	+18	03	10.7		6 675
4715		1990	11	11.27135	02	00	32.66	+28	06	33.7	17.2	3 675
4715		1990	11	11.30382	02	00	31.41	+28	06	29.1		3 675
4715		1990	11	15.23663	01	58	13.79	+27	58	24.0		3 675
4715		1990	11	15.26753	01	58	12.70	+27	58	19.5		3 675
4775		1977	02	11.22778	09	21	22.97	+19	52	40.2	18.8V	6 675
4775		1977	02	12.26077	09	20	16.25	+19	55	34.7		6 675

688 Lowell Observatory, Anderson Mesa Station
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff
AZ 86001, U.S.A.
Observer H. L. Giclas
Measurer C. M. Olmstead
0.33-m photographic telescope

1978 UP		1978	10	28.21528	02	06	34.86	+09	20	49.5		F 688
1978 UP		1978	10	28.24375	02	06	33.61	+09	20	42.5		F 688

690 Lowell Observatory
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observers C. W. Tombaugh, H. L. Giclas
Measurer C. M. Olmstead

1929	SN	1929	09	29.24097	23	58	41.04	+05	16	38.3	690
1929	SN	1929	10	09.25000	23	52	35.89	+03	34	38.9	690
1931	KH	1931	05	21.39305	16	45	10.67	-12	47	19.7	690
1931	KH	1931	05	22.38819	16	44	20.63	-12	46	25.4	690
1931	KH	1931	05	23.38541	16	43	29.09	-12	45	37.4	690
1947	LL	1947	06	15.31014	17	41	49.10	-22	05	36.7	690
1947	LL	1947	06	16.28587	17	40	53.66	-22	08	10.4	R 690
8		1931	05	21.39305	16	57	04.02	-15	59	23.2	690
8		1931	05	22.38819	16	56	04.62	-15	58	35.6	690
8		1931	05	23.38541	16	55	04.18	-15	57	50.7	690
129		1931	01	16.27222	07	31	03.54	+14	28	32.9	690
129		1931	01	17.25694	07	30	10.85	+14	33	16.3	690
129		1931	01	19.23194	07	28	25.94	+14	42	56.0	690
163		1931	05	21.39305	16	57	30.43	-15	08	59.9	690
163		1931	05	22.38819	16	56	34.17	-15	06	39.0	690
163		1931	05	23.38541	16	55	37.13	-15	04	21.4	690
233		1931	05	21.39305	16	32	28.74	-17	05	25.0	690
233		1931	05	22.38819	16	31	36.77	-17	00	26.4	690
233		1931	05	23.38541	16	30	44.25	-16	55	30.0	690
241		1947	06	15.31014	18	00	17.18	-23	59	58.1	690
241		1947	06	16.28587	17	59	26.52	-23	58	18.6	690
305		1947	06	15.31014	17	48	55.55	-18	17	18.4	D 690
305		1947	06	16.28587	17	48	08.73	-18	16	32.4	690
336		1931	01	16.27222	07	20	41.73	+14	11	03.9	690
336		1931	01	17.25694	07	19	36.01	+14	12	20.2	690
336		1931	01	19.23194	07	17	25.69	+14	15	04.4	690
558		1931	05	21.39305	17	00	40.50	-10	45	20.2	690
558		1931	05	22.38819	16	59	55.19	-10	43	33.9	690
558		1931	05	23.38541	16	59	09.22	-10	41	47.9	690
593		1947	06	15.31014	18	03	07.00	-28	46	25.4	690
593		1947	06	16.28587	18	02	07.81	-28	50	20.3	690
683		1947	06	15.31014	17	45	06.45	-20	49	34.7	690
683		1947	06	16.28587	17	44	14.49	-20	44	13.1	690
690		1947	06	15.31014	17	44	50.90	-20	06	49.8	690
690		1947	06	16.28587	17	44	01.22	-20	03	37.6	690
708		1947	06	15.31014	18	11	44.50	-29	07	40.4	690
868		1931	05	21.39305	16	55	50.83	-16	18	03.8	690
868		1931	05	22.38819	16	55	00.70	-16	17	05.8	690
868		1931	05	23.38541	16	54	09.76	-16	16	06.1	690
924		1931	01	16.27222	07	34	44.24	+13	26	10.0	690
924		1931	01	17.25694	07	33	52.75	+13	30	35.1	690
924		1931	01	19.23194	07	32	10.17	+13	39	30.3	690
999		1931	05	21.39305	16	50	01.27	-13	52	29.1	690
999		1931	05	22.38819	16	49	11.60	-13	46	18.0	690
999		1931	05	23.38541	16	48	20.78	-13	40	01.9	690
1001		1931	01	16.27222	07	19	34.77	+14	46	38.9	690
1001		1931	01	17.25694	07	18	43.41	+14	46	16.7	690
1001		1931	01	19.23194	07	17	02.11	+14	45	40.8	690
1362		1931	01	16.27222	07	43	51.60	+16	48	55.9	690
1362		1931	01	17.25694	07	42	57.49	+16	58	41.2	690
1362		1931	01	19.23194	07	41	09.85	+17	18	09.1	690
2068		1931	05	21.39305	16	57	59.10	-13	55	52.4	690
2068		1931	05	22.38819	16	57	08.87	-13	56	44.2	690
2068		1931	05	23.38541	16	56	17.76	-13	57	36.7	690

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

1988 TJ1		1991 05 11.33988	17 04 14.72	-06 02 29.1			691
1988 TJ1		1991 05 11.36002	17 04 13.34	-06 01 58.5		20.1V	691
1988 TJ1		1991 05 12.33590	17 03 10.15	-05 37 28.3			691
1990 SS		1991 04 18.22269	10 25 34.43	-16 31 43.1			691
1990 SS		1991 04 18.22722	10 25 34.83	-16 31 51.1		18.7V	691
1990 SS		1991 04 18.24015	10 25 35.98	-16 32 13.5			691
1991 DK1		1991 04 18.21422	10 56 28.00	+12 09 15.9			691
1991 DK1		1991 04 18.25416	10 56 27.34	+12 09 16.1			691
1991 DK1		1991 04 18.28889	10 56 26.72	+12 09 15.7		20.3V	691
1991 EE		1991 04 18.17917	10 09 40.78	+16 10 09.0			691
1991 EE		1991 04 18.18378	10 09 40.55	+16 10 12.3		19.5V	691
1991 EE		1991 04 18.19463	10 09 39.97	+16 10 20.7			691
1991 EE		1991 05 10.14883	10 04 16.84	+19 29 31.8			691
1991 EE		1991 05 10.16286	10 04 17.02	+19 29 37.0		19.6V	691
1991 EE		1991 05 10.17796	10 04 17.25	+19 29 42.4			691
1991 FA		1991 04 18.17303	10 59 06.90	+03 52 25.7		20.2V	691
1991 FA		1991 04 18.20076	10 59 06.64	+03 52 25.5			691
1991 FA		1991 04 18.24703	10 59 06.25	+03 52 26.1			691
1991 FE		1991 04 18.26617	11 18 29.16	+05 28 05.1		19.1V	691
1991 FE		1991 04 18.27091	11 18 29.00	+05 28 06.3			691
1991 FE		1991 04 18.28164	11 18 28.66	+05 28 08.6			691
1991 GJ		1991 04 09.29838	12 44 33.32	-01 35 57.5		20.0V	691
1991 GJ		1991 04 17.39404	12 35 58.86	-00 55 06.1		20.7V	691
1991 GJ		1991 04 17.39851	12 35 58.62	-00 55 05.4			691
1991 GJ		1991 04 17.41096	12 35 57.80	-00 55 01.6			691
1991 GK		1991 04 17.36828	12 52 00.39	-08 08 32.9		19.8V	691
1991 GK		1991 04 17.37278	12 51 59.91	-08 08 43.9			691
1991 GK		1991 04 17.38774	12 51 57.93	-08 09 18.1			691
1991 JM	*	1991 05 05.35503	14 51 10.19	+03 16 44.1			691
1991 JM		1991 05 05.37589	14 51 08.09	+03 16 35.3			691
1991 JM		1991 05 05.41166	14 51 04.54	+03 16 20.3		19.9V	691
1991 JM		1991 05 06.29068	14 49 39.57	+03 09 54.9			691
1991 JM		1991 05 06.30329	14 49 38.26	+03 09 49.7		19.9V	691
1991 JM		1991 05 06.32463	14 49 36.15	+03 09 39.6			691
1991 JM		1991 05 08.28190	14 46 26.63	+02 54 40.9		20.0V	691
1991 JM		1991 05 08.29025	14 46 25.81	+02 54 37.0			691
1991 JM		1991 05 08.30109	14 46 24.71	+02 54 31.9			691
1991 JN	*	1991 05 06.35293	15 03 53.57	-00 22 23.2			691
1991 JN		1991 05 06.37436	15 03 52.46	-00 21 31.5			691
1991 JN		1991 05 06.39817	15 03 51.29	-00 20 34.9		19.8V	691
1991 JN		1991 05 07.28310	15 03 11.33	+00 14 28.6			691
1991 JN		1991 05 07.29177	15 03 10.87	+00 14 49.5			691
1991 JN		1991 05 07.31042	15 03 09.93	+00 15 33.1		19.8V	691
1991 JN		1991 05 08.30830	15 02 23.99	+00 54 33.6			691
1991 JN		1991 05 08.31780	15 02 23.55	+00 54 55.7		19.9V	691
1991 JN		1991 05 08.32900	15 02 22.94	+00 55 21.5			691
1991 JR	*	1991 05 08.44749	16 08 02.19	+05 56 34.0			691
1991 JR		1991 05 08.46907	16 08 04.59	+05 54 58.0		19.5V	691
1991 JR		1991 05 10.19735	16 12 29.51	+03 36 53.5			691
1991 JR		1991 05 10.20622	16 12 30.74	+03 36 08.2		19.4V	691
1991 JR		1991 05 10.21670	16 12 32.16	+03 35 13.2			691

1991	JR		1991	05	11.22728	16	15	15.93	+02	02	58.2		691
1991	JR		1991	05	11.23161	16	15	16.54	+02	02	34.1	18.9V	691
1991	JR		1991	05	11.24196	16	15	17.96	+02	01	33.8		691
1991	JR		1991	05	11.40483	16	15	39.54	+01	45	48.5		691
1991	JR		1991	05	11.40925	16	15	40.08	+01	45	23.1	18.7V	691
1991	JR		1991	05	11.42017	16	15	41.62	+01	44	18.5		691
1991	JR		1991	05	12.28885	16	18	19.18	+00	15	46.5	19.2V	691
1991	JR		1991	05	12.29347	16	18	19.89	+00	15	17.4		691
1991	JR		1991	05	12.30373	16	18	21.35	+00	14	11.4		691
1991	JV	*	1991	05	08.42134	16	00	39.32	+05	47	25.3	19.3V	691
1991	JV		1991	05	08.44236	16	00	37.54	+05	47	19.2		691
1991	JV		1991	05	08.46390	16	00	35.73	+05	47	12.4		691
1991	JV		1991	05	11.24758	15	56	44.62	+05	32	06.8		691
1991	JV		1991	05	11.25207	15	56	44.24	+05	32	05.4		691
1991	JV		1991	05	11.26269	15	56	43.32	+05	32	01.4	19.7V	691
1991	JV		1991	05	11.42697	15	56	28.90	+05	31	04.2		691
1991	JV		1991	05	11.43134	15	56	28.50	+05	31	01.7		691
1991	JV		1991	05	11.44212	15	56	27.52	+05	30	58.8		691
1991	JV		1991	05	12.26824	15	55	17.83	+05	25	55.4		691
1991	JV		1991	05	12.27277	15	55	17.42	+05	25	53.6	19.3V	691
1991	JV		1991	05	12.28330	15	55	16.50	+05	25	49.9		691
3801			1991	04	22.26700	14	00	46.78	-10	17	47.7	18.8V	691
3801			1991	04	22.28737	14	00	46.17	-10	17	41.1		691
3801			1991	04	22.30784	14	00	45.58	-10	17	34.6		691

776 Foggy Bottom Observatory
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Hamilton, NY 13346, U.S.A.
0.40-m f/13 Cassegrain reflector + CCD
Long. and Parallax 284.47, -313, -288 (see MPC 16637)

1991	HA	*	1991	04	17.29948	12	53	43.5	-05	32	51	16.2R	776
1991	HA		1991	04	17.31748	12	53	42.5	-05	32	45		776
1991	HA		1991	04	17.34120	12	53	41.3	-05	32	36		776
1991	HA		1991	04	18.20929	12	52	58.5	-05	27	15		776
1991	HA		1991	04	18.21681	12	52	58.1	-05	27	13		776
1991	HA		1991	04	18.22822	12	52	57.6	-05	27	08		776

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

1973	UJ5		1991	04	14.30848	15	50	03.58	-18	22	03.4		801
1973	UJ5		1991	04	14.33661	15	50	02.78	-18	22	00.0		801
1973	UJ5		1991	04	19.31315	15	47	31.53	-18	10	15.9		801
1973	UJ5		1991	04	19.33872	15	47	30.67	-18	10	11.9		801
1974	VS		1991	04	19.07084	10	46	50.08	+10	58	30.0		801
1974	VS		1991	04	19.13078	10	46	49.11	+10	58	30.6		801
1975	XJ		1991	04	19.19007	13	06	34.34	+06	05	14.6		801
1975	XJ		1991	04	19.20515	13	06	33.59	+06	05	19.6		801
1977	EK1		1991	04	14.26198	14	19	10.00	-10	42	25.4		801
1977	EK1		1991	04	14.27575	14	19	09.37	-10	42	18.6		801
1977	EK1		1991	04	19.26625	14	15	19.41	-09	58	55.8		801
1977	EK1		1991	04	19.28851	14	15	18.29	-09	58	43.9		801
1978	TA7		1991	04	19.18751	13	03	32.15	+07	17	11.5		801
1978	TA7		1991	04	19.20756	13	03	31.26	+07	17	15.4		801
1979	KD		1991	04	19.11211	12	01	59.37	+08	49	21.3		801
1979	KD		1991	04	19.13951	12	01	58.42	+08	49	29.0		801
1979	ML		1991	04	12.37538	17	11	49.01	-09	57	27.1		801

1979	ML	1991	04	12.38225	17	11	49.26	-09	57	25.5	801
1980	NB	1991	04	14.20935	12	27	39.45	-05	07	29.9	801
1980	NB	1991	04	14.22244	12	27	38.76	-05	07	24.9	801
1981	ET26	1991	04	19.10927	11	30	24.50	+01	11	39.5	801
1981	ET26	1991	04	19.13711	11	30	23.42	+01	11	43.1	801
1982	EF	1991	04	12.34495	17	25	19.33	-05	14	26.9	801
1982	EF	1991	04	12.35995	17	25	19.58	-05	14	19.8	801
1982	EF	1991	04	19.33311	17	26	38.31	-04	17	38.1	801
1982	EF	1991	04	19.35993	17	26	38.42	-04	17	25.2	801
1982	VE4	1988	08	13.16086	21	24	12.61	-20	21	14.0	801
1984	EM	1987	01	29.23570	06	53	20.73	+19	29	11.9	801
1984	EM	1988	07	16.16527	18	33	02.92	-18	43	35.9	I 801
1984	EM	1991	04	14.21719	12	37	00.25	-01	34	19.1	801
1984	EM	1991	04	14.23338	12	36	59.38	-01	34	12.3	801
1984	FN	1991	04	12.27027	14	37	41.17	+01	19	36.4	801
1984	FN	1991	04	12.28693	14	37	39.61	+01	19	28.0	801
1984	FN	1991	04	14.27262	14	34	36.73	+01	02	30.4	801
1984	FN	1991	04	14.28219	14	34	35.81	+01	02	25.7	801
1984	FU	1991	04	19.22856	13	58	27.24	-13	49	46.9	801
1984	FU	1991	04	19.24875	13	58	25.88	-13	49	45.5	801
1985	KC	1986	12	02.09579	02	03	45.86	+21	59	16.8	W 801
1985	RK6	1991	04	19.22259	13	42	29.14	-08	57	40.5	801
1985	RK6	1991	04	19.23523	13	42	28.43	-08	57	33.2	801
1986	JQ	1991	04	12.10652	09	55	23.77	-12	41	50.3	801
1986	JQ	1991	04	12.12152	09	55	23.87	-12	41	34.0	801
1986	JQ	1991	04	19.06358	09	57	25.08	-10	42	24.1	801
1986	JQ	1991	04	19.07648	09	57	25.36	-10	42	11.2	801
1986	WB1	1991	04	19.17999	12	47	04.43	-10	30	52.6	801
1986	WB1	1991	04	19.19828	12	47	03.51	-10	30	44.1	801
1986	WL1	1991	04	19.06670	10	24	22.93	+17	20	49.0	801
1986	WL1	1991	04	19.09833	10	24	22.95	+17	20	39.3	801
1987	QU10	1991	04	19.27409	15	00	32.83	-12	30	54.1	801
1987	QU10	1991	04	19.30008	15	00	31.66	-12	30	48.9	801
1987	QY10	1991	04	14.32922	16	53	15.76	-08	12	06.9	801
1987	QY10	1991	04	14.35681	16	53	15.49	-08	12	00.8	801
1987	QY10	1991	04	19.31932	16	52	15.63	-07	53	57.0	801
1987	QY10	1991	04	19.35721	16	52	14.99	-07	53	47.3	801
1987	SJ5	1991	04	19.26848	14	54	13.27	-12	06	12.5	801
1987	SJ5	1991	04	19.29778	14	54	12.09	-12	06	00.1	801
1988	BW1	1991	04	13.26275	14	04	51.28	+02	59	24.8	801
1988	BW1	1991	04	13.28333	14	04	50.57	+02	59	26.4	801
1988	KA	1991	04	14.37282	17	58	39.34	-21	04	38.5	W 801
1988	KA	1991	04	14.37730	17	58	39.48	-21	04	38.8	801
1988	ME	1991	04	19.08266	11	16	46.30	+00	27	25.3	801
1988	RG4	1989	12	01.28291	05	48	22.35	+16	46	37.8	801
1988	RG4	1991	04	14.31238	15	46	47.15	-09	10	31.1	801
1988	RG4	1991	04	14.33985	15	46	46.38	-09	10	24.8	801
1988	RG4	1991	04	19.33053	15	44	13.99	-08	51	03.1	801
1988	RG4	1991	04	19.35424	15	44	13.15	-08	50	57.4	801
1988	RA5	1991	04	19.21594	13	11	18.00	-01	42	34.5	801
1988	RA5	1991	04	19.23061	13	11	17.18	-01	42	30.3	801
1988	RT6	1991	04	12.14205	12	18	01.65	+06	35	45.8	801
1988	RT6	1991	04	12.15712	12	18	00.99	+06	35	54.5	801
1988	RT6	1991	04	19.15182	12	13	25.30	+07	36	58.4	801
1988	RT6	1991	04	19.17064	12	13	24.58	+07	37	07.5	801
1988	VL	1991	04	19.27933	15	15	30.43	-09	06	04.8	801
1988	VL	1991	04	19.30267	15	15	29.47	-09	05	54.4	801
1988	VD1	1989	12	29.32994	09	17	58.38	+31	40	12.8	801
1988	VD1	1989	12	29.35930	09	17	57.22	+31	40	19.8	801

1989	AM2	1991	04	13.25481	14	01	04.93	+18	16	33.9	801
1989	AM2	1991	04	13.27594	14	01	04.25	+18	16	36.4	801
1989	AN2	1991	04	14.21304	12	41	18.03	+00	11	25.1	801
1989	AN2	1991	04	14.23611	12	41	17.40	+00	11	29.9	801
1989	CK1	1991	04	12.25453	14	32	03.36	+04	41	04.6	I 801
1989	CK1	1991	04	12.28904	14	32	02.40	+04	41	08.6	801
1989	CK1	1991	04	19.26303	14	28	29.13	+04	54	53.5	801
1989	CK1	1991	04	19.29072	14	28	28.24	+04	54	56.5	801
1989	EO11	1991	04	13.25883	13	48	42.04	+16	45	11.6	801
1989	EO11	1991	04	13.27988	13	48	41.39	+16	45	16.7	801
1989	QG	1991	02	16.08512	08	07	36.68	+11	27	39.5	801
1989	QG	1991	02	16.17756	08	07	32.55	+11	28	12.9	801
1989	UN2	1991	04	12.25105	14	30	32.83	+02	41	26.9	801
1989	UN2	1991	04	12.26150	14	30	32.37	+02	41	41.9	801
1989	UN2	1991	04	14.26924	14	29	07.32	+03	29	43.3	801
1989	UN2	1991	04	14.27975	14	29	06.84	+03	29	58.3	801
1989	WE	1991	04	12.15464	12	19	36.67	+04	14	50.9	801
1989	WE	1991	04	12.17963	12	19	35.55	+04	14	58.8	801
1989	WK	1991	04	19.07392	10	51	00.25	+04	27	34.7	801
1989	WK	1991	04	19.10397	10	50	59.67	+04	27	41.2	801
1989	WK2	1991	04	19.28494	15	09	19.38	+18	00	16.5	801
1989	WK2	1991	04	19.30874	15	09	18.30	+18	00	26.9	801
1989	YF	1991	04	19.33591	19	38	05.51	-14	46	23.7	801
1989	YF	1991	04	19.34416	19	38	06.29	-14	46	21.9	801
1990	BC1	1991	04	19.27676	14	57	11.52	-01	12	11.7	801
1990	BC1	1991	04	19.30522	14	57	10.33	-01	12	01.8	801
1990	BT1	1991	04	12.22557	13	36	56.30	+07	30	43.6	801
1990	BT1	1991	04	12.23995	13	36	55.65	+07	30	47.6	801
1990	DM	1991	04	14.33245	17	09	14.58	-10	56	57.7	801
1990	DM	1991	04	14.36001	17	09	14.50	-10	56	53.9	801
1990	DR4	1991	04	19.23770	14	10	35.97	-00	58	12.1	801
1990	DR4	1991	04	19.25315	14	10	35.31	-00	58	07.0	801
1990	EC	1991	04	14.34712	17	17	15.18	-08	56	57.7	801
1990	EC	1991	04	14.36653	17	17	15.26	-08	56	53.4	801
1990	SP	1991	04	12.32372	15	41	20.16	-09	45	11.8	801
1990	SP	1991	04	12.33588	15	41	18.21	-09	45	20.6	801
1990	SP	1991	04	14.31589	15	36	09.71	-10	07	58.6	801
1990	SP	1991	04	14.32433	15	36	08.32	-10	08	04.3	801
1990	SP	1991	04	19.36620	15	22	13.02	-11	04	05.1	801
1990	SP	1991	04	19.36832	15	22	12.62	-11	04	06.2	801
1990	SQ	1991	04	19.03469	08	06	26.58	+29	51	16.3	801
1990	SQ	1991	04	19.04699	08	06	28.18	+29	51	02.8	801
1990	SS	1991	04	12.11439	10	14	55.42	-12	53	01.3	801
1990	SS	1991	04	12.11822	10	14	55.63	-12	53	10.3	801
1991	EM1	1991	04	14.23014	12	21	06.16	+04	40	28.3	801
1991	EM1	1991	04	14.24319	12	21	05.64	+04	40	33.3	801
1991	EO1	1991	04	12.14713	12	19	04.20	+03	47	59.0	801
1991	EO1	1991	04	12.17182	12	19	03.08	+03	48	05.8	801
1991	EO1	1991	04	14.22630	12	17	31.79	+03	57	02.7	801
1991	EO1	1991	04	14.23935	12	17	31.21	+03	57	05.8	801
1991	GO	1991	04	19.08612	13	13	55.79	-11	37	37.6	801
1991	GO	1991	04	19.08876	13	13	55.41	-11	37	43.7	801
1991	GO	1991	04	19.25635	13	13	31.32	-11	43	42.2	801
1991	GO	1991	04	19.25942	13	13	30.85	-11	43	47.5	801
4598	P-L	1991	04	19.09203	11	20	05.07	+04	37	46.2	801
4598	P-L	1991	04	19.13390	11	20	03.88	+04	37	51.3	801
6787	P-L	1991	04	19.18352	12	38	45.33	-02	25	04.5	801
6787	P-L	1991	04	19.20231	12	38	44.34	-02	24	58.9	801
165		1991	04	19.17818	12	38	13.08	-21	37	55.9	801

165		1991	04	19.20015	12	38	12.07	-21	37	49.3	801
348		1991	04	19.03984	09	11	29.68	+26	55	10.6	801
348		1991	04	19.06065	09	11	30.29	+26	55	05.0	801
659		1991	04	12.12943	11	24	56.00	+03	14	22.1	801
659		1991	04	12.16625	11	24	55.18	+03	14	26.6	801
951		1991	04	12.31435	16	24	58.08	-23	50	36.3	801
951		1991	04	12.34744	16	24	57.57	-23	50	34.3	801
951		1991	04	19.29506	16	22	34.26	-23	40	42.8	801
951		1991	04	19.31617	16	22	33.66	-23	40	40.6	801
2329		1991	04	12.28388	14	47	22.05	+20	48	42.1	801
2329		1991	04	12.29154	14	47	21.86	+20	49	01.6	801
2329		1991	04	14.28934	14	46	28.01	+22	12	52.9	801
2329		1991	04	14.29938	14	46	27.67	+22	13	18.3	801
2982		1991	04	12.21686	13	03	30.05	+00	29	00.1	801
2982		1991	04	12.23713	13	03	29.02	+00	29	02.5	801
2982		1991	04	14.20260	13	01	50.87	+00	33	08.8	801
2982		1991	04	14.21940	13	01	50.00	+00	33	10.8	801
4801		1991	04	19.14925	12	14	32.17	+01	36	17.6	801
4801		1991	04	19.17282	12	14	31.23	+01	36	21.7	801

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J. E. Torres, J. A. Vicentela

1973	TP	1990	10	14.20930	02	12	58.36	+12	19	15.6	808
1973	TP	1990	10	14.23354	02	12	57.18	+12	18	58.9	808
1980	RJ	1990	10	18.03806	22	33	52.48	-08	02	47.4	808
1980	RJ	1990	10	18.07199	22	33	52.17	-08	02	40.1	808
1981	RA2	1990	10	18.10904	00	21	24.35	+20	56	48.7	808
1981	RA2	1990	10	18.14298	00	21	23.23	+20	56	26.7	808
1982	HL3 *	1982	04	29.03312	11	29	30.85	-12	07	46.1	808
1982	HL3	1982	04	29.07121	11	29	29.45	-12	08	00.8	808
1983	CF1	1990	06	16.11796	16	13	44.62	-00	43	21.0	808
1983	CF1	1990	06	16.16367	16	13	42.69	-00	43	28.8	808
1983	RP2	1990	10	16.19276	00	59	38.11	-00	41	15.5	808
1983	RP2	1990	10	16.21769	00	59	36.89	-00	41	29.0	808
1986	AK	1990	04	26.29392	17	14	48.82	-25	31	57.4	808
1986	AK	1990	04	26.33894	17	14	46.80	-25	32	29.5	808
1988	JP	1989	11	22.17072	04	03	03.19	+00	32	58.1	808
1988	JP	1989	11	22.21227	04	02	59.26	+00	33	32.2	808
1989	EP11*	1989	03	03.14048	10	13	16.05	+16	21	01.4	808
1989	EP11	1989	03	03.17857	10	13	13.77	+16	21	10.4	808
1989	EQ11*	1989	03	03.14048	10	14	57.84	+14	47	35.9	808
1989	EQ11	1989	03	03.17857	10	14	55.70	+14	47	41.1	808
1989	ER11*	1989	03	03.14048	10	15	28.43	+15	39	10.2	808
1989	ER11	1989	03	03.17857	10	15	26.58	+15	39	21.9	808
1989	ES11*	1989	03	03.14048	10	16	20.66	+14	48	59.6	808
1989	ES11	1989	03	03.17857	10	16	18.44	+14	49	06.6	808
1989	ET11*	1989	03	03.14048	10	16	30.96	+14	58	15.4	808
1989	ET11	1989	03	03.17857	10	16	29.00	+14	58	36.9	808
1989	EU11*	1989	03	03.14048	10	18	00.46	+15	59	55.8	808
1989	EU11	1989	03	03.17857	10	17	57.94	+15	59	56.6	808
1989	EV11*	1989	03	03.14048	10	18	12.71	+16	04	38.2	808
1989	EV11	1989	03	03.17857	10	18	10.83	+16	04	43.8	808
1989	EW11*	1989	03	03.14048	10	20	38.36	+15	57	08.9	808
1989	EW11	1989	03	03.17857	10	20	36.15	+15	57	20.4	808
1989	EX11*	1989	03	03.14048	10	20	54.11	+15	32	44.2	808
1989	EX11	1989	03	03.17857	10	20	51.82	+15	32	58.5	808

1989	EY11*	1989	03	03.14048	10	21	40.06	+16	40	06.6	808
1989	EY11	1989	03	03.17857	10	21	38.20	+16	40	30.6	808
1989	EZ11*	1989	03	03.14048	10	22	31.58	+16	33	56.4	808
1989	EZ11	1989	03	03.17857	10	22	29.49	+16	34	06.9	808
1989	EA12*	1989	03	03.14048	10	23	39.54	+14	50	25.8	808
1989	EA12	1989	03	03.17857	10	23	37.35	+14	50	29.3	808
1989	EB12*	1989	03	15.10218	10	07	10.43	+16	16	14.8	808
1989	EB12	1989	03	15.14719	10	07	08.41	+16	16	39.7	808
1989	EC12*	1989	03	15.10218	10	08	18.23	+14	30	36.2	808
1989	EC12	1989	03	15.14719	10	08	15.91	+14	31	15.6	808
1989	MN *	1989	06	29.22814	18	33	52.50	-23	45	03.8	808
1989	MN	1989	06	29.26416	18	33	49.75	-23	44	57.4	808
1989	MO *	1989	06	29.22814	18	50	59.18	-24	07	41.8	808
1989	MO	1989	06	29.26416	18	50	56.93	-24	07	29.7	808
1989	MP *	1989	06	29.22814	18	52	34.83	-24	25	50.8	808
1989	MP	1989	06	29.26416	18	52	32.98	-24	25	46.2	808
1989	MQ *	1989	06	29.22814	18	56	08.69	-21	00	53.5	808
1989	MQ	1989	06	29.26416	18	56	06.30	-21	00	46.5	808
1989	MQ	1989	07	01.20654	18	54	14.01	-20	56	35.2	808
1989	MQ	1989	07	05.14645	18	50	21.35	-20	48	11.6	808
1989	MQ	1989	07	05.18385	18	50	18.93	-20	48	06.4	808
1989	MR *	1989	06	29.26416	18	40	52.97	-22	04	12.1	808
1989	MR	1989	06	29.26901	18	40	55.31	-22	04	14.0	808
1989	MR	1989	07	01.20654	18	38	53.82	-22	01	37.7	808
1989	NC	1989	06	29.22814	18	46	45.77	-23	01	40.4	808
1989	NC	1989	06	29.26416	18	46	43.26	-23	01	33.0	808
1989	NZ1 *	1989	07	01.20654	18	50	52.30	-24	22	50.6	808
1989	NA2 *	1989	07	01.20654	18	52	56.67	-24	05	37.4	808
1989	QJ1 *	1989	08	29.08527	20	45	48.71	-27	00	03.7	808
1989	QJ1	1989	08	29.11782	20	45	47.15	-27	00	04.6	808
1989	QK1 *	1989	08	29.08527	20	50	23.08	-22	08	25.5	808
1989	QK1	1989	08	29.11782	20	50	21.88	-22	08	29.6	808
1989	QL1 *	1989	08	29.08527	20	53	09.01	-22	14	16.4	808
1989	QL1	1989	08	29.11782	20	53	07.49	-22	14	25.0	808
1989	RS2	1989	09	01.19585	23	01	16.03	-10	37	32.5	808
1989	RS2	1989	09	01.23533	23	01	12.79	-10	37	30.6	808
1989	RN5 *	1989	09	01.19585	22	51	37.82	-09	06	50.4	808
1989	RN5	1989	09	01.23533	22	51	35.46	-09	07	06.6	808
1989	RO5 *	1989	09	01.19585	22	52	12.41	-08	26	14.1	808
1989	RO5	1989	09	01.23533	22	52	09.33	-08	26	23.5	808
1989	RP5 *	1989	09	01.19585	23	00	25.76	-09	39	20.1	808
1989	RP5	1989	09	01.23533	23	00	23.43	-09	39	35.2	808
1989	ST10	1989	10	03.13968	23	22	45.31	-04	59	52.7	808
1989	ST10	1989	10	03.18223	23	22	44.04	-05	00	11.7	808
1989	SJ14*	1989	09	23.04159	21	33	08.36	-13	39	50.3	808
1989	SJ14	1989	09	23.09007	21	33	07.53	-13	39	51.9	808
1989	SK14*	1989	09	23.14171	22	48	36.64	-56	03	30.8	808
1989	SK14	1989	09	23.19499	22	48	34.53	-56	03	29.9	808
1989	SL14*	1989	09	28.14087	23	51	29.02	-28	11	49.4	808
1989	SL14	1989	09	28.17064	23	51	27.43	-28	12	01.1	808
1989	SM14*	1989	09	28.14087	23	59	34.20	-27	32	10.6	808
1989	SM14	1989	09	28.17064	23	59	31.96	-27	32	05.3	808
1989	SN14*	1989	09	28.23917	00	52	36.78	-18	30	21.8	808
1989	SN14	1989	09	28.28765	00	52	34.17	-18	30	37.4	808
1989	SO14*	1989	09	28.33336	03	26	43.78	+13	05	53.4	808
1989	SO14	1989	09	28.36383	03	26	44.62	+13	05	57.8	808
1989	SP14*	1989	09	28.33336	03	35	20.18	+14	28	27.8	808
1989	SP14	1989	09	28.36383	03	35	20.53	+14	28	33.8	808
1989	TE18*	1989	10	03.13968	23	38	14.05	-08	51	15.3	808

1989	TE18	1989	10	03.18223	23	38	13.08	-08	51	23.3	808
1989	TF18*	1989	10	03.13968	23	26	12.46	-03	18	26.9	808
1989	TF18	1989	10	03.18223	23	26	11.68	-03	18	44.2	808
1989	UB3	1989	12	02.08593	02	47	28.50	+15	17	52.9	808
1989	UB3	1989	12	02.11779	02	47	27.10	+15	17	56.8	808
1989	UE8	1989	12	02.08593	02	39	14.04	+11	13	43.0	808
1989	UE8	1989	12	02.11779	02	39	12.63	+11	13	41.6	808
1989	UA10*	1989	10	26.15233	02	36	24.53	-17	50	37.0	808
1989	UA10	1989	10	26.20081	02	36	22.81	-17	50	40.4	808
1989	WJ7 *	1989	11	22.17072	03	54	04.84	-02	11	52.0	808
1989	WJ7	1989	11	22.21227	03	54	02.72	-02	11	55.4	808
1989	WJ7	1989	11	27.17715	03	50	02.19	-02	14	51.4	808
1989	WJ7	1989	11	27.21732	03	50	00.11	-02	14	51.1	808
1989	WJ7	1989	12	04.11925	03	44	40.91	-02	09	39.5	808
1989	WJ7	1989	12	04.15042	03	44	39.39	-02	09	36.0	808
1989	WK7 *	1989	11	22.17072	03	54	10.00	-00	25	36.7	808
1989	WK7	1989	11	22.21227	03	54	07.81	-00	25	37.5	808
1989	WK7	1989	11	27.17715	03	50	04.26	-00	26	59.5	808
1989	WK7	1989	11	27.21732	03	50	02.20	-00	26	58.0	808
1989	WK7	1989	12	04.11925	03	44	35.22	-00	19	10.9	808
1989	WK7	1989	12	04.15042	03	44	33.68	-00	19	06.4	808
1989	WL7 *	1989	11	22.17072	04	01	18.31	-02	12	56.8	808
1989	WL7	1989	11	22.21227	04	01	15.66	-02	12	51.6	808
1989	WL7	1989	11	27.17715	03	56	18.12	-01	58	51.3	808
1989	WL7	1989	11	27.21732	03	56	15.50	-01	58	42.1	808
1989	WL7	1989	12	04.11925	03	49	37.90	-01	28	16.4	808
1989	WL7	1989	12	04.15042	03	49	36.03	-01	28	06.5	808
1989	WM7 *	1989	11	27.17715	04	05	54.64	+00	13	02.8	808
1989	WM7	1989	11	27.21732	04	05	52.39	+00	13	02.2	808
1989	XH3 *	1989	12	02.08593	02	42	57.53	+12	08	08.1	808
1989	XH3	1989	12	02.11779	02	42	56.13	+12	08	10.6	808
1989	XJ3 *	1989	12	02.08593	02	44	03.00	+12	36	13.3	808
1989	XJ3	1989	12	02.11779	02	44	01.41	+12	36	20.1	808
1989	XK3 *	1989	12	02.08593	02	46	03.52	+12	02	42.7	808
1989	XK3	1989	12	02.11779	02	46	01.89	+12	02	45.8	808
1989	XL3 *	1989	12	04.11925	03	53	29.07	-03	36	10.1	808
1989	XL3	1989	12	04.15042	03	53	28.62	-03	35	43.9	808
1989	XM3 *	1989	12	04.19890	06	43	06.81	-12	31	51.2	808
1989	XM3	1989	12	04.23352	06	43	06.57	-12	31	48.9	808
1990	BH6 *	1990	01	25.06315	06	17	50.67	-03	04	58.7	808
1990	BH6	1990	01	25.09916	06	17	47.59	-03	04	37.0	808
1990	BJ6 *	1990	01	25.15110	07	10	58.41	-07	44	56.4	808
1990	BJ6	1990	01	25.19057	07	10	56.66	-07	44	52.8	808
1990	DL9 *	1990	02	21.16256	09	15	16.55	+17	23	36.5	808
1990	DL9	1990	02	21.19719	09	15	14.27	+17	23	41.9	808
1990	DM9 *	1990	02	21.16256	09	25	18.37	+12	56	35.0	808
1990	DM9	1990	02	21.19719	09	25	16.52	+12	58	46.2	808
1990	FJ2	1990	04	30.09393	12	55	48.47	-08	01	07.2	808
1990	FJ2	1990	04	30.13826	12	55	47.30	-08	00	45.8	808
1990	HH4 *	1990	04	29.20989	14	49	37.80	-40	12	12.4	808
1990	HH4	1990	04	29.24106	14	49	34.93	-40	12	24.7	808
1990	HJ4 *	1990	04	30.09393	12	58	21.24	-07	20	18.2	808
1990	HJ4	1990	04	30.13826	12	58	19.86	-07	20	08.9	808
1990	KO	1990	05	28.20932	17	06	45.54	-08	37	50.4	808
1990	KO	1990	05	28.24187	17	06	43.52	-08	37	04.4	808
1990	KG2 *	1990	05	28.20932	17	09	27.52	-08	32	41.1	808
1990	KG2	1990	05	28.24187	17	09	25.83	-08	32	34.8	808
1990	KG2	1990	06	18.19699	16	52	59.65	-07	35	32.0	808
1990	KG2	1990	06	18.23993	16	52	57.60	-07	35	28.1	808

1990	KG2		1990	06	20.14998	16	51	32.08	-07	33 06.8	808
1990	LG	*	1990	06	13.99149	14	49	33.04	-22	02 03.1	808
1990	LG		1990	06	14.03651	14	49	32.88	-22	01 51.3	808
1990	MK1	*	1990	06	16.11796	16	08	01.66	-00	38 43.7	808
1990	MK1		1990	06	16.16367	16	07	59.96	-00	38 38.3	808
1990	ML1	*	1990	06	16.11796	16	10	09.92	-01	08 38.9	808
1990	ML1		1990	06	16.16367	16	10	08.06	-01	08 30.2	808
1990	MM1	*	1990	06	18.09346	14	41	37.32	-20	42 25.2	808
1990	MM1		1990	06	18.14401	14	41	36.43	-20	42 10.9	808
1990	MM1		1990	06	23.99639	14	40	21.72	-20	15 33.6	808
1990	MM1		1990	06	24.02132	14	40	21.37	-20	15 27.0	808
1990	MN1	*	1990	06	25.07504	17	35	37.53	-23	08 38.0	808
1990	MN1		1990	06	25.11659	17	35	35.44	-23	08 39.8	808
1990	MN1		1990	06	28.13229	17	32	55.36	-23	10 06.6	808
1990	MN1		1990	06	28.16830	17	32	53.38	-23	10 07.7	808
1990	MO1	*	1990	06	25.07504	17	39	15.25	-25	49 07.4	808
1990	MO1		1990	06	25.11659	17	39	12.81	-25	48 48.3	808
1990	MP1	*	1990	06	25.07504	17	42	26.76	-24	50 57.6	808
1990	MP1		1990	06	25.11659	17	42	23.67	-24	51 07.9	808
1990	MP1		1990	06	28.13229	17	41	16.91	-24	43 08.3	808
1990	MP1		1990	06	28.16830	17	41	14.66	-24	43 03.6	808
1990	MQ1	*	1990	06	25.07504	17	43	04.73	-24	26 58.8	808
1990	MQ1		1990	06	25.11659	17	43	01.73	-24	26 55.7	808
1990	MR1	*	1990	06	25.07504	17	44	25.43	-24	50 36.5	808
1990	MR1		1990	06	25.11659	17	44	22.67	-24	50 31.6	808
1990	MS1	*	1990	06	25.17442	18	05	42.13	-29	38 17.4	808
1990	MS1		1990	06	25.20904	18	05	40.08	-29	38 09.9	808
1990	MT1	*	1990	06	28.13229	17	43	04.14	-24	13 29.2	808
1990	MT1		1990	06	28.16830	17	43	02.09	-24	13 22.5	808
1990	MU1	*	1990	06	28.13229	17	43	15.98	-23	33 58.8	808
1990	MU1		1990	06	28.16830	17	43	13.74	-23	33 54.9	808
1990	MV1	*	1990	06	28.21055	20	26	41.87	-22	52 06.1	808
1990	MV1		1990	06	28.25072	20	26	40.49	-22	52 19.1	808
1990	MW1	*	1990	06	28.21055	20	27	44.85	-22	10 50.2	808
1990	MW1		1990	06	28.25072	20	27	43.65	-22	10 55.2	808
1990	MX1	*	1990	06	28.21055	20	30	56.60	-23	17 24.0	808
1990	MX1		1990	06	28.25072	20	30	55.02	-23	17 36.4	808
1990	MY1	*	1990	06	28.21055	20	34	00.79	-21	17 44.3	808
1990	MY1		1990	06	28.25072	20	33	59.22	-21	17 48.6	808
1990	MZ1	*	1990	06	28.21055	20	35	20.47	-23	04 52.4	808
1990	MZ1		1990	06	28.25072	20	35	18.71	-23	04 48.5	808
1990	MA2	*	1990	06	28.21055	20	35	45.01	-22	51 58.9	808
1990	MA2		1990	06	28.25072	20	35	43.96	-22	52 21.4	808
1990	MB2	*	1990	06	28.21055	20	36	26.63	-22	57 45.2	808
1990	MB2		1990	06	28.25072	20	36	24.70	-22	57 40.7	808
1990	MC2	*	1990	06	28.21055	20	37	27.65	-22	55 22.6	808
1990	MC2		1990	06	28.25072	20	37	26.16	-22	55 23.8	808
1990	MD2	*	1990	06	30.19124	19	52	13.95	-24	24 00.5	808
1990	MD2		1990	06	30.22863	19	52	11.73	-24	23 53.1	808
1990	SB		1990	10	16.19276	01	05	10.21	+00	27 04.6	808
1990	SB		1990	10	16.21769	01	05	08.70	+00	26 35.0	808
1990	SB4		1990	10	18.10904	00	15	42.70	+20	55 43.2	808
1990	SB4		1990	10	18.14298	00	15	40.80	+20	55 36.1	808
1990	TB3		1990	10	12.21199	01	42	42.83	-04	26 58.4	808
1990	TB3		1990	10	12.23554	01	42	41.59	-04	27 31.8	808
1990	WE		1990	10	12.21199	01	38	13.18	-05	00 35.0	808
1990	WE		1990	10	12.23554	01	38	11.89	-05	00 41.2	808
1990	WE		1990	10	14.15113	01	36	31.72	-05	09 02.1	808
1990	WL		1990	10	18.21015	02	22	58.95	-00	11 13.3	808

1990	WL	1990	10	18.24201	02	22	57.44	-00	11	25.0	808
1990	WM	1990	10	18.21015	02	32	17.54	-02	14	40.5	808
1990	WM	1990	10	18.24201	02	32	16.00	-02	14	46.4	808
2557	P-L	1990	04	30.09393	12	50	06.40	-07	41	02.1	808
2557	P-L	1990	04	30.13826	12	50	04.63	-07	40	59.0	808
16		1989	07	30.22432	20	57	19.88	-15	30	38.6	808
16		1989	07	30.25202	20	57	18.47	-15	30	45.5	808
19		1989	06	29.22814	18	45	48.11	-20	35	25.0	808
19		1989	06	29.26416	18	45	45.69	-20	35	25.7	808
19		1989	07	01.20654	18	43	45.91	-20	36	54.1	808
19		1989	07	05.14645	18	39	40.11	-20	39	57.6	808
19		1989	07	05.18385	18	39	37.67	-20	39	58.7	808
19		1989	07	31.08723	18	16	31.52	-20	59	07.7	808
19		1989	07	31.11494	18	16	30.41	-20	59	08.1	808
51		1990	08	22.14833	21	08	23.01	-06	43	42.5	808
51		1990	08	22.17257	21	08	21.78	-06	43	54.8	808
55		1990	04	28.30263	17	09	08.58	-31	12	59.4	808
57		1989	12	27.26976	08	08	35.57	-01	56	52.3	808
57		1989	12	27.30785	08	08	34.03	-01	56	55.5	808
70		1989	09	28.33336	03	30	46.90	+15	50	18.0	808
70		1989	09	28.36383	03	30	46.33	+15	50	21.9	808
74		1990	02	27.33490	12	49	32.36	-06	37	00.3	808
74		1990	02	27.36606	12	49	31.34	-06	36	53.2	808
99		1990	04	28.30263	17	13	08.42	-31	03	11.0	808
106		1989	03	15.10218	10	03	58.33	+18	37	42.1	808
106		1989	03	15.14719	10	03	56.63	+18	37	48.3	808
113		1989	08	29.01359	19	57	01.63	-21	57	43.9	808
113		1989	08	29.04960	19	57	00.86	-21	57	50.3	808
120		1989	08	06.20590	20	57	28.16	-22	33	55.9	808
120		1989	08	06.24260	20	57	26.21	-22	33	59.2	808
120		1989	08	29.08527	20	39	53.71	-22	49	04.1	808
120		1989	08	29.11782	20	39	52.49	-22	49	03.6	808
125		1990	08	01.28566	23	13	35.16	-03	01	11.8	808
125		1990	08	01.32028	23	13	34.50	-03	01	19.0	808
125		1990	09	26.16223	22	37	26.54	-08	25	11.3	808
125		1990	09	26.19824	22	37	25.19	-08	25	23.6	808
125		1990	10	18.03806	22	30	18.60	-09	45	47.2	808
125		1990	10	18.07199	22	30	18.39	-09	45	51.5	808
130		1990	04	23.26921	15	25	49.14	+12	14	27.3	808
130		1990	04	23.31007	15	25	47.56	+12	14	41.8	808
181		1983	03	12.11706	09	05	29.60	+18	11	13.6	808
181		1983	03	12.15653	09	05	28.83	+18	11	33.1	808
181		1983	03	21.04123	09	03	57.88	+19	16	04.7	808
181		1983	03	21.07724	09	03	57.75	+19	16	18.1	808
183		1990	02	21.16256	09	03	29.79	+15	56	54.7	808
183		1990	02	21.19719	09	03	28.11	+15	57	25.1	808
218		1989	10	03.13968	23	32	08.80	-06	14	16.7	808
218		1989	10	03.18223	23	32	07.22	-06	14	35.6	808
218		1989	10	22.06075	23	22	54.93	-08	30	06.0	808
218		1989	10	22.09261	23	22	54.33	-08	30	16.9	808
222		1989	08	29.08527	20	42	09.36	-21	02	10.6	808
222		1989	08	29.11782	20	42	08.28	-21	02	14.0	808
222		1990	10	14.20930	02	13	37.66	+10	59	25.1	808
222		1990	10	14.23354	02	13	36.62	+10	59	20.6	808
243		1989	09	01.04141	16	36	04.83	-23	02	23.4	808
243		1990	08	01.28566	23	16	21.45	-04	21	04.3	808
243		1990	08	01.32028	23	16	20.74	-04	21	07.0	808
243		1990	09	26.16223	22	38	41.86	-07	51	41.9	808
243		1990	09	26.19824	22	38	40.41	-07	51	51.6	808

243	1990	10	18.03806	22	29	41.39	-08	41	24.5	808
243	1990	10	18.07199	22	29	41.03	-08	41	26.5	808
271	1983	03	12.11706	08	59	30.83	+18	08	22.1	808
271	1983	03	12.15653	08	59	29.71	+18	08	23.9	808
271	1983	03	18.09433	08	57	13.52	+18	10	58.1	808
271	1983	03	18.13311	08	57	12.55	+18	10	58.7	808
277	1990	02	21.16256	09	12	28.58	+14	22	31.5	808
277	1990	02	21.19719	09	12	26.84	+14	22	39.8	808
277	1990	03	25.05164	08	56	33.44	+15	43	11.5	808
277	1990	03	25.08696	08	56	33.04	+15	43	14.6	808
279	1990	02	27.33490	12	51	36.14	-02	35	04.8	808
279	1990	02	27.36606	12	51	35.45	-02	35	00.1	808
302	1990	06	25.17442	17	58	51.11	-28	57	38.8	808
302	1990	06	25.20904	17	58	48.63	-28	57	39.0	808
318	1989	10	03.13968	23	37	48.41	-07	02	41.1	808
318	1989	10	03.18223	23	37	46.93	-07	02	54.3	808
318	1989	10	22.06075	23	28	27.90	-08	36	16.4	808
318	1989	10	22.09261	23	28	27.21	-08	36	23.6	808
325	1990	05	28.05419	13	50	06.56	-21	23	36.2	808
325	1990	05	28.09020	13	50	05.46	-21	23	28.2	808
330	1990	10	27.20428	03	11	42.48	+03	09	20.2	808
330	1990	10	27.24168	03	11	40.90	+03	09	10.0	808
332	1990	06	25.17442	17	58	52.58	-27	27	53.6	808
332	1990	06	25.20904	17	58	50.51	-27	27	55.3	808
349	1990	06	13.99149	14	49	55.99	-21	30	47.6	808
349	1990	06	14.03651	14	49	54.43	-21	30	44.7	808
349	1990	06	18.09346	14	47	58.01	-21	25	30.9	808
349	1990	06	18.14401	14	47	56.65	-21	25	28.3	808
349	1990	06	23.99639	14	45	48.63	-21	19	51.4	808
349	1990	06	24.02132	14	45	48.10	-21	19	50.5	808
356	1990	04	25.21631	14	03	17.67	-20	49	49.1	808
356	1990	05	21.13840	13	42	21.11	-19	15	30.3	808
356	1990	05	21.17926	13	42	19.52	-19	15	21.2	808
356	1990	05	28.05419	13	38	32.04	-18	51	45.1	808
356	1990	05	28.09020	13	38	30.91	-18	51	37.6	808
361	1990	08	20.05198	19	24	07.46	-37	27	50.1	808
373	1990	02	27.33490	12	47	14.26	-05	09	19.5	808
373	1990	02	27.36606	12	47	13.14	-05	09	19.0	808
373	1990	04	25.09408	12	05	10.36	-03	38	12.6	808
373	1990	04	25.12594	12	05	09.21	-03	38	10.0	808
373	1990	04	29.05650	12	02	55.03	-03	33	47.3	808
373	1990	04	29.09251	12	02	53.78	-03	33	45.4	808
387	1990	04	23.26921	15	32	51.70	+12	14	06.1	808
387	1990	04	23.31007	15	32	50.12	+12	14	24.8	808
387	1990	06	15.10892	14	54	54.10	+11	29	15.7	808
387	1990	06	15.14216	14	54	53.47	+11	29	00.5	808
387	1990	06	17.00893	14	54	17.20	+11	10	37.8	808
408	1989	07	05.06092	16	31	15.70	-29	39	32.0	808
408	1989	07	05.09070	16	31	14.67	-29	39	26.0	808
409	1988	04	19.09064	11	21	31.43	-11	23	37.7	808
427	1989	08	29.01359	19	54	23.64	-19	03	11.7	808
427	1989	08	29.04960	19	54	22.86	-19	03	10.9	808
434	1990	06	30.27157	20	51	35.24	+19	55	53.7	808
434	1990	06	30.30966	20	51	34.71	+19	56	01.2	808
443	1989	07	30.22432	20	44	05.69	-12	24	00.9	808
443	1989	07	30.25202	20	44	03.94	-12	24	10.4	808
449	1989	12	02.08593	02	45	45.13	+13	13	17.6	808
449	1989	12	02.11779	02	45	43.56	+13	13	14.9	808
449	1989	12	22.08188	02	35	49.81	+13	06	20.0	808

449	1989	12	22.11927	02	35	49.33	+13	06	23.1	808
470	1990	02	28.05411	08	26	30.12	+12	29	31.5	808
470	1990	02	28.09012	08	26	28.81	+12	29	45.7	808
475	1989	10	03.35814	03	04	20.62	+11	39	18.0	808
480	1982	05	28.04050	11	37	56.16	-15	22	27.5	808
480	1990	01	25.15110	07	20	15.64	-07	56	15.2	808
480	1990	01	25.19057	07	20	13.37	-07	56	12.8	808
483	1989	12	27.26976	08	12	03.51	-01	16	08.9	808
483	1989	12	27.30785	08	12	02.15	-01	16	07.4	808
502	1989	07	30.22432	20	52	11.80	-15	17	37.4	808
502	1989	07	30.25202	20	52	10.11	-15	17	57.0	808
505	1990	06	30.19124	19	59	52.76	-25	39	51.4	808
505	1990	06	30.22863	19	59	50.87	-25	40	03.1	808
507	1982	04	24.03777	11	35	05.02	-10	38	28.5	808
507	1982	04	24.08071	11	35	03.95	-10	38	16.5	808
507	1982	04	26.06416	11	34	17.62	-10	29	22.2	808
507	1982	04	26.10641	11	34	16.61	-10	29	10.6	808
507	1982	04	29.03312	11	33	16.62	-10	16	27.7	808
507	1982	04	29.07121	11	33	15.76	-10	16	18.2	808
507	1982	05	27.04012	11	31	54.94	-08	53	36.5	808
507	1982	05	27.07198	11	31	55.36	-08	53	33.8	808
534	1989	10	03.13968	23	41	31.33	-07	25	14.1	808
534	1989	10	03.18223	23	41	29.61	-07	25	23.2	808
536	1990	08	21.07765	19	51	41.65	-44	50	58.9	808
543	1989	08	29.01359	19	51	10.07	-18	11	15.5	808
543	1989	08	29.04960	19	51	09.12	-18	11	15.7	808
544	1982	04	24.03777	11	33	57.20	-10	40	39.8	808
544	1982	04	24.08071	11	33	55.97	-10	40	26.9	808
544	1982	04	26.06416	11	33	03.48	-10	30	15.1	808
544	1982	04	26.10641	11	33	02.32	-10	30	01.5	808
544	1982	04	29.03312	11	31	57.28	-10	15	35.1	808
544	1982	04	29.07121	11	31	56.39	-10	15	21.8	808
544	1982	05	27.04012	11	33	33.33	-08	52	34.7	808
544	1982	05	27.07198	11	33	34.10	-08	52	33.3	808
549	1990	04	26.29392	16	51	48.69	-26	28	51.8	808
549	1990	04	26.33894	16	51	47.08	-26	28	50.2	808
551	1990	08	01.28566	23	10	06.93	-05	40	37.8	808
551	1990	08	01.32028	23	10	06.12	-05	40	42.7	808
599	1990	09	18.29553	01	58	56.63	-06	21	15.9	808
599	1990	09	18.32392	01	58	55.48	-06	21	11.7	808
599	1990	10	12.21199	01	35	27.32	-04	56	39.1	808
599	1990	10	12.23554	01	35	25.65	-04	56	31.5	808
599	1990	10	14.15113	01	33	10.85	-04	46	12.2	808
599	1990	10	14.17329	01	33	09.28	-04	46	03.2	808
600	1983	03	12.11706	08	55	21.27	+18	51	27.6	808
600	1983	03	12.15653	08	55	20.23	+18	51	37.2	808
619	1990	10	27.20428	03	09	54.64	+04	07	08.3	808
619	1990	10	27.24168	03	09	52.99	+04	06	47.4	808
622	1990	02	21.16256	09	23	57.06	+15	46	45.1	808
622	1990	02	21.19719	09	23	55.39	+15	47	01.9	808
622	1990	03	25.05164	09	07	30.14	+18	40	18.8	808
622	1990	03	25.08696	09	07	29.83	+18	40	25.0	808
631	1990	01	25.06315	06	27	28.51	-02	45	07.4	808
631	1990	01	25.09916	06	27	26.88	-02	45	02.7	808
642	1989	03	15.10218	10	08	19.16	+17	56	40.9	808
642	1989	03	15.14719	10	08	17.27	+17	56	40.6	808
645	1990	05	28.05419	13	35	33.96	-16	05	35.9	808
645	1990	05	28.09020	13	35	32.98	-16	05	30.3	808
651	1990	08	20.05198	19	22	00.99	-37	05	34.3	808

654	1989	06	29.22814	18	45	29.82	-22	25	04.8	808
654	1989	06	29.26416	18	45	27.20	-22	24	54.9	808
654	1989	07	01.20654	18	43	06.93	-22	15	48.3	808
654	1989	07	05.14645	18	38	23.94	-21	57	05.5	808
654	1989	07	05.18385	18	38	21.21	-21	56	55.0	808
654	1989	07	31.08723	18	13	01.15	-19	57	23.6	808
654	1989	07	31.11494	18	12	59.88	-19	57	16.2	808
670	1990	02	28.05411	08	29	08.78	+12	19	05.7	808
670	1990	02	28.09012	08	29	07.56	+12	19	16.1	808
670	1990	04	19.00900	08	30	49.29	+14	41	36.7	808
670	1990	04	19.04779	08	30	50.57	+14	41	37.6	808
671	1989	08	29.08527	20	43	44.17	-26	24	28.9	808
671	1989	08	29.11782	20	43	42.82	-26	24	28.2	808
689	1990	09	26.16223	22	42	31.76	-09	06	33.9	808
689	1990	09	26.19824	22	42	30.52	-09	06	49.3	808
692	1990	05	21.05252	13	29	45.35	+12	48	10.5	808
692	1990	05	21.08853	13	29	44.06	+12	47	54.5	808
692	1990	05	24.07376	13	28	12.79	+12	25	35.9	808
692	1990	05	24.11185	13	28	11.56	+12	25	17.4	808
699	1990	05	21.13840	13	34	43.56	-19	32	21.6	808
699	1990	05	21.17926	13	34	41.82	-19	31	54.8	808
699	1990	05	28.05419	13	30	36.28	-18	19	43.8	808
699	1990	05	28.09020	13	30	35.07	-18	19	20.4	808
708	1990	02	27.33490	12	46	08.94	-05	25	10.4	808
708	1990	02	27.36606	12	46	08.03	-05	25	08.5	808
708	1990	04	25.09408	12	04	05.40	-02	29	07.3	808
708	1990	04	25.12594	12	04	04.38	-02	29	02.3	808
708	1990	04	29.05650	12	02	17.89	-02	21	30.2	808
708	1990	04	29.09251	12	02	16.93	-02	21	28.4	808
715	1990	08	21.07765	19	37	24.30	-42	05	13.7	808
725	1989	08	29.08527	21	05	56.96	-23	12	12.6	808
725	1989	08	29.11782	21	05	55.48	-23	12	17.1	808
732	1990	09	26.16223	22	36	27.55	-07	01	15.7	808
732	1990	09	26.19824	22	36	26.19	-07	01	37.3	808
732	1990	10	18.03806	22	29	39.71	-09	29	09.1	808
732	1990	10	18.07199	22	29	39.57	-09	29	18.3	808
740	1989	07	31.08723	18	17	34.05	-20	19	52.1	808
740	1989	07	31.11494	18	17	33.18	-20	19	58.1	808
761	1990	06	28.21055	20	35	56.02	-22	02	24.1	808
761	1990	06	28.25072	20	35	54.79	-22	02	31.7	808
761	1990	08	13.12789	19	59	34.46	-23	58	42.1	808
761	1990	08	13.16321	19	59	32.87	-23	58	44.1	808
768	1990	08	21.07765	19	44	11.52	-43	30	40.8	808
783	1989	03	15.10218	10	15	03.89	+15	25	33.5	808
783	1989	03	15.14719	10	15	01.57	+15	25	49.7	808
785	1990	10	12.21199	01	37	29.59	-05	47	24.6	808
785	1990	10	12.23554	01	37	28.32	-05	47	28.1	808
785	1990	10	14.15113	01	35	43.58	-05	54	05.4	808
785	1990	10	14.17329	01	35	42.33	-05	54	08.6	808
786	1990	10	27.20428	03	17	08.32	+03	27	18.7	808
786	1990	10	27.24168	03	17	06.69	+03	27	17.2	808
816	1990	06	18.19699	17	00	55.08	-06	35	56.9	808
816	1990	06	18.23993	17	00	52.93	-06	36	03.7	808
816	1990	06	20.14998	16	59	22.66	-06	41	22.7	808
838	1988	04	19.09064	11	31	48.96	-09	30	19.8	808
845	1990	04	26.29392	17	10	12.58	-29	42	36.6	808
845	1990	04	26.33894	17	10	11.54	-29	42	51.6	808
847	1989	08	29.01359	19	58	28.69	-18	16	50.6	808
847	1989	08	29.04960	19	58	27.67	-18	16	53.0	808

855	1989	08	06.12833	19	29	29.37	-41	53	35.5	808
855	1989	08	06.16296	19	29	27.48	-41	53	14.8	808
872	1990	08	22.14833	21	03	19.80	-07	06	24.2	808
872	1990	08	22.17257	21	03	18.77	-07	06	30.0	808
877	1989	06	29.22814	18	40	34.26	-21	00	31.0	808
877	1989	06	29.26416	18	40	31.98	-21	00	36.8	808
877	1989	07	01.20654	18	38	33.47	-21	05	30.4	808
877	1989	07	05.14645	18	34	31.32	-21	15	23.3	808
877	1989	07	05.18385	18	34	28.95	-21	15	28.9	808
911	1989	03	15.10218	10	00	15.56	+14	59	34.1	808
911	1989	03	15.14719	10	00	14.16	+14	59	34.3	808
915	1990	04	26.29392	16	53	53.29	-29	11	18.9	808
915	1990	04	26.33894	16	53	51.63	-29	11	24.9	808
933	1989	03	15.10218	10	19	58.22	+14	36	39.5	808
933	1989	03	15.14719	10	19	56.35	+14	36	57.0	808
944	1989	09	23.14171	22	43	51.27	-55	14	17.7	808
944	1989	09	23.19499	22	43	48.01	-55	14	07.6	808
944	1990	10	16.19276	00	58	54.96	-00	37	41.9	808
944	1990	10	16.21769	00	58	52.53	-00	37	30.2	808
946	1989	07	01.20654	18	48	35.20	-24	01	14.6	808
946	1989	07	05.14645	18	45	18.57	-24	05	53.3	808
946	1989	07	05.18385	18	45	16.57	-24	05	54.8	808
951	1990	02	28.05411	08	23	28.26	+13	07	36.0	808
951	1990	02	28.09012	08	23	26.95	+13	07	41.3	808
951	1990	04	19.00900	08	33	26.94	+13	52	13.5	808
951	1990	04	19.04779	08	33	28.94	+13	52	10.2	808
975	1990	06	30.19124	20	01	59.81	-24	13	59.9	808
975	1990	06	30.22863	20	01	58.05	-24	14	07.5	808
975	1990	07	28.14595	19	37	36.84	-25	24	47.8	808
975	1990	07	28.18058	19	37	34.91	-25	24	51.3	808
984	1990	02	21.16256	09	16	07.68	+13	59	54.3	808
984	1990	02	21.19719	09	16	05.80	+13	59	59.5	808
988	1989	10	03.13968	23	38	12.50	-04	14	55.4	808
988	1989	10	03.18223	23	38	10.94	-04	15	03.7	808
1007	1989	06	29.22814	18	52	27.57	-24	44	30.6	808
1007	1989	06	29.26416	18	52	25.47	-24	44	29.1	808
1007	1989	07	01.20654	18	50	33.05	-24	45	22.0	808
1007	1989	07	05.14645	18	46	42.37	-24	46	40.8	808
1007	1989	07	05.18385	18	46	40.09	-24	46	40.3	808
1011	1989	09	01.19585	23	02	17.85	-10	33	33.8	808
1011	1989	09	01.23533	23	02	15.00	-10	33	55.5	808
1022	1990	09	13.06435	20	14	44.08	-32	45	47.2	808
1060	1989	12	02.08593	02	56	39.02	+14	09	27.0	808
1060	1989	12	02.11779	02	56	37.45	+14	09	17.6	808
1064	1982	04	29.03312	11	26	57.08	-11	37	04.8	808
1064	1982	04	29.07121	11	26	56.30	-11	36	50.1	808
1086	1989	10	21.10919	23	00	04.52	+02	17	40.1	808
1086	1989	10	21.17914	23	00	03.52	+02	17	33.8	808
1146	1989	09	28.33336	03	34	08.95	+16	14	02.8	808
1146	1989	09	28.36383	03	34	08.60	+16	13	54.6	808
1160	1990	08	19.12951	20	07	44.58	-40	53	00.1	808
1164	1990	05	31.20389	17	20	43.25	+17	41	45.3	808
1164	1990	05	31.23852	17	20	41.25	+17	41	48.3	808
1176	1990	06	13.99149	14	48	50.41	-21	46	54.8	808
1176	1990	06	14.03651	14	48	48.96	-21	46	43.0	808
1176	1990	06	18.09346	14	47	06.23	-21	28	18.9	808
1176	1990	06	18.14401	14	47	05.01	-21	28	05.4	808
1176	1990	06	23.99639	14	45	17.45	-21	04	18.3	808
1176	1990	06	24.02132	14	45	17.03	-21	04	12.8	808

1192	1982	04	24.03777	11	38	40.31	-10	40	55.1	808
1192	1982	04	24.08071	11	38	38.16	-10	41	12.8	808
1192	1982	04	26.06416	11	37	09.76	-10	55	14.1	808
1192	1982	04	26.10641	11	37	07.79	-10	55	30.8	808
1192	1982	04	29.03312	11	35	17.03	-11	15	49.3	808
1192	1982	04	29.07121	11	35	15.66	-11	16	04.6	808
1201	1989	12	02.08593	02	57	19.46	+10	59	45.8	808
1201	1989	12	02.11779	02	57	18.12	+10	59	38.0	808
1251	1989	08	29.01359	19	47	23.63	-19	33	54.6	808
1251	1989	08	29.04960	19	47	22.95	-19	34	03.9	808
1252	1989	11	22.31442	06	56	32.20	-13	48	24.4	808
1252	1989	12	04.19890	06	50	20.01	-14	20	07.8	808
1252	1989	12	04.23352	06	50	18.59	-14	20	11.2	808
1252	1989	12	23.17714	06	34	27.89	-13	49	48.5	808
1252	1989	12	23.22147	06	34	24.88	-13	49	37.0	808
1264	1990	01	25.15110	07	06	05.16	-08	13	38.7	808
1264	1990	01	25.19057	07	06	03.22	-08	13	35.4	808
1321	1990	08	13.12789	20	06	22.20	-23	13	04.8	808
1321	1990	08	13.16321	20	06	20.44	-23	12	58.9	808
1329	1989	08	29.08527	20	45	17.75	-21	58	56.1	808
1329	1989	08	29.11782	20	45	16.81	-21	59	14.5	808
1359	1990	09	13.06435	20	03	56.29	-33	57	55.2	808
1390	1990	05	28.05419	13	47	53.52	-17	10	28.3	808
1390	1990	05	28.09020	13	47	52.28	-17	10	27.1	808
1397	1989	10	03.13968	23	34	01.38	-09	10	09.6	808
1397	1989	10	03.18223	23	33	59.74	-09	10	16.5	808
1397	1989	10	22.06075	23	24	36.01	-09	28	32.1	808
1397	1989	10	22.09261	23	24	35.47	-09	28	30.6	808
1429	1990	08	20.05198	19	13	13.84	-37	41	14.2	808
1461	1990	07	28.14595	19	35	45.70	-25	58	30.2	808
1461	1990	07	28.18058	19	35	43.97	-25	58	41.9	808
1474	1989	08	06.12833	19	19	09.45	-42	34	53.9	808
1474	1989	08	06.16296	19	19	06.61	-42	34	31.8	808
1496	1990	06	25.07504	17	46	11.91	-25	37	44.0	808
1496	1990	06	25.11659	17	46	09.41	-25	37	36.9	808
1496	1990	06	28.13229	17	43	08.18	-25	29	34.2	808
1496	1990	06	28.16830	17	43	06.01	-25	29	28.7	808
1510	1989	10	21.10919	23	02	55.95	+02	50	51.8	808
1510	1989	10	21.17914	23	02	54.38	+02	50	47.7	808
1514	1990	10	16.19276	00	57	42.52	-01	49	04.3	808
1514	1990	10	16.21769	00	57	41.15	-01	49	14.2	808
1518	1990	06	13.99149	14	49	18.40	-22	08	38.1	808
1518	1990	06	14.03651	14	49	16.59	-22	08	32.7	808
1518	1990	06	18.09346	14	47	03.82	-22	00	41.6	808
1518	1990	06	18.14401	14	47	02.24	-22	00	36.5	808
1518	1990	06	23.99639	14	44	44.10	-21	51	46.9	808
1518	1990	06	24.02132	14	44	43.53	-21	51	45.3	808
1547	1990	05	28.12483	14	12	13.58	-29	05	26.5	808
1547	1990	05	28.15876	14	12	12.52	-29	05	15.6	808
1615	1983	03	18.09433	08	48	21.34	+17	27	16.7	808
1615	1983	03	18.13311	08	48	20.77	+17	27	22.0	808
1624	1990	02	21.16256	09	22	39.25	+15	53	44.4	808
1624	1990	02	21.19719	09	22	37.66	+15	53	53.9	808
1635	1989	12	02.08593	02	40	57.98	+13	36	53.1	808
1635	1989	12	02.11779	02	40	56.75	+13	36	48.3	808
1640	1989	08	29.08527	21	02	07.09	-26	37	44.0	808
1640	1989	08	29.11782	21	02	05.89	-26	37	22.4	808
1698	1990	02	21.16256	09	14	42.41	+18	11	33.8	808
1698	1990	02	21.19719	09	14	40.69	+18	11	39.8	808

1709	1990	04	19.10631	11	20	57.00	-06	44	18.6	808
1709	1990	04	19.15686	11	20	54.77	-06	44	01.8	808
1710	1989	03	03.14048	10	18	34.58	+15	33	36.3	808
1710	1989	03	03.17857	10	18	32.25	+15	33	44.8	808
1733	1990	02	21.16256	09	26	59.90	+12	58	31.4	808
1733	1990	02	21.19719	09	26	57.89	+12	58	46.1	808
1746	1990	02	21.16256	09	24	11.52	+15	19	13.1	808
1746	1990	02	21.19719	09	24	10.11	+15	19	17.7	808
1770	1990	06	13.99149	14	50	42.23	-21	37	42.3	808
1770	1990	06	14.03651	14	50	40.58	-21	37	38.1	808
1770	1990	06	18.09346	14	48	45.12	-21	29	44.8	808
1770	1990	06	18.14401	14	48	43.75	-21	29	40.0	808
1770	1990	06	23.99639	14	46	47.22	-21	20	50.6	808
1770	1990	06	24.02132	14	46	46.67	-21	20	49.5	808
1772	1989	06	29.22814	18	46	22.43	-24	51	27.2	808
1772	1989	06	29.26416	18	46	19.98	-24	51	36.2	808
1780	1989	07	30.15991	18	57	46.27	-22	42	55.1	808
1780	1989	07	30.19315	18	57	44.80	-22	42	50.0	808
1797	1989	08	01.23479	23	19	24.84	-09	15	50.2	808
1797	1989	08	01.27495	23	19	23.88	-09	15	55.2	808
1804	1990	06	25.17442	18	02	30.48	-28	36	04.2	808
1804	1990	06	25.20904	18	02	28.04	-28	36	01.4	808
1876	1990	08	13.03785	18	51	31.40	-26	11	26.8	808
1876	1990	08	13.07941	18	51	29.47	-26	10	48.1	808
1919	1990	10	18.10904	00	22	25.79	+19	50	53.7	808
1919	1990	10	18.14298	00	22	22.61	+19	51	01.1	808
1928	1989	12	02.08593	02	58	01.36	+10	20	25.7	808
1928	1989	12	02.11779	02	57	59.97	+10	20	21.0	808
1973	1990	05	28.20932	17	05	48.88	-08	15	06.9	808
1973	1990	05	28.24187	17	05	47.30	-08	14	58.9	808
1973	1990	06	18.19699	16	49	58.60	-07	30	58.3	808
1973	1990	06	18.23993	16	49	56.69	-07	30	55.2	808
1973	1990	06	20.14998	16	48	34.34	-07	29	22.5	808
1974	1990	05	28.20932	17	10	15.29	-07	17	51.5	808
1974	1990	05	28.24187	17	10	13.87	-07	17	45.2	808
1974	1990	06	18.19699	16	54	22.38	-06	50	39.4	808
1974	1990	06	18.23993	16	54	20.43	-06	50	38.5	808
1974	1990	06	20.14998	16	52	58.12	-06	51	08.2	808
2010	1990	06	28.21055	20	40	44.90	-21	43	09.8	808
2010	1990	06	28.25072	20	40	43.64	-21	43	14.8	808
2010	1990	08	13.16321	20	05	39.08	-23	34	49.1	808
2034	1990	04	30.09393	13	00	30.77	-08	28	07.9	808
2034	1990	04	30.13826	13	00	28.69	-08	28	03.5	808
2066	1989	03	15.10218	10	16	14.04	+15	34	24.9	808
2066	1989	03	15.14719	10	16	11.65	+15	34	36.2	808
2075	1989	10	27.28395	05	24	27.37	-15	05	00.4	808
2075	1989	10	27.32412	05	24	27.11	-15	05	10.9	808
2075	1989	12	02.16800	05	00	17.18	-14	14	51.8	808
2075	1989	12	02.20539	05	00	14.41	-14	14	28.6	808
2083	1990	04	29.20989	14	46	52.08	-39	29	08.4	808
2083	1990	04	29.24106	14	46	49.36	-39	28	44.0	808
2083	1990	05	28.12483	14	18	03.87	-30	20	51.4	808
2083	1990	05	28.15876	14	18	03.03	-30	20	16.6	808
2106	1989	10	03.13968	23	38	14.50	-08	52	10.8	808
2106	1989	10	03.18223	23	38	12.90	-08	52	24.9	808
2120	1989	12	02.08593	02	37	21.75	+12	13	17.9	808
2120	1989	12	02.11779	02	37	20.67	+12	13	05.5	808
2121	1983	03	12.11706	08	53	14.50	+17	30	54.6	808
2121	1983	03	12.15653	08	53	13.22	+17	31	02.7	808

2121	1983	03	18.09433	08	50	32.80	+17	50	55.2	808
2121	1983	03	18.13311	08	50	31.68	+17	51	03.9	808
2136	1990	05	28.20932	17	06	26.70	-07	12	50.5	808
2136	1990	05	28.24187	17	06	25.14	-07	12	47.1	808
2136	1990	06	18.19699	16	49	49.52	-07	09	27.5	808
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2137	1990	02	21.16256	09	25	45.38	+13	57	51.5	808
2137	1990	02	21.19719	09	25	43.59	+13	57	52.2	808
2140	1990	06	25.07504	17	44	17.42	-24	30	24.4	808
2140	1990	06	25.11659	17	44	14.93	-24	30	19.3	808
2140	1990	06	28.13229	17	41	36.78	-24	23	10.7	808
2140	1990	06	28.16830	17	41	34.82	-24	23	05.0	808
2145	1990	04	26.29392	16	55	19.40	-30	03	49.5	808
2145	1990	04	26.33894	16	55	18.10	-30	03	44.4	808
2145	1990	05	21.23085	16	39	20.09	-28	30	42.1	808
2145	1990	05	21.27241	16	39	18.01	-28	30	29.1	808
2159	1990	02	27.33490	12	48	33.88	-06	04	22.9	808
2159	1990	02	27.36606	12	48	32.90	-06	04	20.0	808
2159	1990	04	25.09408	12	03	49.24	-02	41	18.3	808
2159	1990	04	25.12594	12	03	48.14	-02	41	12.9	808
2159	1990	04	29.05650	12	01	53.57	-02	31	43.6	808
2179	1990	04	30.09393	12	53	23.04	-07	53	32.3	808
2179	1990	04	30.13826	12	53	21.47	-07	53	28.1	808
2189	1990	08	19.19322	22	08	46.45	-21	19	13.6	808
2189	1990	08	19.22508	22	08	45.12	-21	19	46.5	808
2242	1990	02	21.16256	09	22	17.31	+17	03	16.2	808
2242	1990	02	21.19719	09	22	15.69	+17	03	22.7	808
2271	1989	08	29.01359	19	52	13.53	-20	25	02.3	808
2271	1989	08	29.04960	19	52	12.76	-20	25	08.4	808
2284	1990	02	21.16256	09	14	31.21	+15	34	21.0	808
2284	1990	02	21.19719	09	14	29.22	+15	34	35.7	808
2326	1989	09	23.04159	21	23	54.90	-14	05	06.9	808
2326	1989	09	23.09007	21	23	54.26	-14	05	28.1	808
2334	1989	03	03.14048	10	21	42.83	+14	50	17.4	808
2334	1989	03	15.10218	10	11	09.99	+16	03	50.6	808
2334	1989	03	15.14719	10	11	07.84	+16	04	02.8	808
2372	1990	02	21.16256	09	22	03.34	+18	25	03.9	808
2381	1990	06	16.11796	16	14	04.99	-01	21	54.6	808
2381	1990	06	16.16367	16	14	02.76	-01	21	57.9	808
2407	1990	06	30.19124	19	53	41.51	-24	13	25.9	808
2407	1990	06	30.22863	19	53	39.77	-24	13	30.1	808
2504	1990	05	21.23085	16	45	17.20	-27	52	17.2	808
2504	1990	05	21.27241	16	45	14.90	-27	52	17.0	808
2507	1989	08	29.01359	19	50	04.08	-20	53	33.4	808
2507	1989	08	29.04960	19	50	03.40	-20	53	43.7	808
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2507	1990	10	18.24201	02	29	17.23	-01	13	26.4	808
2576	1990	08	13.12789	20	06	15.89	-21	47	14.2	808
2576	1990	08	13.16321	20	06	14.27	-21	47	09.3	808
2591	1989	08	29.01359	19	49	39.06	-22	43	13.9	808
2591	1989	08	29.04960	19	49	38.36	-22	43	16.5	808
2615	1990	06	28.21055	20	33	46.38	-21	59	51.8	808
2615	1990	06	28.25072	20	33	45.10	-21	59	54.5	808
2615	1990	08	13.12789	19	59	16.42	-22	38	09.9	808
2615	1990	08	13.16321	19	59	14.90	-22	38	10.3	808
2621	1989	09	28.23917	00	47	43.80	-17	50	08.7	808
2621	1989	09	28.28765	00	47	41.47	-17	50	22.2	808
2627	1989	09	01.19585	22	52	50.38	-10	17	41.9	808

2627	1989 09 01.23533	22 52 48.02	-10 17 56.3			808
2652	1989 12 02.08593	02 44 52.44	+13 40 44.1			808
2652	1989 12 02.11779	02 44 50.90	+13 40 44.6			808
2659	1989 12 02.08593	02 39 47.34	+13 39 36.8			808
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2667	1989 08 29.08527	20 42 43.65	-21 37 27.9			808
2667	1989 08 29.11782	20 42 42.48	-21 37 30.9			808
2680	1990 06 30.19124	19 56 35.80	-25 27 11.3			808
2680	1990 06 30.22863	19 56 34.06	-25 27 18.0			808
2680	1990 07 28.14595	19 30 42.25	-26 20 39.8			808
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2681	1989 12 02.08593	02 49 36.59	+14 49 51.6			808
2681	1989 12 02.11779	02 49 35.04	+14 49 50.0			808
2709	1989 07 05.14645	18 26 08.41	-20 08 19.5			808
2709	1989 07 05.18385	18 26 05.84	-20 08 19.8			808
2745	1990 09 24.26253	02 28 08.31	-21 22 50.0			808
2745	1990 09 24.30269	02 28 07.76	-21 23 32.2			808
2771	1990 04 30.09393	12 47 09.34	-07 06 02.5			808
2771	1990 04 30.13826	12 47 07.99	-07 05 39.3			808
2781	1990 02 21.16256	09 24 28.79	+15 00 50.0			808
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2893	1990 10 16.25648	03 21 42.24	+02 03 28.4			808
2893	1990 10 16.29110	03 21 41.28	+02 03 23.7			808
2895	1989 10 26.15233	02 39 04.77	-19 19 54.0			808
2895	1989 10 26.20081	02 39 03.26	-19 20 01.3			808
2895	1990 11 15.25594	05 07 27.75	-07 21 12.9			808
2895	1990 11 15.29403	05 07 26.67	-07 21 16.6			808
2904	1989 09 28.14087	00 01 00.33	-28 00 37.3			808
2904	1989 09 28.17064	00 00 57.58	-28 00 41.2			808
2911	1989 03 15.10218	10 00 42.67	+14 25 36.5			808
2911	1989 03 15.14719	10 00 40.91	+14 25 51.0			808
2935	1988 12 08.19008	05 19 27.22	+06 36 26.1			808
2935	1988 12 08.23856	05 19 24.31	+06 36 27.5			808
2973	1990 02 21.16256	09 18 12.62	+16 21 44.0			808
2973	1990 02 21.19719	09 18 10.61	+16 21 52.7			808
3014	1990 10 14.20930	02 06 29.13	+10 58 17.4			808
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3041	1990 09 26.24668	01 16 26.99	-17 46 08.4			808
3041	1990 09 26.28269	01 16 25.08	-17 46 20.8			808
3082	1989 08 29.08527	20 55 34.97	-24 19 10.9			808
3082	1989 08 29.11782	20 55 33.66	-24 19 22.2			808
3169	1989 07 30.28699	22 59 52.01	-41 24 06.2			808
3194	1989 12 02.08593	02 55 07.79	+13 25 14.5			808
3194	1989 12 02.11779	02 55 06.34	+13 25 15.8			808
3228	1990 06 25.07504	17 39 31.48	-24 31 11.0			808
3228	1990 06 25.11659	17 39 28.67	-24 31 09.8			808
3228	1990 06 28.13229	17 36 26.80	-24 27 29.4			808
3228	1990 06 28.16830	17 36 24.72	-24 27 27.1			808
3254	1989 08 06.20590	21 06 53.00	-23 14 38.7			808
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3254	1989 08 29.08527	20 51 48.33	-24 02 56.0			808
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3330	1990 08 20.05198	19 02 21.28	-37 20 53.4			808

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3417	1990	06	28.13229	17	30	12.88	-23	27	34.2	808
3417	1990	06	28.16830	17	30	10.76	-23	27	43.9	808
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3419	1989	12	02.11779	02	41	19.26	+11	24	19.2	808
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3476	1989	09	01.29765	01	17	32.87	-15	25	31.5	808
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3476	1989	09	28.23917	00	57	27.76	-16	27	16.8	808
3476	1989	09	28.28765	00	57	24.85	-16	27	18.8	808
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3563	1990	05	28.05419	13	36	22.77	-18	20	55.9	808
3563	1990	05	28.09020	13	36	22.16	-18	20	42.5	808
3611	1990	10	16.25648	03	16	46.23	+03	19	27.6	808
3611	1990	10	16.29110	03	16	45.21	+03	19	15.9	808
3738	1990	06	28.21055	20	30	06.20	-21	24	31.3	808
3738	1990	06	28.25072	20	30	04.76	-21	24	35.7	808
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4254	1989	10	21.12919	23	02	12.42	+01	01	52.7	808
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4268	1989	09	01.19585	23	01	00.99	-09	12	52.0	808
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4790	1989 11 27.17715	03 46 44.62	+00 58 21.0		808
4790	1989 11 27.21732	03 46 42.63	+00 58 17.6		808

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SAOC

1940 GO	1990 11 15.26528	04 36 43.78	+11 42 05.7		809
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1966 CF	1990 11 21.16806	04 09 58.68	+08 28 20.1		809
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1983	RX	1990	11	14.26389	03	29	33.40	+26	44	17.2	17.6	809
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1985	JK	1990	11	21.18194	04	42	18.43	+16	17	33.7	19.3	809
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1987	CJ	1990	11	12.27778	03	24	37.49	+03	13	20.3	16.5	809
1987	CJ	1990	11	12.28958	03	24	36.98	+03	13	17.1		809
1987	CJ	1990	11	12.30000	03	24	36.45	+03	13	14.6		809
1987	CJ	1990	11	18.16458	03	19	54.93	+02	51	20.6		809
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1987	CJ	1990	11	19.12500	03	19	09.08	+02	48	10.0	17.0	809
1987	CJ	1990	11	19.13542	03	19	08.53	+02	48	08.1		809
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1988	CH2	1990	11	11.11736	02	11	58.42	-01	06	44.7	16.5	809
1988	CH2	1990	11	11.12778	02	11	57.91	-01	06	45.5		809
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1988	CT2	1990	11	11.09444	02	10	00.02	+08	04	44.0	809
1988	CT2	1990	11	11.10486	02	09	59.45	+08	04	41.1	809
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1988	CT2	1990	11	12.10347	02	09	07.68	+08	01	01.8	809
1988	CT2	1990	11	12.11528	02	09	07.09	+08	00	59.2	809
1988	CT2	1990	11	20.09167	02	02	49.57	+07	36	01.2	809
1988	CT2	1990	11	20.10208	02	02	49.04	+07	35	59.6	809
1988	CT2	1990	11	20.11250	02	02	48.63	+07	35	57.7	809
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1989	GT3	1990	11	10.12361	00	48	12.23	+06	40	30.3	809
1989	GT3	1990	11	10.13403	00	48	12.03	+06	40	28.2	809
1989	GT3	1990	11	14.04861	00	47	13.39	+06	30	17.4	809
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1989	GT3	1990	11	14.06944	00	47	13.16	+06	30	14.7	809
1989	GT3	1990	11	15.07153	00	47	03.06	+06	28	08.3	809
1989	GT3	1990	11	15.08194	00	47	02.95	+06	28	07.3	809
1989	GT3	1990	11	15.09236	00	47	02.82	+06	28	05.8	809
1989	GT4	1990	11	12.23403	03	30	47.67	+15	03	58.1	809
1989	GT4	1990	11	12.24444	03	30	46.93	+15	03	54.5	809
1989	GT4	1990	11	12.25486	03	30	46.23	+15	03	51.2	809
1989	GT4	1990	11	18.21875	03	24	13.63	+14	33	37.0	809
1989	GT4	1990	11	18.22917	03	24	12.93	+14	33	34.1	809
1989	GT4	1990	11	18.23958	03	24	12.23	+14	33	30.2	809
1990	TJ1	1990	11	12.09167	02	05	25.32	+07	49	26.7	17.0 809
1990	TJ1	1990	11	12.10347	02	05	24.72	+07	49	27.5	809
1990	TJ1	1990	11	12.11528	02	05	24.12	+07	49	27.3	809
1990	TK1	1990	11	11.08420	02	09	21.06	+08	04	47.6	809
1990	TK1	1990	11	11.09444	02	09	20.57	+08	04	45.7	809
1990	TK1	1990	11	11.10486	02	09	20.08	+08	04	43.7	809
1990	TK1	1990	11	12.09167	02	08	35.54	+08	01	25.4	809
1990	TK1	1990	11	12.10347	02	08	35.05	+08	01	23.4	809
1990	TK1	1990	11	12.11528	02	08	34.52	+08	01	20.9	809
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1990	TK1	1990	11	20.10208	02	03	04.28	+07	38	24.6	809
1990	TK1	1990	11	20.11250	02	03	03.86	+07	38	23.5	809
1990	TL1	1990	11	11.08420	02	10	45.26	+07	49	54.2	809
1990	TL1	1990	11	11.09444	02	10	44.84	+07	49	50.4	809
1990	TL1	1990	11	11.10486	02	10	44.37	+07	49	46.0	809
1990	TL1	1990	11	12.09167	02	10	01.94	+07	43	15.7	809
1990	TL1	1990	11	12.10347	02	10	01.39	+07	43	10.6	809
1990	TL1	1990	11	12.11528	02	10	00.86	+07	43	06.4	809
1990	TL1	1990	11	20.09167	02	05	05.04	+06	58	14.3	809
1990	TL1	1990	11	20.10208	02	05	04.71	+06	58	11.3	809
1990	TL1	1990	11	20.11250	02	05	04.35	+06	58	09.0	809
1990	UJ2	1990	11	11.21944	03	42	49.51	+11	06	09.3	18.0 809
1990	UJ2	1990	11	11.23264	03	42	48.74	+11	06	06.7	809
1990	UJ2	1990	11	11.24583	03	42	47.96	+11	06	04.3	809
1990	UJ2	1990	11	18.19306	03	36	09.87	+10	47	15.6	809
1990	UJ2	1990	11	18.21944	03	36	08.28	+10	47	12.4	809
1990	UJ2	1990	11	20.11944	03	34	19.58	+10	42	53.2	809
1990	UJ2	1990	11	20.14583	03	34	17.97	+10	42	50.1	809
1990	UM4	1990	10	24.25417	02	42	44.95	+06	38	54.9	18.8 809
1990	UM4	1990	10	24.26736	02	42	44.33	+06	38	54.6	809
1990	UM4	1990	10	24.28056	02	42	43.61	+06	38	52.2	809

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1990	UT5		1990	10	16.29792	03	22	06.68	+11	35	53.5	809
1990	UT5		1990	10	16.31111	03	22	06.02	+11	35	50.8	809
1990	UU5		1990	10	24.25417	03	00	09.75	+05	16	37.2	18.5 809
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1990	VY1		1990	11	17.22292	04	06	01.02	+10	10	57.6	809
1990	VY1		1990	11	17.24931	04	05	59.53	+10	10	41.2	809
1990	VY1		1990	11	21.14167	04	02	45.66	+09	32	22.4	18.4 809
1990	VY1		1990	11	21.15486	04	02	44.87	+09	32	15.3	809
1990	VY1		1990	11	21.16806	04	02	44.13	+09	32	08.0	809
1990	VS2		1990	11	15.19792	04	08	58.36	+11	17	01.4	809
1990	VS2		1990	11	15.22431	04	08	56.81	+11	16	56.7	809
1990	VS2		1990	11	17.22292	04	07	01.21	+11	11	45.1	809
1990	VS2		1990	11	17.24931	04	06	59.68	+11	11	41.2	809
1990	VS2		1990	11	21.14167	04	03	09.11	+11	02	21.0	18.5 809
1990	VS2		1990	11	21.15486	04	03	08.21	+11	02	19.8	809
1990	VS2		1990	11	21.16806	04	03	07.37	+11	02	18.1	809
1990	VG3		1990	11	15.19792	04	08	16.61	+12	42	08.8	809
1990	VG3		1990	11	15.22431	04	08	14.80	+12	42	06.0	809
1990	VM3		1990	11	15.26528	04	27	33.23	+10	15	18.3	809
1990	VM3		1990	11	15.29306	04	27	31.17	+10	15	33.9	809
1990	VM3		1990	11	17.26806	04	25	11.12	+10	34	23.8	809
1990	VM3		1990	11	17.29444	04	25	09.10	+10	34	38.7	809
1990	VM3		1990	11	23.17708	04	17	53.81	+11	33	10.6	809
1990	VM3		1990	11	23.19028	04	17	52.87	+11	33	16.7	809
1990	VM3		1990	11	23.20347	04	17	51.78	+11	33	24.7	809
1990	VK4		1990	11	15.19792	04	02	39.01	+10	28	18.1	809
1990	VK4		1990	11	15.22431	04	02	37.57	+10	28	14.5	809
1990	VK4		1990	11	17.22292	04	00	48.63	+10	22	57.6	809
1990	VK4		1990	11	17.24931	04	00	47.13	+10	22	54.4	809
1990	VK4		1990	11	21.14167	03	57	09.85	+10	13	58.2	18.6 809
1990	VK4		1990	11	21.15486	03	57	09.08	+10	13	56.3	809
1990	VK4		1990	11	21.16806	03	57	08.24	+10	13	55.6	809
1990	VL4		1990	11	15.19792	04	04	13.99	+09	48	31.7	809
1990	VL4		1990	11	15.22431	04	04	12.23	+09	48	28.9	809
1990	VL4		1990	11	17.22292	04	02	06.02	+09	44	39.1	809
1990	VL4		1990	11	17.24931	04	02	04.19	+09	44	35.8	809
1990	VL4		1990	11	21.14167	03	57	51.71	+09	38	13.7	18.6 809
1990	VL4		1990	11	21.15486	03	57	50.79	+09	38	11.8	809
1990	VL4		1990	11	21.16806	03	57	49.81	+09	38	11.5	809
1990	VM4		1990	11	15.19792	04	04	27.14	+08	52	05.5	809
1990	VM4		1990	11	15.22431	04	04	25.67	+08	51	56.1	809
1990	VM4		1990	11	17.22292	04	02	33.91	+08	41	38.7	809
1990	VM4		1990	11	17.24931	04	02	32.25	+08	41	30.2	809
1990	VM4		1990	11	21.14167	03	58	48.80	+08	23	04.5	18.7 809
1990	VM4		1990	11	21.15486	03	58	47.93	+08	22	59.9	809
1990	VM4		1990	11	21.16806	03	58	47.10	+08	22	56.7	809
1990	VN4		1990	11	15.19792	04	04	28.52	+10	08	27.7	809
1990	VN4		1990	11	15.22431	04	04	26.98	+10	08	16.8	809
1990	VN4		1990	11	17.22292	04	02	42.03	+09	55	02.0	809
1990	VN4		1990	11	17.24931	04	02	40.34	+09	54	50.2	809
1990	VN4		1990	11	21.14167	03	59	11.29	+09	29	44.2	18.7 809
1990	VN4		1990	11	21.15486	03	59	10.58	+09	29	40.6	809
1990	VN4		1990	11	21.16806	03	59	09.83	+09	29	35.4	809
1990	VO4		1990	11	15.19792	04	05	13.26	+09	35	46.8	809
1990	VO4		1990	11	15.22431	04	05	11.56	+09	35	41.6	809

1990	VO4	1990	11	17.22292	04	03	24.54	+09	32	35.7	809
1990	VO4	1990	11	17.24931	04	03	23.01	+09	32	33.0	809
1990	VO4	1990	11	21.14167	03	59	48.37	+09	27	33.6	19.5 809
1990	VO4	1990	11	21.15486	03	59	47.72	+09	27	32.1	809
1990	VO4	1990	11	21.16806	03	59	46.99	+09	27	31.6	809
1990	VP4	1990	11	15.19792	04	05	13.54	+11	18	33.6	809
1990	VP4	1990	11	15.22431	04	05	11.86	+11	18	28.0	809
1990	VP4	1990	11	17.22292	04	03	08.40	+11	12	32.4	809
1990	VP4	1990	11	17.24931	04	03	06.98	+11	12	30.5	809
1990	VQ4	1990	11	15.19792	04	05	13.53	+11	46	26.0	809
1990	VQ4	1990	11	15.22431	04	05	11.66	+11	46	23.7	809
1990	VQ4	1990	11	17.22292	04	03	06.60	+11	43	43.5	809
1990	VQ4	1990	11	17.24931	04	03	04.74	+11	43	40.0	809
1990	VR4	1990	11	15.19792	04	05	36.48	+10	03	12.3	809
1990	VR4	1990	11	15.22431	04	05	35.23	+10	03	12.9	809
1990	VR4	1990	11	17.22292	04	03	50.60	+10	04	26.1	809
1990	VR4	1990	11	17.24931	04	03	49.12	+10	04	26.5	809
1990	VR4	1990	11	21.14167	04	00	22.44	+10	07	36.2	18.8 809
1990	VR4	1990	11	21.15486	04	00	21.69	+10	07	36.7	809
1990	VR4	1990	11	21.16806	04	00	20.92	+10	07	38.3	809
1990	VS4	1990	11	15.19792	04	06	05.80	+10	02	36.4	809
1990	VS4	1990	11	15.22431	04	06	04.22	+10	02	22.8	809
1990	VS4	1990	11	17.22292	04	04	12.57	+09	45	58.7	809
1990	VS4	1990	11	17.24931	04	04	10.98	+09	45	46.7	809
1990	VS4	1990	11	21.14167	04	00	30.80	+09	15	07.1	18.6 809
1990	VS4	1990	11	21.15486	04	00	29.94	+09	15	01.2	809
1990	VS4	1990	11	21.16806	04	00	29.17	+09	14	55.3	809
1990	VT4	1990	11	15.19792	04	06	14.66	+10	25	32.9	809
1990	VT4	1990	11	15.22431	04	06	13.10	+10	25	28.8	809
1990	VT4	1990	11	17.22292	04	04	23.72	+10	20	52.5	809
1990	VT4	1990	11	17.24931	04	04	22.14	+10	20	49.1	809
1990	VT4	1990	11	21.14167	04	00	44.20	+10	12	43.0	18.7 809
1990	VT4	1990	11	21.15486	04	00	43.45	+10	12	40.2	809
1990	VT4	1990	11	21.16806	04	00	42.67	+10	12	39.8	809
1990	VU4	1990	11	15.19792	04	07	02.43	+11	14	13.6	809
1990	VU4	1990	11	15.22431	04	07	00.74	+11	14	08.1	809
1990	VU4	1990	11	17.22292	04	04	55.75	+11	10	51.6	809
1990	VU4	1990	11	17.24931	04	04	53.98	+11	10	49.8	809
1990	VV4	1990	11	15.19792	04	07	32.80	+11	07	14.1	809
1990	VV4	1990	11	15.22431	04	07	31.42	+11	07	08.3	809
1990	VV4	1990	11	17.22292	04	04	58.78	+11	03	31.4	809
1990	VV4	1990	11	17.24931	04	04	57.11	+11	03	22.5	809
1990	VX4	1990	11	15.19792	04	08	25.78	+09	31	38.8	809
1990	VX4	1990	11	15.22431	04	08	23.95	+09	31	50.2	809
1990	VX4	1990	11	17.22292	04	06	14.32	+09	46	37.7	809
1990	VX4	1990	11	17.24931	04	06	12.46	+09	46	50.2	809
1990	VX4	1990	11	21.14167	04	01	51.52	+10	17	29.1	17.6 809
1990	VX4	1990	11	21.15486	04	01	50.50	+10	17	35.7	809
1990	VX4	1990	11	21.16806	04	01	49.55	+10	17	42.0	809
1990	VY4	1990	11	15.19792	04	09	40.74	+12	10	51.6	809
1990	VY4	1990	11	15.22431	04	09	39.23	+12	10	50.6	809
1990	VY4	1990	11	17.22292	04	07	48.12	+12	09	58.5	809
1990	VY4	1990	11	17.24931	04	07	46.32	+12	09	57.5	809
1990	VZ4	1990	11	15.19792	04	10	39.87	+09	29	20.6	809
1990	VZ4	1990	11	15.22431	04	10	38.28	+09	29	11.9	809
1990	VZ4	1990	11	17.22292	04	09	00.87	+09	20	07.2	809
1990	VZ4	1990	11	17.24931	04	08	59.36	+09	19	59.2	809
1990	VZ4	1990	11	21.14167	04	05	45.92	+09	03	06.3	18.6 809
1990	VZ4	1990	11	21.15486	04	05	45.24	+09	03	03.3	809

1990	VZ4	1990	11	21.16806	04	05	44.48	+09	02	59.9	809
1990	VA5	1990	11	15.19792	04	12	06.21	+11	53	05.0	809
1990	VA5	1990	11	15.22431	04	12	04.75	+11	52	56.4	809
1990	VA5	1990	11	17.22292	04	10	26.74	+11	43	08.5	809
1990	VA5	1990	11	17.24931	04	10	25.08	+11	42	57.2	809
1990	VA5	1990	11	21.14167	04	07	07.76	+11	24	53.2	19.0 809
1990	VA5	1990	11	21.15486	04	07	06.98	+11	24	50.8	809
1990	VA5	1990	11	21.16806	04	07	06.34	+11	24	47.8	809
1990	VB5	1990	11	15.19792	04	12	32.53	+08	40	54.4	809
1990	VB5	1990	11	15.22431	04	12	30.97	+08	40	55.8	809
1990	VB5	1990	11	17.22292	04	10	37.35	+08	43	30.0	809
1990	VB5	1990	11	17.24931	04	10	35.67	+08	43	31.4	809
1990	VC5	1990	11	15.19792	04	12	36.23	+10	38	42.8	809
1990	VC5	1990	11	15.22431	04	12	34.50	+10	38	35.0	809
1990	VC5	1990	11	17.22292	04	10	32.61	+10	29	50.8	809
1990	VC5	1990	11	17.24931	04	10	30.85	+10	29	45.1	809
1990	VD5	1990	11	15.19792	04	13	40.48	+08	02	36.0	809
1990	VD5	1990	11	15.22431	04	13	38.47	+08	02	04.0	809
1990	VD5	1990	11	17.22292	04	11	13.28	+07	23	43.9	809
1990	VD5	1990	11	17.24931	04	11	11.30	+07	23	14.3	809
1990	VE5	1990	11	15.19792	04	14	10.60	+09	50	11.7	809
1990	VE5	1990	11	15.22431	04	14	09.31	+09	50	05.7	809
1990	VF5	1990	11	15.19792	04	14	12.74	+11	18	06.1	809
1990	VF5	1990	11	15.22431	04	14	11.05	+11	17	59.8	809
1990	VF5	1990	11	17.22292	04	12	09.03	+11	10	33.4	809
1990	VF5	1990	11	17.24931	04	12	07.36	+11	10	28.1	809
1990	VF5	1990	11	21.14167	04	08	05.93	+10	56	56.4	18.7 809
1990	VF5	1990	11	21.15486	04	08	04.98	+10	56	54.6	809
1990	VF5	1990	11	21.16806	04	08	04.05	+10	56	52.0	809
1990	VG5	1990	11	15.19792	04	14	46.09	+10	52	26.4	809
1990	VG5	1990	11	15.22431	04	14	44.61	+10	52	23.3	809
1990	VG5	1990	11	17.22292	04	13	00.97	+10	49	32.3	809
1990	VG5	1990	11	17.24931	04	12	59.46	+10	49	31.4	809
1990	VG5	1990	11	21.14167	04	09	27.48	+10	45	12.3	18.7 809
1990	VG5	1990	11	21.15486	04	09	26.75	+10	45	12.3	809
1990	VG5	1990	11	21.16806	04	09	25.81	+10	45	11.2	809
1990	VH5	1990	11	15.19792	04	15	20.11	+10	32	23.5	809
1990	VH5	1990	11	15.22431	04	15	18.56	+10	32	23.0	809
1990	VH5	1990	11	17.22292	04	13	20.39	+10	32	54.3	809
1990	VH5	1990	11	17.24931	04	13	18.64	+10	32	55.8	809
1990	VH5	1990	11	21.14167	04	09	21.08	+10	35	08.1	18.5 809
1990	VH5	1990	11	21.15486	04	09	20.25	+10	35	08.8	809
1990	VH5	1990	11	21.16806	04	09	19.35	+10	35	09.5	809
1990	VJ5	1990	11	15.19792	04	15	33.16	+09	00	34.2	809
1990	VJ5	1990	11	15.22431	04	15	31.15	+09	00	31.0	809
1990	VJ5	1990	11	17.22292	04	13	45.96	+08	55	08.3	809
1990	VJ5	1990	11	17.24931	04	13	44.50	+08	55	00.8	809
1990	VK5	1990	11	15.19792	04	15	50.30	+09	49	47.6	809
1990	VK5	1990	11	15.22431	04	15	48.95	+09	49	42.9	809
1990	VK5	1990	11	17.22292	04	13	50.95	+09	44	26.7	809
1990	VK5	1990	11	17.24931	04	13	49.21	+09	44	22.6	809
1990	VK5	1990	11	21.14167	04	09	54.35	+09	35	02.1	19.1 809
1990	VK5	1990	11	21.15486	04	09	53.43	+09	35	01.6	809
1990	VK5	1990	11	21.16806	04	09	52.48	+09	34	58.9	809
1990	VL5	1990	11	15.19792	04	16	03.98	+08	19	43.0	809
1990	VL5	1990	11	15.22431	04	16	02.51	+08	19	42.2	809
1990	VL5	1990	11	17.22292	04	14	21.80	+08	17	47.9	809
1990	VL5	1990	11	17.24931	04	14	20.32	+08	17	46.6	809
1990	VL5	1990	11	21.14167	04	10	59.72	+08	15	02.4	18.6 809

1990	VL5	1990	11	21.15486	04	10	58.95	+08	15	01.4		809
1990	VL5	1990	11	21.16806	04	10	58.20	+08	15	01.9		809
1990	VM5	1990	11	15.19792	04	16	23.07	+09	22	51.3		809
1990	VM5	1990	11	15.22431	04	16	21.70	+09	22	53.8		809
1990	VM5	1990	11	17.22292	04	14	27.94	+09	26	29.0		809
1990	VM5	1990	11	17.24931	04	14	26.37	+09	26	32.9		809
1990	VM5	1990	11	21.14167	04	10	40.32	+09	34	31.3	18.8	809
1990	VM5	1990	11	21.15486	04	10	39.52	+09	34	33.0		809
1990	VM5	1990	11	21.16806	04	10	38.59	+09	34	35.2		809
1990	VN5	1990	11	15.19792	04	17	59.82	+10	08	03.0		809
1990	VN5	1990	11	15.22431	04	17	58.04	+10	08	07.9		809
1990	VN5	1990	11	15.26528	04	17	55.18	+10	08	15.2		809
1990	VN5	1990	11	15.29306	04	17	53.29	+10	08	19.8		809
1990	VN5	1990	11	17.22292	04	15	46.31	+10	14	55.2		809
1990	VN5	1990	11	17.24931	04	15	44.54	+10	15	00.9		809
1990	VN5	1990	11	17.26806	04	15	43.17	+10	15	01.8		809
1990	VN5	1990	11	17.29444	04	15	41.32	+10	15	06.4		809
1990	VN5	1990	11	21.14167	04	11	21.56	+10	29	15.9	18.5	809
1990	VN5	1990	11	21.15486	04	11	20.64	+10	29	18.8		809
1990	VN5	1990	11	21.16806	04	11	19.67	+10	29	22.0		809
1990	VO5	1990	11	15.19792	04	18	34.20	+08	11	36.6		809
1990	VO5	1990	11	15.22431	04	18	32.87	+08	11	35.0		809
1990	VO5	1990	11	17.22292	04	16	42.41	+08	10	59.9		809
1990	VO5	1990	11	17.24931	04	16	40.84	+08	10	58.3		809
1990	VO5	1990	11	21.14167	04	12	59.12	+08	10	50.5	19.4	809
1990	VO5	1990	11	21.15486	04	12	58.03	+08	10	51.1		809
1990	VO5	1990	11	21.16806	04	12	57.16	+08	10	51.4		809
1990	VP5	1990	11	15.19792	04	18	37.65	+09	37	47.3		809
1990	VP5	1990	11	15.22431	04	18	35.91	+09	37	43.1		809
1990	VP5	1990	11	17.22292	04	16	37.19	+09	34	13.2		809
1990	VP5	1990	11	17.24931	04	16	35.69	+09	34	09.7		809
1990	VQ5	1990	11	15.19792	04	19	07.99	+08	14	48.3		809
1990	VQ5	1990	11	15.22431	04	19	06.46	+08	14	42.8		809
1990	VQ5	1990	11	15.26528	04	19	04.29	+08	14	36.3		809
1990	VQ5	1990	11	15.29306	04	19	02.92	+08	14	32.0		809
1990	VQ5	1990	11	17.22292	04	17	18.55	+08	09	28.7		809
1990	VQ5	1990	11	17.24931	04	17	17.01	+08	09	26.5		809
1990	VQ5	1990	11	17.26806	04	17	16.09	+08	09	23.1		809
1990	VQ5	1990	11	17.29444	04	17	14.55	+08	09	16.9		809
1990	VQ5	1990	11	21.14167	04	13	40.40	+08	00	19.3	19.0	809
1990	VQ5	1990	11	21.15486	04	13	39.62	+08	00	18.6		809
1990	VQ5	1990	11	21.16806	04	13	38.79	+08	00	17.0		809
1990	VQ5	1990	11	23.17708	04	11	44.43	+07	56	13.7		809
1990	VQ5	1990	11	23.19028	04	11	43.56	+07	56	11.7		809
1990	VQ5	1990	11	23.20347	04	11	42.73	+07	56	10.0		809
1990	VR5	1990	11	15.19792	04	19	52.24	+11	06	11.2		809
1990	VR5	1990	11	15.22431	04	19	50.55	+11	06	13.9		809
1990	VR5	1990	11	15.26528	04	19	48.22	+11	06	16.4		809
1990	VR5	1990	11	15.29306	04	19	46.51	+11	06	19.2		809
1990	VR5	1990	11	17.22292	04	17	57.04	+11	09	38.7		809
1990	VR5	1990	11	17.24931	04	17	55.31	+11	09	40.8		809
1990	VR5	1990	11	17.26806	04	17	54.18	+11	09	41.8		809
1990	VR5	1990	11	17.29444	04	17	52.62	+11	09	44.1		809
1990	VR5	1990	11	21.14167	04	14	06.24	+11	17	22.6	18.5	809
1990	VR5	1990	11	21.15486	04	14	05.42	+11	17	24.4		809
1990	VR5	1990	11	21.16806	04	14	04.50	+11	17	27.1		809
1990	VS5	1990	11	15.19792	04	20	51.94	+10	20	22.1		809
1990	VS5	1990	11	15.22431	04	20	50.44	+10	20	22.9		809
1990	VS5	1990	11	15.26528	04	20	47.89	+10	20	24.6		809

1990	VS5	1990	11	15.29306	04	20	46.28	+10	20	26.0	809
1990	VS5	1990	11	17.22292	04	19	01.71	+10	22	17.4	809
1990	VS5	1990	11	17.24931	04	19	00.08	+10	22	19.9	809
1990	VS5	1990	11	17.26806	04	18	58.83	+10	22	21.0	809
1990	VS5	1990	11	17.29444	04	18	57.34	+10	22	22.5	809
1990	VS5	1990	11	21.14167	04	15	20.11	+10	27	13.3	18.0 809
1990	VS5	1990	11	21.15486	04	15	19.31	+10	27	14.9	809
1990	VS5	1990	11	21.16806	04	15	18.52	+10	27	16.2	809
1990	VS5	1990	11	23.17708	04	13	21.74	+10	30	24.5	809
1990	VS5	1990	11	23.19028	04	13	20.93	+10	30	26.1	809
1990	VS5	1990	11	23.20347	04	13	20.09	+10	30	26.5	809
1990	VT5	1990	11	15.19792	04	21	44.17	+10	32	15.0	809
1990	VT5	1990	11	15.22431	04	21	42.74	+10	31	56.5	809
1990	VT5	1990	11	15.29306	04	21	38.73	+10	31	10.6	809
1990	VT5	1990	11	17.22292	04	20	00.31	+10	10	23.1	809
1990	VT5	1990	11	17.24931	04	19	58.82	+10	10	06.1	809
1990	VT5	1990	11	17.26806	04	19	57.57	+10	09	55.1	809
1990	VT5	1990	11	17.29444	04	19	56.14	+10	09	38.4	809
1990	VT5	1990	11	21.14167	04	16	32.17	+09	29	23.9	18.7 809
1990	VT5	1990	11	21.15486	04	16	31.39	+09	29	16.3	809
1990	VT5	1990	11	21.16806	04	16	30.58	+09	29	09.0	809
1990	VT5	1990	11	23.17708	04	14	41.27	+09	08	55.7	809
1990	VT5	1990	11	23.19028	04	14	40.50	+09	08	48.1	809
1990	VT5	1990	11	23.20347	04	14	39.69	+09	08	40.0	809
1990	VU5	1990	11	15.19792	04	22	21.36	+09	21	59.2	809
1990	VU5	1990	11	15.22431	04	22	20.03	+09	21	52.8	809
1990	VU5	1990	11	15.26528	04	22	17.98	+09	21	40.5	809
1990	VU5	1990	11	15.29306	04	22	16.55	+09	21	32.4	809
1990	VU5	1990	11	17.22292	04	20	46.69	+09	13	13.3	809
1990	VU5	1990	11	17.24931	04	20	45.33	+09	13	05.8	809
1990	VU5	1990	11	17.26806	04	20	44.41	+09	13	00.8	809
1990	VU5	1990	11	17.29444	04	20	43.12	+09	12	53.7	809
1990	VU5	1990	11	21.14167	04	17	38.43	+08	57	08.6	18.7 809
1990	VU5	1990	11	21.15486	04	17	37.78	+08	57	06.0	809
1990	VU5	1990	11	21.16806	04	17	37.05	+08	57	03.7	809
1990	VU5	1990	11	23.17708	04	15	58.49	+08	49	18.1	809
1990	VU5	1990	11	23.19028	04	15	57.80	+08	49	15.1	809
1990	VU5	1990	11	23.20347	04	15	57.06	+08	49	11.2	809
1990	VV5	1990	11	15.26528	04	19	23.64	+10	48	38.4	809
1990	VV5	1990	11	15.29306	04	19	22.40	+10	48	27.0	809
1990	VV5	1990	11	17.26806	04	17	49.77	+10	37	32.5	809
1990	VV5	1990	11	17.29444	04	17	48.24	+10	37	19.7	809
1990	VV5	1990	11	23.17708	04	13	02.45	+10	05	53.6	809
1990	VV5	1990	11	23.19028	04	13	01.65	+10	05	48.6	809
1990	VV5	1990	11	23.20347	04	13	00.96	+10	05	45.2	809
1990	VW5	1990	11	15.19792	04	21	29.45	+12	08	28.2	809
1990	VW5	1990	11	15.21111	04	21	28.90	+12	08	25.5	18.3 809
1990	VW5	1990	11	15.22431	04	21	28.23	+12	08	24.3	809
1990	VW5	1990	11	15.26528	04	21	26.52	+12	08	17.6	809
1990	VW5	1990	11	15.29306	04	21	25.19	+12	08	11.5	809
1990	VW5	1990	11	17.26806	04	19	53.98	+12	02	47.7	809
1990	VW5	1990	11	17.29444	04	19	52.69	+12	02	43.4	809
1990	VX5	1990	11	15.26528	04	23	55.46	+08	50	49.7	809
1990	VX5	1990	11	15.29306	04	23	53.90	+08	50	40.4	809
1990	VX5	1990	11	17.26806	04	22	13.04	+08	40	37.6	809
1990	VX5	1990	11	17.29444	04	22	11.54	+08	40	29.3	809
1990	VX5	1990	11	23.17708	04	16	53.07	+08	13	00.9	809
1990	VX5	1990	11	23.19028	04	16	52.27	+08	12	58.0	809
1990	VX5	1990	11	23.20347	04	16	51.48	+08	12	54.4	809

1990	VY5	1990	11	15.26528	04	24	58.05	+10 07 30.9	809
1990	VY5	1990	11	15.29306	04	24	56.84	+10 07 31.5	809
1990	VY5	1990	11	17.26806	04	23	34.20	+10 07 44.4	809
1990	VY5	1990	11	17.29444	04	23	33.06	+10 07 43.4	809
1990	VY5	1990	11	23.17708	04	19	16.52	+10 09 40.1	809
1990	VY5	1990	11	23.19028	04	19	15.88	+10 09 39.7	809
1990	VY5	1990	11	23.20347	04	19	15.20	+10 09 40.2	809
1990	VZ5	1990	11	15.26528	04	25	12.19	+08 33 51.4	809
1990	VZ5	1990	11	15.29306	04	25	10.86	+08 33 47.9	809
1990	VZ5	1990	11	17.26806	04	23	39.57	+08 30 37.7	809
1990	VZ5	1990	11	17.29444	04	23	38.25	+08 30 34.4	809
1990	VZ5	1990	11	23.17708	04	18	55.99	+08 22 49.0	809
1990	VZ5	1990	11	23.19028	04	18	55.30	+08 22 48.9	809
1990	VZ5	1990	11	23.20347	04	18	54.59	+08 22 47.5	809
1990	VA6	1990	11	15.26528	04	25	15.57	+11 50 35.4	809
1990	VA6	1990	11	15.29306	04	25	13.87	+11 50 33.6	809
1990	VA6	1990	11	17.26806	04	23	14.69	+11 49 42.6	809
1990	VA6	1990	11	17.29444	04	23	12.96	+11 49 43.1	809
1990	VB6	1990	11	15.26528	04	26	12.28	+08 27 56.0	809
1990	VB6	1990	11	15.29306	04	26	10.63	+08 27 51.6	809
1990	VB6	1990	11	17.26806	04	24	20.18	+08 22 51.9	809
1990	VB6	1990	11	17.29444	04	24	18.57	+08 22 48.8	809
1990	VB6	1990	11	23.17708	04	18	29.86	+08 11 05.1	809
1990	VB6	1990	11	23.19028	04	18	29.03	+08 11 03.3	809
1990	VB6	1990	11	23.20347	04	18	28.17	+08 11 02.6	809
1990	VC6	1990	11	15.26528	04	26	37.61	+10 12 13.6	809
1990	VC6	1990	11	15.29306	04	26	36.01	+10 12 03.8	809
1990	VC6	1990	11	17.26806	04	24	53.62	+10 00 49.0	809
1990	VC6	1990	11	17.29444	04	24	52.16	+10 00 39.4	809
1990	VC6	1990	11	23.17708	04	19	35.14	+09 28 34.9	809
1990	VC6	1990	11	23.19028	04	19	34.28	+09 28 29.6	809
1990	VC6	1990	11	23.20347	04	19	33.52	+09 28 25.1	809
1990	VD6	1990	11	15.26528	04	29	15.55	+08 24 32.8	809
1990	VD6	1990	11	15.29306	04	29	13.95	+08 24 26.2	809
1990	VD6	1990	11	17.26806	04	27	35.68	+08 17 19.1	809
1990	VD6	1990	11	17.29444	04	27	34.26	+08 17 12.6	809
1990	VD6	1990	11	23.17708	04	22	29.70	+07 57 56.6	809
1990	VD6	1990	11	23.19028	04	22	29.06	+07 57 53.0	809
1990	VD6	1990	11	23.20347	04	22	28.12	+07 57 50.8	809
1990	VE6	1990	11	15.26528	04	29	22.11	+11 14 56.2	809
1990	VE6	1990	11	15.29306	04	29	20.76	+11 14 46.2	809
1990	VE6	1990	11	17.26806	04	27	50.15	+11 03 34.0	809
1990	VE6	1990	11	17.29444	04	27	48.99	+11 03 26.2	809
1990	VE6	1990	11	23.17708	04	23	05.77	+10 31 27.9	809
1990	VE6	1990	11	23.19028	04	23	05.08	+10 31 23.8	809
1990	VE6	1990	11	23.20347	04	23	04.38	+10 31 20.0	809
1990	VF6	1990	11	15.26528	04	29	45.85	+10 17 18.3	809
1990	VF6	1990	11	15.29306	04	29	44.06	+10 17 17.9	809
1990	VF6	1990	11	17.26806	04	27	43.51	+10 17 20.6	809
1990	VF6	1990	11	17.29444	04	27	41.78	+10 17 21.2	809
1990	VF6	1990	11	23.17708	04	21	24.47	+10 20 04.9	809
1990	VF6	1990	11	23.19028	04	21	23.66	+10 20 05.4	809
1990	VF6	1990	11	23.20347	04	21	22.72	+10 20 05.7	809
1990	VG6	1990	11	15.26528	04	30	37.91	+08 57 12.1	809
1990	VG6	1990	11	15.29306	04	30	36.26	+08 57 04.0	809
1990	VG6	1990	11	17.26806	04	28	54.14	+08 48 09.4	809
1990	VG6	1990	11	17.29444	04	28	52.67	+08 48 02.8	809
1990	VG6	1990	11	23.17708	04	23	29.44	+08 23 31.8	809
1990	VG6	1990	11	23.19028	04	23	28.67	+08 23 28.4	809

1990	VG6	1990	11	23.20347	04	23	27.81	+08 23 25.7	809
1990	VH6	1990	11	15.26528	04	32	11.26	+08 07 20.9	809
1990	VH6	1990	11	15.29306	04	32	09.88	+08 07 11.5	809
1990	VH6	1990	11	17.26806	04	30	46.08	+07 56 06.6	809
1990	VH6	1990	11	17.29444	04	30	44.98	+07 55 57.2	809
1990	VH6	1990	11	23.17708	04	26	18.34	+07 25 01.3	809
1990	VH6	1990	11	23.19028	04	26	17.66	+07 24 56.7	809
1990	VH6	1990	11	23.20347	04	26	16.99	+07 24 52.4	809
1990	VJ6	1990	11	15.26528	04	32	47.56	+11 12 44.4	809
1990	VJ6	1990	11	15.29306	04	32	46.25	+11 12 33.7	809
1990	VJ6	1990	11	17.26806	04	31	17.74	+11 00 25.0	809
1990	VJ6	1990	11	17.29444	04	31	16.47	+11 00 15.9	809
1990	VJ6	1990	11	23.17708	04	26	34.80	+10 25 26.1	809
1990	VJ6	1990	11	23.19028	04	26	34.15	+10 25 21.4	809
1990	VJ6	1990	11	23.20347	04	26	33.36	+10 25 16.9	809
1990	VK6	1990	11	15.26528	04	32	50.76	+07 56 28.2	809
1990	VK6	1990	11	15.29306	04	32	49.25	+07 56 19.4	809
1990	VK6	1990	11	17.26806	04	31	15.87	+07 45 37.0	809
1990	VK6	1990	11	17.29444	04	31	14.52	+07 45 29.0	809
1990	VK6	1990	11	23.17708	04	26	24.37	+07 15 51.7	809
1990	VK6	1990	11	23.19028	04	26	23.68	+07 15 48.0	809
1990	VK6	1990	11	23.20347	04	26	22.95	+07 15 44.0	809
1990	VL6	1990	11	15.26528	04	34	59.01	+09 45 03.3	809
1990	VL6	1990	11	15.29306	04	34	58.08	+09 44 57.1	809
1990	VL6	1990	11	17.26806	04	33	57.98	+09 37 53.9	809
1990	VL6	1990	11	17.29444	04	33	57.13	+09 37 48.8	809
1990	VL6	1990	11	23.17708	04	30	51.75	+09 17 37.5	809
1990	VL6	1990	11	23.19028	04	30	51.28	+09 17 35.2	809
1990	VL6	1990	11	23.20347	04	30	50.85	+09 17 32.1	809
1990	VN6	1990	11	15.26528	04	36	28.82	+10 22 59.2	809
1990	VN6	1990	11	15.29306	04	36	27.12	+10 22 53.1	809
1990	VN6	1990	11	17.26806	04	34	36.37	+10 16 31.5	809
1990	VN6	1990	11	17.29444	04	34	34.68	+10 16 25.5	809
1990	VN6	1990	11	23.17708	04	28	41.10	+09 59 46.4	809
1990	VN6	1990	11	23.19028	04	28	40.25	+09 59 45.2	809
1990	VN6	1990	11	23.20347	04	28	39.33	+09 59 43.8	809
1990	VO6	1990	11	15.26528	04	36	34.19	+09 58 03.4	809
1990	VO6	1990	11	15.29306	04	36	32.70	+09 57 58.5	809
1990	VO6	1990	11	17.26806	04	34	46.77	+09 52 06.6	809
1990	VO6	1990	11	17.29444	04	34	45.17	+09 52 01.0	809
1990	VO6	1990	11	23.17708	04	29	09.14	+09 37 04.8	809
1990	VO6	1990	11	23.19028	04	29	08.24	+09 37 02.5	809
1990	VO6	1990	11	23.20347	04	29	07.51	+09 37 01.4	809
1990	VP6	1990	11	15.26528	04	36	54.01	+08 55 46.0	809
1990	VP6	1990	11	15.29306	04	36	52.45	+08 55 34.8	809
1990	VP6	1990	11	17.26806	04	35	12.63	+08 41 33.5	809
1990	VP6	1990	11	17.29444	04	35	11.18	+08 41 23.4	809
1990	VP6	1990	11	23.17708	04	29	57.60	+08 01 45.7	809
1990	VP6	1990	11	23.19028	04	29	56.84	+08 01 40.4	809
1990	VP6	1990	11	23.20347	04	29	56.00	+08 01 35.4	809
1990	VQ6	1990	11	15.26528	04	37	48.70	+08 56 41.0	809
1990	VQ6	1990	11	15.29306	04	37	47.28	+08 56 39.7	809
1990	VQ6	1990	11	17.26806	04	36	12.43	+08 54 26.4	809
1990	VQ6	1990	11	17.29444	04	36	11.02	+08 54 24.7	809
1990	VQ6	1990	11	23.17708	04	31	13.64	+08 49 51.2	809
1990	VQ6	1990	11	23.19028	04	31	12.83	+08 49 51.7	809
1990	VQ6	1990	11	23.20347	04	31	12.14	+08 49 51.5	809
1990	VR6	1990	11	15.26528	04	38	10.69	+10 12 58.4	809
1990	VR6	1990	11	15.29306	04	38	09.19	+10 12 53.8	809

1990	VR6		1990	11	17.26806	04	36	22.72	+10	07	40.9		809
1990	VR6		1990	11	17.29444	04	36	21.19	+10	07	36.7		809
1990	VR6		1990	11	23.17708	04	30	39.82	+09	54	38.8		809
1990	VR6		1990	11	23.19028	04	30	39.06	+09	54	36.7		809
1990	VR6		1990	11	23.20347	04	30	38.15	+09	54	35.6		809
1990	VT6		1990	11	11.08420	02	13	34.68	+08	44	58.5		809
1990	VT6		1990	11	11.09444	02	13	34.05	+08	44	54.2		809
1990	VT6		1990	11	11.10486	02	13	33.57	+08	44	51.5		809
1990	VT6		1990	11	12.09167	02	12	47.61	+08	40	07.9		809
1990	VT6		1990	11	12.10347	02	12	47.01	+08	40	04.6		809
1990	VT6		1990	11	12.11528	02	12	46.55	+08	40	01.4		809
1990	VT6		1990	11	20.09167	02	07	12.89	+08	07	08.9		809
1990	VT6		1990	11	20.10208	02	07	12.44	+08	07	06.6		809
1990	VT6		1990	11	20.11250	02	07	12.06	+08	07	05.2		809
1990	VW6		1990	11	11.08420	02	15	22.51	+07	45	43.9		809
1990	VW6		1990	11	11.09444	02	15	21.92	+07	45	42.9		809
1990	VW6		1990	11	11.10486	02	15	21.31	+07	45	41.8		809
1990	VW6		1990	11	20.09167	02	07	44.53	+07	34	15.0		809
1990	VW6		1990	11	20.10208	02	07	44.02	+07	34	15.7		809
1990	VW6		1990	11	20.11250	02	07	43.48	+07	34	16.1		809
1990	VO8	*	1990	11	15.19792	04	09	06.73	+07	26	32.6	18.5	809
1990	VO8		1990	11	15.22431	04	09	05.23	+07	26	29.7		809
1990	VO8		1990	11	17.22292	04	07	25.57	+07	24	15.6		809
1990	VO8		1990	11	17.23611	04	07	24.77	+07	24	14.4		809
1990	VO8		1990	11	17.24931	04	07	24.01	+07	24	14.2		809
1990	VO8		1990	11	21.14167	04	04	03.65	+07	22	14.6	18.6	809
1990	VO8		1990	11	21.15486	04	04	02.87	+07	22	14.7		809
1990	VO8		1990	11	21.16806	04	04	01.99	+07	22	14.9		809
1990	VQ8	*	1990	11	15.26528	04	36	09.44	+08	59	35.2		809
1990	VQ8		1990	11	15.27986	04	36	08.61	+08	59	31.9	19.5	809
1990	VQ8		1990	11	15.29306	04	36	07.80	+08	59	29.2		809
1990	VQ8		1990	11	17.26806	04	34	22.66	+08	52	56.4		809
1990	VQ8		1990	11	17.28125	04	34	21.89	+08	52	52.6	19.0	809
1990	VQ8		1990	11	17.29444	04	34	20.99	+08	52	51.4		809
1990	VQ8		1990	11	23.17708	04	28	43.81	+08	36	26.8		809
1990	VQ8		1990	11	23.19028	04	28	43.03	+08	36	24.8		809
1990	VQ8		1990	11	23.20347	04	28	42.11	+08	36	23.3		809
1990	VR8	*	1990	11	11.08420	02	11	08.46	+08	03	47.4	17.8	809
1990	VR8		1990	11	11.09444	02	11	07.77	+08	03	45.8		809
1990	VR8		1990	11	11.10486	02	11	07.12	+08	03	43.7		809
1990	VR8		1990	11	12.09167	02	10	06.59	+08	00	31.0	18.0	809
1990	VR8		1990	11	12.10347	02	10	06.07	+08	00	27.9		809
1990	VR8		1990	11	12.11528	02	10	05.37	+08	00	24.7		809
1990	VR8		1990	11	17.15556	02	05	12.10	+07	45	57.5	18.5	809
1990	VR8		1990	11	17.16667	02	05	11.53	+07	45	54.8		809
1990	VR8		1990	11	17.17708	02	05	10.80	+07	45	53.7		809
1990	VS8	*	1990	11	11.08420	02	15	13.59	+08	03	27.8		809
1990	VS8		1990	11	11.09444	02	15	13.06	+08	03	24.7		809
1990	VS8		1990	11	11.10486	02	15	12.44	+08	03	23.0		809
1990	VS8		1990	11	20.09167	02	07	43.63	+07	41	01.0		809
1990	VS8		1990	11	20.10208	02	07	43.28	+07	40	58.6		809
1990	VS8		1990	11	20.11250	02	07	42.93	+07	40	55.7		809
1990	VT8	*	1990	11	12.23403	03	30	25.57	+15	12	50.6		809
1990	VT8		1990	11	12.24444	03	30	24.99	+15	12	45.1		809
1990	VT8		1990	11	12.25486	03	30	24.32	+15	12	38.9		809
1990	VT8		1990	11	18.21875	03	24	54.09	+14	19	56.1		809
1990	VT8		1990	11	18.22917	03	24	53.59	+14	19	52.2		809
1990	VT8		1990	11	18.23958	03	24	53.02	+14	19	47.0		809
1990	VU8	*	1990	11	12.27778	03	23	19.14	+02	51	51.9	18.5	809

1990	VU8		1990	11	12.28958	03	23	18.49	+02	51	50.4	809
1990	VU8		1990	11	12.30000	03	23	18.00	+02	51	48.1	809
1990	VU8		1990	11	18.16458	03	18	05.51	+02	38	38.1	809
1990	VU8		1990	11	18.17500	03	18	04.97	+02	38	37.1	809
1990	VU8		1990	11	18.18542	03	18	04.43	+02	38	36.5	809
1990	VU8		1990	11	19.12500	03	17	14.48	+02	36	57.6	18.3 809
1990	VU8		1990	11	19.13542	03	17	14.05	+02	36	58.0	809
1990	VU8		1990	11	19.14583	03	17	13.69	+02	36	58.7	809
1990	VV8	*	1990	11	11.11736	02	14	15.58	-01	02	20.5	17.5 809
1990	VV8		1990	11	11.12778	02	14	15.15	-01	02	24.0	809
1990	VV8		1990	11	11.13819	02	14	14.69	-01	02	28.6	809
1990	VV8		1990	11	13.16875	02	12	48.07	-01	13	45.3	809
1990	VV8		1990	11	13.17917	02	12	47.68	-01	13	47.7	809
1990	VV8		1990	11	13.18958	02	12	47.26	-01	13	51.6	809
1990	VV8		1990	11	16.08750	02	10	48.62	-01	28	37.2	809
1990	VV8		1990	11	16.09792	02	10	48.17	-01	28	39.9	809
1990	VV8		1990	11	16.10833	02	10	47.74	-01	28	42.4	809
1990	VV8		1990	11	17.18715	02	10	05.07	-01	33	46.8	809
1990	VV8		1990	11	17.19734	02	10	04.59	-01	33	48.6	809
1990	VV8		1990	11	17.20833	02	10	04.08	-01	33	52.5	809
1990	WF		1990	11	11.21944	03	58	09.67	+11	31	44.0	18.3 809
1990	WF		1990	11	11.23264	03	58	08.89	+11	31	41.5	809
1990	WF		1990	11	11.24583	03	58	08.01	+11	31	39.8	809
1990	WO		1990	11	18.19306	03	33	31.40	+08	16	00.0	809
1990	WO		1990	11	18.21944	03	33	30.23	+08	15	55.0	809
1990	WO		1990	11	20.11944	03	31	19.45	+08	02	23.7	809
1990	WO		1990	11	20.14583	03	31	18.17	+08	02	15.2	809
1990	WP		1990	11	18.19306	03	34	10.67	+09	05	38.5	809
1990	WP		1990	11	18.21944	03	34	09.28	+09	05	24.8	809
1990	WP		1990	11	20.11944	03	32	42.64	+08	51	00.8	809
1990	WP		1990	11	20.14583	03	32	41.11	+08	50	45.9	809
1990	WQ		1990	11	11.21944	03	40	19.68	+08	14	35.6	18.6 809
1990	WQ		1990	11	11.23264	03	40	18.91	+08	14	38.7	809
1990	WQ		1990	11	11.24583	03	40	18.07	+08	14	44.6	809
1990	WQ		1990	11	18.19306	03	34	16.32	+08	49	54.5	809
1990	WQ		1990	11	18.21944	03	34	14.73	+08	50	04.4	809
1990	WQ		1990	11	20.11944	03	32	35.62	+09	01	00.9	809
1990	WQ		1990	11	20.14583	03	32	34.13	+09	01	10.4	809
1990	WS		1990	11	11.21944	03	41	05.74	+09	38	08.6	18.7 809
1990	WS		1990	11	11.23264	03	41	04.96	+09	38	03.0	809
1990	WS		1990	11	11.24583	03	41	04.15	+09	37	58.7	809
1990	WS		1990	11	18.19306	03	34	27.65	+08	57	42.7	809
1990	WS		1990	11	18.21944	03	34	25.97	+08	57	34.3	809
1990	WS		1990	11	20.11944	03	32	37.22	+08	47	39.6	809
1990	WS		1990	11	20.14583	03	32	35.54	+08	47	31.3	809
1990	WT		1990	11	18.19306	03	36	02.48	+10	40	14.0	809
1990	WT		1990	11	18.21944	03	36	00.62	+10	40	17.8	809
1990	WT		1990	11	20.11944	03	33	56.76	+10	45	47.5	809
1990	WT		1990	11	20.14583	03	33	54.94	+10	45	53.1	809
1990	WU		1990	11	18.19306	03	36	36.92	+07	10	36.0	809
1990	WU		1990	11	18.21944	03	36	35.32	+07	10	26.1	809
1990	WU		1990	11	20.11944	03	34	57.57	+06	59	20.9	809
1990	WU		1990	11	20.14583	03	34	55.95	+06	59	11.8	809
1990	WV		1990	11	11.21944	03	45	05.80	+10	08	11.0	18.6 809
1990	WV		1990	11	11.23264	03	45	04.91	+10	08	10.1	809
1990	WV		1990	11	11.24583	03	45	04.07	+10	08	08.4	809
1990	WV		1990	11	18.19306	03	37	47.60	+10	03	06.5	809
1990	WV		1990	11	18.21944	03	37	45.85	+10	03	06.2	809
1990	WV		1990	11	20.11944	03	35	45.35	+10	02	49.7	809

1990	WV	1990	11	20.14583	03	35	43.57	+10	02	49.6	809
1990	WW	1990	11	11.21944	03	44	02.27	+08	00	03.4	18.8 809
1990	WW	1990	11	11.23264	03	44	01.40	+08	00	02.5	809
1990	WW	1990	11	11.24583	03	44	00.67	+07	59	59.3	809
1990	WW	1990	11	18.19306	03	37	47.45	+07	43	45.3	809
1990	WW	1990	11	18.21944	03	37	45.97	+07	43	41.6	809
1990	WW	1990	11	20.11944	03	36	02.94	+07	40	03.6	809
1990	WW	1990	11	20.14583	03	36	01.14	+07	40	00.4	809
1990	WX	1990	11	18.19306	03	38	13.82	+09	39	15.6	809
1990	WX	1990	11	18.21944	03	38	12.42	+09	39	08.1	809
1990	WX	1990	11	20.11944	03	36	42.32	+09	30	51.4	809
1990	WX	1990	11	20.14583	03	36	41.07	+09	30	44.2	809
1990	WY	1990	11	18.19306	03	38	41.07	+10	24	08.0	809
1990	WY	1990	11	18.21944	03	38	39.38	+10	23	59.8	809
1990	WY	1990	11	20.11944	03	36	45.27	+10	15	23.5	809
1990	WY	1990	11	20.14583	03	36	43.66	+10	15	16.3	809
1990	WZ	1990	11	11.21944	03	45	08.11	+09	52	17.7	18.6 809
1990	WZ	1990	11	11.23264	03	45	07.48	+09	52	13.3	809
1990	WZ	1990	11	11.24583	03	45	06.82	+09	52	08.3	809
1990	WZ	1990	11	18.19306	03	39	13.33	+09	11	58.4	809
1990	WZ	1990	11	18.21944	03	39	11.87	+09	11	49.4	809
1990	WZ	1990	11	20.11944	03	37	33.92	+09	01	34.3	809
1990	WZ	1990	11	20.14583	03	37	32.53	+09	01	25.6	809
1990	WA1	1990	11	18.19306	03	39	33.81	+06	53	04.1	809
1990	WA1	1990	11	18.21944	03	39	32.21	+06	53	04.4	809
1990	WA1	1990	11	20.11944	03	37	43.43	+06	52	34.5	809
1990	WA1	1990	11	20.14583	03	37	41.84	+06	52	34.5	809
1990	WC1	1990	11	18.19306	03	39	55.53	+06	35	31.7	809
1990	WC1	1990	11	18.21944	03	39	53.94	+06	35	21.6	809
1990	WC1	1990	11	20.11944	03	38	10.01	+06	24	03.2	809
1990	WC1	1990	11	20.14583	03	38	08.44	+06	23	55.5	809
1990	WD1	1990	11	11.21944	03	45	46.74	+09	04	47.2	18.7 809
1990	WD1	1990	11	11.23264	03	45	46.00	+09	04	45.9	809
1990	WD1	1990	11	11.24583	03	45	45.22	+09	04	44.8	809
1990	WD1	1990	11	18.19306	03	39	56.37	+09	00	43.9	809
1990	WD1	1990	11	18.21944	03	39	54.89	+09	00	45.3	809
1990	WD1	1990	11	20.11944	03	38	18.05	+09	00	08.2	809
1990	WD1	1990	11	20.14583	03	38	16.59	+09	00	07.5	809
1990	WE1	1990	11	11.21944	03	47	24.49	+09	11	04.1	18.7 809
1990	WE1	1990	11	11.23264	03	47	23.66	+09	11	05.5	809
1990	WE1	1990	11	11.24583	03	47	22.96	+09	11	07.5	809
1990	WE1	1990	11	18.19306	03	40	29.65	+09	28	48.6	809
1990	WE1	1990	11	18.21944	03	40	28.04	+09	28	53.1	809
1990	WE1	1990	11	20.11944	03	38	31.14	+09	34	48.0	809
1990	WE1	1990	11	20.14583	03	38	29.18	+09	34	53.5	809
1990	WF1	1990	11	18.19306	03	40	34.91	+09	54	24.3	809
1990	WF1	1990	11	18.21944	03	40	33.21	+09	54	21.7	809
1990	WF1	1990	11	20.11944	03	39	36.36	+09	41	07.0	809
1990	WF1	1990	11	20.14583	03	39	35.01	+09	40	56.6	809
1990	WG1	1990	11	11.21944	03	48	41.64	+09	51	38.2	18.5 809
1990	WG1	1990	11	11.23264	03	48	40.64	+09	51	41.5	809
1990	WG1	1990	11	11.24583	03	48	39.62	+09	51	44.5	809
1990	WG1	1990	11	18.19306	03	40	40.80	+10	24	14.0	809
1990	WG1	1990	11	18.21944	03	40	38.81	+10	24	21.7	809
1990	WG1	1990	11	20.11944	03	38	25.46	+10	33	54.1	809
1990	WG1	1990	11	20.14583	03	38	23.54	+10	34	02.0	809
1990	WH1	1990	11	11.21944	03	48	26.18	+09	56	00.2	18.7 809
1990	WH1	1990	11	11.23264	03	48	25.37	+09	55	57.8	809
1990	WH1	1990	11	11.24583	03	48	24.42	+09	55	56.0	809

1990	WH1	1990	11	18.19306	03	40	49.83	+09	35	11.0	809
1990	WH1	1990	11	18.21944	03	40	47.92	+09	35	06.7	809
1990	WH1	1990	11	20.11944	03	38	42.92	+09	30	22.0	809
1990	WH1	1990	11	20.14583	03	38	41.27	+09	30	17.9	809
1990	WJ1	1990	11	11.21944	03	46	15.17	+10	39	17.7	19.2 809
1990	WJ1	1990	11	11.23264	03	46	14.54	+10	39	14.6	809
1990	WJ1	1990	11	11.24583	03	46	13.92	+10	39	11.0	809
1990	WJ1	1990	11	18.19306	03	40	55.79	+10	08	54.5	809
1990	WJ1	1990	11	18.21944	03	40	54.41	+10	08	47.4	809
1990	WJ1	1990	11	20.11944	03	39	26.40	+10	00	58.5	809
1990	WJ1	1990	11	20.14583	03	39	25.12	+10	00	53.0	809
1990	WK1	1990	11	11.21944	03	45	54.07	+09	09	23.8	18.7 809
1990	WK1	1990	11	11.23264	03	45	53.48	+09	09	19.5	809
1990	WK1	1990	11	11.24583	03	45	52.84	+09	09	11.9	809
1990	WK1	1990	11	18.19306	03	41	02.63	+08	25	42.7	809
1990	WK1	1990	11	18.21944	03	41	01.30	+08	25	33.8	809
1990	WK1	1990	11	20.11944	03	39	40.09	+08	15	14.6	809
1990	WK1	1990	11	20.14583	03	39	38.83	+08	15	07.0	809
1990	WM1	1990	11	11.21944	03	47	17.79	+08	40	51.6	18.7 809
1990	WM1	1990	11	11.23264	03	47	17.12	+08	40	48.9	809
1990	WM1	1990	11	11.24583	03	47	16.25	+08	40	46.0	809
1990	WM1	1990	11	18.19306	03	41	29.08	+08	20	14.2	809
1990	WM1	1990	11	18.21944	03	41	27.62	+08	20	10.7	809
1990	WM1	1990	11	20.11944	03	39	51.03	+08	15	23.9	809
1990	WM1	1990	11	20.14583	03	39	49.59	+08	15	20.7	809
1990	WN1	1990	11	11.21944	03	46	51.42	+10	49	01.5	18.7 809
1990	WN1	1990	11	11.23264	03	46	50.83	+10	48	56.6	809
1990	WN1	1990	11	11.24583	03	46	50.21	+10	48	50.8	809
1990	WN1	1990	11	18.19306	03	41	49.59	+10	04	30.0	809
1990	WN1	1990	11	18.21944	03	41	48.32	+10	04	20.3	809
1990	WN1	1990	11	20.11944	03	40	23.39	+09	53	04.7	809
1990	WN1	1990	11	20.14583	03	40	22.16	+09	52	56.3	809
1990	WO1	1990	11	11.21944	03	48	46.75	+11	48	45.8	18.3 809
1990	WO1	1990	11	11.23264	03	48	46.11	+11	48	42.0	809
1990	WO1	1990	11	11.24583	03	48	45.32	+11	48	37.0	809
1990	WO1	1990	11	18.19306	03	42	37.32	+11	09	52.4	809
1990	WO1	1990	11	18.21944	03	42	35.78	+11	09	44.9	809
1990	WO1	1990	11	20.11944	03	40	51.64	+11	00	02.7	809
1990	WO1	1990	11	20.14583	03	40	50.04	+10	59	54.6	809
1990	WP1	1990	11	11.21944	03	49	30.39	+07	19	38.0	18.6 809
1990	WP1	1990	11	11.23264	03	49	29.57	+07	19	37.8	809
1990	WP1	1990	11	11.24583	03	49	28.76	+07	19	36.4	809
1990	WP1	1990	11	18.19306	03	42	52.83	+07	18	13.2	809
1990	WP1	1990	11	18.21944	03	42	51.15	+07	18	13.8	809
1990	WP1	1990	11	20.11944	03	41	01.81	+07	18	51.2	809
1990	WP1	1990	11	20.14583	03	41	00.20	+07	18	53.1	809
1990	WR1	1990	11	11.21944	03	50	33.76	+08	22	33.1	18.6 809
1990	WR1	1990	11	11.23264	03	50	32.93	+08	22	31.3	809
1990	WR1	1990	11	11.24583	03	50	31.98	+08	22	27.9	809
1990	WR1	1990	11	18.19306	03	43	13.58	+08	05	15.3	809
1990	WR1	1990	11	18.21944	03	43	11.83	+08	05	12.2	809
1990	WR1	1990	11	20.11944	03	41	10.84	+08	01	46.7	809
1990	WR1	1990	11	20.14583	03	41	09.01	+08	01	44.0	809
1990	WS1	1990	11	11.21944	03	49	42.43	+10	35	24.3	18.6 809
1990	WS1	1990	11	11.23264	03	49	41.72	+10	35	18.3	809
1990	WS1	1990	11	11.24583	03	49	40.97	+10	35	12.5	809
1990	WS1	1990	11	18.19306	03	43	37.88	+09	45	51.0	809
1990	WS1	1990	11	18.21944	03	43	36.43	+09	45	41.1	809
1990	WS1	1990	11	20.11944	03	41	55.16	+09	32	44.2	809

1990	WS1	1990	11	20.14583	03	41	53.62	+09	32	32.0	809
1990	WT1	1990	11	18.19306	03	43	52.33	+06	59	21.8	809
1990	WT1	1990	11	18.21944	03	43	50.45	+06	59	22.0	809
1990	WT1	1990	11	20.11944	03	41	50.01	+06	59	14.8	809
1990	WT1	1990	11	20.14583	03	41	48.27	+06	59	14.9	809
1990	WU1	1990	11	11.21944	03	50	12.68	+08	17	59.4	18.5 809
1990	WU1	1990	11	11.23264	03	50	12.03	+08	17	54.3	809
1990	WU1	1990	11	11.24583	03	50	11.29	+08	17	48.9	809
1990	WU1	1990	11	18.19306	03	44	22.10	+07	35	53.3	809
1990	WU1	1990	11	18.21944	03	44	20.58	+07	35	44.6	809
1990	WU1	1990	11	20.11944	03	42	44.06	+07	25	30.3	809
1990	WU1	1990	11	20.14583	03	42	42.71	+07	25	22.4	809
1990	WV1	1990	11	11.21944	03	52	03.33	+11	06	15.7	18.8 809
1990	WV1	1990	11	11.23264	03	52	02.47	+11	06	12.9	809
1990	WV1	1990	11	11.24583	03	52	01.60	+11	06	09.6	809
1990	WV1	1990	11	18.19306	03	44	59.24	+10	43	51.3	809
1990	WV1	1990	11	18.21944	03	44	57.32	+10	43	45.9	809
1990	WV1	1990	11	20.11944	03	42	59.18	+10	38	20.1	809
1990	WV1	1990	11	20.14583	03	42	57.32	+10	38	16.4	809
1990	WW1	1990	11	11.21944	03	51	21.62	+07	59	24.0	18.4 809
1990	WW1	1990	11	11.23264	03	51	20.87	+07	59	20.5	809
1990	WW1	1990	11	11.24583	03	51	20.09	+07	59	17.3	809
1990	WW1	1990	11	18.19306	03	45	10.06	+07	32	48.3	809
1990	WW1	1990	11	18.21944	03	45	08.46	+07	32	43.2	809
1990	WW1	1990	11	20.11944	03	43	25.54	+07	26	34.9	809
1990	WW1	1990	11	20.14583	03	43	24.04	+07	26	30.3	809
1990	WX1	1990	11	11.21944	03	52	11.26	+08	56	38.6	18.7 809
1990	WX1	1990	11	11.23264	03	52	10.41	+08	56	34.1	809
1990	WX1	1990	11	11.24583	03	52	09.61	+08	56	30.8	809
1990	WX1	1990	11	18.19306	03	45	13.71	+08	30	56.3	809
1990	WX1	1990	11	18.21944	03	45	11.87	+08	30	50.4	809
1990	WX1	1990	11	20.11944	03	43	16.68	+08	24	42.0	809
1990	WX1	1990	11	20.14583	03	43	15.09	+08	24	37.2	809
1990	WY1	1990	11	18.19306	03	45	29.72	+07	07	23.4	809
1990	WY1	1990	11	18.21944	03	45	28.38	+07	07	05.6	809
1990	WY1	1990	11	20.11944	03	43	56.10	+06	45	59.8	809
1990	WY1	1990	11	20.14583	03	43	54.79	+06	45	42.1	809
1990	WZ1	1990	11	11.21944	03	53	31.62	+11	32	48.8	18.8 809
1990	WZ1	1990	11	11.23264	03	53	30.78	+11	32	45.2	809
1990	WZ1	1990	11	11.24583	03	53	29.90	+11	32	42.5	809
1990	WZ1	1990	11	18.19306	03	46	16.62	+11	04	10.0	809
1990	WZ1	1990	11	18.21944	03	46	14.96	+11	04	03.8	809
1990	WZ1	1990	11	20.11944	03	44	15.60	+10	56	55.9	809
1990	WZ1	1990	11	20.14583	03	44	13.90	+10	56	49.9	809
1990	WA2	1990	11	18.19306	03	46	17.05	+06	43	38.8	809
1990	WA2	1990	11	18.21944	03	46	15.22	+06	43	32.4	809
1990	WA2	1990	11	20.11944	03	44	34.13	+06	27	31.0	809
1990	WA2	1990	11	20.14583	03	44	32.65	+06	27	25.2	809
1990	WB2	1990	11	11.21944	03	54	43.65	+10	13	11.0	18.7 809
1990	WB2	1990	11	11.23264	03	54	42.83	+10	13	08.8	809
1990	WB2	1990	11	11.24583	03	54	42.02	+10	13	07.6	809
1990	WB2	1990	11	18.19306	03	47	31.82	+09	57	31.0	809
1990	WB2	1990	11	18.21944	03	47	30.07	+09	57	28.5	809
1990	WB2	1990	11	20.11944	03	45	28.85	+09	53	54.2	809
1990	WB2	1990	11	20.14583	03	45	27.05	+09	53	50.8	809
1990	WC2	1990	11	11.21944	03	54	35.66	+07	58	44.1	19.5 809
1990	WC2	1990	11	11.23264	03	54	34.93	+07	58	39.6	809
1990	WC2	1990	11	11.24583	03	54	34.25	+07	58	34.4	809
1990	WC2	1990	11	18.19306	03	49	03.23	+07	18	59.7	809

1990	WC2	1990	11	18.21944	03	49	01.93	+07	18	51.0	809
1990	WC2	1990	11	20.11944	03	47	29.15	+07	08	49.3	809
1990	WC2	1990	11	20.14583	03	47	27.88	+07	08	41.8	809
1990	WD2	1990	11	11.21944	03	56	28.56	+10	52	13.9	18.3 809
1990	WD2	1990	11	11.23264	03	56	27.71	+10	52	12.9	809
1990	WD2	1990	11	11.24583	03	56	26.94	+10	52	12.1	809
1990	WD2	1990	11	18.19306	03	49	32.76	+10	43	08.5	809
1990	WD2	1990	11	18.21944	03	49	31.09	+10	43	07.3	809
1990	WD2	1990	11	20.11944	03	47	34.22	+10	41	20.3	809
1990	WD2	1990	11	20.14583	03	47	32.58	+10	41	19.0	809
1990	WE2	1990	11	11.21944	03	56	46.24	+08	59	38.4	18.7 809
1990	WE2	1990	11	11.23264	03	56	45.50	+08	59	32.8	809
1990	WE2	1990	11	11.24583	03	56	44.64	+08	59	26.2	809
1990	WE2	1990	11	18.19306	03	50	20.75	+08	12	43.9	809
1990	WE2	1990	11	18.21944	03	50	19.11	+08	12	34.1	809
1990	WE2	1990	11	20.11944	03	48	33.00	+08	00	37.7	809
1990	WE2	1990	11	20.14583	03	48	31.43	+08	00	27.5	809
1990	WF2	1990	11	11.21944	03	57	29.01	+10	22	35.9	18.6 809
1990	WF2	1990	11	11.23264	03	57	28.31	+10	22	35.0	809
1990	WF2	1990	11	11.24583	03	57	27.58	+10	22	33.7	809
1990	WF2	1990	11	18.19306	03	51	40.20	+10	17	18.3	809
1990	WF2	1990	11	18.21944	03	51	38.77	+10	17	17.6	809
1990	WF2	1990	11	20.11944	03	50	01.83	+10	16	22.7	809
1990	WF2	1990	11	20.14583	03	50	00.52	+10	16	22.2	809
1990	WG2	1990	11	18.19306	03	51	41.55	+07	25	38.8	809
1990	WG2	1990	11	18.21944	03	51	40.15	+07	25	32.4	809
1990	WG2	1990	11	20.11944	03	50	07.32	+07	18	36.5	809
1990	WG2	1990	11	20.14583	03	50	06.23	+07	18	30.1	809
1990	WH2	1990	11	11.21944	03	58	42.27	+08	34	19.2	18.7 809
1990	WH2	1990	11	11.23264	03	58	41.36	+08	34	20.2	809
1990	WH2	1990	11	11.24583	03	58	40.59	+08	34	19.1	809
1990	WH2	1990	11	18.19306	03	51	45.51	+08	36	21.2	809
1990	WH2	1990	11	18.21944	03	51	43.78	+08	36	23.8	809
1990	WH2	1990	11	20.11944	03	49	48.06	+08	37	41.9	809
1990	WH2	1990	11	20.14583	03	49	46.63	+08	37	42.7	809
1990	WJ2	1990	11	11.21944	03	57	57.05	+08	20	28.3	18.4 809
1990	WJ2	1990	11	11.23264	03	57	56.40	+08	20	18.0	809
1990	WJ2	1990	11	11.24583	03	57	55.69	+08	20	07.4	809
1990	WJ2	1990	11	18.19306	03	51	55.52	+06	50	34.1	809
1990	WJ2	1990	11	18.21944	03	51	53.98	+06	50	14.5	809
1990	WJ2	1990	11	20.11944	03	50	13.11	+06	26	45.8	809
1990	WJ2	1990	11	20.14583	03	50	11.63	+06	26	26.2	809
1990	WQ2	1990	11	21.18194	04	39	28.65	+16	12	47.1	18.3 809
1990	WQ2	1990	11	21.19514	04	39	27.95	+16	12	42.0	809
1990	WQ2	1990	11	21.20833	04	39	27.23	+16	12	37.6	809
1990	WQ2	1990	11	22.17014	04	38	38.32	+16	07	05.3	809
1990	WQ2	1990	11	22.18611	04	38	37.40	+16	07	00.2	809
1990	WQ2	1990	11	22.19896	04	38	36.76	+16	06	56.1	809
1990	WJ3	1990	11	18.21875	03	28	16.21	+14	24	17.6	809
1990	WJ3	1990	11	18.22917	03	28	15.59	+14	24	14.7	809
1990	WJ3	1990	11	18.23958	03	28	14.93	+14	24	11.6	809
1990	WK3	1990	11	12.23403	03	33	40.87	+14	25	40.2	809
1990	WK3	1990	11	12.24444	03	33	40.40	+14	25	36.7	809
1990	WK3	1990	11	12.25486	03	33	39.82	+14	25	30.8	809
1990	WM3	1990	11	15.30208	04	55	41.84	+14	46	48.6	809
1990	WM3	1990	11	15.31528	04	55	41.35	+14	46	43.6	809
1990	WM3	1990	11	15.32569	04	55	40.86	+14	46	40.5	809
1990	WM3	1990	11	16.29375	04	54	57.23	+14	40	47.4	809
1990	WM3	1990	11	16.31111	04	54	56.43	+14	40	41.1	809

1990	WM3	1990	11	16.32153	04	54	55.91	+14	40	38.6	809
1990	WN3	1990	11	15.30208	04	57	51.91	+14	23	52.7	809
1990	WN3	1990	11	15.31528	04	57	51.34	+14	23	49.1	809
1990	WN3	1990	11	15.32569	04	57	50.83	+14	23	45.3	809
1990	WN3	1990	11	16.29375	04	57	05.99	+14	18	17.4	809
1990	WN3	1990	11	16.31111	04	57	05.06	+14	18	12.0	809
1990	WN3	1990	11	16.32153	04	57	04.59	+14	18	08.5	809
1990	WN3	1990	11	18.30069	04	55	28.28	+14	07	05.4	809
1990	WN3	1990	11	18.31111	04	55	27.78	+14	07	01.7	809
1990	WN3	1990	11	18.32500	04	55	27.11	+14	06	57.8	809
1990	WP3	1990	11	11.21944	03	37	53.94	+10	17	05.3	18.6 809
1990	WP3	1990	11	11.23264	03	37	53.03	+10	17	03.2	809
1990	WP3	1990	11	11.24583	03	37	52.08	+10	17	00.6	809
1990	WQ3	1990	11	11.21944	03	38	36.22	+09	52	40.6	18.5 809
1990	WQ3	1990	11	11.23264	03	38	35.36	+09	52	38.3	809
1990	WQ3	1990	11	11.24583	03	38	34.37	+09	52	36.5	809
1990	WX3	1990	11	15.30208	04	54	57.51	+15	06	06.0	17.0 809
1990	WX3	1990	11	15.31528	04	54	56.81	+15	06	08.0	809
1990	WX3	1990	11	15.32569	04	54	56.23	+15	06	09.8	809
1990	WX3	1990	11	21.18194	04	49	32.38	+15	20	00.1	17.8 809
1990	WX3	1990	11	21.19514	04	49	31.57	+15	20	02.4	809
1990	WX3	1990	11	21.20833	04	49	30.71	+15	20	04.6	809
1990	WX3	1990	11	22.17014	04	48	32.58	+15	22	36.1	809
1990	WX3	1990	11	22.18611	04	48	31.56	+15	22	37.9	809
1990	WX3	1990	11	22.19896	04	48	30.74	+15	22	39.9	809
1990	WC4	1990	11	21.18194	04	31	12.09	+15	17	39.1	19.0 809
1990	WC4	1990	11	21.19514	04	31	11.10	+15	17	39.6	809
1990	WC4	1990	11	21.20833	04	31	10.21	+15	17	40.3	809
1990	WC4	1990	11	22.17014	04	30	09.00	+15	18	03.4	809
1990	WC4	1990	11	22.18611	04	30	07.86	+15	18	04.8	809
1990	WC4	1990	11	22.19896	04	30	06.90	+15	18	04.4	809
1990	WD4	1990	11	22.17014	04	31	48.27	+16	54	30.7	18.7 809
1990	WD4	1990	11	22.18611	04	31	47.31	+16	54	34.5	809
1990	WD4	1990	11	22.19896	04	31	46.43	+16	54	38.3	809
1990	WF4	1990	11	21.18194	04	33	52.81	+12	56	40.3	18.7 809
1990	WF4	1990	11	21.19514	04	33	51.93	+12	56	40.2	809
1990	WF4	1990	11	21.20833	04	33	51.23	+12	56	40.7	809
1990	WH4	1990	11	21.18194	04	33	16.82	+16	58	49.1	18.8 809
1990	WH4	1990	11	21.19514	04	33	15.87	+16	58	51.1	809
1990	WH4	1990	11	21.20833	04	33	15.09	+16	58	53.6	809
1990	WH4	1990	11	22.17014	04	32	12.05	+17	00	52.6	809
1990	WH4	1990	11	22.18611	04	32	10.97	+17	00	54.8	809
1990	WH4	1990	11	22.19896	04	32	10.11	+17	00	55.3	809
1990	WJ4	1990	11	21.18194	04	33	42.09	+12	29	08.0	18.8 809
1990	WJ4	1990	11	21.19514	04	33	41.17	+12	29	06.1	809
1990	WJ4	1990	11	21.20833	04	33	40.32	+12	29	04.0	809
1990	WJ4	1990	11	22.17014	04	32	42.83	+12	27	29.8	809
1990	WJ4	1990	11	22.18611	04	32	41.74	+12	27	28.1	809
1990	WJ4	1990	11	22.19896	04	32	40.94	+12	27	26.7	809
1990	WL4	1990	11	21.18194	04	34	31.57	+15	04	01.7	19.2 809
1990	WL4	1990	11	21.19514	04	34	30.72	+15	04	01.0	809
1990	WL4	1990	11	21.20833	04	34	29.79	+15	04	00.1	809
1990	WL4	1990	11	22.17014	04	33	28.47	+15	02	45.6	809
1990	WL4	1990	11	22.18611	04	33	27.42	+15	02	45.1	809
1990	WL4	1990	11	22.19896	04	33	26.52	+15	02	43.6	809
1990	WM4	1990	11	21.18194	04	34	28.99	+13	33	24.9	19.0 809
1990	WM4	1990	11	21.19514	04	34	28.07	+13	33	24.1	809
1990	WM4	1990	11	21.20833	04	34	27.03	+13	33	23.1	809
1990	WM4	1990	11	22.17014	04	33	23.48	+13	32	46.7	809

1990	WM4	1990	11	22.18611	04	33	22.34	+13	32	46.2	809
1990	WM4	1990	11	22.19896	04	33	21.36	+13	32	46.0	809
1990	WN4	1990	11	21.18194	04	35	03.70	+13	33	11.3	18.7 809
1990	WN4	1990	11	21.19514	04	35	02.84	+13	33	14.6	809
1990	WN4	1990	11	21.20833	04	35	01.93	+13	33	17.8	809
1990	WN4	1990	11	22.17014	04	34	00.82	+13	37	44.4	809
1990	WN4	1990	11	22.18611	04	33	59.75	+13	37	48.9	809
1990	WN4	1990	11	22.19896	04	33	58.89	+13	37	51.9	809
1990	WO4	1990	11	21.18194	04	36	12.15	+16	18	12.7	18.6 809
1990	WO4	1990	11	21.19514	04	36	11.36	+16	18	08.4	809
1990	WO4	1990	11	21.20833	04	36	10.61	+16	18	04.6	809
1990	WO4	1990	11	22.17014	04	35	22.03	+16	13	29.8	809
1990	WO4	1990	11	22.18611	04	35	21.07	+16	13	25.3	809
1990	WO4	1990	11	22.19896	04	35	20.44	+16	13	22.2	809
1990	WP4	1990	11	21.18194	04	35	43.17	+16	08	37.7	18.5 809
1990	WP4	1990	11	21.19514	04	35	42.42	+16	08	36.9	809
1990	WP4	1990	11	21.20833	04	35	41.66	+16	08	37.5	809
1990	WP4	1990	11	22.17014	04	34	48.26	+16	08	56.7	809
1990	WP4	1990	11	22.18611	04	34	47.33	+16	08	57.1	809
1990	WP4	1990	11	22.19896	04	34	46.57	+16	08	57.2	809
1990	WQ4	1990	11	21.18194	04	36	40.46	+16	19	50.2	18.6 809
1990	WQ4	1990	11	21.19514	04	36	39.49	+16	19	47.8	809
1990	WQ4	1990	11	21.20833	04	36	38.53	+16	19	46.9	809
1990	WQ4	1990	11	22.17014	04	35	33.24	+16	17	50.7	809
1990	WQ4	1990	11	22.18611	04	35	32.07	+16	17	49.3	809
1990	WQ4	1990	11	22.19896	04	35	31.09	+16	17	46.8	809
1990	WS4	1990	11	21.18194	04	38	08.34	+17	10	53.5	18.6 809
1990	WS4	1990	11	21.19514	04	38	07.56	+17	10	51.7	809
1990	WS4	1990	11	21.20833	04	38	06.83	+17	10	49.3	809
1990	WS4	1990	11	22.17014	04	37	14.57	+17	08	37.7	809
1990	WS4	1990	11	22.18611	04	37	13.63	+17	08	35.3	809
1990	WS4	1990	11	22.19896	04	37	12.93	+17	08	33.8	809
1990	WV4	1990	11	21.18194	04	39	50.48	+15	38	56.2	18.1 809
1990	WV4	1990	11	21.19514	04	39	49.65	+15	38	52.9	809
1990	WV4	1990	11	21.20833	04	39	48.88	+15	38	49.7	809
1990	WV4	1990	11	22.17014	04	38	54.53	+15	34	30.8	809
1990	WV4	1990	11	22.18611	04	38	53.54	+15	34	26.8	809
1990	WV4	1990	11	22.19896	04	38	52.77	+15	34	23.2	809
1990	WW4	1990	11	21.18194	04	40	53.72	+12	59	26.4	19.2 809
1990	WW4	1990	11	21.19514	04	40	52.86	+12	59	23.4	809
1990	WW4	1990	11	21.20833	04	40	51.95	+12	59	20.8	809
1990	WW4	1990	11	22.17014	04	39	54.04	+12	55	49.0	809
1990	WW4	1990	11	22.18611	04	39	52.99	+12	55	44.7	809
1990	WW4	1990	11	22.19896	04	39	52.14	+12	55	41.8	809
1990	WX4	1990	11	21.18194	04	41	10.44	+14	14	27.8	19.6 809
1990	WX4	1990	11	21.19514	04	41	09.48	+14	14	28.4	809
1990	WX4	1990	11	21.20833	04	41	08.51	+14	14	30.5	809
1990	WX4	1990	11	22.17014	04	40	09.73	+14	16	42.2	809
1990	WX4	1990	11	22.18611	04	40	08.63	+14	16	45.7	809
1990	WX4	1990	11	22.19896	04	40	07.86	+14	16	46.1	809
1990	WA5	1990	11	21.18194	04	44	40.40	+14	33	17.9	18.6 809
1990	WA5	1990	11	21.19514	04	44	39.66	+14	33	16.5	809
1990	WA5	1990	11	21.20833	04	44	38.85	+14	33	15.7	809
1990	WA5	1990	11	22.17014	04	43	47.67	+14	32	12.6	809
1990	WA5	1990	11	22.18611	04	43	46.74	+14	32	11.5	809
1990	WA5	1990	11	22.19896	04	43	46.05	+14	32	10.4	809
1990	WB5	1990	11	21.18194	04	45	32.70	+14	34	37.1	19.2 809
1990	WB5	1990	11	21.19514	04	45	31.99	+14	34	39.2	809
1990	WB5	1990	11	21.20833	04	45	31.35	+14	34	41.5	809

1990	WB5		1990	11	22.17014	04	44	40.18	+14	37	39.7	809
1990	WB5		1990	11	22.18611	04	44	38.94	+14	37	43.2	809
1990	WB5		1990	11	22.19896	04	44	38.20	+14	37	47.5	809
1990	WD5		1990	11	21.18194	04	47	03.12	+16	55	02.2	18.3 809
1990	WD5		1990	11	21.19514	04	47	02.38	+16	55	04.3	809
1990	WD5		1990	11	21.20833	04	47	01.65	+16	55	05.8	809
1990	WD5		1990	11	22.17014	04	46	10.56	+16	56	47.6	18.5 809
1990	WD5		1990	11	22.18611	04	46	09.67	+16	56	49.7	809
1990	WD5		1990	11	22.19896	04	46	08.90	+16	56	50.9	809
1990	WE5		1990	11	21.18194	04	46	54.68	+14	34	18.9	18.9 809
1990	WE5		1990	11	21.19514	04	46	53.80	+14	34	18.4	809
1990	WE5		1990	11	21.20833	04	46	52.93	+14	34	17.6	809
1990	WE5		1990	11	22.17014	04	45	53.44	+14	33	49.0	809
1990	WE5		1990	11	22.18611	04	45	52.34	+14	33	47.1	809
1990	WE5		1990	11	22.19896	04	45	51.54	+14	33	47.4	809
1990	WF5		1990	11	21.18194	04	47	35.26	+13	28	07.6	19.2 809
1990	WF5		1990	11	21.19514	04	47	34.57	+13	28	06.8	809
1990	WF5		1990	11	21.20833	04	47	33.77	+13	28	06.3	809
1990	WF5		1990	11	22.17014	04	46	39.81	+13	28	07.8	809
1990	WF5		1990	11	22.18611	04	46	38.70	+13	28	07.3	809
1990	WF5		1990	11	22.19896	04	46	38.02	+13	28	07.7	809
1990	WG5		1990	11	21.18194	04	46	55.84	+15	47	33.2	18.6 809
1990	WG5		1990	11	21.19514	04	46	55.03	+15	47	37.8	809
1990	WG5		1990	11	21.20833	04	46	54.10	+15	47	44.3	809
1990	WG5		1990	11	22.17014	04	45	50.56	+15	54	31.9	809
1990	WG5		1990	11	22.18611	04	45	49.47	+15	54	39.0	809
1990	WG5		1990	11	22.19896	04	45	48.67	+15	54	44.2	809
1990	WO5	*	1990	11	17.26806	04	22	26.79	+07	25	30.4	809
1990	WO5		1990	11	17.28125	04	22	26.12	+07	25	29.5	809
1990	WO5		1990	11	17.29444	04	22	25.36	+07	25	30.2	809
1990	WO5		1990	11	23.17708	04	17	23.97	+07	26	47.0	809
1990	WO5		1990	11	23.19028	04	17	23.23	+07	26	48.3	809
1990	WO5		1990	11	23.20347	04	17	22.47	+07	26	48.6	809
1990	WP5	*	1990	11	17.26806	04	26	40.86	+10	42	34.0	809
1990	WP5		1990	11	17.28125	04	26	40.15	+10	42	33.3	19.8 809
1990	WP5		1990	11	17.29444	04	26	39.47	+10	42	33.9	809
1990	WP5		1990	11	23.17708	04	21	43.11	+10	40	27.4	809
1990	WP5		1990	11	23.19028	04	21	42.42	+10	40	26.5	809
1990	WP5		1990	11	23.20347	04	21	41.74	+10	40	26.3	809
1990	WQ5	*	1990	11	17.26806	04	27	04.81	+08	31	55.2	809
1990	WQ5		1990	11	17.28125	04	27	04.12	+08	31	52.8	20.0 809
1990	WQ5		1990	11	17.29444	04	27	03.27	+08	31	52.2	809
1990	WQ5		1990	11	23.17708	04	21	57.72	+08	24	19.4	809
1990	WQ5		1990	11	23.19028	04	21	57.07	+08	24	18.7	809
1990	WQ5		1990	11	23.20347	04	21	56.29	+08	24	19.8	809
1990	WR5		1990	11	11.21944	03	49	31.71	+09	20	18.5	18.6 809
1990	WR5		1990	11	11.23264	03	49	30.86	+09	20	18.0	809
1990	WR5		1990	11	11.24583	03	49	30.16	+09	20	17.2	809
1990	WR5	*	1990	11	18.19306	03	43	23.62	+09	14	27.0	809
1990	WR5		1990	11	18.20625	03	43	22.85	+09	14	27.9	19.0 809
1990	WR5		1990	11	18.21944	03	43	22.05	+09	14	27.1	809
1990	WR5		1990	11	20.11944	03	41	40.70	+09	13	29.1	809
1990	WR5		1990	11	20.13264	03	41	39.78	+09	13	28.8	19.6 809
1990	WR5		1990	11	20.14583	03	41	39.11	+09	13	28.6	809
1990	WS5	*	1990	11	18.19306	03	45	08.69	+07	06	07.6	809
1990	WS5		1990	11	18.20625	03	45	07.18	+07	06	24.3	19.0 809
1990	WS5		1990	11	18.21944	03	45	05.55	+07	06	39.4	809
1990	WS5		1990	11	20.11944	03	41	35.26	+07	44	57.8	809
1990	WS5		1990	11	20.13264	03	41	33.66	+07	45	13.8	809

1990	WS5		1990	11	20.14583	03	41	31.81	+07	45	33.9		809
1990	WT5	*	1990	11	18.19306	03	46	15.77	+09	48	33.9		809
1990	WT5		1990	11	18.20625	03	46	14.10	+09	48	50.2	18.5	809
1990	WT5		1990	11	18.21944	03	46	12.50	+09	49	05.6		809
1990	WT5		1990	11	20.11944	03	42	25.03	+10	26	52.9		809
1990	WT5		1990	11	20.13264	03	42	23.29	+10	27	10.2		809
1990	WT5		1990	11	20.14583	03	42	21.81	+10	27	24.0		809
1990	WU5		1990	11	16.32431	04	33	26.57	+15	30	31.8	18.6	809
1990	WU5	*	1990	11	21.18194	04	29	01.12	+15	20	17.3	19.2	809
1990	WU5		1990	11	21.19514	04	29	00.23	+15	20	13.9		809
1990	WU5		1990	11	21.20833	04	28	59.51	+15	20	12.7		809
1990	WU5		1990	11	22.17014	04	28	04.95	+15	18	15.6		809
1990	WU5		1990	11	22.18611	04	28	03.95	+15	18	14.3		809
1990	WU5		1990	11	22.19896	04	28	03.18	+15	18	11.8		809
1990	WV5	*	1990	11	21.18194	04	29	46.14	+13	09	21.7	18.7	809
1990	WV5		1990	11	21.19514	04	29	45.51	+13	09	18.3		809
1990	WV5		1990	11	21.20833	04	29	44.85	+13	09	15.1		809
1990	WV5		1990	11	22.17014	04	28	57.69	+13	05	03.8		809
1990	WV5		1990	11	22.18611	04	28	56.74	+13	04	59.0		809
1990	WV5		1990	11	22.19896	04	28	56.01	+13	04	55.0		809
1990	WW5	*	1990	11	21.18194	04	31	30.56	+13	01	16.5	18.7	809
1990	WW5		1990	11	21.19514	04	31	29.84	+13	01	14.9		809
1990	WW5		1990	11	21.20833	04	31	29.14	+13	01	12.5		809
1990	WW5		1990	11	22.17014	04	30	42.50	+12	59	19.8		809
1990	WW5		1990	11	22.18611	04	30	41.57	+12	59	18.3		809
1990	WW5		1990	11	22.19896	04	30	40.90	+12	59	14.8		809
1990	WX5	*	1990	11	21.18194	04	32	51.66	+14	09	39.6	19.7	809
1990	WX5		1990	11	21.19514	04	32	50.68	+14	09	41.1		809
1990	WX5		1990	11	21.20833	04	32	49.80	+14	09	46.7		809
1990	WX5		1990	11	22.17014	04	31	50.38	+14	14	08.1		809
1990	WX5		1990	11	22.18611	04	31	49.33	+14	14	11.3		809
1990	WX5		1990	11	22.19896	04	31	48.29	+14	14	16.1		809
1990	WY5		1990	11	17.20007	04	37	31.41	+14	40	40.3	19.4	809
1990	WY5	*	1990	11	21.18194	04	33	30.63	+14	41	59.1	19.7	809
1990	WY5		1990	11	21.19514	04	33	29.82	+14	41	59.8		809
1990	WY5		1990	11	21.20833	04	33	28.98	+14	41	58.9		809
1990	WY5		1990	11	22.17014	04	32	28.63	+14	42	26.8		809
1990	WY5		1990	11	22.18611	04	32	27.62	+14	42	26.2		809
1990	WY5		1990	11	22.19896	04	32	26.67	+14	42	26.0		809
1990	WZ5	*	1990	11	21.18194	04	34	00.49	+15	57	00.2	19.0	809
1990	WZ5		1990	11	21.19514	04	33	59.65	+15	56	56.0		809
1990	WZ5		1990	11	21.20833	04	33	58.65	+15	56	51.6		809
1990	WZ5		1990	11	22.17014	04	33	00.47	+15	51	27.6		809
1990	WZ5		1990	11	22.18611	04	32	59.36	+15	51	21.2		809
1990	WZ5		1990	11	22.19896	04	32	58.58	+15	51	17.6		809
1990	WA6	*	1990	11	21.18194	04	35	29.33	+16	04	10.9	19.5	809
1990	WA6		1990	11	21.19514	04	35	28.52	+16	04	09.8		809
1990	WA6		1990	11	21.20833	04	35	27.73	+16	04	08.9		809
1990	WA6		1990	11	22.17014	04	34	35.01	+16	02	35.6		809
1990	WA6		1990	11	22.18611	04	34	34.03	+16	02	33.5		809
1990	WA6		1990	11	22.19896	04	34	33.29	+16	02	32.5		809
1990	WB6	*	1990	11	21.18194	04	36	23.06	+14	42	44.2	19.6	809
1990	WB6		1990	11	21.19514	04	36	22.30	+14	42	44.8		809
1990	WB6		1990	11	21.20833	04	36	21.36	+14	42	46.9		809
1990	WB6		1990	11	22.17014	04	35	24.48	+14	44	46.2		809
1990	WB6		1990	11	22.18611	04	35	23.58	+14	44	47.8		809
1990	WB6		1990	11	22.19896	04	35	22.90	+14	44	49.9		809
1990	WC6	*	1990	11	21.18194	04	36	44.74	+15	52	07.2	18.9	809
1990	WC6		1990	11	21.19514	04	36	43.96	+15	52	01.2		809

1990	WC6		1990	11	21.20833	04	36	43.20	+15	51	55.3		809
1990	WC6		1990	11	22.17014	04	35	47.57	+15	45	18.1		809
1990	WC6		1990	11	22.18611	04	35	46.52	+15	45	11.7		809
1990	WC6		1990	11	22.19896	04	35	45.78	+15	45	06.5		809
1990	WD6	*	1990	11	21.18194	04	37	15.35	+12	23	41.6	19.3	809
1990	WD6		1990	11	21.19514	04	37	14.58	+12	23	38.2		809
1990	WD6		1990	11	21.20833	04	37	13.93	+12	23	35.0		809
1990	WD6		1990	11	22.17014	04	36	29.82	+12	21	18.9		809
1990	WD6		1990	11	22.18611	04	36	28.88	+12	21	16.5		809
1990	WD6		1990	11	22.19896	04	36	28.30	+12	21	13.3		809
1990	WE6	*	1990	11	21.18194	04	37	16.13	+13	33	38.9	19.2	809
1990	WE6		1990	11	21.19514	04	37	15.30	+13	33	32.9		809
1990	WE6		1990	11	21.20833	04	37	14.43	+13	33	28.7		809
1990	WE6		1990	11	22.17014	04	36	18.42	+13	28	40.0		809
1990	WE6		1990	11	22.18611	04	36	17.39	+13	28	36.0		809
1990	WE6		1990	11	22.19896	04	36	16.56	+13	28	30.3		809
1990	WF6	*	1990	11	21.18194	04	37	36.77	+15	58	09.1	19.6	809
1990	WF6		1990	11	21.19514	04	37	35.93	+15	58	07.0		809
1990	WF6		1990	11	21.20833	04	37	35.60	+15	58	03.4		809
1990	WF6		1990	11	22.17014	04	36	40.57	+15	55	24.1		809
1990	WF6		1990	11	22.18611	04	36	39.50	+15	55	21.1		809
1990	WF6		1990	11	22.19896	04	36	38.72	+15	55	17.8		809
1990	WG6	*	1990	11	21.18194	04	37	43.24	+15	50	05.5	19.5	809
1990	WG6		1990	11	21.19514	04	37	42.34	+15	50	01.4		809
1990	WG6		1990	11	21.20833	04	37	41.26	+15	49	56.9		809
1990	WG6		1990	11	22.17014	04	36	41.70	+15	44	46.0		809
1990	WG6		1990	11	22.18611	04	36	40.57	+15	44	40.1		809
1990	WG6		1990	11	22.19896	04	36	39.71	+15	44	37.1		809
1990	WH6	*	1990	11	21.18194	04	37	53.99	+15	55	51.4	19.2	809
1990	WH6		1990	11	21.19514	04	37	53.19	+15	55	48.2		809
1990	WH6		1990	11	21.20833	04	37	52.54	+15	55	45.1		809
1990	WH6		1990	11	22.17014	04	36	59.03	+15	51	44.3		809
1990	WH6		1990	11	22.18611	04	36	57.98	+15	51	39.2		809
1990	WH6		1990	11	22.19896	04	36	57.18	+15	51	35.5		809
1990	WJ6	*	1990	11	21.18194	04	38	41.63	+14	11	24.9	19.7	809
1990	WJ6		1990	11	21.19514	04	38	40.88	+14	11	21.2		809
1990	WJ6		1990	11	21.20833	04	38	40.30	+14	11	18.6		809
1990	WJ6		1990	11	22.17014	04	37	54.16	+14	08	48.6		809
1990	WJ6		1990	11	22.18611	04	37	53.31	+14	08	46.3		809
1990	WJ6		1990	11	22.19896	04	37	52.69	+14	08	43.4		809
1990	WK6		1990	11	16.32431	04	46	12.77	+13	45	51.6	18.5	809
1990	WK6	*	1990	11	21.18194	04	41	31.06	+13	18	06.9	19.0	809
1990	WK6		1990	11	21.19514	04	41	30.31	+13	18	02.5		809
1990	WK6		1990	11	21.20833	04	41	29.61	+13	17	59.5		809
1990	WK6		1990	11	22.17014	04	40	31.33	+13	12	39.6		809
1990	WK6		1990	11	22.18611	04	40	30.28	+13	12	33.6		809
1990	WK6		1990	11	22.19896	04	40	29.47	+13	12	30.3		809
1990	WL6	*	1990	11	21.18194	04	41	32.70	+14	08	38.2	19.7	809
1990	WL6		1990	11	21.19514	04	41	31.96	+14	08	38.1		809
1990	WL6		1990	11	21.20833	04	41	31.23	+14	08	39.3		809
1990	WL6		1990	11	22.17014	04	40	42.79	+14	08	55.4		809
1990	WL6		1990	11	22.18611	04	40	41.91	+14	08	57.3		809
1990	WL6		1990	11	22.19896	04	40	41.22	+14	08	57.3		809
1990	WM6	*	1990	11	21.18194	04	41	49.01	+17	15	27.6	18.8	809
1990	WM6		1990	11	21.19514	04	41	48.02	+17	15	25.1		809
1990	WM6		1990	11	21.20833	04	41	47.21	+17	15	23.0		809
1990	WM6		1990	11	22.17014	04	40	50.65	+17	12	12.1		809
1990	WM6		1990	11	22.18611	04	40	49.62	+17	12	08.5		809
1990	WM6		1990	11	22.19896	04	40	48.77	+17	12	05.3		809

1990	WN6	*	1990	11	21.18194	04	42	50.71	+13	07	03.5	19.2	809
1990	WN6		1990	11	21.19514	04	42	49.77	+13	07	04.2		809
1990	WN6		1990	11	21.20833	04	42	48.80	+13	07	03.8		809
1990	WN6		1990	11	22.17014	04	41	44.96	+13	07	08.7		809
1990	WN6		1990	11	22.18611	04	41	43.77	+13	07	08.4		809
1990	WN6		1990	11	22.19896	04	41	42.91	+13	07	08.6		809
1990	WP6	*	1990	11	21.18194	04	44	12.71	+14	03	15.3	19.5	809
1990	WP6		1990	11	21.19514	04	44	11.84	+14	03	15.0		809
1990	WP6		1990	11	21.20833	04	44	11.03	+14	03	14.7		809
1990	WP6		1990	11	22.17014	04	43	11.77	+14	03	49.1		809
1990	WP6		1990	11	22.18611	04	43	10.68	+14	03	48.5		809
1990	WP6		1990	11	22.19896	04	43	09.91	+14	03	49.5		809
1990	WQ6		1990	11	16.32431	04	49	13.47	+15	21	10.5	18.6	809
1990	WQ6	*	1990	11	21.18194	04	44	30.88	+15	04	00.6	19.4	809
1990	WQ6		1990	11	21.19514	04	44	29.97	+15	03	57.9		809
1990	WQ6		1990	11	21.20833	04	44	29.18	+15	03	55.3		809
1990	WQ6		1990	11	22.17014	04	43	30.53	+15	00	36.2		809
1990	WQ6		1990	11	22.18611	04	43	29.52	+15	00	33.4		809
1990	WQ6		1990	11	22.19896	04	43	28.82	+15	00	31.7		809
1990	WR6	*	1990	11	21.18194	04	44	57.79	+15	39	28.0	18.7	809
1990	WR6		1990	11	21.19514	04	44	57.11	+15	39	25.9		809
1990	WR6		1990	11	21.20833	04	44	56.44	+15	39	24.8		809
1990	WR6		1990	11	22.17014	04	44	10.39	+15	37	53.4		809
1990	WR6		1990	11	22.18611	04	44	09.55	+15	37	52.1		809
1990	WR6		1990	11	22.19896	04	44	08.94	+15	37	50.7		809
1990	WS6	*	1990	11	21.18194	04	45	50.76	+15	49	31.9	18.5	809
1990	WS6		1990	11	21.19514	04	45	50.03	+15	49	24.2		809
1990	WS6		1990	11	21.20833	04	45	49.37	+15	49	16.1		809
1990	WS6		1990	11	22.17014	04	45	03.85	+15	39	23.9		809
1990	WS6		1990	11	22.18611	04	45	02.98	+15	39	13.9		809
1990	WS6		1990	11	22.19896	04	45	02.34	+15	39	06.4		809
1990	WT6		1990	11	16.32431	04	50	02.41	+13	38	55.7	18.5	809
1990	WT6	*	1990	11	21.18194	04	45	54.40	+13	17	59.0	18.5	809
1990	WT6		1990	11	21.19514	04	45	53.54	+13	17	55.7		809
1990	WT6		1990	11	21.20833	04	45	52.74	+13	17	52.5		809
1990	WT6		1990	11	22.17014	04	45	00.25	+13	13	56.7		809
1990	WT6		1990	11	22.18611	04	44	59.20	+13	13	52.6		809
1990	WT6		1990	11	22.19896	04	44	58.47	+13	13	49.9		809
1990	WU6	*	1990	11	21.18194	04	47	05.52	+14	13	45.8	18.8	809
1990	WU6		1990	11	21.19514	04	47	04.76	+14	13	39.9		809
1990	WU6		1990	11	21.20833	04	47	04.00	+14	13	35.0		809
1990	WU6		1990	11	22.17014	04	46	11.93	+14	06	30.9		809
1990	WU6		1990	11	22.18611	04	46	11.00	+14	06	23.7		809
1990	WU6		1990	11	22.19896	04	46	10.16	+14	06	16.1		809
1990	WV6	*	1990	11	21.18194	04	47	22.99	+15	25	57.0	19.8	809
1990	WV6		1990	11	21.19514	04	47	22.53	+15	25	55.8		809
1990	WV6		1990	11	21.20833	04	47	21.49	+15	25	54.1		809
1990	WV6		1990	11	22.17014	04	46	19.22	+15	23	22.6		809
1990	WV6		1990	11	22.18611	04	46	18.21	+15	23	19.8		809
1990	WV6		1990	11	22.19896	04	46	17.26	+15	23	18.4		809
1990	WW6	*	1990	11	21.18194	04	48	17.47	+13	39	29.5	18.7	809
1990	WW6		1990	11	21.19514	04	48	16.75	+13	39	26.0		809
1990	WW6		1990	11	21.20833	04	48	15.98	+13	39	25.3		809
1990	WW6		1990	11	22.17014	04	47	22.64	+13	36	37.5		809
1990	WW6		1990	11	22.18611	04	47	21.61	+13	36	34.3		809
1990	WW6		1990	11	22.19896	04	47	20.92	+13	36	32.2		809
1990	WX6	*	1990	11	21.18194	04	48	30.52	+12	40	40.4	19.0	809
1990	WX6		1990	11	21.19514	04	48	29.69	+12	40	40.0		809
1990	WX6		1990	11	21.20833	04	48	28.84	+12	40	39.9		809

1990	WX6		1990	11	22.17014	04	47	34.15	+12	40	44.5		809
1990	WX6		1990	11	22.18611	04	47	33.12	+12	40	44.3		809
1990	WX6		1990	11	22.19896	04	47	32.34	+12	40	44.4		809
1990	WY6	*	1990	11	21.18194	04	48	59.37	+12	52	57.1	18.6	809
1990	WY6		1990	11	21.19514	04	48	58.54	+12	52	56.0		809
1990	WY6		1990	11	21.20833	04	48	57.66	+12	52	54.3		809
1990	WY6		1990	11	22.17014	04	47	59.41	+12	51	30.8		809
1990	WY6		1990	11	22.18611	04	47	58.32	+12	51	29.6		809
1990	WY6		1990	11	22.19896	04	47	57.55	+12	51	29.0		809
1990	WA7	*	1990	11	21.18194	04	49	27.32	+14	14	24.0	19.0	809
1990	WA7		1990	11	21.19514	04	49	26.91	+14	14	23.8		809
1990	WA7		1990	11	21.20833	04	49	26.40	+14	14	24.2		809
1990	WA7		1990	11	22.17014	04	48	55.49	+14	14	32.8		809
1990	WA7		1990	11	22.18611	04	48	54.98	+14	14	31.8		809
1990	WA7		1990	11	22.19896	04	48	54.44	+14	14	31.8		809
1990	WB7		1990	11	17.20007	04	53	19.49	+13	46	33.0	18.7	809
1990	WB7		1990	11	19.27778	04	51	25.63	+13	38	34.2		809
1990	WB7		1990	11	19.28819	04	51	24.93	+13	38	30.5		809
1990	WB7		1990	11	19.30347	04	51	24.05	+13	38	25.8		809
1990	WB7	*	1990	11	21.18194	04	49	37.01	+13	31	30.4	18.7	809
1990	WB7		1990	11	21.19514	04	49	36.19	+13	31	28.0		809
1990	WB7		1990	11	21.20833	04	49	35.44	+13	31	25.2		809
1990	WB7		1990	11	22.17014	04	48	39.42	+13	27	56.2		809
1990	WB7		1990	11	22.18611	04	48	38.45	+13	27	51.8		809
1990	WB7		1990	11	22.19896	04	48	37.65	+13	27	48.6		809
1990	WB7		1990	11	22.23681	04	48	35.45	+13	27	39.7	17.7	809
1990	WB7		1990	11	22.24722	04	48	34.85	+13	27	37.3		809
1990	WB7		1990	11	22.25799	04	48	34.16	+13	27	34.2		809
1990	WC7	*	1990	11	21.18194	04	49	48.87	+13	43	51.0	18.6	809
1990	WC7		1990	11	21.19514	04	49	48.08	+13	43	47.9		809
1990	WC7		1990	11	21.20833	04	49	47.27	+13	43	43.4		809
1990	WC7		1990	11	22.17014	04	48	54.00	+13	39	34.5		809
1990	WC7		1990	11	22.18611	04	48	52.95	+13	39	30.3		809
1990	WC7		1990	11	22.19896	04	48	52.20	+13	39	27.1		809
1990	WD7	*	1990	11	21.18194	04	49	53.24	+15	32	33.2	18.7	809
1990	WD7		1990	11	21.19514	04	49	52.55	+15	32	27.7		809
1990	WD7		1990	11	21.20833	04	49	51.73	+15	32	22.7		809
1990	WD7		1990	11	22.17014	04	49	01.97	+15	25	19.3		809
1990	WD7		1990	11	22.18611	04	49	01.07	+15	25	12.5		809
1990	WD7		1990	11	22.19896	04	49	00.41	+15	25	07.9		809
1990	WE7	*	1990	11	21.18194	04	50	08.51	+13	07	07.9	18.8	809
1990	WE7		1990	11	21.19514	04	50	07.79	+13	07	11.8		809
1990	WE7		1990	11	21.20833	04	50	06.93	+13	07	16.2		809
1990	WE7		1990	11	22.17014	04	49	11.77	+13	12	42.6		809
1990	WE7		1990	11	22.18611	04	49	10.74	+13	12	49.1		809
1990	WE7		1990	11	22.19896	04	49	10.00	+13	12	52.7		809
1990	WF7	*	1990	11	18.21875	03	21	57.10	+13	06	33.2	18.0	809
1990	WF7		1990	11	18.22917	03	21	56.40	+13	06	32.7		809
1990	WF7		1990	11	18.23958	03	21	55.79	+13	06	31.1		809
1990	WF7		1990	11	19.16319	03	20	59.46	+13	09	06.6	17.8	809
1990	WF7		1990	11	19.17361	03	20	58.80	+13	09	04.0		809
1990	WF7		1990	11	19.18403	03	20	58.19	+13	09	01.3		809
1990	WG7	*	1990	11	18.16458	03	18	43.07	+02	52	39.8		809
1990	WG7		1990	11	18.17500	03	18	42.60	+02	52	38.6		809
1990	WG7		1990	11	18.18542	03	18	42.22	+02	52	37.4		809
1990	WG7		1990	11	19.12500	03	17	56.76	+02	50	26.5	18.2	809
1990	WG7		1990	11	19.13542	03	17	56.22	+02	50	26.8		809
1990	WG7		1990	11	19.14583	03	17	55.69	+02	50	25.3		809
9094	P-L		1990	11	15.26528	04	36	12.51	+09	05	48.7		809

9094	P-L	1990	11	15.29306	04	36	10.82	+09	05	34.8	809
9094	P-L	1990	11	17.26806	04	34	23.21	+08	49	12.8	809
9094	P-L	1990	11	17.29444	04	34	21.62	+08	49	00.2	809
9094	P-L	1990	11	23.17708	04	28	42.47	+08	04	13.5	809
9094	P-L	1990	11	23.19028	04	28	41.61	+08	04	07.2	809
9094	P-L	1990	11	23.20347	04	28	40.77	+08	04	02.2	809
119		1990	11	21.18194	04	36	40.89	+15	36	15.9	13.0 809
119		1990	11	21.19514	04	36	40.07	+15	36	12.5	809
119		1990	11	21.20833	04	36	39.27	+15	36	09.4	809
119		1990	11	22.17014	04	35	45.72	+15	31	52.1	809
119		1990	11	22.18611	04	35	44.76	+15	31	47.0	809
119		1990	11	22.19896	04	35	43.92	+15	31	44.8	809
159		1990	11	11.21944	03	57	28.88	+11	13	56.1	15.0 809
159		1990	11	11.23264	03	57	28.12	+11	13	53.7	809
159		1990	11	11.24583	03	57	27.46	+11	13	51.6	809
451		1990	11	18.19306	03	50	32.57	+07	03	25.8	809
451		1990	11	18.21944	03	50	30.88	+07	03	28.0	809
451		1990	11	20.11944	03	48	46.52	+07	05	51.4	809
451		1990	11	20.14583	03	48	44.78	+07	05	54.0	809
486		1990	11	15.19792	04	03	57.71	+10	16	16.3	809
486		1990	11	15.22431	04	03	55.93	+10	16	13.8	809
486		1990	11	17.22292	04	01	49.73	+10	14	40.2	809
486		1990	11	17.24931	04	01	47.99	+10	14	38.9	809
486		1990	11	21.14167	03	57	37.24	+10	12	23.7	17.7 809
486		1990	11	21.15486	03	57	36.32	+10	12	23.2	809
486		1990	11	21.16806	03	57	35.39	+10	12	22.9	809
526		1990	11	12.23403	03	27	06.61	+15	30	05.2	16.0 809
526		1990	11	12.24444	03	27	06.11	+15	30	03.0	809
526		1990	11	12.25486	03	27	05.60	+15	30	01.4	809
560		1990	11	11.21944	03	45	38.91	+08	26	12.6	16.0 809
560		1990	11	11.23264	03	45	38.12	+08	26	11.8	809
560		1990	11	11.24583	03	45	37.31	+08	26	09.6	809
560		1990	11	18.19306	03	39	09.55	+08	17	16.6	809
560		1990	11	18.21944	03	39	07.94	+08	17	15.5	809
560		1990	11	20.11944	03	37	19.54	+08	15	43.4	809
560		1990	11	20.14583	03	37	17.83	+08	15	42.6	809
1031		1990	11	15.26528	04	31	54.19	+11	00	33.4	809
1031		1990	11	15.29306	04	31	52.77	+11	00	20.8	809
1031		1990	11	17.26806	04	30	23.31	+10	45	59.3	809
1031		1990	11	17.29444	04	30	21.89	+10	45	47.4	809
1031		1990	11	23.17708	04	25	42.37	+10	03	59.7	809
1031		1990	11	23.19028	04	25	41.64	+10	03	54.0	809
1031		1990	11	23.20347	04	25	40.92	+10	03	48.7	809
1705		1990	11	15.19792	04	15	17.21	+09	45	38.4	809
1705		1990	11	15.22431	04	15	15.44	+09	45	27.0	809
1705		1990	11	17.22292	04	13	10.97	+09	32	09.6	809
1705		1990	11	17.24931	04	13	09.19	+09	31	59.7	809
1705		1990	11	21.14167	04	09	02.34	+09	07	50.5	18.0 809
1705		1990	11	21.15486	04	09	01.41	+09	07	46.0	809
1705		1990	11	21.16806	04	09	00.47	+09	07	41.8	809
1992		1990	11	15.19792	04	07	24.46	+07	54	32.2	809
1992		1990	11	15.22431	04	07	23.16	+07	54	24.6	809
1992		1990	11	17.22292	04	05	48.20	+07	45	17.1	809
1992		1990	11	17.24931	04	05	46.74	+07	45	10.3	809
1992		1990	11	21.14167	04	02	38.24	+07	28	24.6	18.7 809
1992		1990	11	21.15486	04	02	37.47	+07	28	21.5	809
1992		1990	11	21.16806	04	02	36.82	+07	28	18.6	809
2073		1990	11	12.09167	02	06	06.32	+09	05	49.7	17.2 809
2073		1990	11	12.10347	02	06	05.77	+09	05	48.2	809

2073	1990	11	12.11528	02	06	05.17	+09	05	45.9	809
2244	1990	11	18.30069	04	50	07.06	+13	41	55.3	809
2244	1990	11	18.31111	04	50	06.52	+13	41	55.9	809
2244	1990	11	18.32500	04	50	05.83	+13	41	56.5	809
2244	1990	11	21.18194	04	47	40.65	+13	43	29.4	16.0 809
2244	1990	11	21.19514	04	47	39.95	+13	43	29.7	809
2244	1990	11	21.20833	04	47	39.15	+13	43	29.9	809
2244	1990	11	22.17014	04	46	48.64	+13	44	08.7	809
2244	1990	11	22.18611	04	46	47.75	+13	44	09.1	809
2244	1990	11	22.19896	04	46	47.00	+13	44	09.5	809
2271	1990	11	18.21875	03	24	23.94	+13	16	10.0	809
2271	1990	11	18.22917	03	24	23.37	+13	16	08.6	809
2271	1990	11	18.23958	03	24	22.79	+13	16	06.7	809
2298	1990	11	21.18194	04	41	38.09	+15	33	38.4	17.8 809
2298	1990	11	21.19514	04	41	37.24	+15	33	35.0	809
2298	1990	11	21.20833	04	41	36.39	+15	33	32.0	809
2298	1990	11	22.17014	04	40	37.86	+15	29	19.3	809
2298	1990	11	22.18611	04	40	36.85	+15	29	15.4	809
2298	1990	11	22.19896	04	40	36.01	+15	29	12.1	809
2391	1990	11	18.21875	03	27	19.82	+13	24	48.2	809
2391	1990	11	18.22917	03	27	19.18	+13	24	45.7	809
2391	1990	11	18.23958	03	27	18.58	+13	24	43.0	809
2477	1990	11	21.18194	04	31	40.21	+16	10	22.3	18.0 809
2477	1990	11	21.19514	04	31	39.44	+16	10	19.1	809
2477	1990	11	21.20833	04	31	38.61	+16	10	15.0	809
2477	1990	11	22.17014	04	30	43.18	+16	06	21.0	809
2477	1990	11	22.18611	04	30	42.13	+16	06	16.8	809
2477	1990	11	22.19896	04	30	41.38	+16	06	13.8	809
2625	1990	11	21.18194	04	34	38.60	+15	05	08.4	18.0 809
2625	1990	11	21.19514	04	34	37.70	+15	05	06.5	809
2625	1990	11	21.20833	04	34	36.76	+15	05	04.3	809
2625	1990	11	22.17014	04	33	31.99	+15	03	11.1	809
2625	1990	11	22.18611	04	33	30.85	+15	03	09.8	809
2625	1990	11	22.19896	04	33	29.92	+15	03	07.8	809
2636	1990	11	11.21944	03	53	52.59	+09	42	19.7	18.4 809
2636	1990	11	11.23264	03	53	51.88	+09	42	18.6	809
2636	1990	11	11.24583	03	53	51.13	+09	42	17.7	809
2636	1990	11	18.19306	03	47	58.33	+09	33	50.9	809
2636	1990	11	18.21944	03	47	56.84	+09	33	49.5	809
2636	1990	11	20.11944	03	46	18.72	+09	32	02.6	809
2636	1990	11	20.14583	03	46	17.24	+09	32	01.5	809
2720	1990	11	18.21875	03	28	03.87	+13	16	49.8	809
2720	1990	11	18.22917	03	28	03.17	+13	16	48.4	809
2720	1990	11	18.23958	03	28	02.47	+13	16	47.2	809
2734	1990	11	14.26389	03	30	33.55	+26	52	21.0	17.4 809
2734	1990	11	14.27431	03	30	32.98	+26	52	21.4	809
2734	1990	11	14.28472	03	30	32.33	+26	52	22.0	809
2740	1990	11	15.26528	04	31	10.35	+12	09	56.7	809
2740	1990	11	15.29306	04	31	08.95	+12	09	48.4	809
2740	1990	11	17.26806	04	29	37.60	+12	01	10.6	809
2740	1990	11	17.29444	04	29	36.26	+12	01	04.1	809
2740	1990	11	23.17708	04	24	52.02	+11	36	18.9	809
2740	1990	11	23.19028	04	24	51.28	+11	36	15.5	809
2740	1990	11	23.20347	04	24	50.52	+11	36	12.4	809
2909	1990	11	11.21944	03	43	20.31	+09	54	52.8	17.5 809
2909	1990	11	11.23264	03	43	19.57	+09	54	53.0	809
2909	1990	11	11.24583	03	43	18.80	+09	54	53.1	809
2909	1990	11	18.19306	03	36	58.27	+09	56	49.8	809
2909	1990	11	18.21944	03	36	56.69	+09	56	50.7	809

2909		1990 11 20.11944	03 35 11.89	+09 58 01.7					809
2909		1990 11 20.14583	03 35 10.28	+09 58 02.1					809
3861		1990 11 21.18194	04 28 27.19	+15 17 00.1			18.0		809
3861		1990 11 21.19514	04 28 26.36	+15 16 56.5					809
3861		1990 11 21.20833	04 28 25.55	+15 16 52.9					809
3876		1990 11 21.18194	04 43 03.53	+12 58 34.7			18.2		809
3876		1990 11 21.19514	04 43 02.82	+12 58 34.7					809
3876		1990 11 21.20833	04 43 02.09	+12 58 34.6					809
3876		1990 11 22.17014	04 42 13.63	+12 58 34.9					809
3876		1990 11 22.18611	04 42 12.78	+12 58 34.9					809
3876		1990 11 22.19896	04 42 12.07	+12 58 34.9					809
3885		1990 11 15.30208	05 00 58.54	+15 02 57.6			17.2		809
3885		1990 11 15.31528	05 00 57.91	+15 02 56.6					809
3885		1990 11 15.32569	05 00 57.39	+15 02 55.8					809
3885		1990 11 16.29375	05 00 12.72	+15 01 00.7					809
3885		1990 11 16.31111	05 00 11.90	+15 00 59.4					809
3885		1990 11 16.32153	05 00 11.36	+15 00 57.9					809
4219		1990 11 18.21875	03 25 49.14	+13 45 19.2					809
4219		1990 11 18.22917	03 25 48.54	+13 45 17.1					809
4219		1990 11 18.23958	03 25 47.98	+13 45 14.3					809
4795		1990 08 16.27222	23 32 27.76	-07 10 18.6			18.0		809
4795		1990 08 16.28542	23 32 27.23	-07 10 25.0					809
4795		1990 08 16.29861	23 32 26.67	-07 10 31.9					809

871 Akou
K. Kawanishi, 2045-1, Kariya, Akou, Hyogo-Ken 678-02, Japan
0.20-m f/4.8 reflector
AGK3, SAO

461		1991 05 04.59948	15 27 25.53	-16 48 39.9			16.0		871
461		1991 05 04.62431	15 27 24.49	-16 48 39.4			16.0		871
461		1991 05 05.59236	15 26 39.34	-16 45 46.5			16.0		871
461		1991 05 05.61667	15 26 38.58	-16 45 40.2			16.0		871

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

1991 CO		1991 03 06.55556	09 05 52.81	+11 36 17.7			16.5		877
1991 CO		1991 03 06.58403	09 05 51.59	+11 36 21.8					877

885 JCPM Yakiimo Station
T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan
Observers A. Natori, T. Urata
Measurer T. Urata
0.20-m f/4.0 hyperboloid astrocamera
AGK3

1990 XM		1990 11 11.69306	04 52 52.98	+18 46 06.5			16.5		885
1990 XM		1990 11 11.71597	04 52 51.77	+18 46 03.1					885

894 Kiyosato and Otomo
S. Miyasaka, 3-8-501, 4 Chome, Nagayama, Tama, Tokyo 206, Japan
Observers S. Miyasaka, S. Otomo
Measurers S. Miyasaka, O. Muramatsu
0.25-m reflector

1979 KR		1991 03 17.55129	09 00 24.13	+03 44 22.8					894
1979 KR		1991 03 17.57715	09 00 23.42	+03 44 37.5					894
1989 UH2		1991 05 03.57500	14 36 52.3	-08 28 30			16.5	W	894

1989	UH2		1991	05	03.58889	14	36	50.7	-08	28	38	W 894
1989	UH2		1991	05	05.57188	14	33	30.1	-08	45	59	W 894
1989	UH2		1991	05	05.58715	14	33	28.5	-08	46	09	W 894
1991	FK		1991	04	16.58438	11	36	14.56	-08	49	58.0	W 894
1991	FK		1991	04	16.60035	11	36	13.66	-08	50	03.1	W 894
1991	FL		1991	04	15.58090	12	05	08.26	-03	08	11.0	894
1991	FL		1991	04	15.59520	12	05	07.69	-03	08	05.5	894
1991	FM		1991	04	15.58090	12	01	03.98	-03	44	17.4	W 894
1991	HC		1991	05	02.52465	14	03	04.7	-04	52	04	W 894
1991	HC		1991	05	02.53750	14	03	03.9	-04	52	04	W 894
1991	HC		1991	05	03.54826	14	02	04.67	-04	49	21.5	16.5 894
1991	HC		1991	05	03.56076	14	02	03.88	-04	49	18.5	894
1991	HG	*	1991	04	16.64826	13	54	23.8	-11	04	13	16 894
1991	HG		1991	04	16.66771	13	54	22.6	-11	04	09	894
1991	HG		1991	04	21.64549	13	49	28.13	-10	47	52.0	D 894
1991	HG		1991	04	21.65799	13	49	27.29	-10	47	48.5	D 894
1991	HG		1991	05	02.54965	13	39	01.33	-10	13	04.2	894
1991	HG		1991	05	05.52986	13	36	24.37	-10	04	38.6	894
1991	HH	*	1991	04	16.68368	13	55	35.16	-16	02	06.5	16.5 894
1991	HH		1991	04	16.70139	13	55	34.17	-16	01	59.0	894
1991	HH		1991	04	21.67326	13	50	51.9	-15	26	04	W 894
1991	HH		1991	04	21.68715	13	50	51.1	-15	25	58	W 894
1991	HM	*	1991	04	16.75139	14	16	18.09	-03	59	54.1	16.5 894
1991	HM		1991	04	16.77049	14	16	16.92	-03	59	55.3	894
1991	HM		1991	05	03.54826	13	58	36.92	-04	07	34.5	894
1991	HM		1991	05	03.56076	13	58	36.23	-04	07	36.1	894
1991	JK	*	1991	05	03.57500	14	32	21.66	-09	46	35.8	16.5 894
1991	JK		1991	05	03.58889	14	32	20.79	-09	46	30.4	894
1991	JK		1991	05	05.57188	14	30	22.43	-09	38	39.6	894
1991	JK		1991	05	05.58715	14	30	21.54	-09	38	37.0	894
1991	JL	*	1991	05	03.57500	14	41	46.40	-09	22	49.2	16.5 894
1991	JL		1991	05	03.58889	14	41	45.64	-09	22	41.5	894
1991	JL		1991	05	05.57188	14	40	09.25	-09	06	14.2	894
1991	JL		1991	05	05.58715	14	40	08.43	-09	06	07.0	894
9546	P-L		1991	02	17.70653	11	19	50.62	+08	16	38.0	894
9546	P-L		1991	02	17.72772	11	19	49.89	+08	16	43.9	894
9546	P-L		1991	03	17.64857	10	59	31.68	+10	39	35.2	894
9546	P-L		1991	03	17.66952	10	59	30.64	+10	39	41.9	894
2874			1991	05	03.57500	14	34	39.64	-09	53	03.8	16.5 894
2874			1991	05	03.58889	14	34	38.80	-09	53	01.5	894
2874			1991	05	05.57188	14	32	34.80	-09	46	21.9	894
2874			1991	05	05.58715	14	32	33.84	-09	46	17.2	894

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

1991	DJ		1991	04	09.48646	10	30	49.97	+15	49	48.3	896
1991	DJ		1991	04	15.53507	10	29	02.62	+15	56	42.7	W 896
1991	DJ		1991	04	15.57708	10	29	02.1	+15	56	46	W 896
1991	GY	*	1991	04	11.69931	13	37	36.02	-13	40	18.4	16.5 W 896
1991	GY		1991	04	11.73299	13	37	33.73	-13	40	22.4	W 896
1991	GY		1991	04	15.61701	13	33	29.7	-13	44	50	W 896
1991	GY		1991	04	15.67899	13	33	25.8	-13	44	52	W 896
1991	GY		1991	04	21.63229	13	27	04.08	-13	49	42.4	896
1991	GY		1991	04	21.65590	13	27	02.49	-13	49	43.0	896
1991	GY		1991	05	02.48715	13	16	02.9	-13	55	27	896
1991	GY		1991	05	02.52153	13	16	01.0	-13	55	26	896

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

1989 SL1	1991 03 18.56631	12 09 57.09	+07 06 06.6		16.5		898
1989 SL1	1991 03 18.58773	12 09 55.67	+07 06 11.6				898
1991 FS	1991 04 11.53295	11 37 54.51	+07 13 13.6		16.5	F	898
1991 FS	1991 04 11.55506	11 37 53.70	+07 13 11.6		16.5	F	898

975 Valencia
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0.25-m f/15 refractor
SAOC

1	1988 11 29.80478	23 35 56.32	-15 07 51.3		975
1	1988 11 29.80895	23 35 56.44	-15 07 49.7		975
1	1988 11 29.81285	23 35 56.51	-15 07 47.3		975
1	1988 11 29.81812	23 35 56.64	-15 07 45.7		975
1	1988 11 29.82220	23 35 56.71	-15 07 43.6		975
1	1988 11 29.82637	23 35 56.85	-15 07 42.2		975
1	1988 12 20.77497	23 47 31.60	-12 19 28.9		975
1	1988 12 20.77964	23 47 31.74	-12 19 26.8		975
1	1988 12 20.78402	23 47 31.87	-12 19 24.3		975
1	1988 12 20.79021	23 47 32.27	-12 19 22.6		975
1	1988 12 20.79513	23 47 32.38	-12 19 20.0		975
1	1988 12 20.79927	23 47 32.58	-12 19 18.7		975
1	1988 12 20.80418	23 47 32.79	-12 19 14.4		975
1	1988 12 20.80832	23 47 33.02	-12 19 12.4		975
1	1988 12 21.78083	23 48 15.49	-12 10 36.6		975
1	1988 12 21.78649	23 48 15.70	-12 10 32.5		975
1	1988 12 21.79188	23 48 15.90	-12 10 31.0		975
1	1988 12 21.79813	23 48 16.24	-12 10 26.1		975
1	1988 12 21.80315	23 48 16.36	-12 10 24.7		975
1	1988 12 21.80767	23 48 16.64	-12 10 22.0		975
1	1988 12 21.81208	23 48 16.77	-12 10 19.3		975
1	1988 12 21.81641	23 48 16.98	-12 10 18.2		975
1	1988 12 21.82052	23 48 17.06	-12 10 14.7		975
2	1988 10 31.76919	20 06 14.59	+00 13 39.7		975
2	1988 10 31.77353	20 06 14.82	+00 13 38.0		975
2	1988 10 31.77758	20 06 15.00	+00 13 36.5		975
2	1988 10 31.78314	20 06 15.29	+00 13 34.1		975
2	1988 10 31.78754	20 06 15.38	+00 13 31.6		975
2	1988 10 31.79159	20 06 15.65	+00 13 29.6		975
2	1988 10 31.79604	20 06 15.79	+00 13 27.4		975
2	1988 10 31.80003	20 06 15.87	+00 13 25.7		975
2	1988 10 31.80409	20 06 16.11	+00 13 24.5		975
2	1988 11 24.77598	20 27 01.52	-02 03 43.7		975
2	1988 11 24.78079	20 27 01.84	-02 03 45.3		975
2	1988 11 24.78730	20 27 02.11	-02 03 47.1		975
2	1988 11 24.79213	20 27 02.30	-02 03 47.6		975
2	1988 11 24.79763	20 27 02.75	-02 03 48.3		975
2	1988 11 24.80240	20 27 03.01	-02 03 50.4		975
6	1989 02 22.80442	07 59 05.04	+17 44 52.3		975
6	1989 02 22.80844	07 59 04.93	+17 44 53.5		975
6	1989 02 22.81307	07 59 04.77	+17 44 56.7		975
6	1989 02 22.81727	07 59 04.67	+17 44 58.5		975
6	1989 02 23.80552	07 58 36.47	+17 52 36.4		975

6	1989 02 23.80966	07 58 36.34	+17 52 38.2		975
6	1989 02 23.81476	07 58 36.15	+17 52 40.4		975
6	1989 02 23.81929	07 58 36.06	+17 52 43.1		975
6	1989 02 23.82381	07 58 35.86	+17 52 45.6		975
18	1988 10 31.81566	22 45 53.32	-18 10 35.7		975
18	1988 10 31.81907	22 45 53.52	-18 10 34.7		975
18	1988 10 31.82379	22 45 53.73	-18 10 34.5		975
18	1988 10 31.82744	22 45 53.94	-18 10 33.7		975
18	1988 10 31.83079	22 45 54.06	-18 10 32.5		975
18	1988 11 24.81565	23 13 29.45	-15 48 17.3		975
18	1988 11 24.81927	23 13 29.95	-15 48 16.6		975
18	1988 11 29.76919	23 20 43.05	-15 03 43.1		975
18	1988 11 29.77396	23 20 43.53	-15 03 40.5		975
18	1988 11 29.77978	23 20 43.99	-15 03 36.4		975
18	1988 11 29.78505	23 20 44.43	-15 03 33.9		975
18	1988 11 29.79055	23 20 44.93	-15 03 30.8		975
18	1988 11 29.79512	23 20 45.39	-15 03 28.9		975
18	1988 12 21.83605	23 57 10.53	-11 00 07.7		975
18	1988 12 21.84185	23 57 11.19	-11 00 04.2		975
18	1988 12 21.84834	23 57 11.86	-10 59 59.4		975
18	1988 12 21.85413	23 57 12.51	-10 59 55.6		975

* * * * *

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The name of the orbit computer is shown on the line giving T for a comet and Epoch for a displayed minor-planet orbit; for many of the minor planets (O-C) residuals are shown in full (in R.A. and Decl.); observations are identified by date and observatory code, X referring to an approximate

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

Periodic Comet Schwassmann-Wachmann 1
Epoch 1989 Nov. 10.0 ET = JDE 2447840.5

T 1989 Oct. 26.72383 ET				Nakano
q 5.7717642		(1950.0)	P	Q
n 0.06637085	Peri.	49.89738	+0.99181329	-0.04161889
a 6.0415884	Node	312.12258	-0.02347376	+0.86986501
e 0.0446611	Incl.	9.36736	+0.12552041	+0.49153100
P 14.85				

From 661 observations 1902-1991, mean residual 1".12.

Periodic Comet Shoemaker-Levy 4 (1991f)

T 1990 July 14.19873 ET				Marsden
q 2.0191174		(1950.0)	P	Q
n 0.15143731	Peri.	302.21151	-0.06754229	-0.99521809
a 3.4858935	Node	151.40723	+0.95779338	-0.08448335
e 0.4207748	Incl.	8.47861	+0.27940987	+0.04902577
P 6.51				

From 25 observations 1991 Feb. 12-Apr. 19.

Periodic Comet Shoemaker-Levy 3 (1991e)

T 1990 Dec. 12.39717 ET				Nakano
q 2.8104442		(1950.0)	P	Q
n 0.13594291	Peri.	181.75229	-0.57000989	-0.81836398
a 3.7459762	Node	303.00547	+0.75485998	-0.48637915
e 0.2497432	Incl.	5.01261	+0.32446131	-0.30613022
P 7.25				

From 21 observations 1991 Feb. 8-May 3.

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

T 1991 Feb. 27.66658 ET				Nakano
q 2.6822376		(1950.0)	P	Q
z -0.0004466	Peri.	18.17937	-0.74634263	-0.32212641
+/-0.0000066	Node	232.51257	-0.66444445	+0.30992957
e 1.0011978	Incl.	132.77767	-0.03855188	+0.89452682

From 36 observations 1990 June 20-1991 May 3, mean residual 0".82.

Periodic Comet Mrkos (1991k)
T 1991 Mar. 18.97982 ET Nakano

q	1.4104580	(1950.0)	P	Q
n	0.17482959	Peri. 180.41611	-0.99971725	+0.02199950
a	3.1675690	Node 0.99024	-0.02002718	-0.57438774
e	0.5547191	Incl. 31.48015	-0.01281934	-0.81828769
P	5.64			

From 45 observations 1991 Mar. 15-May 5.

Comet Shoemaker-Levy (1991d)
Epoch 1992 Jan. 19.0 ET = JDE 2448640.5
T 1991 Dec. 31.20610 ET Nakano

q	2.2653701	(1950.0)	P	Q
z	+0.0029038	Peri. 74.35638	-0.34249584	+0.74879622
	+/-0.0000279	Node 144.43084	-0.38786401	-0.66279990
e	0.9934218	Incl. 77.29873	+0.85572081	-0.00072060

From 56 observations 1991 Jan. 22-May 5, mean residual 0".80.

Comet Helin-Lawrence (1991l)
T 1992 Jan. 20.02783 ET Nakano

q	1.5169932	(1950.0)	P	Q
		Peri. 271.18656	+0.00208699	+0.98132280
		Node 11.14072	+0.48462207	+0.16726696
e	1.0	Incl. 95.41519	-0.87472115	+0.09501229

From 39 observations 1991 Feb. 23-1991 Apr. 30.

Periodic Comet Schwassmann-Wachmann 2
Epoch 1994 Jan. 8.0 ET = JDE 2449360.5
T 1994 Jan. 23.90914 ET Nakano

q	2.0702659	(1950.0)	P	Q
n	0.15425980	Peri. 358.14236	-0.55585985	-0.82956766
a	3.4432420	Node 125.62370	+0.76348604	-0.53482580
e	0.3987452	Incl. 3.75727	+0.32879915	-0.16055797
P	6.39			

From 99 observations 1973-1989, mean residual 1".0. Nongravitational parameters A1 = +1.31, A2 = -0.3095.

Periodic Comet Encke
Epoch 1994 Feb. 17.0 ET = JDE 2449400.5
T 1994 Feb. 9.47328 ET Nakano

q	0.3309118	(1950.0)	P	Q
n	0.30015873	Peri. 186.28122	-0.94044162	-0.32766386
a	2.2092018	Node 334.01997	+0.32019801	-0.76424216
e	0.8502121	Incl. 11.93441	+0.11420509	-0.55549106
P	3.28			

From 106 observations 1973-1989, mean residual 1".3. Nongravitational parameters A1 = 0.00, A2 = -0.0023.

Periodic Comet Kojima
Epoch 1994 Feb. 17.0 ET = JDE 2449400.5 Milbourn
T 1994 Feb. 17.99495 ET

q	2.3990696	(1950.0)	P	Q
n	0.12554618	Peri. 348.38683	-0.79485808	-0.60675836
a	3.9500299	Node 154.25404	+0.55792506	-0.73513983
e	0.3926452	Incl. 0.88410	+0.23857967	-0.30234701
P	7.85			

From 76 observations 1970-1986, mean residual 1".2.

Periodic Comet Tempel 2
Epoch 1994 Mar. 29.0 ET = JDE 2449440.5
T 1994 Mar. 16.81620 ET Yeomans

		(1950.0)	P	Q
q	1.4835360			
n	0.18000696	Peri.	194.85700	+0.66977889	+0.71941190
a	3.1065369	Node	117.57600	-0.65832761	+0.68989789
e	0.5224470	Incl.	11.97830	-0.34351274	+0.08054452
P	5.48				

From 264 observations 1946-1988, mean residual 1".3. Nongravitational parameters A1 = +0.02, A2 = +0.0014.

Periodic Comet Maury (1985 VI)
Epoch 1994 Mar. 29.0 ET = JDE 2449440.5
T 1994 Mar. 19.14563 ET Marsden

		(1950.0)	P	Q
q	2.0271127			
n	0.11275281	Peri.	119.81305	+0.43873968	+0.89851013
a	4.2434374	Node	176.13295	-0.87847113	+0.43205970
e	0.5222947	Incl.	11.70006	-0.18919823	+0.07748529
P	8.74				

From 38 observations 1985 Aug. 16-1986 Jan. 7, mean residual 1".2.

Periodic Comet Hartley 3 (1987 XII)
Epoch 1994 May 8.0 ET = JDE 2449480.5
T 1994 May 20.37779 ET Green

		(1950.0)	P	Q
q	2.4618886			
n	0.14410289	Peri.	168.51976	-0.10266950	-0.97568641
a	3.6031935	Node	287.14592	+0.89579104	-0.00605917
e	0.3167481	Incl.	11.69151	+0.43245507	-0.21908745
P	6.84				

From 26 observations 1988 Feb. 19-May 19, mean residual 0".8.

Periodic Comet Tuttle
Epoch 1994 June 17.0 ET = JDE 2449520.5
T 1994 June 26.96860 ET Yeomans

		(1950.0)	P	Q
q	0.9979510			
n	0.07294919	Peri.	206.71360	-0.25742639	-0.51750424
a	5.6726902	Node	269.84620	+0.96610833	-0.12111104
e	0.8240780	Incl.	54.69060	+0.01914002	-0.84706639
P	13.51				

From 41 observations 1939-1980, mean residual 1".8. Nongravitational paramaters A1 = +0.14, A2 = +0.0128.

Periodic Comet Bus
Epoch 1994 June 17.0 ET = JDE 2449520.5
T 1994 June 28.14437 ET Green

		(1950.0)	P	Q
q	2.1831123			
n	0.15110597	Peri.	24.42094	-0.89936390	+0.43719925
a	3.4909876	Node	181.50592	-0.40814408	-0.84055805
e	0.3746433	Incl.	2.57947	-0.15672585	-0.31987339
P	6.52				

From 32 observations 1981-1988, mean residual 0".9.

Periodic Comet Reinmuth 2
Epoch 1994 June 17.0 ET = JDE 2449520.5
T 1994 June 29.67589 ET Muraoka

q	1.8930653	(1950.0)	P	Q
n	0.14844574	Peri. 45.92268	+0.94267364	+0.31515961
a	3.5325709	Node 295.42564	-0.33023454	+0.83359547
e	0.4641112	Incl. 6.97861	-0.04807875	+0.45364415
P	6.64			

From 95 observations 1960-1987, mean residual 1".08. Nongravitational parameters A1 = +0.10, A2 = -0.0022.

Periodic Comet Kohoutek
Epoch 1994 June 17.0 ET = JDE 2449520.5
T 1994 June 29.90113 ET Muraoka

q	1.7846553	(1950.0)	P	Q
n	0.14778132	Peri. 175.86468	+0.09042805	-0.99057355
a	3.5431512	Node 268.92507	+0.91070012	+0.12406157
e	0.4963085	Incl. 5.90678	+0.40304846	-0.05807553
P	6.67			

From 81 observations 1975-1988, mean residual 1".50. Nongravitational parameters A1 = +3.96, A2 = +0.8717.

Periodic Comet Tempel 1
Epoch 1994 June 17.0 ET = JDE 2449520.5
T 1994 July 3.30846 ET Marsden

q	1.4941517	(1950.0)	P	Q
n	0.17931980	Peri. 178.86792	-0.38739397	+0.90607807
a	3.1144680	Node 68.32035	-0.84723102	-0.27713082
e	0.5202546	Incl. 10.55002	-0.36349074	-0.31972026
P	5.50			

From 234 observations 1967-1989, mean residual 1".1.

Periodic Comet Wild 3
Epoch 1994 July 27.0 ET = JDE 2449560.5
T 1994 July 21.21135 ET Green

q	2.2994737	(1950.0)	P	Q
n	0.14266549	Peri. 179.24814	-0.32183843	+0.91227834
a	3.6273553	Node 71.95043	-0.87000946	-0.17941006
e	0.3660743	Incl. 15.45168	-0.37350177	-0.36818509
P	6.91			

From 40 observations 1980-1988, mean residual 1".0.

Periodic Comet Harrington
Epoch 1994 Sept. 5.0 ET = JDE 2449600.5
T 1994 Aug. 23.24588 ET Forti

q	1.5719020	(1950.0)	P	Q
n	0.14529907	Peri. 233.41728	+0.98227228	+0.13291592
a	3.5833907	Node 118.59963	-0.08333024	+0.94126534
e	0.5613367	Incl. 8.65949	-0.16792033	+0.31040768
P	6.78			

From 42 observations 1960-1987, mean residual 1".1. Nongravitational parameters A1 = +1.10, A2 = +0.0801.

Periodic Comet Brooks 2
Epoch 1994 Sept. 5.0 ET = JDE 2449600.5
T 1994 Sept. 1.08820 ET Yeomans

q	1.8433400	(1950.0)	P	Q
n	0.14312542	Peri. 197.98970	+0.96919588	-0.24620984
a	3.6195802	Node 176.24640	+0.23617047	+0.92177115
e	0.4907310	Incl. 5.54810	+0.06987742	+0.29953075
P	6.89			

From 83 observations 1973-1988, mean residual 1".2. Nongravitational parameters A1 = +0.56, A2 = -0.1381.

Periodic Comet Russell 2
Epoch 1994 Oct. 15.0 ET = JDE 2449640.5
T 1994 Oct. 27.37598 ET Nakano

q	2.2764923	(1950.0)	P	Q
n	0.13347353	Peri. 249.16368	+0.34498993	+0.92823413
a	3.7920375	Node 41.85677	-0.76479540	+0.36394328
e	0.3996651	Incl. 12.03677	-0.54412310	+0.07698493
P	7.38			

From 14 observations 1980-1987, mean residual 1".3.

Periodic Comet Borrelly
Epoch 1994 Oct. 15.0 ET = JDE 2449640.5
T 1994 Nov. 1.49226 ET Muraoka

q	1.3651154	(1950.0)	P	Q
n	0.14315331	Peri. 353.34589	+0.35803481	-0.79708016
a	3.6191100	Node 74.73634	+0.87818052	+0.11054202
e	0.6228036	Incl. 30.26946	+0.31719086	+0.59366968
P	6.88			

From 215 observations 1973-1988, mean residual 1".02. Nongravitational parameters A1 = +0.20, A2 = -0.0398.

Periodic Comet Whipple
Epoch 1995 Jan. 3.0 ET = JDE 2449720.5
T 1994 Dec. 22.42725 ET Muraoka

q	3.0938778	(1950.0)	P	Q
n	0.11559218	Peri. 201.87999	+0.91603260	-0.40106754
a	4.1736601	Node 181.79216	+0.38880887	+0.89117799
e	0.2587135	Incl. 9.93361	+0.09854917	+0.21200617
P	8.53			

From 112 observations 1955-1988, mean residual 0".87. Nongravitational parameters A1 = +0.46, A2 = -0.0475.

** J2000.0 ** angular elements	Peri.	Node	Incl.	Ref.
P/Chernykh (1978 IV)	263.24909	130.39241	5.07780	MPC 14592
P/Kowal 1 (1991i)	174.47594	28.77184	4.39040	MPC 17940
P/Giacobini-Zinner (1991m)	172.51682	195.38433	31.82183	MPC 14592
P/Tsuchinshan 2	203.10929	288.34331	6.71759	MPC 14593
P/Grigg-Skjellerup	359.26497	213.34040	21.09901	MPC 14593
P/Smirnova-Chernykh	88.99431	77.48121	6.62913	MPC 14593
P/Shoemaker 2 (1984 XVIII)	317.64209	55.43314	21.55213	MPC 14593
P/du Toit-Hartley	251.47343	309.35245	2.94257	MPC 14594
P/Wolf	162.28551	204.14505	27.47767	MPC 14594
P/Daniel	11.00984	69.05149	20.13583	MPC 14594
P/Schuster (1978 I)	355.73380	50.60288	20.13404	MPC 14594
P/Giclas	276.48631	112.52568	7.28349	MPC 14594
P/Singer Brewster (1986 XI)	46.66179	192.61464	9.19282	MPC 14595
P/Gale	215.43757	59.95442	10.73459	MPC 14595
P/Ciffreo (1985 XVI)	358.04066	53.70883	13.08882	MPC 16378

P/Howell	234.75701	57.74375	4.39972	MPC 16379
P/Schaumasse	57.48269	81.05383	11.84605	MPC 16379
P/Forbes	310.53654	334.45554	7.15907	MPC 16379
P/Holmes	23.22267	328.04608	19.17038	MPC 16379
P/Vaisala 1	47.38524	135.07701	11.59624	MPC 16379
P/Lovas 2 (1986 XIII)	71.32877	283.70612	1.52697	MPC 16380
P/Wiseman-Skiff (1986 XV)	171.90409	271.65761	18.18568	MPC 16380
P/Slaughter-Burnham	44.11330	346.44369	8.15573	MPC 16380
P/Urata-Niijima (1986 XVI)	21.48124	31.91294	24.21397	MPC 16380
P/Ashbrook-Jackson	348.68953	2.66565	12.50090	MPC 16380
P/Gehrels 3	231.56522	243.34331	1.10002	MPC 16381
P/Neujmin 3	147.01167	150.42543	3.98688	MPC 16381
P/Shajn-Schaldach	216.55475	166.89287	6.07722	MPC 16381
P/West-Kohoutek-Ikemura	359.97388	84.16843	30.54136	MPC 16381
P/Schwassmann-Wachmann 2	358.21774	126.24703	3.75301	MPC 18256
P/Encke	186.27004	334.72946	11.94051	MPC 18256
P/Kojima	348.53617	154.80326	0.87800	MPC 18256
P/Tempel 2	194.88342	118.24870	11.97477	MPC 18257
P/Maury (1985 VI)	119.81230	176.83223	11.69354	MPC 18257
P/Hartley 3 (1987 XII)	168.49001	287.87360	11.69399	MPC 18257
P/Tuttle	206.70564	270.54935	54.69117	MPC 18257
P/Bus	24.40399	182.22140	2.57299	MPC 18257
P/Reinmuth 2	45.87653	296.17000	6.98193	MPC 18258
P/Kohoutek	175.80149	269.68646	5.90726	MPC 18258
P/Tempel 1	178.90206	68.98533	10.55187	MPC 18258
P/Wild 3	179.27200	72.62598	15.45313	MPC 18258
P/Harrington	233.45328	119.26258	8.65586	MPC 18258
P/Brooks 2	197.98800	176.94664	5.54158	MPC 18259
P/Russell 2	249.18655	42.53294	12.04121	MPC 18259
P/Borrelly	353.35863	75.42389	30.27061	MPC 18259
P/Whipple	201.87539	182.49524	9.92714	MPC 18259

One-opposition minor planets

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1977 CP	14.1	770206	351.23	122.69	26.28	1.11	0.1291	2.3416	3	4		E
1979 SD	14.8	790924	353.57	317.67	50.19	3.52	0.1189	2.6342	5	5		E
1979 SP13	12.5	790904	319.88	318.40	94.20	4.02	0.2237	2.4904	5	3	D	W
1979 SR13	15.0	790904	337.49	241.01	147.90	3.58	0.2429	2.4570	5	3	D	W
1979 SE15	12.5	790904	143.74	90.35	118.41	3.77	0.0254	2.8843	4	3	D	W
1980 RL7	12.5	800829	352.42	118.25	248.15	8.56	0.1023	2.5801	10	3	D	W
1980 RB8	13.5	800918	97.20	16.87	240.68	5.26	0.0760	2.3500	25	3	D	W
1980 TK6	13.5	800918	351.22	148.73	224.24	6.46	0.1107	2.4193	29	4		W
1985 FZ	14.5	850316	331.64	292.67	295.90	4.16	0.2528	2.3576	24	5	D	W
1988 TH1	10.0	881006	67.98	119.98	172.22	11.15	0.1126	5.1782	63	8		W
1989 MQ		890623	341.24	37.94	266.11	3.47	0.1764	2.2252	6	5	E	W
1989 NC		890623	43.57	300.17	278.90	7.29	0.1545	2.2636	5	6	E	W
1989 RS2	15.0	890822	331.78	24.04	354.46	7.31	0.2101	2.2493	8	6		W
1989 ST10	13.0	891001	13.48	163.24	175.59	8.24	0.1742	2.4876	5	8		W
1989 UB3	14.0	891110	341.60	18.52	61.04	5.46	0.2608	2.5698	32	0		W
1989 WJ7		891110	15.13	253.92	139.39	14.22	0.1511	3.1354	12	6		W
1989 WK7		891110	337.55	320.77	131.08	12.86	0.2571	3.2233	12	6	D	W
1990 BS	13.1	900129	69.18	340.76	57.69	3.32	0.2131	2.3814	33	0		E
1990 BX	12.6	900129	56.01	302.91	123.09	6.50	0.0650	2.7508	54	9		E
1990 FJ2	12.5	900330	43.27	292.77	210.52	11.94	0.1173	2.6769	32	7		W
1990 KG2		900529	317.25	113.66	189.81	10.40	0.0839	3.0066	23	5		W
1990 QW5	14.1	900906	336.67	35.57	332.76	14.12	0.1089	2.6082	34	0		E
1990 QX5	14.4	900906	323.46	68.78	331.74	11.95	0.2643	2.6769	34	0		E
1990 QY5	14.0	900906	348.61	24.92	332.27	12.63	0.1872	2.6870	34	0		E
1990 RA9	14.0	900926	347.87	165.87	199.27	7.79	0.1415	2.2642	6	5		E

1990	RP9	14.2	900926	338.04	136.43	242.31	5.30	0.1885	2.3964	5	5		E
1990	RQ9	14.2	900926	3.96	131.25	208.17	5.86	0.1923	2.2912	6	6		E
1990	ST15	13.3	900926	79.07	297.98	312.06	6.45	0.1230	2.3843	4	7		E
1990	SU15	13.6	900926	13.50	145.25	176.90	13.95	0.2348	2.8809	4	6		E
1990	SV15	12.1	900926	118.61	348.96	219.46	3.64	0.1500	2.7185	4	6	E	E
1990	SJ16	12.6	900926	7.59	28.88	302.18	6.16	0.1300	3.1478	3	6	E	E
1990	TD1	13.5	901105	18.02	310.14	59.30	4.59	0.1961	2.3154	38	0		U
1990	TB3	13.5	900926	19.12	185.13	157.93	9.81	0.2237	2.3123	4	6		W
1990	TF8	13.8	901016	305.06	247.65	216.53	13.89	0.1389	2.5433	41	0		N
1990	UC	13.5	901105	15.67	190.24	181.88	8.12	0.2131	2.3395	38	0		U
1990	UK	13.0	901105	5.09	338.04	50.21	15.79	0.1083	2.6216	33	0		U
1990	UV	14.5	901016	353.45	301.92	85.92	7.09	0.1158	2.3960	24	7		N
1990	UZ1	14.5	901105	1.54	261.88	135.15	4.45	0.1584	2.2103	32	6		U
1990	UA2	14.5	901105	4.06	278.63	113.59	4.33	0.2628	2.5623	32	8		U
1990	UF2	13.9	901125	239.44	333.79	204.67	6.76	0.1343	2.2589	27	8		N
1990	UL4	13.5	901016	300.32	9.55	83.80	6.87	0.0075	2.2879	10	0		U
1990	UM4	14.3	901016	12.30	300.87	75.27	8.40	0.1728	3.0136	10	7		N
1990	UW5	14.0	901105	17.10	315.97	53.90	12.42	0.2500	2.3471	26	6		U
1990	VY1	13.5	901105	14.92	179.12	209.32	11.36	0.2503	2.6670	12	0	D	M
1990	VK2	12.5	901105	36.94	272.33	58.97	8.11	0.2900	3.0754	33	0		U
1990	VS2	12.5	901105	186.12	100.45	129.55	6.22	0.0257	2.4820	9	0		M
1990	VM3	14.0	901105	25.15	292.08	77.40	18.83	0.2883	2.6300	8	0		M
1990	VK4	15.5	901105	1.98	273.74	136.27	5.41	0.1777	2.5308	6	9		M
1990	VL4	15.0	901105	262.55	52.93	111.95	7.66	0.1200	2.2871	6	9		M
1990	VM4	16.0	901105	356.09	252.26	165.83	6.46	0.1269	2.3387	6	9		M
1990	VN4	14.0	901105	244.17	339.38	204.14	12.13	0.1172	2.6456	6	9		M
1990	VO4	15.5	901105	322.24	348.47	115.45	7.85	0.1434	2.7702	6	9		M
1990	VQ4	13.0	901105	271.98	65.33	99.67	7.94	0.1961	2.3884	3	8		M
1990	VR4	14.0	901105	51.68	257.64	89.45	13.57	0.1648	3.2364	6	9		M
1990	VS4	14.5	901105	56.38	130.75	207.66	12.52	0.1918	2.5859	6	9		M
1990	VT4	14.5	901105	335.00	314.48	126.29	6.98	0.0052	2.6683	6	9		M
1990	VX4	14.5	901105	3.39	325.80	80.40	13.13	0.2287	2.4157	6	9		M
1990	VZ4	12.5	901105	123.45	95.52	188.53	10.13	0.1180	2.9166	9	0		M
1990	VA5	16.0	901105	3.72	230.82	177.85	5.68	0.2172	2.7128	6	9		M
1990	VF5	14.5	901105	81.11	154.81	158.66	5.98	0.1909	2.4185	6	9		M
1990	VG5	15.5	901105	335.22	335.86	117.65	6.24	0.2267	2.5750	6	9		M
1990	VH5	15.0	901105	15.32	294.69	101.00	8.74	0.1141	2.4821	6	9		M
1990	VK5	14.5	901105	124.63	147.57	132.57	7.50	0.1455	2.4241	6	9		M
1990	VL5	13.5	901105	84.99	208.37	109.55	11.40	0.1268	3.0431	6	9		M
1990	VM5	14.0	901105	49.77	257.04	88.22	15.47	0.2078	3.0143	6	9		M
1990	VN5	15.0	901105	50.41	262.99	84.13	14.95	0.1770	2.5306	6	0		M
1990	VO5	15.0	901105	20.26	288.83	105.55	11.22	0.0437	2.6849	6	9		M
1990	VQ5	14.5	901105	217.22	70.12	133.23	8.67	0.0481	2.5928	8	0		M
1990	VR5	15.0	901105	19.69	294.16	92.84	10.52	0.1852	2.7232	6	0		M
1990	VT5	15.5	901105	21.39	172.65	213.29	13.41	0.1752	2.5459	8	0		M
1990	VU5	13.5	901105	61.24	168.33	181.31	9.38	0.0794	3.0556	8	0		M
1990	VV5	14.0	901105	238.31	343.87	205.41	12.33	0.0862	2.9723	8	9	E	M
1990	VX5	15.5	901105	319.85	298.90	168.92	7.73	0.1280	2.5411	8	9		M
1990	VY5	12.5	901105	303.91	42.16	94.08	15.65	0.1892	3.9863	8	9		M
1990	VZ5	13.0	901105	147.96	147.54	121.74	10.50	0.0408	3.1518	8	9		M
1990	VB6	15.0	901105	348.43	297.52	132.43	7.52	0.0850	2.3450	8	9		M
1990	VC6	13.5	901105	174.62	42.20	202.36	12.00	0.1500	2.5821	8	9		M
1990	VD6	13.5	901105	112.27	131.25	163.86	9.16	0.1296	2.7889	8	9		M
1990	VE6	14.0	901105	9.67	207.17	201.64	10.49	0.0794	3.0143	8	9		M
1990	VF6	16.0	901105	48.26	249.81	106.69	8.77	0.1274	2.3425	8	9		M
1990	VG6	14.0	901105	276.91	353.08	164.57	8.12	0.1356	2.5371	8	9		M
1990	VH6	14.0	901105	327.66	283.01	184.82	10.35	0.2047	3.1646	8	9		M
1990	VJ6	15.0	901105	325.00	269.73	198.59	9.57	0.1720	2.9374	8	9		M
1990	VK6	13.5	901105	62.40	145.61	192.34	11.97	0.1842	3.0156	8	9		M

1990	VL6	10.5	901105	92.05	107.53	215.18	19.10	0.0987	5.0447	8	9	M
1990	VN6	15.5	901105	324.96	313.23	142.63	6.56	0.0388	2.2599	8	9	M
1990	VO6	16.0	901105	30.00	236.52	144.38	6.86	0.1131	2.4450	8	9	M
1990	VP6	14.0	901105	90.42	120.88	202.71	12.75	0.0598	2.5898	8	9	M
1990	VQ6	13.5	901105	52.58	237.47	119.23	10.42	0.1147	3.0200	8	9	M
1990	VR6	15.0	901105	354.44	288.22	136.34	6.73	0.0827	2.3301	8	9	M
1990	VT6	14.0	901105	354.30	232.64	173.15	3.48	0.1358	2.6542	9	0	M
1990	VW6	13.0	901105	56.61	233.80	88.30	4.01	0.1844	2.2793	11	0	M
1990	VO8	16.0	901105	10.98	258.06	132.39	6.32	0.3001	2.5237	6	8	M
1990	VQ8	16.0	901105	2.63	269.53	144.44	7.00	0.1058	2.3236	8	9	M
1990	VR8	14.0	901105	235.64	86.52	85.21	3.94	0.1095	2.1687	6	9	M
1990	VU8	14.0	901105	356.14	283.93	127.52	9.77	0.0397	2.7549	7	9	M
1990	VV8	12.5	901105	294.70	307.97	175.55	13.72	0.1934	3.0260	6	0	M
1990	WE	12.5	901016	306.23	3.62	90.64	9.08	0.1902	2.7334	42	8	W
1990	WF	12.5	901125	24.91	255.59	130.31	4.53	0.1436	2.2538	43	0	M
1990	WM	12.5	901105	130.02	159.34	97.92	12.29	0.0816	2.9992	39	5	W
1990	WQ	14.5	901105	6.94	305.25	86.77	8.55	0.3611	2.7818	9	9	M
1990	WS	15.5	901105	17.92	210.76	177.17	6.47	0.1044	2.3849	9	9	M
1990	WV	16.0	901105	16.06	281.24	106.10	5.71	0.1554	2.2474	9	9	M
1990	WW	14.5	901105	237.99	53.90	121.07	8.02	0.0163	2.7670	9	9	M
1990	WZ	14.0	901105	328.46	257.82	189.74	8.86	0.0618	2.7903	9	9	M
1990	WD1	12.5	901105	239.05	109.75	82.72	15.65	0.2293	3.1409	9	9	M
1990	WE1	15.5	901105	332.23	15.53	81.72	11.85	0.2632	2.7862	9	9	M
1990	WG1	14.0	901105	319.62	26.27	68.26	23.42	0.0410	2.7031	9	9	M
1990	WH1	15.0	901105	83.09	183.66	129.23	5.73	0.1331	2.2421	9	9	M
1990	WJ1	13.5	901105	220.05	8.10	188.60	8.86	0.0465	3.1929	9	9	M
1990	WK1	16.5	901105	0.87	229.15	178.11	5.91	0.3097	2.6105	9	9	M
1990	WM1	14.0	901105	351.90	283.19	139.15	6.87	0.1321	2.9875	9	9	M
1990	WN1	15.5	901105	348.24	247.38	186.45	6.51	0.3116	2.9788	9	9	M
1990	WO1	15.5	901105	337.44	271.17	173.66	4.69	0.2068	2.4148	9	9	M
1990	WP1	14.5	901105	39.06	258.12	100.98	10.16	0.1548	2.7787	9	9	M
1990	WR1	15.5	901105	41.73	226.32	129.29	6.16	0.1502	2.2659	9	9	M
1990	WS1	14.0	901105	258.57	322.63	205.69	12.46	0.1245	2.6851	9	9	M
1990	WU1	15.0	901105	23.64	190.60	183.29	8.55	0.2283	2.8137	9	9	M
1990	WV1	16.0	901105	278.75	6.84	131.27	5.29	0.0415	2.3470	9	9	M
1990	WW1	14.5	901105	19.63	233.05	152.39	7.00	0.1423	2.6780	9	9	M
1990	WX1	14.5	901105	125.75	131.18	145.89	6.84	0.1149	2.3898	9	9	M
1990	WZ1	14.5	901105	85.98	144.50	159.92	5.34	0.1986	2.3843	9	9	M
1990	WB2	14.5	901105	256.69	60.53	109.94	7.24	0.1365	2.3607	9	9	M
1990	WC2	14.5	901105	323.11	268.44	187.69	10.75	0.0740	2.9832	9	9	M
1990	WD2	15.0	901105	315.43	0.31	103.21	7.25	0.0745	2.4719	9	9	M
1990	WE2	14.0	901105	100.65	91.19	201.40	13.00	0.2021	2.5842	9	9	M
1990	WF2	13.5	901105	59.22	247.58	96.85	10.20	0.1002	3.2027	9	9	M
1990	WH2	13.5	901105	101.45	209.47	88.74	13.56	0.1255	2.6466	9	9	M
1990	WJ2	14.0	901105	358.48	199.99	215.99	21.46	0.0810	2.6507	9	9	M
1990	WJ3	14.0	901105	251.17	334.53	192.02	3.72	0.0686	2.2682	4	9	M
1990	WK3	15.5	901105	11.09	184.16	203.04	4.42	0.2951	2.5162	10	9	M
1990	WM3	13.5	901105	33.51	148.68	216.63	9.98	0.2849	3.1424	7	0	M
1990	WN3	14.0	901105	2.57	220.81	197.06	6.19	0.1044	2.3585	7	0	M
1990	WP3	15.0	901105	83.17	190.64	123.51	5.10	0.1069	2.1536	11	5	M
1990	WQ3	15.0	901105	80.49	210.36	109.12	6.16	0.0849	2.2216	11	5	M
1990	WX3	13.5	901125	17.10	307.10	95.18	6.70	0.1686	2.2082	28	0	M
1990	WC4	15.5	901105	285.19	47.05	93.60	7.55	0.0590	2.3382	6	8	M
1990	WD4	16.5	901105	13.32	312.07	81.23	7.36	0.2418	2.3158	6	5	M
1990	WF4	13.5	901105	297.98	51.41	95.00	11.92	0.2048	3.1764	5	5	E M
1990	WH4	14.5	901105	272.07	99.31	77.75	13.58	0.2528	2.4922	6	8	E M
1990	WJ4	15.0	901105	246.06	50.10	125.95	6.37	0.0207	2.4036	6	8	M
1990	WL4	14.0	901105	207.89	115.04	107.09	6.48	0.1912	2.2767	6	8	M
1990	WM4	16.5	901105	34.94	237.80	123.64	4.66	0.2393	2.2421	6	8	M

1990	WN4	14.5	901105	26.02	299.95	83.27	14.60	0.1590	2.6423	6	8		M
1990	WO4	14.0	901105	330.58	261.59	203.11	4.78	0.2183	2.6952	6	8		M
1990	WP4	14.0	901105	49.64	267.49	92.96	8.00	0.1186	2.8654	6	8		M
1990	WQ4	14.5	901105	138.14	146.18	124.58	4.06	0.1987	2.1574	6	8		M
1990	WS4	14.0	901105	37.03	215.34	158.11	3.00	0.1376	2.7840	6	8		M
1990	WV4	14.5	901105	322.60	276.41	190.55	4.27	0.1290	2.3359	6	8		M
1990	WW4	15.0	901105	254.65	12.25	166.10	5.45	0.1134	2.2733	6	8		M
1990	WX4	15.5	901105	44.93	254.82	89.20	12.09	0.3079	2.9231	6	8		M
1990	WA5	12.0	901125	175.95	132.75	118.62	6.38	0.0168	2.7389	40	9		M
1990	WB5	14.0	901105	311.62	51.25	83.71	16.94	0.2326	3.1796	6	8	E	M
1990	WD5	12.5	901105	272.64	83.99	82.41	14.31	0.1289	2.9952	6	8	E	M
1990	WE5	15.5	901105	42.17	254.49	115.11	5.59	0.1009	2.2884	6	8		M
1990	WF5	15.0	901105	18.23	281.28	114.04	6.58	0.1539	2.5228	6	8		M
1990	WG5	15.5	901105	28.87	304.25	77.20	19.76	0.1608	2.7016	6	8	E	M
1990	WR5	13.5	901105	76.57	230.32	96.67	10.32	0.0783	2.9880	9	9		M
1990	WU5	14.5	901105	317.19	332.25	133.66	4.18	0.0381	2.6050	6	7		M
1990	WY5	15.5	901105	296.08	32.69	95.97	7.87	0.0498	2.3675	5	7		M
1990	WK6	15.0	901105	59.62	144.85	200.66	7.13	0.1428	2.3413	6	7		M
1990	WQ6	14.5	901105	90.93	144.00	177.06	4.53	0.0847	2.3192	6	7		M
1990	WT6	15.5	901105	6.61	235.38	173.96	4.77	0.1595	2.3068	6	7		M
1990	WB7	13.5	901105	213.57	38.42	175.58	5.70	0.0786	2.3202	5	0		M
1991	CO3	12.0	910305	60.67	170.21	281.63	24.56	0.2394	2.3988	55	6		W
1991	DK1	12.5	910305	319.74	180.11	28.74	6.62	0.0473	5.2306	56	0		M
1991	DM1	11.5	910325	268.37	127.78	163.72	13.29	0.1786	2.5967	68	9		U
1991	DN1	12.5	910325	22.06	79.54	71.10	2.31	0.1503	2.5790	68	8		U
1991	EG1	12.4	910325	46.75	313.12	176.55	14.71	0.1314	2.5762	27	6		N
1991	EJ1	12.2	910325	3.86	32.65	140.63	7.26	0.0531	2.3517	34	6		N
1991	EK1	12.6	910325	358.40	149.17	30.92	6.91	0.1740	2.4112	34	6		N
1991	EM1	12.0	910325	191.04	192.51	165.14	11.17	0.1253	2.9774	32	0		B
1991	EO1	13.0	910325	144.60	278.73	116.99	3.73	0.0881	2.6361	32	0		B
1991	ES1	12.7	910305	33.28	317.35	164.48	9.21	0.1398	2.4793	6	6		N
1991	FC	13.5	910325	13.32	332.70	188.31	23.77	0.0255	1.9093	30	0		W
1991	FD	13.0	910325	15.25	358.77	167.13	24.85	0.1804	2.3426	25	8		W
1991	FG	13.0	910305	2.98	324.87	204.24	13.49	0.3381	2.7588	62	0		W
1991	FH	13.0	910305	2.54	330.44	206.67	19.43	0.1450	3.1643	59	6		W
1991	FJ	11.5	910305	323.86	229.16	347.83	9.17	0.0336	3.0507	22	9		M
1991	FK	13.2	910325	9.92	175.05	358.29	19.66	0.0534	1.9378	30	0		N
1991	FN	13.5	910325	21.41	161.46	8.12	20.37	0.0577	1.9678	26	8		W
1991	FO	13.0	910325	351.01	19.05	186.80	6.38	0.0763	2.3245	28	0		W
1991	FP	11.5	910325	350.48	23.68	187.64	14.70	0.1857	3.1858	26	8		W
1991	FS	14.0	910325	27.95	104.39	34.70	4.89	0.1833	2.3322	25	5		U
1991	FU	12.5	910325	24.91	193.69	310.14	12.57	0.1059	2.5862	26	0		W
1991	FX	13.5	910325	328.58	7.32	220.76	7.62	0.2351	2.8760	27	6		N
1991	FE1	12.5	910325	117.74	101.94	308.01	3.19	0.1476	2.2654	32	9		M
1991	FJ1	12.1	910414	61.33	279.42	199.30	12.63	0.1306	2.6831	29	0		N
1991	FK1	13.0	910325	24.14	270.64	217.37	21.25	0.2880	2.4012	24	6		W
1991	GC	15.0	910325	334.80	50.22	182.12	22.34	0.2400	2.2347	9	8		W
1991	GH	13.8	910414	348.95	11.37	194.47	13.39	0.0911	2.6666	13	8	D	N
1991	GJ	19.5	910325	278.74	244.99	49.09	2.75	0.2020	2.1498	9	8		M
1991	GL	12.5	910414	336.42	210.11	19.02	8.20	0.1796	3.2428	4	9		M
1991	GV	12.0	910414	286.77	227.62	64.41	8.96	0.2017	2.5245	14	6		N
1991	GW	14.1	910414	348.70	171.65	37.84	7.95	0.1895	2.3570	34	9		N
1991	GA1	14.0	910325	305.83	92.92	186.97	21.14	0.3027	2.3516	8	7		W
1991	GB1	14.5	910325	316.71	214.30	24.20	17.90	0.0500	1.8708	4	5		W
1991	GC1	12.0	910414	334.82	217.65	15.96	23.01	0.1362	2.8879	8	8		W
1991	GH1	13.3	910414	40.20	74.62	73.33	3.72	0.1601	2.4480	7	6		N
1991	GJ1	13.0	910414	56.43	95.86	34.93	13.51	0.1487	2.5839	9	0		W
1991	GV1	12.0	910325	299.29	148.80	129.00	8.47	0.2497	2.5391	27	7		W
1991	GA2	14.0	910414	308.90	119.99	186.53	23.29	0.3062	2.5171	4	3		W

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1991 HC   13.6  910504  316.56  184.04  88.44  4.63  0.1450 2.2640  23 0   N
1991 JA   13.5  910504   86.23   69.83  55.45 10.24  0.0921 2.3919   3 4   U
1991 JM   17.0  910504  172.52  343.25  61.04 28.33  0.1391 1.9218   3 9   M
1991 JN   19.0  910504    4.82    5.58 212.34 28.17  0.1617 1.9526   2 9 E M
1991 JQ   13.0  910504  349.95   23.94 210.75 14.34  0.2159 2.7051   7 7   W
1991 JV   17.0  910504  118.03   14.29  86.16 22.71  0.0992 1.9130   4 0   M
   1979 SP13 = 1979 SW3 (G. V. Williams)
   1979 SR13 = 1979 SX3 (G. V. Williams)
   1979 SE15 = 1979 SG6 (G. V. Williams)
   1980 RL7 = 1980 RR3 (G. V. Williams)
   1980 RB8 = 1980 TO6 (G. V. Williams)
   1985 FZ = 1985 GA2 (G. V. Williams)
   1989 WK7 = 1989 WL6 (G. V. Williams)
   1990 VY1 = 1990 VW4 (S. Nakano, MPC 17600)
   1991 GH = 1991 GE1 (S. Nakano)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5  ** J2000.0 **  Williams
 (348) May                Obs.   74    M  91.87921      Peri.   10.08916
H    9.4       G   0.15    Opp.   33    n   0.19278454   Node    90.42611
rms res.  1".16   (M-C)    1892-1991    e   0.0738661    Incl.    9.75751

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5  ** J2000.0 **  Bowell
(2178) Kazakhstania       Obs.   44    M 313.18255      Peri.  350.36478
H   13.4       G   0.15    Opp.    8    n   0.30049630   Node    11.63939
rms res.  0".82   (M-P)    1972-1987    e   0.1553293    Incl.    3.08256

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5  ** J2000.0 **  Williams
(3181) Ahnert             Obs.   40    M 106.53683      Peri.  304.09491
H   12.8       G   0.15    Opp.    9    n   0.29617374   Node   221.40185
rms res.  0".83   (M-C)    1932-1989    e   0.0651218    Incl.    3.95312

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5  ** J2000.0 **  Williams
(3254) Bus                Obs.   26    M  80.47305      Peri.  308.21259
H   11.03      G   0.15    Opp.    5    n   0.12626616   Node    44.23218
rms res.  0".86   (M-C)    1982-1990    e   0.1764449    Incl.    4.47064

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5  ** J2000.0 **  Williams
(3274) Maillen            Obs.   65    M 357.07628      Peri.  235.81240
H   12.1       G   0.15    Opp.    6    n   0.17591077   Node    28.20972
rms res.  0".87   (M-C)    1981-1990    e   0.1083470    Incl.    1.25048

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5  ** J2000.0 **  Bowell
(4296) van Woerkom        Obs.   26    M 219.19455      Peri.   26.34375
H   13.3       G   0.15    Opp.    5    n   0.29233841   Node    13.34477
rms res.  0".82   (M-P)    1935-1989    e   0.1661195    Incl.    6.15544

(4808)*  1925 BA = 1972 YV = 1989 VD
     Discovered 1925 Jan. 21 by K. Reinmuth at Heidelberg.
Id. T. Kobayashi (MPC 15548)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5                Kobayashi
M 151.65786              (1950.0)           P              Q
n   0.22634704     Peri.  138.77423     +0.15354679     -0.97522866
a   2.6665690      Node   301.81764     +0.85031580     +0.21248843
e   0.1636063      Incl.   10.80006     +0.50337503     -0.06146320
P   4.35           H   11.6           G   0.15
Residuals in seconds of arc
250121 024  0.3+  2.2-    250315 024 (0.7-  6.4+)   891102 897  1.2-  0.1+
250122 024 (9.6+  6.4-)   721230 095  0.8-  0.9-    891121 897  0.8+  0.7+
250216 024  0.4-  2.1+    891102 897  0.1-  0.3+    891121 897  0.9+  0.5+
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891201 894 0.3- 0.3+ 901220 801 0.5+ 0.1- 910116 801 0.0 0.5+
891201 894 0.3- 0.4- 910114 801 0.0 0.3+ 910116 801 0.2+ 0.5+
901220 801 0.7+ 0.2+ 910114 801 0.2- 0.2+

(4809)* 1928 RB = 1969 PS = 1988 CP6
Discovered 1928 Sept. 5 by M. Wolf at Heidelberg.
Id. T. Kobayashi (MPC 14181)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi
M 134.70858 (1950.0) P Q
n 0.23961745 Peri. 172.58462 +0.94824902 +0.31416431
a 2.5671845 Node 168.77344 -0.30211720 +0.93734524
e 0.2508035 Incl. 13.69497 -0.09771896 +0.15061439
P 4.11 H 13.3 G 0.15
Residuals in seconds of arc (or two decimals in units of degrees)
280905 024 (1.8+ 6.1+) 690813 095 0.0 0.5- 901027 894 (4.4+ 0.5+)
280907 024(0.03- 0.01-)X 880210 033 0.8+ 1.2- 901027 894 (3.6+ 0.8-)
280908 024 2.6+ 0.4+ 880211 033 0.7- 1.0- 901214 801 0.1+ 0.0
280908 024(48.2+ 75.0+) 900918 801 0.8+ 0.0 901214 801 0.3- 0.3-
280911 024 2.4- 1.7- 900918 801 0.7+ 0.0 901220 801 0.7- 0.2+
280915 024(0.07- 0.02-) 900919 801 0.9+ 0.0 901220 801 0.6- 0.2+
281015 024 0.1+ 0.4+ 900919 801 0.7+ 0.1+

(4810)* 1972 GL = 1972 JR1 = 1952 HX3 = 1955 FO
Discovered 1972 Apr. 14 by L. I. Chernykh at the Crimean Astrophysical Observatory.
Id. B. G. Marsden (d, MPC 6939), T. Kobayashi (MPC 12948)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi
M 334.06302 (1950.0) P Q
n 0.29422084 Peri. 132.50311 -0.99500405 -0.00122843
a 2.2388264 Node 47.68854 -0.04683451 -0.87732350
e 0.1028681 Incl. 7.75823 +0.08816733 -0.47989788
P 3.35 H 13.6 G 0.15
Residuals in seconds of arc
520428 711 1.0+ 2.2+ Y 890630 474 1.0+ 0.7- 901021 801 0.0 0.1+
550320 760 0.9- 0.1- 890630 474 0.7+ 0.7- 901021 801 0.3- 0.2+
550320 760 0.4- 1.4- 890701 474 0.8- 1.0+ 901215 801 0.0 0.4+
720414 095 1.4+ 0.7+ 890701 474 0.8- 0.6+ 901215 801 0.1+ 0.1+
720509 095 0.1+ 0.9- 890702 474 0.3- 1.2-
720516 095 0.2- 0.5+ 890702 474 1.2- 1.1-

(4811)* 1973 SO3 = 1979 FK3 = 1983 RS1
Discovered 1973 Sept. 25 by L. V. Zhuravleva at the Crimean Astrophysical Observatory.
Id. S. Nakano (MPC 14942)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano
M 204.99733 (1950.0) P Q
n 0.29269542 Peri. 274.61821 +0.22866932 +0.97341420
a 2.2465983 Node 8.63482 -0.85452583 +0.20721599
e 0.1831129 Incl. 5.05699 -0.46636460 +0.09760292
P 3.37 H 14.1 G 0.15
Residuals in seconds of arc
730919 675 0.7- 0.4- 730929 675 0.2+ 0.6- 731004 675 0.1+ 1.3-
730919 675 0.6- 2.2- 730929 675 0.9+ 2.1+ 731004 675 0.8+ 1.2+
730920 675 0.3- 0.6- 730929 675 0.6- 1.2- 731004 675 0.2- 1.2+
730924 675 0.1- 2.8- 730929 675 0.0 1.9+ 731005 675 0.7+ 0.7+
730924 675 0.3- 2.5- 730930 675 1.4+ 0.3+ 731005 675 0.0 0.7+
730925 675 (3.3- 2.2-) 730930 675 1.0+ 2.5+ 731005 675 0.4- 0.4+
730925 675 1.1- 1.0- 730930 675 0.1- 0.6- 731005 675 0.4- 0.4+
730925 095 (3.8+ 2.1+) 730930 675 0.1- 1.3+ 790331 095 0.5- 0.9-

801101 675 0.5+ 0.3- 830906 688 0.2- 0.4+ 901016 801 0.4- 0.1-
801102 675 0.0 0.7- 830906 688 0.9+ 0.2+ 901120 801 0.4+ 0.2+
830902 688 1.2+ 0.5- 830906 095 2.1- 0.6- 901120 801 0.0 0.3+
830902 688 0.4+ 0.6+ 901016 801 0.4- 0.2-

(4812)* 1977 DL3 = 1972 XZ = 1979 SO8 = 1988 FP

Discovered 1977 Feb. 18 by H. Kosai and K. Hurukawa at the Kiso Station of the Tokyo Astronomical Observatory.

Id. T. Kobayashi (MPC 14613)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M	74.53286	(1950.0)	P	Q
n	0.27042514	Peri. 72.51182	+0.24231075	-0.97018612
a	2.3683070	Node 3.47656	+0.85632709	+0.21147498
e	0.2088149	Incl. 4.67211	+0.45605855	+0.11839439
P	3.64	H 14.6	G 0.15	

Residuals in seconds of arc

721202 095 0.3- 1.3+ 770315 381 0.1+ 1.3- 901020 801 0.3+ 0.2-
770218 381 2.8- 1.2- 770315 381 1.3+ 0.2- 901021 801 0.6+ 0.1-
770218 381 0.9- 0.4- 790924 095 0.2- 0.1+ 901021 801 0.6+ 0.2-
770219 381 0.6+ 0.4+ 880317 033 0.1+ 0.4+ 901116 801 0.4- 0.4-
770219 381 0.4+ 1.0+ 880318 033 0.9- 0.4+ 901116 801 0.7- 0.4-
770312 381 0.2+ 0.3- 880318 033 1.2+ 0.3+
770312 381 0.7+ 0.4- 901020 801 0.5+ 0.2-

(4813)* 1977 RR7 = 1981 JN1 = 1981 KV

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

Id. C. M. Bardwell (MPC 12569)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell

M	251.58498	(1950.0)	P	Q
n	0.17811917	Peri. 298.72303	+0.75230261	+0.65481347
a	3.1284480	Node 20.64559	-0.50955266	+0.64810143
e	0.0904688	Incl. 11.87040	-0.41760851	+0.38882368
P	5.53	H 12.2	G 0.15	

Residuals in seconds of arc

770911 095 2.0+ 1.8- 771021 675 0.6- 0.4+ 881017 071 2.0- 0.7+
771007 675 0.5+ 0.9- 771021 675 0.5- 1.0- 881017 071 1.0- 0.3-
771011 675 1.4- 0.1+ 771022 675 0.5+ 0.8- 910209 801 0.1- 0.1+
771011 675 0.5- 0.1+ 771022 675 0.8+ 0.9- 910209 801 0.2- 0.2-
771012 675 0.9- 0.4- 810509 808 0.1+ 0.3- 910211 801 0.2- 0.8+
771012 675 1.1+ 0.2+ 810509 808 0.6- 1.6- 910211 801 0.4- 0.5+
771016 675 1.2+ 0.6- 810528 809 0.4- 0.0 910318 801 0.2- 0.5-
771016 675 1.7+ 0.9- 881015 071 2.4+ 1.0+ 910318 801 0.2+ 1.0-
771017 675 0.1- 0.2+ 881015 071 (0.0 3.7+) 910321 801 0.0 0.7-
771017 675 0.3- 0.9+ 881016 071 1.3- 1.1+ 910321 801 0.1- 0.6-

(4814)* 1978 RW = 1977 KO1

Discovered 1978 Sept. 1 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. E. Bowell (MPC 10951)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell

M	130.74237	(1950.0)	P	Q
n	0.17135007	Peri. 193.51599	+0.84217186	+0.53890477
a	3.2103067	Node 133.85984	-0.49232465	+0.78221338
e	0.2056975	Incl. 1.43974	-0.21991590	+0.31260817
P	5.75	H 12.4	G 0.15	

Residuals in seconds of arc

770518 675 0.3- 0.9+ 780901 095 0.7- 0.1+ 780907 095 0.8- 0.2+
770519 675 0.6+ 0.5+ 780905 095 0.0 0.1- 780912 095 0.7- 0.3-

780928	095	1.3+	1.1+	851214	675	1.7+	1.1+	910211	801	0.7+	0.4+
781004	095	0.7+	0.1-	901214	801	0.2-	0.5-	910217	801	0.4-	0.2-
781008	095	0.2-	0.2-	901214	801	0.3-	0.3-	910217	801	0.2+	0.1-
781009	095	0.2-	0.3+	901220	801	0.2+	0.0				
851214	675	1.5-	0.8+	901220	801	0.2+	0.2+				

(4815)* 1981 EA28 = 1979 VO1 = 1986 VX8

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

Id. T. Kobayashi (MPC 15880), L. D. Schmadel (ibid.)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M	163.09813	(1950.0)	P	Q	
n	0.27170321	Peri.	355.47249	+0.99911697	-0.03900162
a	2.3608743	Node	6.82171	+0.04148221	+0.85663188
e	0.1354414	Incl.	7.55917	+0.00667155	+0.51445184
P	3.63	H	12.9	G 0.15	

Residuals in seconds of arc

791114	095	0.0	0.0	810406	413	0.9-	0.6+	901120	801	0.4+	0.1+
810212	413	0.3+	0.1-	810406	413	0.7+	0.3-	901120	801	0.4-	0.4+
810213	413	1.3-	0.2+	810410	413	0.0	1.3+	901213	801	0.7-	0.4+
810302	413	2.0-	1.2-	810410	413	2.1+	1.2-	901213	801	0.7-	0.9-
810302	413	1.0-	0.2-	810426	413	3.5+	0.9-	901214	801	0.1+	0.6+
810306	413	2.1-	0.3-	810501	413	0.1+	0.1+	901214	801	0.0	1.2+
810306	413	0.6-	0.5+	810501	413	0.3+	0.2+	901219	894	1.4+	0.6+
810311	413	0.0	1.4-	810503	413	0.2-	0.1+	901219	894	0.2+	0.8+
810311	413	0.2+	0.4-	861104	095	1.7+	2.7-	910113	894	0.9+	1.4+
810315	413	1.1-	0.5-	901017	801	0.2+	0.7-	910113	894	1.4-	0.8-
810315	413	0.1+	0.5+	901115	801	0.5+	0.3-				
810405	413	(5.3+	0.7-)	901115	801	0.7-	1.0-				

(4816)* 1981 PK = 1987 BT1

Discovered 1981 Aug. 3 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Id. T. Kobayashi (MPC 12205)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M	151.49558	(1950.0)	P	Q	
n	0.23626746	Peri.	82.59257	+0.97797894	+0.04294942
a	2.5913939	Node	274.78944	-0.12438400	+0.90575644
e	0.2731319	Incl.	11.82670	+0.16758820	+0.42161668
P	4.17	H	12.9	G 0.15	

Residuals in seconds of arc

810803	688	0.8+	1.3-	870126	809	0.8-	0.2+	901121	801	0.6-	0.2+
810803	688	0.2-	0.8-	870126	809	0.9-	0.4-	901213	801	0.4-	0.6+
810831	688	0.2+	1.1-	870126	809	1.1-	0.3-	901213	801	0.1+	0.2-
810831	688	0.2+	1.8-	870130	809	0.1+	0.6-	901215	801	0.4-	0.3+
810903	688	0.2+	0.6-	870130	809	0.0	0.5-	901215	801	0.3-	0.1-
810903	688	0.2-	0.4-	870131	809	0.9-	0.1-	901222	894	1.3+	1.2-
810925	688	0.0	1.7+	870131	809	0.5+	0.2-	901222	894	0.3-	0.5+
810925	688	0.3+	1.4+	880419	413	0.8-	0.3+	910113	894	0.7+	0.1+
870124	809	1.4+	0.3-	880419	413	0.3-	1.5-	910113	894	0.1+	0.5-
870124	809	0.7+	1.3-	901121	801	0.5-	0.3+				

(4817)* 1984 DC1 = 1957 TO = 1968 UQ1 = 1979 YH8 = 1982 PG1

Discovered 1984 Feb. 27 by H. Debehogne at the European Southern Observatory.

Id. T. Furuta (JAM 1910), H. Oishi (MPC 16425)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Oishi

M	148.33904	(1950.0)	P	Q	
n	0.27420339	Peri.	251.76816	+0.57723313	-0.81650448
a	2.3465015	Node	162.96175	+0.76270347	+0.53426054
e	0.2093237	Incl.	2.16341	+0.29169391	+0.21882893
P	3.59	H	13.7	G 0.15	

Residuals in seconds of arc

571002	024	0.0	2.8-	840304	809	0.1+	0.9+	840311	809	0.7+	2.1-
681023	095	0.3-	1.4-	840305	809	0.9+	0.3+	840311	809	0.4+	1.9-
681026	095	1.1+	2.9-	840305	809	0.8+	0.3+	840311	809	0.7+	2.0-
791223	095	2.3+	1.5+	840305	809	1.1+	0.3+	840313	809	1.4-	0.7-
820815	095	1.5+	2.2-	840306	809	0.1+	0.5+	840313	809	1.4-	0.7-
840227	809	0.8+	0.8-	840306	809	0.4+	0.6+	840313	809	1.3-	0.4-
840227	809	1.0+	0.8-	840306	809	0.5+	0.4+	840314	809	0.1-	1.1-
840227	809	1.0+	0.8-	840308	809	0.2-	0.1-	840314	809	0.3+	0.7-
840228	809	0.1-	0.1-	840308	809	0.1+	0.3-	840314	809	0.5+	0.9-
840228	809	0.2+	0.0	840308	809	0.2+	0.3-	910114	801	0.4-	1.0+
840228	809	0.3+	0.0	840309	809	1.1-	0.3-	910114	801	0.4-	1.1+
840303	809	0.8-	0.8+	840309	809	0.9-	0.5-	910116	801	0.5-	0.7+
840303	809	0.6-	0.3+	840309	809	0.6-	0.7-	910116	801	1.2-	1.3+
840303	809	0.6-	0.2+	840310	809	0.8-	1.1-	910209	801	0.3-	0.2+
840304	809	0.9-	1.2+	840310	809	0.6-	1.3-	910209	801	0.2-	0.2+
840304	809	0.4-	0.8+	840310	809	0.5-	1.1-				

(4818)* 1984 EM = 1933 FZ

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

Id. W. Landgraf (MPC 10041)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	25.61811	(1950.0)	P	Q	
n	0.28918912	Peri.	82.51528	-0.32340112	+0.94622129
a	2.2647212	Node	168.60428	-0.88471313	-0.29906335
e	0.1291994	Incl.	2.54509	-0.33569984	-0.12339521
P	3.41	H	13.6	G 0.15	

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

330323	024	0.4-	2.5-	840303	809	0.7-	0.4+	850815	688	0.7-	0.4+
330325	024	2.0-	1.8+	840304	809	0.8-	0.7-	850815	688	1.7+	0.5+
330327	024	(0.04+	0.00-)	840304	809	0.7-	0.8-	850816	095	(3.5+	2.8-)
330413	024	1.3+	1.6-	840304	809	0.3-	0.7-	850818	095	(4.0+	1.4-)
840206	688	2.0+	0.8-	840305	809	0.6-	1.0+	850914	688	0.2+	1.1-
840223	809	0.3+	1.1+	840305	809	0.6-	0.6+	850914	688	0.3+	1.3+
840223	809	0.5+	1.4+	840305	809	0.5-	0.3+	850915	095	1.1-	0.6-
840223	809	0.5+	1.0+	840306	809	0.0	0.0	850918	688	(3.3+	0.5+)
840225	809	0.3-	0.4-	840306	809	0.2+	0.3-	850918	688	1.5+	1.1-
840225	809	0.4+	0.4-	840306	688	0.0	0.5-	850920	095	0.5-	2.4-
840225	809	1.0+	0.5-	840306	809	0.4+	0.2-	870129	801	1.2-	0.5+
840226	809	1.0+	0.2+	840306	688	0.8+	0.0	880716	801	0.2+	1.1+
840226	809	0.7+	0.2-	840308	809	1.4-	0.8-	910314	372	(5.3-	3.0+)
840226	809	0.6+	0.0	840308	809	1.1-	0.8-	910314	372	(4.3-	4.1+)
840228	809	0.0	0.3+	840308	809	0.7-	0.8-	910317	801	1.1-	0.5+
840228	809	0.3+	0.3+	840309	809	0.5+	0.9-	910317	801	1.1-	0.1+
840228	809	0.5+	0.2+	840309	809	0.6+	0.9-	910318	801	0.8-	0.3+
840301	809	0.0	0.9+	840309	809	0.7+	0.9-	910318	801	0.6-	0.1-
840301	809	0.1+	1.2+	840310	809	0.4-	0.0	910408	046	0.8+	0.8+
840301	688	(3.9+	0.2-)	840310	809	0.1-	0.1+	910408	046	0.4+	0.6-
840301	809	0.5+	1.2+	840310	809	0.0	0.1-	910409	046	1.5+	1.1-
840301	688	2.2+	1.5-	840329	688	(2.2+	3.3-)	910409	046	0.7-	0.3+
840303	809	1.4-	0.7+	840331	688	(0.1+	2.8-)	910414	801	0.1-	0.1+
840303	809	1.1-	0.4+	840331	688	(3.5+	2.5-)	910414	801	0.2-	0.2+

(4819)* 1985 KC = 1979 QT3

Discovered 1985 May 24 by A. C. Gilmore and P. M. Kilmartin at the Mount John University Observatory.

Id. W. Landgraf (MPC 9966)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	313.44795	(1950.0)	P	Q	
n	0.30148148	Peri.	303.04037	+0.28768716	+0.95729922
a	2.2027352	Node	343.60665	-0.84148057	+0.23842916
e	0.0303279	Incl.	5.80301	-0.45732543	+0.16349231
P	3.27	H	14.3	G 0.15	

Residuals in seconds of arc

790822	809	(6.1-	8.7+)	880318	474	0.3-	0.9+	890901	474	1.2-	0.0
790822	809	(6.9-	7.4+)	880318	474	0.0	0.6+	890901	474	0.2+	0.6+
790822	809	(5.3-	7.3+)	880319	809	1.1+	0.3+	890909	474	0.7+	0.9+
790823	809	(5.0-	6.7+)	880319	809	0.3-	1.4+	890909	474	1.3-	0.4+
790823	809	(2.8-	6.3+)	880319	413	0.6+	0.1-	910211	801	0.2+	0.8-
850524	474	0.2+	0.7-	880319	413	0.7+	0.3-	910211	801	0.5+	1.3-
850524	474	0.2+	0.5-	880320	809	0.7-	0.7+	910309	474	0.6+	0.4+
850525	474	0.5+	0.6-	880320	809	0.9+	2.3+	910309	474	0.8+	0.5+
850525	474	0.4-	0.2-	880325	809	0.0	0.3+	910312	474	0.3-	0.0
850528	474	1.5+	0.8-	880325	809	1.8-	1.1+	910312	474	0.9-	0.3-
850528	474	0.9+	0.4+	880326	809	1.2+	0.2+	910313	801	0.3+	0.5-
850616	474	0.2+	0.2-	880326	809	0.7-	1.3+	910313	801	0.4+	0.7-
850616	474	0.2-	0.7+	880411	474	1.9-	0.3-	910317	801	0.5+	0.6-
861202	801	1.1-	1.2+	880411	474	1.5-	0.1+	910317	801	0.6+	0.5-

(4820)* 1985 RZ = 1943 ER = 1951 RV = 1951 TP = 1975 RH1

Discovered 1985 Sept. 15 by C. S. Shoemaker at Palomar.

Id. L. D. Schmadel (MPC 11428)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	79.23657	(1950.0)	P	Q	
n	0.20427881	Peri.	95.60463	+0.37326556	-0.92215222
a	2.8553138	Node	331.79831	+0.74314305	+0.36271549
e	0.3552095	Incl.	12.40620	+0.55534785	+0.13443495
P	4.82	H	11.6	G 0.15	

Residuals in seconds of arc

430307	062	0.2+	0.9-	750903	095	0.9-	0.9+	851012	675	0.3-	0.4+
430307	062	0.8-	0.4+	750906	095	0.4+	0.3-	851014	675	0.8+	0.7+
430307	062	0.5+	1.5+	800913	675	0.5+	0.2+	901022	801	0.3+	0.1+
510904	024	(3.6+	0.4+)	800914	675	0.7+	0.4+	901022	801	0.4+	0.1+
510905	024	0.5+	0.3+	850915	675	1.6-	1.1-	901121	801	0.4+	0.2-
510906	024	(0.6-	2.8+)	850917	675	1.0-	0.9-	901121	801	0.3+	0.3-
511004	024	0.1+	0.2+	850917	675	1.0-	0.3-				

(4821)* 1986 EE5 = 1962 WH2 = 1975 ES1 = 1978 RA5 = 1980 BW3 = 1984 UB2

Discovered 1986 Mar. 5 by G. DeSanctis at the European Southern Observatory.

Id. T. Kobayashi (MPC 12455)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M	38.50488	(1950.0)	P	Q	
n	0.17769619	Peri.	330.69915	-0.56079221	-0.82790507
a	3.1334106	Node	153.40822	+0.76355890	-0.52145515
e	0.1653954	Incl.	1.18219	+0.32014045	-0.20653747
P	5.55	H	12.4	G 0.15	

Residuals in seconds of arc

621130	760	0.5+	0.0	780906	095	1.3+	0.2-	841031	688	2.8-	0.6-
621130	760	1.1-	0.7+	800122	095	1.1+	0.5-	841031	688	1.6+	2.6-
750306	095	(1.1+	3.7+)	841029	688	1.1+	1.7-	860305	809	0.5+	0.7-
750315	095	0.3+	0.6+	841029	688	(0.1+	5.1-)	860305	809	0.3-	0.3-

860305 809 0.1- 0.6+ 901115 801 0.1- 0.7+ 901215 894 0.7- 0.4-
860313 809 0.1- 1.9- 901213 801 0.1+ 0.5+ 901216 894 0.2+ 1.2+
860313 809 0.7- 1.5+ 901213 801 0.5- 0.2- 901216 894 (3.7- 1.2+)
860318 809 1.5- 1.8- 901215 801 0.1+ 0.5+ 910113 894 0.1+ 0.3+
860318 809 0.2+ 1.2- 901215 801 0.2- 0.4+ 910113 894 0.0 0.5+
901115 801 0.6+ 0.5+ 901215 894 0.7+ 0.2+

(4822)* 1986 TC1 = 1979 QO = 1979 QM5
Discovered 1986 Oct. 4 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.
Id. T. Kobayashi (MPC 11625)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi
M 171.12463 (1950.0) P Q
n 0.29163284 Peri. 263.96843 +0.70633427 -0.70647807
a 2.2520521 Node 140.96725 +0.67418733 +0.65222093
e 0.1861710 Incl. 4.05236 +0.21578541 +0.27476643
P 3.38 H 13.5 G 0.15
Residuals in seconds of arc
790822 809 1.5- 0.2- 861007 026 0.9- 0.8- 910217 894 1.2+ 1.2-
790822 809 (5.3+ 1.9+) 861008 026 0.7- 0.4+ 910218 675 1.3- 1.0-
790822 809 0.1- 0.9+ 861011 026 0.4+ 0.5+ 910218 675 0.5- 1.0+
790823 809 1.1+ 1.2+ 861105 688 0.8+ 0.7- 910219 675 0.3- 0.0
790826 809 (3.1+ 5.6+) 861105 688 0.6- 0.6- 910317 801 0.5- 0.1+
790826 809 (3.2+ 6.2+) 890801 675 0.3+ 2.1- 910317 801 0.6- 0.0
861004 688 0.0 0.1- 890801 675 0.4+ 1.9- 910320 801 0.4- 0.4+
861004 688 1.6+ 0.5- 910217 894 1.8+ 2.3- 910320 801 0.4- 0.3+

(4823)* 1986 TO3 = 1964 VS1 = 1983 VZ3 = 1989 QJ
Discovered 1986 Oct. 4 by A. Mrkos at Klet.
Id. T. Kobayashi (MPC 15245)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi
M 219.88727 (1950.0) P Q
n 0.31070956 Peri. 52.29461 +0.89968624 -0.43645129
a 2.1589022 Node 333.57979 +0.39412184 +0.82063702
e 0.1075322 Incl. 1.11479 +0.18770360 +0.36887010
P 3.17 H 13.7 G 0.15
Residuals in seconds of arc
641109 330 0.1+ 0.8+ 861010 046 2.3+ 2.5- 890923 400 (5.2- 1.4+)
641127 330 0.6- 1.4+ 861010 046 (3.3+ 2.5-) 890923 400 (3.2- 5.3-)
831108 381 1.8+ 2.3+ 861104 095 2.6+ 0.4- 910209 801 0.9- 1.4-
861004 046 (3.0- 0.9-) 890829 400 (0.8- 5.9+) 910209 801 0.8- 1.2-
861004 046 1.9- 0.9- 890829 400 (0.0 5.1+) 910216 801 0.4- 0.1-
861005 046 0.5+ 0.8+ 890829 400 (1.1- 6.5+) 910317 801 0.0 0.4-
861005 046 0.3+ 0.3+ 890907 400 0.4- 0.7- 910317 801 0.1- 0.5-
861009 046 2.1- 1.8- 890907 400 1.4+ 0.1+ 910318 801 0.4- 1.0-
861009 046 2.1- 2.9- 890907 400 0.7+ 0.7+ 910318 801 0.6- 0.7-

(4824)* 1986 WL1 = 1984 DL1
Discovered 1986 Nov. 25 by A. Mrkos at Klet.
Id. S. Nakano (MPC 11640)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano
M 152.20833 (1950.0) P Q
n 0.28470659 Peri. 41.19523 +0.15784178 -0.98481483
a 2.2884304 Node 39.87932 +0.87382570 +0.10520659
e 0.0566913 Incl. 6.47359 +0.45990718 +0.13809896
P 3.46 H 13.6 G 0.15
Residuals in seconds of arc
770212 675 0.7- 1.4+ 840226 095 1.4+ 1.0- 861125 046 1.6- 1.7-
770213 675 0.3+ 1.0+ 840305 095 0.6+ 0.6- 861125 046 0.2- 0.9-

861129 046 0.0 0.5+ 861209 046 (8.3+ 0.3-) 910318 801 0.7- 0.5-
861129 046 0.2+ 0.5- 891003 046 1.1- 0.4+ 910318 801 0.5- 0.6-
861204 046 (7.2+ 1.0-) 891003 046 0.1- 0.2+ 910321 801 0.5- 0.5-
861204 046 (7.3+ 0.6+) 891004 046 1.4+ 2.4- 910321 801 0.7- 0.5-
861207 046 0.8- 1.3+ 891004 046 0.9- 0.3+ 910419 801 0.2- 0.4-
861207 046 2.4+ 1.1+ 891005 046 0.3+ 1.0- 910419 801 0.2- 0.3-
861209 046 (4.5+ 0.2+) 891005 046 1.3+ 0.9+

(4825)* 1988 CS2 = 1973 SL4 = 1973 UB4 = 1980 XQ
Discovered 1988 Feb. 11 by E. W. Elst at the European Southern Observatory.
Id. B. G. Marsden (d, MPC 9064), H. Oishi (MPC 13478)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Oishi

M	145.08636	(1950.0)		P	Q
n	0.29160680	Peri.	65.19932	+0.98038211	-0.18895168
a	2.2521862	Node	305.64483	+0.14650887	+0.88899542
e	0.1657852	Incl.	3.95911	+0.13185624	+0.41711438
P	3.38	H	13.9	G 0.15	

Residuals in seconds of arc
730927 095 2.8- 2.5+ 880216 809 0.7+ 0.5- 880223 809 0.8+ 0.3-
730928 095(39.5- 5.6+) 880216 809 0.4+ 0.5+ 880223 809 0.4- 0.0
731029 095 1.6+ 1.0+ 880216 809 0.5- 0.0 880223 809 1.3- 0.4+
801208 046 0.4+ 2.3- 880217 809 1.1+ 0.8+ 901020 801 0.1- 0.0
801208 046 0.3+ 0.1- 880217 809 0.3+ 1.1+ 901020 801 0.4+ 0.4-
801212 046 0.7- 0.4+ 880217 809 0.3- 1.3+ 901115 801 0.1+ 0.9-
801212 046 0.5- 0.0 880221 809 1.2+ 0.2- 901115 801 0.1+ 0.8-
880211 809 0.8- 0.4- 880221 809 0.0 0.1+
880215 809 0.9+ 0.8+ 880221 809 0.9- 0.1-

(4826)* 1988 JO = 1982 YX
Discovered 1988 May 11 by C. S. Shoemaker at Palomar.
Id. C. M. Bardwell (MPC 13469), E. Goffin (ibid.)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell

M	289.34199	(1950.0)		P	Q
n	0.26850436	Peri.	223.56973	+0.68478184	+0.59163720
a	2.3795883	Node	95.06989	-0.49444890	+0.80611115
e	0.1914627	Incl.	25.28735	-0.53534486	+0.01225685
P	3.67	H	12.3	G 0.15	

Residuals in seconds of arc
821222 511 1.2+ 2.4- 880804 413 0.1+ 0.1+ 910210 801 0.3- 1.1+
821223 511 0.7- 0.3- 891028 801 1.1+ 0.5- 910210 675 1.0+ 1.4-
880511 675 0.6+ 0.9- 891028 801 0.0 0.7- 910309 675 0.5- 1.5-
880512 675 0.0 1.1- 891122 675 0.5+ 1.5- 910309 675 0.6- 2.2-
880514 675 2.5- 1.6- 891125 675 1.6+ 1.1- 910316 801 0.1+ 1.2+
880608 675 1.3- 0.7- 910208 675 (0.1- 3.5-) 910316 801 0.0 1.2+
880609 675 0.0 0.6- 910209 801 0.1- 0.9+ 910317 801 0.1+ 0.9+
880611 675 1.0+ 0.6- 910209 801 0.2- 1.0+ 910317 801 0.1+ 1.1+
880804 413 1.2- 0.4- 910210 801 0.1- 0.5+

(4827)* 1988 QE
Discovered 1988 Aug. 17 by C. S. Shoemaker at Palomar.
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	24.26488	(1950.0)		P	Q
n	0.08453663	Peri.	168.69677	+0.64080634	-0.75864564
a	5.1416925	Node	241.33540	+0.69345655	+0.63771171
e	0.0460875	Incl.	7.70069	+0.32937098	+0.13334379
P	11.66	H	10.1	G 0.15	

Residuals in seconds of arc

880814	675	1.3+	0.1+	890927	675	0.7-	1.7+	901023	675	0.5-	0.6-
880817	675	1.4-	0.9+	890929	675	0.8-	2.8+	901111	675	0.4-	0.0
880818	675	0.4+	1.3-	891102	675	0.2+	0.1+	901111	675	0.5+	0.4-
880819	675	0.3+	1.2-	891103	675	0.1-	0.2-	901113	675	0.1+	0.0
880910	675	0.0	1.1-	901020	801	0.8+	0.6+	901113	675	0.4+	1.0-
880912	675	0.1+	0.1-	901020	801	0.4+	0.7+	901115	801	0.4-	0.3-
881007	675	0.3+	0.1-	901021	675	0.1-	1.4-	901115	801	0.3-	0.4-

(4828)* 1988 RV

Discovered 1988 Sept. 11 by C. S. Shoemaker at Palomar.

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5			Williams
M 315.74803	(1950.0)	P	Q
n 0.08281427	Peri. 127.74397	-0.50449937	-0.86273166
a 5.2127383	Node 352.31994	+0.68928873	-0.37853694
e 0.0429858	Incl. 14.85872	+0.51996291	-0.33526687
P 11.90	H 9.9	G 0.15	

Residuals in seconds of arc

880816	675	0.1-	1.0+	890924	675	0.0	1.4-	901023	675	0.1+	0.5-
880816	675	0.8+	0.2+	890927	675	0.4-	0.9+	901023	675	0.1-	0.5-
880911	675	0.0	0.5-	891101	675	1.3-	2.6+	901111	675	0.2-	0.4-
880913	675	1.4-	0.4+	891102	675	1.3+	1.4-	901111	675	0.8+	0.5-
881008	675	0.9+	1.2-	901022	675	0.4-	0.2+	901115	675	0.6-	0.0
881008	675	0.2+	0.4-	901022	675	0.4+	1.4+	901115	675	0.1+	0.1-

(4829)* 1988 RM1

Discovered 1988 Sept. 10 by C. S. Shoemaker at Palomar.

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5			Williams
M 100.32115	(1950.0)	P	Q
n 0.08551523	Peri. 122.38287	+0.95404934	+0.28273123
a 5.1023912	Node 221.43322	-0.29953825	+0.90887709
e 0.0490802	Incl. 8.62691	+0.00816664	+0.30660314
P 11.53	H 10.6	G 0.15	

Residuals in seconds of arc

880815	675	0.7+	0.4-	881105	675	0.9+	0.1-	890928	675	0.0	0.8+
880819	675	0.8+	0.1+	881108	675	0.1+	0.8+	891101	675	1.0+	0.3+
880910	675	(0.4-	3.6-)	881108	675	0.6+	1.0+	891102	675	0.9-	0.9+
880911	675	0.6-	1.0+	890903	675	0.6-	0.3-	901020	675	0.3+	0.2-
880912	675	0.4+	1.3-	890903	675	0.7+	0.1-	901022	675	0.0	1.5-
881007	675	1.1-	0.2-	890927	675	1.0-	1.3-	901113	675	0.5+	0.4-
881009	675	1.4-	1.0-	890928	675	0.5+	0.6+	901114	675	0.7-	1.3+

(4830)* 1988 RG4 = 1976 HE = 1983 CU = 1985 VW4

Discovered 1988 Sept. 1 by H. Debehogne at the European Southern Observatory.

Id. S. Nakano (MPC 14951)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5			Nakano
M 81.76926	(1950.0)	P	Q
n 0.26633208	Peri. 82.31098	-0.92459245	+0.36827759
a 2.3925098	Node 119.25343	-0.37847051	-0.85879276
e 0.0689153	Incl. 6.41435	-0.04346122	-0.35615532
P 3.70	H 12.9	G 0.15	

Residuals in seconds of arc

760423	095	2.2-	1.3-	880901	809	1.0-	0.7+	880905	809	0.7+	0.3+
830215	688	1.5+	0.3-	880901	809	0.8-	0.9+	880905	809	0.7+	0.3+
830215	688	2.6+	1.4-	880901	809	0.5-	1.0+	880905	809	0.7+	0.2+
830219	688	0.3+	0.9+	880903	809	0.7-	0.6+	880907	809	0.9+	0.1-
830219	688	0.4-	0.5+	880903	809	0.7-	0.9+	880907	809	1.0+	0.2-
851111	095	2.6-	0.7-	880903	809	1.0-	0.8+	880907	809	1.0+	0.1-

880907 809 0.7+ 0.2+ 880913 809 0.9+ 0.4+ 880919 809 (3.2- 2.7-)
880907 809 0.9+ 0.1+ 880914 809 0.1- 0.4- 880919 809 (2.8- 2.8-)
880910 809 0.8+ 0.7+ 880914 809 0.1- 0.3- 880919 809 (3.3- 2.9-)
880910 809 0.8+ 0.8+ 880914 809 0.1+ 0.1- 891201 801 1.3- 0.1+
880910 809 0.5+ 0.9+ 880916 809 0.1- 0.5- 910316 801 0.1- 0.3+
880910 809 2.0+ 0.0 880916 809 0.2- 0.7- 910316 801 0.1+ 0.6+
880910 809 1.8+ 0.0 880916 809 0.3- 0.8- 910317 801 0.1- 0.3+
880910 809 2.0+ 0.1- 880917 809 1.4- 1.1- 910317 801 0.0 0.2+
880911 809 0.3+ 1.1+ 880917 809 1.3- 1.2- 910414 801 0.1- 0.2+
880911 809 0.4+ 1.0+ 880917 809 1.2- 1.3- 910414 801 0.1- 0.1+
880911 809 0.4+ 0.9+ 880918 809 2.4- 1.8- 910419 801 0.5- 0.2+
880913 809 0.8+ 0.3+ 880918 809 2.2- 1.8- 910419 801 0.0 0.4+
880913 809 0.9+ 0.3+ 880918 809 2.0- 1.7-

(4831)* 1988 RX11 = 1970 GK1 = 1975 ET
Discovered 1988 Sept. 14 by S. J. Bus at Cerro Tololo.
Id. T. Kobayashi (MPC 15714)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi
M 348.10763 (1950.0) P Q
n 0.18147654 Peri. 140.29859 -0.92303993 +0.38467919
a 3.0897432 Node 62.32576 -0.35418739 -0.84531870
e 0.1168214 Incl. 0.28348 -0.15016182 -0.37075359
P 5.43 H 12.4 G 0.15
Residuals in seconds of arc
700411 805 0.4- 0.8- 881104 807 0.0 0.9- 910119 046 1.4+ 0.4-
700411 805 0.1- 1.5- 881106 807 0.4+ 0.6- 910119 046 1.3+ 0.8-
700411 805 0.6- 1.2- 910116 801 0.3- 0.7+ 910120 046 1.0- 1.2-
750306 095 0.0 0.3- 910116 801 0.6- 0.4+ 910120 046 0.6+ 0.7-
880914 807 0.7+ 0.5- 910118 511 0.4+ 1.3- 910211 801 0.2- 0.7+
880915 807 0.6+ 0.9- 910118 511 0.7+ 1.5- 910211 801 0.1- 0.5+
881006 807 0.5+ 0.7- 910119 801 1.1- 0.9+ 910213 801 0.3- 0.5+
881007 807 0.0 1.2- 910119 801 0.6- 0.7+ 910213 801 0.8+ 0.2-

(4832)* 1988 TU1
Discovered 1988 Oct. 12 by C. S. Shoemaker at Palomar.
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 117.89450 (1950.0) P Q
n 0.08252080 Peri. 207.89784 +0.93519496 +0.26665790
a 5.2250897 Node 134.56689 -0.23209346 +0.95852599
e 0.1410968 Incl. 19.09248 -0.26747526 +0.10060562
P 11.94 H 9.6 G 0.15
Residuals in seconds of arc
880916 675 0.3+ 1.5+ 891030 675 0.1+ 1.4- 891125 675 0.2- 1.4+
880916 675 0.8+ 1.4- 891030 675 0.6- 0.1+ 901113 675 2.0+ 0.5-
881012 675 0.9- 0.1+ 891101 675 0.3- 0.7- 901114 675 0.9- 0.1+
881012 675 0.7+ 1.2- 891122 675 0.7+ 0.6- 901114 675 1.4- 0.5-
881105 675 0.4- 0.4+ 891122 675 (0.4- 3.4-) 910116 675 0.2+ 0.6-
881107 675 0.6- 0.7+ 891125 675 0.3+ 1.4+ 910120 675 0.2+ 1.3+

(4833)* 1989 AL2 = 1975 XN5
Discovered 1989 Jan. 8 by C. S. Shoemaker at Palomar.
Id. C. M. Bardwell (MPC 16583)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell
M 188.49108 (1950.0) P Q
n 0.08174084 Peri. 278.82583 +0.76805839 -0.31378284
a 5.2582751 Node 101.08256 +0.50511383 +0.83268721
e 0.0917058 Incl. 34.66962 -0.39363223 +0.45625908
P 12.06 H 9.4 G 0.15

Residuals in seconds of arc

751204	095	0.4-	0.7+	900401	675	0.6-	1.6-	910209	801	0.1-	0.1+
890108	675	0.2+	0.8+	900401	675	0.4+	0.3-	910212	801	0.1+	0.0
890111	675	0.9+	0.5+	900420	675	0.6-	1.3-	910212	801	0.1-	0.2+
890307	675	0.7-	0.8+	900420	675	0.7+	0.8-	910317	801	0.7+	0.8+
890308	675	1.1-	0.6-	910119	801	0.4-	0.2+	910317	801	0.5+	0.9+
900221	675	0.5-	0.1-	910119	801	0.4-	0.0	910320	801	0.6+	0.6+
900224	675	0.5+	1.7-	910209	801	0.1-	0.2+	910320	801	0.7+	0.9+

(4834)* 1989 AM2 = 1975 XX3 = 1986 XN = 1987 WP2

Discovered 1989 Jan. 11 by C. S. Shoemaker at Palomar.

Id. C. M. Bardwell (MPC 14954)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell

M	139.15268	(1950.0)		P	Q
n	0.08201166	Peri.	350.61393	+0.38725461	-0.79856224
a	5.2466928	Node	75.41384	+0.87374279	+0.15833981
e	0.1352505	Incl.	28.43368	+0.29429137	+0.58071237
P	12.02	H	9.2	G 0.15	

Residuals in seconds of arc

751202	095	0.7+	1.8-	890202	675	1.9-	0.5+	900401	675	1.6+	0.4-
861202	688	0.1+	0.8+	890202	675	0.2-	0.5+	910313	801	0.5-	0.5+
861202	688	0.7-	1.2+	890308	675	0.1+	0.1-	910313	801	0.6-	0.7+
871126	033	0.7-	1.1+	890309	675	0.4+	1.1-	910317	801	0.0	1.0+
871126	033	0.8-	0.7+	900222	675	1.4+	0.4-	910317	801	0.2-	0.8+
890111	675	1.2-	0.9-	900222	675	2.0+	1.4-	910413	801	0.1-	0.3+
890111	675	0.2-	0.0	900401	675	0.7+	0.6-	910413	801	0.0	0.7+

(4835)* 1989 BQ

Discovered 1989 Jan. 29 by M. Iwamoto and T. Furuta at Tokushima.

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	95.25931	(1950.0)		P	Q
n	0.08366351	Peri.	353.55874	-0.48219143	-0.83169967
a	5.1774034	Node	124.92135	+0.81797682	-0.53992477
e	0.2527484	Incl.	19.61547	+0.31369628	+0.12944846
P	11.78	H	9.8	G 0.15	

Residuals in seconds of arc

790713	413	0.1+	0.4+	890227	872	0.6+	0.8-	900227	801	0.1+	0.3-
890129	872	1.0+	0.0	890328	402	1.0-	0.7-	900322	801	0.2-	0.0
890129	872	1.7+	1.0-	890329	402	0.2-	1.3-	900322	801	0.4-	0.0
890204	872	1.1-	1.7+	890401	888	1.8-	0.7+	900325	801	0.1+	0.1+
890204	872	(2.6-	0.1+)	890401	888	1.1-	0.4+	900325	801	0.0	0.1+
890205	872	(2.8-	1.6-)	890403	801	0.5-	0.2+	910211	801	0.5+	1.2-
890205	872	0.4+	0.5+	890508	801	1.0-	1.5+	910211	801	0.6-	0.9-
890206	881	0.3+	0.0	900125	688	0.4+	0.4+	910316	801	0.0	0.1+
890206	881	1.7+	1.9-	900125	688	0.4+	0.6+	910316	801	0.2-	0.0
890210	872	(3.1+	0.3-)	900221	801	0.3+	0.4+	910317	801	0.3-	0.1-
890210	872	(4.1+	1.7-)	900221	801	0.3+	0.4+	910317	801	0.3-	0.0
890227	872	(1.1+	3.0+)	900227	801	0.3-	0.3-				

(4836)* 1989 CK1 = 1986 XM

Discovered 1989 Feb. 2 by C. S. Shoemaker at Palomar.

Id. C. M. Bardwell (MPC 16432)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell

M	102.63356	(1950.0)		P	Q
n	0.08420623	Peri.	33.53610	-0.39033597	-0.85981095
a	5.1551331	Node	81.39316	+0.75444713	-0.50364523
e	0.1100970	Incl.	19.44699	+0.52768111	+0.08406318
P	11.70	H	9.5	G 0.15	

Residuals in seconds of arc

861202	688	0.5-	0.7+		890308	675	0.4-	2.4-		910209	801	0.4+	0.1+
861202	688	0.6-	1.0+		900221	675	1.2-	0.1-		910321	801	0.9+	0.6+
890111	675	0.7-	1.6+		900224	675	0.1+	0.4+		910321	801	0.6+	0.4+
890111	675	0.6-	1.8+		900327	675	0.3-	0.5+		910412	801	1.1-	0.8+
890202	675	0.7+	0.8+		900331	675	1.2+	1.8-		910412	801	0.1+	0.3+
890202	675	0.1+	1.3-		900401	675	0.3-	0.4+		910419	801	0.3+	0.0
890307	675	1.2+	0.5-		910209	801	0.4+	0.3+		910419	801	0.2+	0.1+

(4837)* 1989 ME = 1978 QM

Discovered 1989 June 30 by A. C. Gilmore and P. M. Kilmartin at the Mount John Observatory.

Id. T. Kobayashi (MPC 15070)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M	90.73509		(1950.0)	P	Q
n	0.17272353	Peri.	38.34347	+0.95507209	-0.14415058
a	3.1932656	Node	326.98164	-0.08949205	+0.69269371
e	0.1302223	Incl.	28.37420	+0.28253932	+0.70667959
P	5.71	H	11.4	G 0.15	

Residuals in seconds of arc

780831	095	0.3-	1.4+		890708	474	0.1+	0.4-		890925	474	0.6-	0.4+
780905	095	0.5-	0.8-		890708	474	0.2+	0.1-		901020	801	0.2+	0.7-
870327	413	0.4+	0.1+		890723	474	0.0	0.0		901020	801	0.1+	0.2-
890630	474	0.3+	0.2+		890723	474	0.0	0.1-		901021	801	0.1+	0.0
890630	474	0.6+	0.6+		890729	474	0.6-	0.6-		901021	801	0.1+	0.1-
890701	474	0.0	0.6-		890729	474	0.6-	0.6-		901214	801	0.1+	0.1+
890701	474	0.7+	0.5-		890901	474	0.6-	0.6+		901215	801	0.1+	0.0
890702	474	1.0+	0.1-		890901	474	0.9-	0.5+					
890702	474	1.5+	0.2+		890925	474	0.1-	0.9+					

(4838)* 1989 NJ = 1967 JA = 1970 CC = 1986 TH2

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

Id. C. M. Bardwell (MPC 15071)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bardwell

M	265.46356		(1950.0)	P	Q
n	0.27305385	Peri.	39.40661	-0.23303760	+0.96792947
a	2.3530826	Node	217.39009	-0.92665966	-0.25029168
e	0.1436207	Incl.	8.88990	-0.29494974	+0.02160111
P	3.61	H	12.7	G 0.15	

Residuals in seconds of arc

670502	095	0.7-	0.6+		861007	688	0.1+	0.1+		901116	801	0.6+	0.2+
670504	095	(1.1+ | 5.7-)		861007	688	(4.3+ | 0.3+)		901116	801	0.6+	0.0
670505	095	1.9+	1.9+		890702	675	0.2+	0.9-		901119	801	0.4+	0.6+
700207	805	2.3-	1.4-		890702	675	0.1-	2.2-		901119	801	0.2+	0.5+
700207	805	1.7-	0.3-		890704	675	0.2+	0.6-		910210	801	0.1-	0.4-
700207	805	0.9-	0.2+		890704	675	0.6+	1.0-		910210	801	0.0	0.3-
700209	805	0.2-	1.7-		890809	675	0.3+	0.3-		910211	801	0.2-	0.0
700209	805	1.6+	1.1-		890809	675	0.3+	0.1-		910211	801	0.1-	0.1+
700209	805	0.4+	0.3-		890811	675	1.3-	0.8+					
861003	095	(4.8-	2.1-)		890811	675	0.4-	0.0					

(4839)* 1989 QG = 1951 RE = 1982 YH2

Discovered 1989 Aug. 25 by K. Endate and K. Watanabe at Kitami.

Id. H. Kaneda (MPC 15420)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	205.12914	(1950.0)	P	Q
n	0.25946573	Peri. 179.90980	+0.99826405	+0.05841022
a	2.4345352	Node 176.71292	-0.05411673	+0.96029970
e	0.0703344	Incl. 7.57480	-0.02324355	+0.27278698
P	3.80	H 12.8	G 0.15	

Residuals in seconds of arc

510904	024	0.4+	1.1-	890829	400	1.2-	2.2-	890923 400	0.1-	0.8-
510905	024	0.2+	1.4-	890831	400	(3.3-	1.4+)	890923 400	0.9+	0.1+
510906	024	(2.8+ | 3.8+)	890831	400	2.0-	0.6-	891005 095	(2.3- | 7.4-)
821221	095	0.0	0.4-	890831	400	(3.7- | 1.4-)	891005 095	(0.6- | 3.7-)
890825	400	(2.2-	5.4+)	890902	511	0.0	0.7+	910216 801	0.1+	1.0+
890825	400	(1.1-	4.7+)	890902	511	0.5-	1.2+	910216 801	0.1-	0.1+
890825	400	(1.8-	4.2+)	890902	511	2.1+	1.2+	910321 801	0.1+	0.3-
890829	400	0.5-	1.9+	890923	400	0.6+	1.2+	910321 801	0.1+	0.4-

(4840)* 1989 UY = 1955 XF = 1978 YW1

Discovered 1989 Oct. 23 by Y. Oshima at the Gekko Observatory.

Id. H. Oishi (MPC 15567)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Oishi

M	99.12996	(1950.0)	P	Q
n	0.17364060	Peri. 200.81703	+0.05001486	-0.96926182
a	3.1820123	Node 246.97014	+0.94931814	+0.12107582
e	0.1009821	Incl. 15.17428	+0.31031206	-0.21417789
P	5.68	H 11.6	G 0.15	

Residuals in seconds of arc

551206	760	0.1+	1.6+	891026	888	0.3+	1.0+	901217 801	0.7-	0.3+
551206	760	1.2+	0.3+	891029	888	0.2+	0.7-	901217 801	0.9-	0.4+
551213	760	0.5-	0.2-	891029	888	0.2+	0.7-	901220 801	1.1-	0.5+
551213	760	0.9-	1.2+	891101	888	1.3+	0.0	901220 801	1.0-	0.1+
781222	095	0.7+	1.4+	891101	888	1.2-	0.5+	910113 894	1.0-	0.5+
781231	095	0.0	1.0-	891101	888	0.7-	0.0	910113 894	1.0+	2.4-
891023	888	(7.5+	0.4+)	891101	888	0.5-	0.2+	910114 801	0.5+	0.0
891023	372	0.8+	0.6-	891104	888	1.4-	0.7+	910114 801	0.4+	0.1-
891023	888	(3.9+	0.3+)	891104	888	1.5-	0.5+	910119 801	0.3+	0.1-
891024	888	1.9+	0.6-	891119	888	0.2-	0.3-	910119 801	1.4+	0.2-
891024	888	2.3+	0.5-	891119	888	0.2-	0.5-	910317 801	0.1+	0.1-
891024	372	0.5-	1.7-	891206	399	(1.2-	3.2-)	910317 801	0.1+	0.1+
891025	888	0.1+	0.2+	891206	399	(0.5-	3.1-)	910318 801	0.0	0.2-
891025	888	0.3-	0.4+	891206	399	0.0	0.2+	910318 801	0.1-	0.4+
891026	888	1.0-	0.7+	891206	399	0.5+	2.1-			

(4841)* 1989 UO3 = 1975 VV = 1985 QZ3 = 1987 DO2

Discovered 1989 Oct. 28 by T. Seki at Geisei.

Id. T. Kobayashi (MPC 15568)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	191.35001	(1950.0)	P	Q
n	0.28094523	Peri. 287.70172	+0.29573976	-0.95447947
a	2.3088104	Node 145.02117	+0.90006492	+0.26480507
e	0.1030394	Incl. 3.88275	+0.32003301	+0.13728515
P	3.51	H 13.7	G 0.15	

Residuals in seconds of arc

751101	095	1.2+	0.3-	850821	071	0.8-	1.1+	891028 372	0.9+	1.4-
751107	095	(0.5-	8.1-)	850821	071	0.7-	0.4-	891030 372	0.7+	0.3-
850819	071	0.5-	1.0-	870223	010	1.0-	0.0	891030 095	(2.5+	3.1+)
850819	071	0.3+	0.0	870223	010	0.7-	0.3+	891030 095	0.2-	0.4-
850819	071	0.7+	0.0	870223	010	1.0-	0.5+	891102 372	2.6+	0.9+
850820	071	0.6-	1.2-	891028	372	1.0-	0.2+	891102 372	0.8+	1.4+

891121 095 0.6- 0.2- 910416 372 0.8+ 0.6- 910503 372 1.0- 2.5-
891121 095 1.5- 2.1- 910419 372 1.5+ 2.2- 910504 372 2.6+ 2.4+
910416 372 2.6- 1.3- 910419 372 (1.1+ 3.7-)

(4842)* 1989 WK = 1948 RE = 1962 XF1 = 1979 YF5 = 1985 OG
Discovered 1989 Nov. 21 by S. Ueda and H. Kaneda at Kushiro.
Id. H. Kaneda (MPC 15722)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 321.68108 (1950.0) P Q
n 0.29192240 Peri. 77.70400 +0.53969985 +0.84130635
a 2.2505626 Node 225.00286 -0.78813002 +0.49220739
e 0.1567280 Incl. 2.46862 -0.29593097 +0.22346255
P 3.38 H 12.8 G 0.15
Residuals in seconds of arc
480907 690 0.0 1.9- 891121 399 0.1- 1.4+ 891230 888 0.1- 1.2+
480908 690 0.9+ 0.7- 891121 399 1.0+ 1.4- 910307 399 1.2+ 1.0+
480908 690(13.2- 36.0+) 891121 399 1.2+ 1.3- 910307 399 1.5+ 0.1+
480909 690 0.3- 0.3- 891122 399 1.5- 2.1- 910310 399 0.9+ 0.3-
621203 760 0.0 1.2+ 891122 399 (0.4- 2.9-) 910310 399 0.5+ 1.0+
621203 760 0.8+ 1.1+ 891201 399 1.5- 0.5- 910317 801 1.2- 0.9-
791218 095 0.2- 1.2+ 891201 399 0.5+ 0.9- 910317 801 1.1- 0.8-
850718 046 1.4+ 1.1+ 891201 399 1.3+ 1.7- 910318 801 1.0- 0.9-
850718 046 0.7- 0.2- 891228 888 0.6- 1.1+ 910318 801 1.0- 0.9-
850719 033 0.9- 0.6+ 891228 888 0.3- 1.3+ 910419 801 0.5- 0.4-
850721 033 0.0 0.8+ 891230 888 0.7- 1.0+ 910419 801 0.4- 0.2-

(4843)* 1990 DR4 = A908 BH = 1982 RT1
Discovered 1990 Feb. 28 by H. Debehogne at the European Southern Observatory.
Id. G. V. Williams (MPC 17210)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 228.84339 (1950.0) P Q
n 0.18207734 Peri. 223.54883 +0.89650934 -0.43918246
a 3.0829427 Node 162.24391 +0.44045494 +0.86944383
e 0.1292717 Incl. 11.00605 +0.04764928 +0.22624366
P 5.41 H 11.5 G 0.15
Residuals in seconds of arc
080123 024 1.7- 1.6- 900228 809 1.2- 0.6- 900319 809 0.3+ 1.3+
080124 024 1.7+ 1.2+ 900228 809 1.1- 0.8- 900319 809 0.5+ 1.2+
820915 046 (5.1- 6.2-) 900228 809 1.0- 0.7- 910313 801 0.2+ 0.7+
820915 046 0.9- 0.7- 900301 809 0.8- 0.9- 910313 801 0.2+ 0.2-
820915 046 (1.7- 2.4-) 900301 809 0.9- 0.9- 910321 801 0.5- 0.3-
820915 046 (1.3- 3.0-) 900301 809 0.5- 0.9- 910321 801 0.4- 0.4-
820916 046 (5.6+ 1.9-) 900317 809 2.0+ 0.1+ 910419 801 0.0 0.5-
820916 046 (6.2+ 2.0-) 900317 809 1.4+ 0.4+ 910419 801 0.1+ 0.7-
820917 046 1.3+ 0.8- 900317 809 0.9+ 0.3+
820917 046 (2.6+ 1.1-) 900319 809 0.5+ 1.2+

(4844)* 1991 BA2 = 1955 MQ = 1963 MA = 1980 TF6 = 1983 FB = 1985 YV1
Discovered 1991 Jan. 23 by S. Ueda and H. Kaneda at Kushiro.
Id. H. Kaneda (MPC 17834)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 7.69450 (1950.0) P Q
n 0.24177874 Peri. 355.66305 -0.44694317 +0.88935415
a 2.5518627 Node 247.76485 -0.81753954 -0.44982337
e 0.2215541 Incl. 5.97724 -0.36314033 -0.08190324
P 4.08 H 12.2 G 0.15

Residuals in seconds of arc

550623	076	1.3+	3.6-	830410	688	0.0	1.7-	910214	399	0.3+	1.2-
630624	760	0.6-	1.1+	830410	688	(2.4+	3.2-)	910214	399	0.3+	0.7-
630624	760	0.6-	1.8+	851217	010	(6.9+	9.6-)	910218	399	1.0-	1.1+
800913	675	2.5+	1.1-	851217	010	(8.5+	8.4-)	910218	399	1.3-	0.8-
800914	675	1.4+	1.7-	851219	010	0.1+	0.3+	910219	886	2.5-	0.0
801008	095	2.9-	1.1+	910123	399	1.1+	0.2+	910224	413	2.4-	0.5+
801012	095	(3.5-	7.9-)	910123	399	1.2+	0.7+	910224	413	(4.2-	2.9+)
830316	688	(2.8+	1.1-)	910204	399	0.6+	1.4-				
830316	688	2.5+	0.2+	910204	399	0.8+	0.2-				

(4845)* 1991 EC1 = 1974 SA5 = 1983 AT3 = 1985 SX4 = 1989 WP

Discovered 1991 Mar. 5 by K. Endate and K. Watanabe at Kitami.

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	357.96896	(1950.0)	P	Q
n	0.26502442	Peri. 221.55637	-0.35559765	+0.93260527
a	2.4003733	Node 27.77987	-0.81878998	-0.27904780
e	0.0669283	Incl. 7.59803	-0.45070310	-0.22886619
P	3.72	H 12.4	G 0.15	

Residuals in seconds of arc

740926	095	0.2+	1.1+	891120	399	0.2+	0.2-	910318	400	0.3+	1.4-
830114	095	0.9-	0.3+	891120	399	1.2+	0.9+	910402	400	1.4-	0.2+
850920	095	1.3+	2.2-	891206	399	1.3-	0.6+	910402	400	1.1+	0.5+
850922	095	0.2+	1.9-	891206	399	0.8+	0.3-	910411	400	1.9-	1.3-
891119	399	1.7-	0.7-	910305	400	1.0+	0.5-	910411	400	0.3+	1.0+
891119	399	(2.9-	2.3-)	910305	400	0.1-	0.9+				
891120	399	0.9+	0.8+	910318	400	0.5-	2.1-				

(4846)* 6575 P-L = 1972 TD7 = 1986 EX

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

Id. T. Kobayashi (MPC 12583)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M	47.38319	(1950.0)	P	Q
n	0.17034769	Peri. 82.82828	-0.26153176	-0.96455909
a	3.2228880	Node 22.42762	+0.84530921	-0.24641327
e	0.1325460	Incl. 5.26776	+0.46588998	-0.09437300
P	5.79	H 12.2	G 0.15	

Residuals in seconds of arc

600924	675	0.1+	0.2+	601024	675	0.9+	1.0-	901115	801	0.3-	0.1+
600926	675	0.4+	0.2+	601026	675	0.5-	0.7-	901213	801	0.4+	0.2-
600927	675	0.7+	0.6+	721006	095	1.8+	1.0+	901213	801	0.7+	0.5-
600928	675	1.1+	1.5+	860305	688	0.3-	0.8-	901215	801	0.5-	0.7+
601017	675	0.5-	0.3-	860305	688	0.3+	0.8+	901215	801	0.5-	0.3+
601022	675	2.2-	0.7-	901115	801	0.3+	0.2-				

(4847)* 6787 P-L = 1975 EM5 = 1981 AZ = 1981 CD1

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

Id. K. Hurukawa (MPC 9303)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	48.77213	(1950.0)	P	Q
n	0.30902750	Peri. 102.25998	-0.67907633	+0.73396485
a	2.1667292	Node 124.96149	-0.67915524	-0.62183826
e	0.0881725	Incl. 0.85895	-0.27857402	-0.27315340
P	3.19	H 14.7	G 0.15	

Residuals in seconds of arc

600924	675	0.7-	0.2-	600927	675	0.3-	0.3+	601017	675	0.2-	0.3+
600926	675	0.2+	0.3-	600928	675	1.0+	0.3-	601022	675	0.6+	1.3-

601026 675 0.1+ 0.2- 810111 801 0.5+ 1.2- 910321 801 0.5- 0.8-
750315 095 0.5+ 1.3+ 810206 801 0.6+ 0.4+ 910321 801 0.7- 0.1+
810108 381 (5.1- 3.8-) 910318 801 0.5- 0.4- 910419 801 0.6+ 0.4-
810108 381 1.1- 0.5+ 910318 801 0.4- 0.7- 910419 801 0.4+ 0.6-

(4848)* 3233 T-2 = A923 VD = 1929 XU = 1978 PP1 = 1981 ET48 = 1987 EY
Discovered 1973 Sept. 30 by C. J. van Houten and I. van Houten-Groeneveld on Palomar Schmidt plates taken by T. Gehrels.
Id. T. Kobayashi (MPC 15084)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M	20.17054	(1950.0)	P	Q
n	0.17638393	Peri. 312.60214	+0.08519855	-0.99296679
a	3.1489327	Node 132.31636	+0.94357288	+0.05390891
e	0.1171728	Incl. 6.38313	+0.32001784	+0.10540770
P	5.59	H 11.1	G 0.15	

Residuals in seconds of arc
231109 754 0.7+ 1.6- Y 730930 675 1.9- 1.0+ 900917 675 0.1- 3.6-
231111 754 0.6+ 1.1- Y 730930 675 2.9- 0.1- 900917 675 0.0 0.0
291204 690 1.6+ 0.1- 731004 675 1.0- 1.9+ 900918 801 0.3- 0.4+
730919 675 0.5+ 0.3- 731004 675 0.5- 1.1+ 900918 801 0.1- 0.2+
730919 675 0.5- 0.1- 731005 675 2.5- 1.9+ 900919 675 (0.3- 4.6-)
730920 675 2.3+ 2.3- 731005 675 1.2- 1.5+ 900919 675 0.6+ 0.3-
730924 675 2.3- 0.8+ 780808 095 2.8+ 0.2+ 901020 801 0.7+ 0.4-
730924 675 3.2- 0.7+ 810308 095 2.4- 4.4+ 901020 801 0.7+ 0.5-
730925 675 0.7- 1.2- 870304 688 0.6+ 0.1+ 901021 801 1.0+ 0.4-
730925 675 0.6- 1.7- 870304 688 0.5+ 1.3+ 901021 801 0.9+ 0.3-
730929 675 3.6- 2.1+ 900916 801 0.4+ 0.3+
730929 675 3.5- 1.1+ 900916 801 0.1+ 0.1-

1950 DO = 1980 VE4
Id. E. Bowell (MPC 18103)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	160.61016	(1950.0)	P	Q
n	0.21557568	Peri. 109.15828	+0.82411665	-0.56445230
a	2.7546697	Node 285.23228	+0.49954901	+0.76355368
e	0.0561849	Incl. 2.80238	+0.26698787	+0.31365489
P	4.57	H 13.1	G 0.15	

Residuals in seconds of arc
500217 024 1.2- 0.3- 500322 024 0.1- 1.9- 910114 399 2.0+ 0.7+
500223 024 1.3- 1.1+ 801101 675 0.6+ 0.2- 910123 399 0.4+ 0.2+
500307 024 1.6+ 0.8+ 801102 675 0.3- 0.6- 910123 399 1.6- 0.7+
500315 024 0.4+ 1.8- 910114 399 1.0+ 1.6+ 910123 399 1.1- 1.5-

1957 VA = 1991 GT1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	156.53424	(1950.0)	P	Q
n	0.36601069	Peri. 88.91796	-0.65219421	-0.67750476
a	1.9355610	Node 48.31246	+0.37493265	-0.67816691
e	0.1036226	Incl. 27.08716	+0.65883854	-0.28474012
P	2.69	H 12.5	G 0.15	

Residuals in seconds of arc (or two decimals in units of degrees)
571111 330 (4.4- 3.0+) 571224 330(0.18+ 0.10-) 910412 675 0.0 1.0+
571112 330 0.1+ 0.8+ 580109 330 (4.8- 3.5+) 910505 372 (1.9- 4.5-)
571114 330 1.6+ 0.9- 750608 413 0.2- 0.1- 910505 372 (1.5- 2.8-)
571116 330 0.0 0.7- 750608 413 0.9+ 0.4+ 910507 675 (4.4+ 7.0-)
571118 330 1.6- 1.8+ 750707 413 0.7- 0.1- 910507 675 (1.9+ 4.2-)
571120 330 0.0 0.9+ 910410 675 0.6- 0.6- 910509 675 (3.2+ 2.7-)
571215 330 1.3- 1.5- 910410 675 0.4+ 0.5- 910509 675 0.7+ 0.9+
571219 330 0.4+ 0.2+ 910412 675 0.2+ 0.1- 910510 675 (2.8+ 6.2-)

1969 TA = 1980 RW7 = 1980 TA7
Id. E. Bowell (k), B. G. Marsden, G. V. Williams (d)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 54.63371	(1950.0)	P	Q	
n 0.27009270	Peri. 94.51980	+0.84086194	+0.53113803	
a 2.3702500	Node 233.43394	-0.53362227	+0.78133950	
e 0.1215766	Incl. 7.44947	-0.09054534	+0.32772089	
P 3.65	H 13.0	G 0.15		

Residuals in seconds of arc

690910 095	0.7+	2.3-	691013 026	0.1-	0.1+	800914 675	0.9+	0.5+
691002 026	0.3-	1.1+	691101 026	0.1-	1.0-	801012 095	2.1-	0.1-
691003 026	0.0	1.5+	691103 026	1.2+	1.7-			
691009 026	0.8-	0.6+	800913 675	0.8+	0.7+			

1973 SO1 = 1978 EO9 = 1989 EB8
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M 124.57870	(1950.0)	P	Q	
n 0.08256946	Peri. 272.72995	+0.02170618	-0.99971110	
a 5.2230366	Node 175.98251	+0.96578513	+0.01829834	
e 0.1287624	Incl. 8.47272	+0.25843358	+0.01558481	
P 11.94	H 10.6	G 0.15		

Residuals in seconds of arc

730919 675	0.9-	0.5-	730925 675	0.1+	0.6+	731004 675	1.2+	0.2-
730919 675	1.5-	0.8+	730929 675	1.1-	1.1-	731004 675	0.3-	0.9+
730920 675	0.6-	0.5+	730929 675	2.1+	2.4-	731005 675	1.8+	0.6-
730920 675	1.2+	0.8+	730929 675	0.6-	0.2-	731005 675	1.2-	0.6+
730924 675	0.3-	0.2+	730929 675	0.5+	0.5-	731005 675	0.6+	1.1-
730924 675	0.0	1.1-	730930 675	1.8+	2.1-	731005 675	0.5-	0.3+
730924 675	0.4-	0.9+	730930 675	1.0+	0.5+	780315 675	0.5-	0.3+
730924 675	0.4-	0.6+	730930 675	0.0	0.5-	780316 675	0.5+	0.3-
730925 675	(1.0+	4.3-)	730930 675	0.2+	0.2+	890303 809	0.8+	0.2-
730925 675	0.5-	1.8+	731004 675	0.0	0.2+	890303 809	0.0	0.2+
730925 675	1.2-	0.2-	731004 675	1.1-	1.6+	890303 809	0.8-	0.1+

1975 NC = 1975 PM = 1980 RY7
Id. T. Urata (d, MPC 4576), E. Bowell (d, ibid.), S. J. Bus
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M 247.52183	(1950.0)	P	Q	
n 0.21610894	Peri. 356.72235	-0.06265490	+0.99297308	
a 2.7501364	Node 269.66885	-0.91333542	-0.09760012	
e 0.1547618	Incl. 5.76192	-0.40235901	+0.06692286	
P 4.56	H 13.1	G 0.15		

Residuals in seconds of arc

750715 805	0.0	0.1+	750815 805	0.8+	1.2+	800913 675	0.4+	0.0
750814 805	1.3-	1.1-	750816 805	0.5+	0.2-	800914 675	0.5-	0.0

1975 SJ = 1975 VH2 = 1984 SV4 = 1989 VG
Id. T. Kobayashi (MPC 13436, MPC 15549)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M 157.57632	(1950.0)	P	Q	
n 0.21582298	Peri. 28.20968	+0.52548184	-0.85016358	
a 2.7525650	Node 30.12425	+0.76766137	+0.45703619	
e 0.1033581	Incl. 3.77309	+0.36683084	+0.26141884	
P 4.57	H 12.5	G 0.15		

Residuals in seconds of arc

750930 675	0.1-	0.8-	770211 675	0.5+	0.3+	891102 881	3.0-	1.5+
751001 675	0.4-	0.0	770212 675	0.2-	0.7+	891102 881	(4.8-	0.7-)
751002 675	0.7+	0.5+	840919 071	0.9-	0.0	891102 399	2.5+	0.4+
751102 095	(0.6+	6.4+)	840919 071	0.1+	1.4+	891102 399	(3.5+	0.4+)

891102 399 2.6+ 0.9- 891103 399 0.9- 1.9+ 891104 400 0.8+ 1.7-
891102 374 (3.9- 2.7+) 891103 399 2.1- 0.3+ 891104 400 0.1+ 2.0-
891102 374 2.6- 1.3+ 891103 399 (4.7- 0.6+) 891104 400 0.6+ 0.6-
891102 374 (6.3- 0.4+) 891104 881 2.2+ 0.9-

1975 SF1 = 1978 GK3 = 1979 ST13
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	41.92818	(1950.0)	P	Q
n	0.23658451	Peri. 247.06861	+0.10499123	+0.99185141
a	2.5890782	Node 29.24251	-0.84965701	+0.12717421
e	0.1380543	Incl. 8.49501	-0.51677830	-0.00758305
P	4.17	H 13.0	G 0.15	

Residuals in seconds of arc
750930 675 0.2- 0.4+ 751015 675 0.1+ 0.5- 790920 675 0.1- 0.1-
751001 675 0.1+ 0.5+ 751016 675 2.0- 0.6- 790921 675 0.1+ 0.1+
751002 675 2.0+ 0.2+ 780411 095 0.0 0.1+

1975 VB1 = 1977 CR2
Id. E. Bowell; 1975 VB1 = 1977 BA (NOC 1053) is invalid
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	328.74855	(1950.0)	P	Q
n	0.17366729	Peri. 294.16031	+0.95329569	-0.28258216
a	3.1816864	Node 82.39479	+0.30111659	+0.86159478
e	0.1535687	Incl. 6.17690	+0.02358237	+0.42166546
P	5.68	H 14.0	G 0.15	

Residuals in seconds of arc
751101 095 1.1+ 0.8+ 751202 095 0.3+ 0.1+ 770212 675 0.2+ 0.2+
751107 095 1.3- 1.0- 770211 675 0.2- 0.2-

1975 VW2 = 1978 PY = 1991 HJ
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	2.90600	(1950.0)	P	Q
n	0.29214394	Peri. 148.50312	+0.32840572	+0.94302896
a	2.2494247	Node 140.59775	-0.88308680	+0.32658962
e	0.0907105	Incl. 4.82111	-0.33512295	+0.06352631
P	3.37	H 13.5	G 0.15	

Residuals in seconds of arc
751029 033 0.0 0.3- 910416 402 1.0+ 1.8+ 910421 402 0.1- 0.8+
751030 033 0.3- 0.2- 910416 402 0.2- 1.9+ 910505 402 1.2+ 0.9-
751031 033 0.6- 0.1- 910419 402 0.8- 1.6- 910505 402 1.2+ 0.7-
751102 095 0.9+ 0.6+ 910419 402 1.4- 1.0-
780808 095 0.0 0.1+ 910421 402 0.9- 0.1-

1978 LG = 1982 BR11 = 1990 SK15
Id. A. Lowe (k), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	301.84114	(1950.0)	P	Q
n	0.18784499	Peri. 212.24724	-0.67343080	-0.72051325
a	3.0195088	Node 280.66752	+0.70892162	-0.56601124
e	0.0654351	Incl. 9.68851	+0.20957359	-0.40061443
P	5.25	H 11.5	G 0.15	

Residuals in seconds of arc
780601 809 0.4+ 0.1+ 900918 675 0.8- 0.3+ 900920 675 0.7- 0.5+
780602 809 0.4- 0.1- 900918 675 0.8+ 0.3+
820120 095 0.0 0.0 900920 675 0.7+ 1.2-

1978 PJ2 = 1978 RZ10 = 1982 JY2
Id. H. Oishi (MPC 11632)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	73.74871	(1950.0)	P	Q
n	0.17743089	Peri. 230.89539	+0.50423115	-0.86346081
a	3.1365333	Node 188.85551	+0.81713107	+0.48217115
e	0.1486187	Incl. 5.08776	+0.27937030	+0.14814318
P	5.55	H 12.8	G 0.15	

Residuals in seconds of arc

780808 095	2.3-	1.7+	820515 675	0.8+	0.8+	901121 809	1.3-	0.1-
780906 809	1.0+	1.6-	820516 675	1.0-	0.9-	901121 809	1.4-	0.2+
780910 809	0.8-	0.1+	820516 675	0.7-	0.1-	901122 809	1.7+	0.3-
780910 809	0.1+	2.0-	820517 675	0.4+	0.0	901122 809	1.1+	0.6+
780910 809	1.1+	1.8+	820518 675	0.5+	0.4+	901122 809	0.8+	0.1+
780910 809	0.7+	0.1+	901121 809	1.0-	0.1-			

1978 VG5 = 1988 TZ4
Id. S. J. Bus (MPC 15405)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M	91.53962	(1950.0)	P	Q
n	0.18030387	Peri. 168.68410	-0.63796167	-0.77004497
a	3.1031256	Node 320.95548	+0.70574684	-0.58155486
e	0.1430271	Incl. 0.54312	+0.30810114	-0.26234461
P	5.47	H 11.7	G 0.15	

Residuals in seconds of arc

770909 675	0.5+	0.2-	781129 675	0.1-	0.3-	881108 807	0.2+	1.0-
770910 675	0.1-	0.8-	781130 675	0.6-	1.1-	910409 675	0.8+	1.0-
781105 675	0.8+	0.1-	881005 807	0.4+	0.0	910409 675	1.0-	1.1-
781106 675	0.2-	0.5-	881008 807	0.1+	0.5-	910411 675	0.9-	1.3-
781107 675	1.0+	0.8+	881103 807	0.7+	0.7-	910411 675	0.6-	0.5-
781108 675	0.6-	0.4+	881106 807	0.0	1.0-			

1979 MR3

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	186.98433	(1950.0)	P	Q
n	0.27959167	Peri. 173.71635	+0.43258708	+0.89445524
a	2.3162560	Node 121.86279	-0.83285085	+0.44453465
e	0.1381839	Incl. 7.66060	-0.34529390	+0.04836087
P	3.53	H 14.0	G 0.15	

Residuals in seconds of arc

790623 413	0.3-	0.3-	790724 413	0.2-	1.5-	850223 675	0.7+	0.7-
790624 413	0.4-	0.2-	790725 675	0.5+	0.2+	901119 413	1.0-	1.0+
790625 413	0.1-	0.5+	790727 675	1.1+	0.8-	901119 413	0.9-	1.4+
790629 413	0.4-	0.1+	790823 675	0.9-	1.1+	901121 372	(4.2-	2.6-)
790724 675	0.4+	0.5+	850220 675	0.8-	0.2+	901123 372	2.1+	2.9-

1979 SP14 = 1979 SE6 = 1979 UA3 = 1968 US = 1985 SA7 = 1985 UU5

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	24.55186	(1950.0)	P	Q
n	0.17087072	Peri. 269.71849	+0.94313467	-0.32943379
a	3.2163079	Node 109.51561	+0.32062777	+0.86631645
e	0.1094089	Incl. 2.69932	+0.08772020	+0.37545863
P	5.77	H 12.5	G 0.15	

Residuals in seconds of arc

681022 095	3.3+	1.1+	790921 675	0.4+	0.4-	850922 095	1.2+	1.1-
681026 095	3.0-	2.0-	790923 095	0.8+	0.2-	851018 095	1.6-	2.1+
790920 675	0.5+	0.3-	791016 095	1.5-	0.6+			

1980 TX3 = 1951 RM = 1987 BL2
Id. T. Kobayashi (MPC 14016, unpublished)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kobayashi

M	130.51038	(1950.0)		P	Q
n	0.20501634	Peri.	153.43989	+0.99664123	+0.08130241
a	2.8484618	Node	201.90331	-0.07902960	+0.92350149
e	0.0802844	Incl.	1.50646	-0.02146122	+0.37487988
P	4.81	H	12.3	G 0.15	

Residuals in seconds of arc

510904	024	0.4- 1.8+	801010	675	0.9- 0.3-	870201	046	1.4- 0.8-
510905	024	(7.0- 3.2+)	801010	095	0.2- 1.0-	890701	675	0.3- 1.4-
510906	024	(2.2- 5.6+)	801015	095	1.7+ 1.8-	890701	675	0.8- 0.7-
780315	675	0.4- 1.5-	870130	046	2.3+ 0.3+	890703	675	1.1+ 1.0-
780316	675	1.5- 0.2-	870130	046	2.0+ 0.7+	890703	675	0.1- 0.3-
801007	675	0.7- 0.6-	870131	046	2.9- 0.1-	890801	675	0.3- 1.9+
801008	675	0.5- 0.1-	870131	046	0.3+ 1.6+	890801	675	0.1- 1.3+
801009	675	0.0 0.0	870201	046	0.1+ 0.2-			

1982 VA1 = 1982 XH1 = 1977 CC3 = 1985 RN2
Id. T. Furuta (d, JAM 2060), E. Bowell (k), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	314.82759	(1950.0)		P	Q
n	0.29565981	Peri.	272.96606	+0.89459294	+0.43721547
a	2.2315563	Node	61.12372	-0.35646420	+0.82291442
e	0.2015631	Incl.	6.06009	-0.26951204	+0.36284224
P	3.33	H	13.5	G 0.15	

Residuals in seconds of arc

770212	675	0.1- 0.3+	821213	381	1.2- 0.2-	850913	323	0.9+ 0.7+
770213	675	0.1+ 0.1-	821213	381	0.6+ 0.9+	850913	323	1.1- 0.4-
821115	688	0.1- 0.7+	821214	381	0.4- 0.1+			
821115	688	1.8+ 1.8-	821214	381	1.0- 0.2+			

1982 VV10 = 1982 UJ12 = 1982 XF4 = 1973 AR1 = 1980 BT4 = 1985 QZ4 = 1991 JK
Id. T. Furuta (d, JAM 1970), L. G. Karachkina (d), H. Oishi, G. V. Williams, H. Kaneda
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	205.12440	(1950.0)		P	Q
n	0.28535148	Peri.	332.80756	+0.22142430	-0.97377102
a	2.2849812	Node	104.36172	+0.90420385	+0.18490502
e	0.0120936	Incl.	3.09813	+0.36522142	+0.13259008
P	3.45	H	14.0	G 0.15	

Residuals in seconds of arc

730101	095	0.3- 1.9-	821213	381	1.4- 1.8+	910503	894	0.8+ 0.3-
800122	095	0.2+ 0.3+	821214	381	0.2- 1.3+	910503	894	0.7+ 1.8+
821023	095	0.9- 0.2+	821214	381	0.8- 0.6+	910505	894	0.8- 0.7+
821112	095	2.2+ 0.9-	850818	095	(3.6- 10.2-)	910505	894	0.0 0.2-

1983 RC5 = 1972 TH = 1981 CO = 1985 FA1 = 1985 GZ1 = 1990 SK16
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	47.78117	(1950.0)		P	Q
n	0.27327756	Peri.	109.10264	+0.30282946	-0.95002329
a	2.3517983	Node	322.99707	+0.82013996	+0.30030104
e	0.1495942	Incl.	7.23807	+0.48545316	+0.08529382
P	3.61	H	13.0	G 0.15	

Residuals in seconds of arc

721004	095	5.1- 7.0+	830912	095	1.8+ 1.5-	850414	688	1.3+ 0.9-
810208	688	1.1- 0.2+	850321	688	1.4+ 0.0	900917	675	0.3- 0.8-
810208	688	0.7- 1.7+	850321	688	0.3- 0.3-	900917	675	0.8- 0.9-
830905	095	0.4- 0.4+	850324	688	0.6- 0.1+	900920	675	0.1+ 1.1-
830907	095	1.4+ 0.1-	850324	688	0.6+ 1.2-	900920	675	0.8- 0.8-
830909	095	3.4+ 1.3-	850414	688	0.6- 0.7+			

1985 CH1 = 1957 CD = 1978 EY5 = 1990 SK12
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nagata

M	353.54322	(1950.0)	P	Q
n	0.28197063	Peri. 117.15385	-0.68834889	-0.72514659
a	2.3032096	Node 16.38789	+0.64028209	-0.61931558
e	0.1188445	Incl. 3.73747	+0.34090270	-0.30101601
P	3.50	H 13.3	G 0.15	

Residuals in seconds of arc

570204	024	0.5-	0.2-	850220	046	1.3+	0.8+	900921	809	0.6-	0.1-
780306	095	1.7-	0.0	850220	046	1.3+	0.5-	900921	809	0.1-	0.3-
850215	046	2.0-	0.6+	850220	046	0.3+	1.0-	900921	809	0.1+	0.2+
850215	046	1.2+	0.3-	900918	809	0.6-	0.3-	900921	809	0.6+	0.4+
850216	046	0.9-	2.1+	900918	809	0.2-	0.3-	900921	809	1.0+	0.2+
850216	046	0.7+	0.7-	900918	809	0.1-	0.2-				
850220	046	0.7-	0.3-	900921	809	0.8-	0.0				

1985 TO = 1931 TX2 = 1974 HG2 = 1991 JE
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Urata

M	348.50463	(1950.0)	P	Q
n	0.29264103	Peri. 312.58628	+0.71753207	+0.69651514
a	2.2468767	Node 3.27245	-0.61797911	+0.63911914
e	0.1412221	Incl. 3.80921	-0.32132468	+0.32617998
P	3.37	H 13.0	G 0.15	

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

311010	690(0.01-	0.05-)X	851011	010	2.7-	0.4+	851107	688	(2.8+	1.1+)	
311011	690(0.02-	0.03-)X	851011	010	(3.4-	2.7-)	851107	688	0.5+	0.5+	
740424	805	0.5+	1.1+	851015	688	1.0+	0.3-	910503	385	0.9-	0.4-
850915	095	0.8+	0.4-	851015	688	1.6-	0.4-	910503	385	0.8-	0.5-
850920	095	1.1+	1.0+	851020	688	0.4-	0.3+	910505	385	0.8+	0.5+
850922	095	0.2+	0.0	851020	688	0.9+	0.1-	910505	385	0.9+	0.3+

1985 TB1 = 1978 EU10
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	49.54749	(1950.0)	P	Q
n	0.20683701	Peri. 204.05817	+0.14610267	-0.98913712
a	2.8317215	Node 237.54436	+0.91067407	+0.14086561
e	0.0415177	Incl. 1.09866	+0.38642819	+0.04200760
P	4.77	H 12.9	G 0.15	

Residuals in seconds of arc

780315	675	0.0	0.3+	850921	095	0.8-	1.2-	851015	688	0.7+	2.3+
780316	675	0.1-	0.5-	851015	688	2.1+	2.0-	851018	095	2.0-	0.6+

1985 TA2 = 1969 RT = 1975 XU3 = 1987 DZ4 = 1990 SO15
Id. A. Lowe (k), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	37.99196	(1950.0)	P	Q
n	0.18725438	Peri. 100.89699	+0.69375556	-0.70856070
a	3.0258546	Node 304.37689	+0.58449189	+0.65857908
e	0.0947883	Incl. 8.99322	+0.42079977	+0.25340744
P	5.26	H 12.0	G 0.15	

Residuals in seconds of arc

690910	095	0.4+	1.3-	851018	095	0.8+	0.9+	900920	675	0.0	1.1+
751202	095	0.7+	3.6+	870227	801	1.4-	2.5-	900920	675	0.8-	0.4+
851015	688	0.5-	2.1-	900918	675	0.2+	0.9+				
851015	688	1.0+	2.4-	900918	675	0.2-	0.1+				

1985 UK3 = 1991 JB
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Urata

M 358.87605	(1950.0)	P	Q	
n 0.29178606	Peri. 265.16168	+0.56609558	+0.82276283	
a 2.2512637	Node 39.45859	-0.72092635	+0.52411140	
e 0.1561679	Incl. 4.59944	-0.39975115	+0.21992853	
P 3.38	H 13.5	G 0.15		

Residuals in seconds of arc

850921 095	0.1+	2.1+	851020 049	0.8-	2.5-	910502 385	2.6-	0.6+
851017 049	2.3-	3.3-	851020 049	0.1+	0.9-	910503 385	2.3+	1.0-
851017 049	0.8+	1.0-	851112 095	1.0+	1.7+	910503 385	0.5-	1.6+
851018 095	1.4+	3.7+	910502 385	0.6+	1.7-			

1985 VD = 1990 QG5
Id. H. E. Holt (MPC 17017)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M 86.27911	(1950.0)	P	Q	
n 0.17756568	Peri. 210.61199	+0.92290746	+0.37690462	
a 3.1349458	Node 127.03903	-0.33026008	+0.87994683	
e 0.1630642	Incl. 5.65408	-0.19791437	+0.28919971	
P 5.55	H 12.1	G 0.15		

Residuals in seconds of arc

790920 675	0.2-	0.0	851111 095	0.1+	0.1-	900825 675	0.3+	0.2+
790921 675	0.0	0.6+	851114 054	0.4+	0.5-	900826 675	0.6+	0.1-
851022 095	0.4+	0.3-	851115 054	2.1-	0.5-	900826 675	0.9-	0.9-
851109 095	1.3+	1.1+	900825 675	0.2+	0.3+			

1985 YH = 1991 GN1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 91.28541	(1950.0)	P	Q	
n 0.23457537	Peri. 253.06694	-0.96042101	-0.18861881	
a 2.6038409	Node 275.69802	+0.25902398	-0.87541509	
e 0.1131636	Incl. 11.88758	-0.10246000	-0.44505209	
P 4.20	H 12.5	G 0.15		

Residuals in seconds of arc

851217 688	0.1+	2.2+	860205 688	0.4-	0.1+	910411 413	0.1-	0.4+
851218 688	2.1+	1.8-	910406 413	0.0	1.0-	910415 413	0.1-	0.5+
851218 688	1.8-	0.4-	910406 413	0.9+	0.6-	910420 413	0.4-	1.0+
860205 688	(4.7-	0.6+)	910408 413	0.1-	0.1-			

1986 QS1 = 1990 WY6
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 (J-P) Marsden

M 155.22444	(1950.0)	P	Q	
n 0.27913121	Peri. 229.85752	+0.99586308	-0.05686306	
a 2.3188073	Node 133.27433	+0.07744817	+0.93911126	
e 0.1494731	Incl. 5.58633	-0.04752369	+0.33887554	
P 3.53	H 13.5	G 0.15		

Residuals in seconds of arc

860727 413	0.4-	1.8-	860901 809	0.3+	1.0+	860905 809	0.4-	0.6-
860727 413	0.3+	1.3+	860901 809	0.5+	0.8+	860905 809	0.2-	0.7-
860801 413	0.2+	1.8-	860901 809	0.2-	0.3-	860905 809	0.2-	0.7-
860801 413	1.3+	0.5+	860901 809	0.1-	0.1-	860906 809	0.2-	0.0
860827 809	1.1-	0.2+	860901 809	0.2+	0.4-	860906 809	0.1-	0.3+
860827 809	0.9-	0.4+	860902 809	0.2-	0.1-	860906 809	0.1-	0.3+
860827 809	0.7-	0.3+	860902 809	0.0	0.3-	860907 809	0.7-	0.1+
860829 809	0.9-	0.1-	860902 809	0.0	0.3-	860907 809	0.2-	0.2+
860829 809	0.6-	0.2+	860903 809	0.1+	0.5+	860907 809	0.0	0.3+
860829 809	0.3-	0.2+	860903 809	0.0	0.6+	860909 809	0.8+	0.0
860901 809	0.1-	1.0+	860903 809	0.1-	0.5+	860909 809	0.9+	0.0

860909 809 0.8+ 0.0 901121 809 1.2- 0.8+ 901122 809 0.8+ 0.8-
860911 809 0.8+ 0.4- 901121 809 1.2- 0.8+ 901122 809 1.6+ 0.3-
860911 809 1.0+ 0.5- 901121 809 1.8- 0.2+
860911 809 1.0+ 0.6- 901122 809 1.8+ 0.9-

1986 QQ2 = 1988 BD2
Id. S. Nakano (MPC 13456)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano
M 93.81476 (1950.0) P Q
n 0.27546350 Peri. 285.46527 +0.49750288 -0.86229103
a 2.3393400 Node 134.29943 +0.83789276 +0.44945545
e 0.0900202 Incl. 7.59374 +0.22455869 +0.23333234
P 3.58 H 13.6 G 0.15
Residuals in seconds of arc
860727 413 0.6- 2.1- 860908 809 0.1+ 0.0 880122 303 1.7- 2.4+
860727 413 1.4- 0.2- 860908 809 0.3+ 0.1- 880123 303 0.4+ 1.2+
860801 413 (1.6- 3.1-) 860908 809 0.3+ 0.2- 880123 303 (6.9+ 6.1-)
860801 413 1.2+ 0.7- 860909 809 0.1- 0.1- 880123 303 (7.6+ 6.8-)
860828 809 1.2- 0.4+ 860909 809 0.0 0.2- 880124 809 0.0 0.7+
860828 809 1.0- 0.5+ 860909 809 0.0 0.2- 880124 809 0.5+ 0.7+
860828 809 0.7- 0.5+ 860912 809 0.1+ 0.1+ 880126 809 0.8- 0.8+
860901 809 0.2- 0.7+ 860912 809 0.1+ 0.1+ 880126 809 0.8- 1.2+
860901 809 0.0 0.6+ 860912 809 0.1- 0.1- 880128 809 1.0- 0.2+
860901 809 0.1- 0.5+ 880117 809 0.4+ 1.0- 880128 809 0.9- 0.2-
860903 809 0.6+ 0.6+ 880117 809 0.2+ 0.9- 880130 809 0.7- 1.4+
860903 809 0.7+ 0.5+ 880117 809 0.5+ 0.8- 880130 809 0.7- 0.6-
860903 809 0.9+ 0.5+ 880118 809 0.5+ 0.1- 901020 413 (2.5- 3.3-)
860905 809 0.0 0.8+ 880118 809 1.2+ 0.7- 901020 413 1.4+ 0.8-
860905 809 0.0 0.7+ 880120 809 0.5+ 0.3+ 901108 413 0.5- 0.6-
860905 809 0.0 0.7+ 880120 809 0.3+ 0.3- 901109 413 0.6- 0.4-
860907 809 0.0 0.5+ 880122 809 0.5+ 0.3+ 910217 801 0.2+ 0.6-
860907 809 0.0 0.5+ 880122 809 0.9+ 0.4- 910217 801 0.6+ 0.5+
860907 809 0.1+ 0.3+ 880122 303 1.6+ 0.0

1986 TN1 = 1986 TT17 = 1979 XK1
Id. A. Lowe (k), G. V. Williams (d)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 36.67651 (1950.0) P Q
n 0.26955978 Peri. 271.41335 -0.81573713 -0.55303682
a 2.3733729 Node 235.04110 +0.57787002 -0.76638394
e 0.0708983 Incl. 11.93443 +0.02528171 -0.32681178
P 3.66 H 13.0 G 0.15
Residuals in seconds of arc
791214 095 0.2- 1.4+ 861011 095 0.1+ 0.7- 901117 399 0.9+ 0.3+
791218 095 0.3+ 0.4- 861105 688 1.3- 0.2- 901121 399 1.4- 0.8+
861004 688 0.7+ 0.8- 861105 688 0.1- 0.7+ 901121 399 1.5+ 1.7-
861004 688 0.6+ 1.1+ 901117 399 1.1- 0.5-

1987 DF6 = 1980 RR7
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell
M 346.31046 (1950.0) P Q
n 0.22620028 Peri. 248.47456 -0.77561619 +0.62157711
a 2.6677223 Node 329.63354 -0.46819697 -0.68323110
e 0.1184046 Incl. 12.54738 -0.42333335 -0.38319338
P 4.36 H 12.9 G 0.15
Residuals in seconds of arc
800913 675 0.2+ 0.1+ 870223 809 0.3- 0.1+ 870224 809 0.2- 0.7-
800914 675 0.2- 0.1- 870223 809 0.4- 0.2+ 870224 809 0.1- 0.4-
870223 809 0.2- 0.3- 870224 809 0.2+ 0.9- 870225 809 0.2+ 0.1-

870225 809 0.3+ 0.4+ 870302 809 0.2+ 0.2+ 870305 809 0.1- 0.0
870225 809 0.5+ 0.7+ 870302 809 0.3+ 0.3+ 870305 809 0.4- 0.4+
870227 809 0.5- 0.4+ 870303 809 0.6- 0.1+ 870306 809 0.1- 0.3-
870227 809 0.4- 0.7+ 870303 809 0.0 0.1+ 870306 809 0.1- 0.2-
870227 809 0.1- 0.8+ 870303 809 0.1+ 0.2+ 870306 809 0.1- 0.3-
870228 809 0.0 0.4- 870304 809 0.3+ 0.1- 870307 809 0.0 0.2-
870228 809 0.4+ 0.3- 870304 809 0.5+ 0.0 870307 809 0.0 0.2-
870228 809 0.5+ 0.4- 870304 809 0.5+ 0.0 870307 809 0.0 0.2-
870302 809 0.1+ 0.2+ 870305 809 0.3- 0.0

1987 EP = 1980 RB4 = 1980 RG5
Id. S. Nakano (MPC 13302), A. Lowe (d, MPC 9824)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano
M 208.52162 (1950.0) P Q
n 0.23090734 Peri. 14.84267 +0.98873746 +0.11577530
a 2.6313435 Node 337.83307 -0.14956588 +0.78691072
e 0.1465874 Incl. 14.55780 +0.00531856 +0.60610857
P 4.27 H 11.8 G 0.15
Residuals in seconds of arc
800904 323 (2.6+ 5.3-) 870302 809 0.5+ 0.6- 870310 809 0.7- 0.8+
800907 095 0.9- 0.2- 870302 809 0.6+ 0.6- 870310 809 0.4- 0.8+
800908 323 0.3- 0.8+ 870303 688(13.5- 19.4-) 890827 801 0.3- 0.6-
800908 323 1.1+ 0.2+ 870303 809 0.3+ 0.7- 901214 801 0.2- 0.5-
870224 809 1.3- 0.8+ 870303 809 0.4+ 0.6- 901214 801 0.6- 0.0
870224 809 1.2- 0.7+ 870303 809 0.5+ 0.3- 901217 801 0.9- 0.0
870224 809 1.2- 0.7+ 870303 688 (1.7- 3.7+) 901217 801 1.0- 0.0
870225 809 0.1+ 0.4+ 870305 809 0.3- 0.5- 910116 801 0.2- 0.7-
870225 809 0.2+ 0.4+ 870305 809 0.0 0.4- 910116 801 0.8+ 1.7-
870225 809 0.2+ 0.4+ 870305 809 0.1+ 0.4- 910204 400 1.5- 2.1+
870227 809 0.3+ 0.2- 870306 809 0.3- 0.1- 910204 400 (3.2- 1.9+)
870227 809 0.5+ 0.2- 870306 809 0.3- 0.2- 910207 400 1.3+ 2.0+
870227 809 0.6+ 0.2- 870306 809 0.5- 0.1- 910207 400 (4.2+ 1.5+)
870228 809 0.2+ 0.1- 870307 809 0.7- 0.7- 910214 400 1.9+ 0.2+
870228 809 0.1+ 0.0 870307 809 0.3- 0.0 910214 400 2.2+ 0.4-
870228 809 0.1- 0.0 870307 809 0.2+ 0.0
870302 809 0.6+ 0.8- 870310 809 0.4- 1.2+

1987 MM1 = 1991 GD1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 312.93071 (1950.0) P Q
n 0.21290947 Peri. 124.07450 +0.74751362 +0.66314763
a 2.7776194 Node 194.51058 -0.64852960 +0.71618583
e 0.1613152 Incl. 8.76756 -0.14364100 +0.21751571
P 4.63 H 12.0 G 0.15
Residuals in seconds of arc
870625 046 0.1- 0.1+ 870628 046 1.0- 0.1+ 910410 675 0.8- 0.7+
870626 046 1.6- 0.6+ 870628 046 0.1- 0.5- 910410 675 0.4+ 0.2-
870627 046 1.5+ 0.5+ 870630 046 0.1+ 0.3+ 910412 675 0.4- 0.2+
870627 046 0.2+ 1.5- 870630 046 1.2+ 0.4+ 910412 675 0.8+ 0.7-

1987 QD6 = 1971 QV1 = 1971 SB1 = 1990 BN1
Id. S. Nakano (MPC 15415; unpublished); 1987 QD6 = A921 EB (ibid.) is invalid
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano
M 323.22564 (1950.0) P Q
n 0.18444838 Peri. 111.05574 +0.48366611 +0.87484286
a 3.0564654 Node 188.02780 -0.85722601 +0.46730551
e 0.1222858 Incl. 11.05466 -0.17672200 +0.12757556
P 5.34 H 11.4 G 0.15

Residuals in seconds of arc

710830 095	2.4+	0.1-	870902 095	(3.2+	0.4+)	910410 675	0.5-	0.3+
710916 095	1.9-	2.0-	870923 095	1.3-	0.7-	910411 399	1.0+	0.2+
870822 675	0.0	0.4-	900121 402	1.7-	0.4-	910411 399	1.2-	1.1-
870822 675	0.5+	0.7+	900121 402	1.5+	0.6-	910414 399	0.8+	0.6+
870827 675	0.9-	0.0	910408 675	1.2+	0.1-	910414 399	0.4-	0.3-
870827 675	0.9-	1.2+	910408 675	0.7+	1.1-	910418 399	0.6-	0.4-
870827 095	2.5+	0.5-	910410 675	0.0	0.1-	910418 399	1.2-	0.5+

1987 RV3 = 1980 PQ4

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M 110.70832		(1950.0)		P	Q
n 0.28883476	Peri.	105.55921		+0.81152517	+0.58296077
a 2.2665732	Node	218.80565		-0.55746845	+0.75203116
e 0.1853078	Incl.	3.64079		-0.17508803	+0.30758069
P 3.41	H	14.8	G	0.15	

Residuals in seconds of arc

800804 675	0.3-	0.0	870902 095	1.5-	1.6+	870926 095	2.7-	1.1+
800805 675	0.4+	0.1-	870917 095	4.1+	2.5-			

1987 SO9 = 1971 SP = 1979 BR2

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M 39.53796		(1950.0)		P	Q
n 0.30991260	Peri.	314.32343		-0.01098895	-0.99961794
a 2.1626018	Node	136.28712		+0.92751191	-0.01966676
e 0.0899987	Incl.	2.10325		+0.37363204	+0.01942126
P 3.18	H	14.7	G	0.15	

Residuals in seconds of arc

710916 808	0.7+	1.9-	870919 071	1.3+	0.0	870921 071	0.2-	2.1+
790127 675	1.1-	0.3-	870919 071	0.9-	0.8-	870922 071	0.6+	1.9+
790129 675	1.1+	0.2-	870920 071	(4.2-	2.6-)	870927 095	(1.6+	4.5+)
870919 071	0.5-	1.4-	870921 071	1.0-	0.2-			

1988 BJ

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden

M 105.00550		(1950.0)		P	Q
n 0.36737102	Peri.	233.95148		-0.94941536	+0.09151334
a 1.9307800	Node	309.24907		+0.11031114	-0.79843642
e 0.0634197	Incl.	22.82404		-0.29401008	-0.59508369
P 2.68	H	15.0	G	0.15	

Residuals in seconds of arc

880122 511	(3.5-	3.1-)	880213 809	0.1+	0.0	880216 809	0.6-	0.6+
880122 511	1.2+	1.6-	880213 809	1.1-	0.8-	880217 809	0.3+	1.0-
880122 303	0.2-	1.2-	880214 809	0.0	1.1+	880217 809	0.3+	1.0-
880123 511	1.7-	1.9-	880214 809	0.4+	0.8+	880217 809	0.1-	1.4-
880123 511	(3.9-	2.2-)	880214 809	1.6+	2.3+	890901 511	(3.3-	1.0+)
880123 303	0.7+	0.1-	880215 809	1.1-	0.2+	890902 511	0.3-	0.1+
880211 809	0.7+	0.2-	880215 809	0.2+	0.3+	890902 511	(3.7+	0.5+)
880212 809	(3.6-	0.9-)	880215 809	1.4-	0.5+	890902 511	0.9-	0.9-
880212 809	0.8+	0.4+	880215 809	1.6+	0.5+	890902 511	1.8+	0.3-
880212 809	0.5-	1.4+	880216 809	0.2+	1.0+	890902 511	(2.3-	4.4+)
880212 809	0.9-	0.1+	880216 809	0.3+	0.4+	910308 474	1.0-	0.7-
880212 809	(5.4+	4.1+)	880216 809	0.1-	0.0	910308 474	0.7-	0.8-
880212 809	0.2-	0.6+	880216 809	0.1-	0.6-	910312 474	0.4+	0.2-
880213 809	0.6-	0.3-	880216 809	0.1+	0.2-	910312 474	0.6+	0.1+

1988 CA1 = 1991 BA1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	34.17180	(1950.0)	P	Q
n	0.30610461	Peri. 57.07816	-0.98728267	+0.14544601
a	2.1805002	Node 131.19866	-0.15870778	-0.92512789
e	0.0570740	Incl. 4.89269	+0.00920660	-0.35069054
P	3.22	H 14.8	G 0.15	

Residuals in seconds of arc

880214	033	0.2+	0.8-	880216	033	0.3-	2.2+	910118	511	0.9+	1.0-
880214	033	0.2-	0.9-	910114	801	0.6+	0.6+	910119	046	1.0+	1.2+
880215	033	0.5+	0.2-	910114	801	0.5-	0.5+	910119	046	(4.1+	1.1-)
880215	033	0.1+	0.4-	910118	511	1.8-	1.3-				

1988 CC2 = 1966 BT = 1979 SN6 = 1990 SX15
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	78.64615	(1950.0)	P	Q
n	0.26843595	Peri. 86.57136	+0.74662324	-0.66321886
a	2.3799925	Node 314.96574	+0.57747429	+0.68487566
e	0.1842405	Incl. 4.20732	+0.33026834	+0.30180470
P	3.67	H 13.5	G 0.15	

Residuals in seconds of arc

660121	330	0.3+	0.5+	880216	809	0.0	0.5-	880223	809	0.2+	0.2-
790923	095	0.2+	1.3-	880216	809	0.2+	0.2-	880223	809	0.8-	0.1+
880210	809	2.6+	0.3+	880217	809	0.0	0.3+	880223	809	1.5-	0.3+
880210	809	1.7+	0.1-	880217	809	0.7-	0.2+	900916	675	0.8-	0.5+
880210	809	0.4+	0.5+	880217	809	0.8-	0.3+	900916	675	0.4-	0.3+
880211	809	0.5-	1.7+	880221	809	0.4+	0.7-	900919	675	0.4+	0.4+
880215	809	1.6-	1.7-	880221	809	0.5-	0.7-	900919	675	0.7+	0.1-
880216	809	1.2+	0.5-	880221	809	1.0-	0.3+				

1988 PF1
Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 Williams

M	353.14637	(1950.0)	P	Q
n	0.18969049	Peri. 46.20024	+0.98555044	+0.15784926
a	2.9998924	Node 304.62544	-0.16876397	+0.88413489
e	0.4499831	Incl. 4.28140	-0.01445853	+0.43976028
P	5.20	H 16.5	G 0.15	

From 9 observations 1988 Aug. 14-Sept. 16.

1988 PG1 = 1970 PY = 1979 OV16
Id. R. H. McNaught (1991 obs.), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	263.12128	(1950.0)	P	Q
n	0.22063379	Peri. 21.35843	+0.90703286	+0.39326375
a	2.7124060	Node 314.54836	-0.41039270	+0.74577548
e	0.2000936	Incl. 12.18741	-0.09417653	+0.53773838
P	4.47	H 13.5	G 0.15	

Residuals in seconds of arc

700811	095	1.1+	0.6-	880811	413	1.2-	0.3-	881010	413	0.3-	0.2+
790730	095	2.2-	0.8+	880811	413	1.2+	0.1-	881011	413	0.2+	0.3+
880808	095	(0.6+	4.1+)	880819	413	1.4-	1.0+	910412	413	0.1-	0.8-
880809	095	0.1-	0.6+	880819	413	1.7+	0.9-	910412	413	0.3-	0.1+
880809	095	(3.8-	4.8+)	880820	413	1.0-	0.2+	910506	413	0.3+	0.8+
880809	095	(8.8-	10.0+)	880820	413	1.8+	1.2-				

1988 PH4
Epoch 1988 Aug. 27.0 ET = JDE 2447400.5 Williams
M 356.38942 (1950.0) P Q
n 0.23518463 Peri. 160.84762 +0.94621669 +0.32353263
a 2.5993420 Node 180.27933 -0.31387826 +0.91738641
e 0.4385220 Incl. 9.28124 -0.07845010 +0.23179476
P 4.19 H 17.0 G 0.15
From 7 observations 1988 Aug. 14-Sept. 16.

1988 RG1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 126.20137 (1950.0) P Q
n 0.08122342 Peri. 158.07011 +0.74586687 +0.65043171
a 5.2805831 Node 159.19827 -0.65527367 +0.75519767
e 0.0634422 Incl. 23.85074 -0.11957852 -0.08133306
P 12.13 H 10.3 G 0.15
Residuals in seconds of arc

880815 675	0.8-	1.1+	881108 675	1.0+	0.5+	901024 675	0.8+	0.6-
880815 675	0.9+	1.0-	890928 675	0.3+	1.2-	901024 675	1.5+	1.0-
880910 675	0.1+	1.1+	890928 675	0.5+	2.0-	901026 675	0.3-	1.0+
880912 675	0.2+	0.3-	891102 675	(0.2-	3.7-)	901113 675	1.2-	0.3-
881008 675	0.5-	0.2-	891102 675	0.7-	0.5+	901114 675	0.9-	1.2+
881010 675	0.3-	0.5+	891103 675	0.2+	0.9-			
881106 675	0.4-	0.4+	901021 675	0.0	1.8+			

1988 RD5 = 1977 RU2 = 1977 RH20 = 1989 YD5
Id. H. Kaneda, D. W. E. Green
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 176.64473 (1950.0) P Q
n 0.17734892 Peri. 329.91903 +0.92298716 -0.38389230
a 3.1374996 Node 52.68033 +0.35945160 +0.83508851
e 0.1756378 Incl. 1.93546 +0.13743817 +0.39402270
P 5.56 H 12.2 G 0.15
Residuals in seconds of arc

770909 675	0.9+	0.3-	880910 809	1.5+	0.6-	880917 809	(1.0-	6.4+)
770909 095	0.8-	0.2-	880910 809	1.5+	0.7-	891228 511	0.4-	0.3-
770910 675	0.6+	1.0-	880910 809	1.6+	0.7-	891228 511	1.9-	0.0
880902 809	1.3-	0.4+	880911 809	0.7+	0.3-	891229 511	0.4+	0.8+
880902 809	1.0-	0.6+	880911 809	0.8+	0.0	891229 511	0.9-	0.0
880902 809	0.9-	0.6+	880911 809	1.0+	0.1-	891229 511	0.6+	0.4+
880905 809	0.2-	0.6-	880914 809	1.6-	1.5+	900103 511	0.6+	0.6+
880905 809	0.1-	0.5-	880914 809	1.5-	1.4+	900103 511	0.4-	1.5-
880905 809	0.1+	0.6-	880914 809	1.2-	1.3+	900104 511	0.5-	0.2+
880907 809	(3.2+	0.8-)	880917 809	(2.1-	5.6+)	900104 511	2.5+	0.1+
880907 809	(3.2+	0.8-)	880917 809	(1.6-	5.9+)			

1988 TJ1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Marsden
M 328.10497 (1950.0) P Q
n 0.61487277 Peri. 192.68863 +0.67966256 -0.71713181
a 1.3696593 Node 214.85672 +0.69434388 +0.69677048
e 0.1681041 Incl. 15.65366 +0.23652777 +0.01525961
P 1.60 H 18.5 G 0.15
Residuals in seconds of arc

881012 675	0.5-	0.9+	881104 675	0.2+	0.4+	910511 691	0.7+	1.1-
881012 675	1.5+	1.2-	881106 675	0.4-	1.2-	910511 691	0.6+	0.7-
881013 675	0.7-	1.0+	890118 675	0.6-	0.6+	910512 691	1.1-	0.1-
881103 413	0.1-	0.5-	890118 675	0.2-	0.1-			
881103 413	(1.7-	5.0+)	890118 675	0.2-	0.6-			

1988 TJ2 = 1977 CW1 = 1990 FV2
Id. H. Kaneda (k), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	54.47637	(1950.0)	P	Q	
n	0.30886424	Peri.	309.53415	+0.71715302	+0.69683872
a	2.1674926	Node	6.31678	-0.60699963	+0.63186089
e	0.0152600	Incl.	5.40322	-0.34240764	+0.33936354
P	3.19	H	14.0	G 0.15	

Residuals in seconds of arc

770211	675	0.1+	0.3+	881011	046	1.9+	1.0+	900317	033	0.3-	0.1+
770212	675	0.1-	0.2-	881011	046	0.7+	2.1+	900318	033	0.1+	0.4-
881004	046	0.0	0.2-	881014	046	0.1+	0.9-				
881004	046	0.3-	1.1-	881014	046	2.4-	1.1-				

1988 UH = 1977 UJ5 = 1990 DZ6
Id. E. Bowell (MPC 18115), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	87.52206	(1950.0)	P	Q	
n	0.18076977	Peri.	325.54638	-0.97864860	-0.20402283
a	3.0977915	Node	202.72019	+0.20010059	-0.91798972
e	0.1116805	Incl.	3.70112	+0.04697519	-0.34010228
P	5.45	H	12.0	G 0.15	

Residuals in seconds of arc

771018	675	0.2+	0.0	881102	372	1.0+	2.1-	881111	046	0.6-	2.8+
771019	675	0.3-	0.2+	881103	372	1.2+	1.3-	900216	372	1.7+	0.5-
881018	372	0.8+	0.3-	881105	372	(4.4+	4.3+)Y	900216	372	1.9-	0.3-
881018	372	0.7+	0.0	881106	372	2.1-	0.3- Y	910505	372	2.8-	2.3-
881019	372	0.3-	2.6-	881110	046	(6.2+	1.5-)	910505	372	1.8-	1.0-
881022	372	0.9+	0.6-	881110	046	(3.4+	2.3-)	910510	372	2.6+	0.9-
881022	372	1.7-	1.8-	881111	046	1.8+	0.2-	910510	372	0.7+	1.7-

1988 VN = 1971 UQ2 = 1977 CQ1 = 1990 FG4
Id. S. J. Bus (k), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	265.54872	(1950.0)	P	Q	
n	0.23293447	Peri.	304.53078	+0.77325714	-0.63167205
a	2.6160550	Node	94.70729	+0.59842831	+0.69811699
e	0.1182346	Incl.	3.18379	+0.20965914	+0.33708024
P	4.23	H	13.5	G 0.15	

Residuals in seconds of arc

711021	095	1.1-	2.6+	881107	897	1.0+	0.7-	881129	897	1.4-	1.4-
770211	675	0.1-	1.0+	881107	897	0.2-	0.2-	900325	413	0.4-	0.6-
770212	675	0.5+	0.2+	881115	897	0.5+	0.7-	900325	413	0.1+	0.2+
881103	897	(2.8-	0.3+)	881115	897	1.0-	0.1-				
881103	897	1.6+	0.9+	881129	897	0.4+	0.8-				

1989 AM1 = 1980 PF4 = 1981 UY12
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	121.69658	(1950.0)	P	Q	
n	0.17343515	Peri.	245.70664	-0.97708577	+0.10524984
a	3.1845247	Node	299.86194	-0.00207878	-0.87386160
e	0.0813771	Incl.	12.31734	-0.21283579	-0.47464552
P	5.68	H	11.0	G 0.15	

Residuals in seconds of arc

800804	675	0.2+	0.7-	890104	400	(12.8+	8.7+)	890130	400	1.7-	1.2+
800805	675	0.7+	0.9-	890115	400	1.6+	0.5-	890130	400	0.6-	1.7+
811023	095	0.2-	0.5+	890115	400	1.4+	1.4-	890207	400	1.1-	0.1-
890104	400	(10.2+	8.0+)	890115	400	0.8+	0.4-	890207	400	0.2+	1.8-
890104	400	(11.4+	9.1+)	890130	400	0.2+	0.4-	890207	400	1.6-	0.1-

1989 GL1 = 1933 SQ1 = 1963 SE1 = 1973 TG = 1980 VR3
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M 229.06493	(1950.0)	P	Q	
n 0.29518993	Peri. 327.62405	+0.09557672	+0.99480642	
a 2.2339238	Node 307.83654	-0.90353435	+0.07194361	
e 0.1298576	Incl. 2.54031	-0.41772093	+0.07200216	
P 3.34	H 13.2	G 0.15		

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

330925 012	0.1+	0.2-	890403 809	0.5+	0.9-	890408 809	0.3+	0.1+
630922 760(0.05-	0.03-)X		890403 809	0.1-	0.9-	890408 809	0.3+	0.9+
731001 095	0.3+	1.0-	890405 809	1.2+	0.3+	890410 809	1.4-	0.6-
801101 675	0.2+	0.8-	890405 809	0.4+	0.6+	890410 809	1.7-	0.5-
801102 675	0.5+	1.0-	890405 809	0.4+	0.5-	890410 809	1.5-	0.9-
890403 809	0.3+	0.7-	890408 809	0.5+	0.5+			

1989 GT3 = 1980 TF12
Id. T. Kobayashi (MPC 14795)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M 144.77223	(1950.0)	P	Q	
n 0.29343489	Peri. 90.28431	+0.98866443	+0.14924048	
a 2.2428224	Node 261.13281	-0.14351439	+0.90719534	
e 0.1422576	Incl. 0.95275	-0.04411639	+0.39334959	
P 3.36	H 13.9	G 0.15		

Residuals in seconds of arc

801010 095	0.5+	0.7+	890411 809	0.2-	1.1+	901110 809	0.0	0.3-
801017 095	0.8-	0.3+	890411 809	0.9+	0.2+	901114 809	0.0	0.6+
890402 809	1.2-	0.3+	901013 046	1.0+	2.2-	901114 809	0.1+	0.5+
890402 809	0.3-	0.2+	901013 046	(0.1+	3.5-)	901114 809	0.9+	0.6+
890402 809	1.0+	0.0	901014 046	0.1-	1.4+	901115 809	0.2-	0.6-
890405 809	1.6-	0.5-	901014 046	0.8-	1.3+	901115 809	0.1+	0.4-
890405 809	2.2+	0.8-	901110 809	0.3-	0.4-	901115 809	0.0	0.7-
890411 809	0.5-	0.2+	901110 809	0.4-	0.1-			

1989 PA = 1977 BL
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 226.32721	(1950.0)	P	Q	
n 0.36403858	Peri. 124.50269	+0.58824179	-0.71383852	
a 1.9425451	Node 284.77758	+0.55095243	+0.69773962	
e 0.1118538	Incl. 23.14177	+0.59196538	+0.05994997	
P 2.71	H 14.0	G 0.15		

Residuals in seconds of arc

770120 095	2.3-	5.0-	890802 675	0.5-	0.7-	891029 801	0.8-	1.1+
890707 675	1.1+	1.8-	890830 675	0.9+	0.7+	910311 474	0.8-	0.9-
890709 675	1.0+	2.3-	890901 675	0.2+	1.2-	910311 474	0.1+	0.4-
890709 675	1.2+	0.7-	891024 801	0.9+	0.7+	910324 413	0.0	0.1+
890802 675	0.5-	0.5-	891028 801	0.2+	0.8+	910324 413	(6.9+	2.9-)

1989 PE
Id. E. F. Helin (1991 obs.)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 67.69209	(1950.0)	P	Q	
n 0.39113272	Peri. 88.24497	-0.48629901	+0.84280795	
a 1.8517682	Node 149.01544	-0.86655149	-0.49907629	
e 0.0227429	Incl. 26.61442	+0.11225771	-0.20148850	
P 2.52	H 14.0	G 0.15		

Residuals in seconds of arc

890809	675	0.5+	0.6+	890905	675	0.3- 1.4+	910410	675 0.5+ 1.7-
890809	675	0.1+	0.4+	890907	675	0.5- 2.1-	910412	675 1.8- 1.5+
890810	675	0.7-	1.3-	890907	675	0.0 0.9-	910412	675 0.3+ 1.0+
890905	675	0.9+	1.9+	910410	675	1.0+ 0.8-		

1989 SR4 = 1977 UW4

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	182.71086		(1950.0)	P	Q
n	0.24583606	Peri.	353.78745	+0.79368644	-0.60561962
a	2.5237073	Node	43.65687	+0.56161660	+0.69326627
e	0.1802023	Incl.	4.76368	+0.23377048	+0.39064914
P	4.01	H	15.4	G 0.15	

Residuals in seconds of arc

771018	675	0.4+	0.2-	890926	809	0.0 0.5+	891003	809 0.5+ 0.3-
771019	675	0.4-	0.2+	890928	809	0.1- 0.2+	891003	809 0.9- 0.3-
890926	809	0.9-	1.3-	890928	809	0.1- 0.8+	891003	809 0.4+ 0.1+
890926	809	1.0+	0.6-	890928	809	0.1+ 1.0+		

1989 UL = 1980 WE2

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	153.78581		(1950.0)	P	Q
n	0.21307417	Peri.	190.72077	+0.66821525	-0.74173588
a	2.7761878	Node	217.38897	+0.68937114	+0.64642534
e	0.1390316	Incl.	5.44192	+0.27974240	+0.17877965
P	4.63	H	13.2	G 0.15	

Residuals in seconds of arc

801130	095	0.4+	0.5+	891022	046	(3.6- 2.4-)	891025	400 0.4- 1.7+
801210	095	0.4-	0.5-	891023	046	0.3- 2.2-	891028	046 0.9- 0.9-
891021	400	(2.3+	3.9+)	891023	046	0.5+ 0.8-	891028	046 1.4- 0.6-
891021	400	2.4+	2.4+	891024	046	0.1+ 0.7-	891030	400 1.4+ 1.6-
891021	400	(3.6+	3.8+)	891024	046	0.2+ 1.8+	891030	400 0.6+ 2.3+
891022	046	1.3-	1.9-	891025	400	0.7- 0.3+		

1989 UT = 1942 VH = 1977 CV2

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	225.92313		(1950.0)	P	Q
n	0.29356818	Peri.	2.40617	+0.82002475	-0.56840464
a	2.2421435	Node	32.52412	+0.52297454	+0.69668957
e	0.1947863	Incl.	7.14777	+0.23250169	+0.43765261
P	3.36	H	14.0	G 0.15	

Residuals in seconds of arc

421105	062	0.9-	1.0+	891023	046	1.1+ 0.0	891029	403 1.3- 1.4+
421105	062	0.3+	0.2+	891023	046	2.2+ 0.1-	891029	403 0.6- 0.1-
770212	675	0.2-	0.3-	891024	046	1.1- 1.2-	891104	095 0.0 1.8+
770213	675	0.0	0.1-	891024	046	0.1- 1.1-	891104	095 0.8+ 1.4-
891022	046	0.6-	1.1+	891025	400	(3.7+ 0.9+)	891120	403 0.6+ 1.3+
891022	046	0.7+	0.0	891025	400	(4.8+ 0.2-)	891120	403 2.0- 1.2-
891023	403	0.5-	0.1+	891028	046	1.0- 0.7-		
891023	403	1.1+	0.1-	891028	046	1.2+ 1.2-		

1989 UH2

Id. E. F. Helin (1991 obs.)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	331.20108		(1950.0)	P	Q
n	0.37128040	Peri.	290.06950	+0.87752360	+0.38380412
a	1.9172027	Node	48.57576	-0.14722455	+0.78618378
e	0.0755976	Incl.	22.54429	-0.45637404	+0.48436501
P	2.65	H	12.9	G 0.15	

Residuals in seconds of arc

891027	675	0.7+	0.0	891202	010	0.3+	0.4-	910411	675	1.4- 0.9+
891029	675	0.5+	0.1-	891202	010	1.1-	2.5+	910411	675	2.9- 0.4+
891029	675	0.2-	0.5+	891203	010	0.6-	1.9+	910503	894	3.1+ 2.0- Y
891129	675	0.8+	0.9-	891203	010	0.2+	0.5-	910503	894	0.8+ 2.8- Y
891201	675	0.1-	1.5-	891203	010	1.0-	1.6-	910505	894	1.1+ 2.8+ Y
891202	010	1.2-	1.3+	910409	675	1.0-	1.1+	910505	894	1.0+ 1.0+ Y

1989 UA6 = 1977 CE2
Id. S. J. Bus

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5			Bowell
M 193.67776	(1950.0)	P	Q
n 0.12498789	Peri. 216.97479	+0.08250356	+0.99513650
a 3.9617837	Node 57.81693	-0.89841788	+0.09764024
e 0.1687244	Incl. 3.64589	-0.43132178	-0.01302838
P 7.89	H 11.1	G 0.15	

Residuals in seconds of arc

770211	675	0.2-	0.2+	891030	807	0.5+	0.6-	891128	688	0.3- 0.8+
770212	675	0.2+	0.3-	891101	807	0.3+	0.8-			
891004	807	0.4-	0.1+	891128	688	0.1-	0.5+			

1989 WD = 1991 HB

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5			Nakano
M 82.80202	(1950.0)	P	Q
n 0.27359922	Peri. 126.94216	-0.97925547	+0.16468989
a 2.3499546	Node 62.81186	-0.20059824	-0.87021015
e 0.0659418	Incl. 7.62646	+0.02861943	-0.46433989
P 3.60	H 12.6	G 0.15	

Residuals in seconds of arc

891026	033	0.6+	0.2+	891201	399	0.3+	1.7-	891218	399	0.5+ 1.0+
891026	033	1.4+	0.2-	891201	399	2.7-	1.7+	910414	399	0.4- 0.1+
891028	033	0.1+	1.1-	891201	399	0.3+	1.2+	910414	399	0.6+ 0.1+
891119	399	2.5-	0.1+	891206	399	2.0+	0.1-	910414	399	0.4- 0.4-
891119	399	1.2-	0.6-	891206	399	1.3+	0.8+	910416	376	1.1- 0.8+
891121	399	0.4+	0.0	891218	399	0.4-	1.8-	910416	376	1.2+ 0.7-
891121	399	0.7-	1.0+	891218	399	0.9+	0.5-			

1989 WN1 = 1989 UZ9 = 1978 QG3
Id. B. G. Marsden (MPC 15724), G. V. Williams (d)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5			Williams
M 190.66821	(1950.0)	P	Q
n 0.18986549	Peri. 287.52236	+0.96805501	+0.19679875
a 2.9980487	Node 61.37159	-0.10294177	+0.87696104
e 0.1205436	Incl. 10.19565	-0.22863179	+0.43841714
P 5.19	H 12.5	G 0.15	

Residuals in seconds of arc

780823	414	0.5+	0.5+	820306	413	0.2-	0.2-	891122	494	0.3- 0.2+
780823	414	0.0	0.9+	830612	413	0.4+	0.3-	891122	494	0.0 0.1+
780824	414	1.2-	0.2-	830612	413	0.3-	0.0	891123	494	0.4+ 1.0+
780824	414	0.6-	0.3+	870311	413	0.4-	1.1+	891125	494	1.8+ 0.9+
780826	414	0.1-	0.6-	870312	413	1.0+	0.2-	891129	494	0.4- 0.4-
780826	414	1.2+	0.3-	891030	095	1.7-	1.4-			

1989 WH4 = 1953 GL = 1977 ER4 = 1982 VJ2 = 1991 GL1
Id. G. V. Williams, H. Kaneda

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 205.71898	(1950.0)	P	Q	
n 0.28622309	Peri. 290.22323	+0.44009420	-0.89571755	
a 2.2803400	Node 133.50107	+0.85296355	+0.39497104	
e 0.1374740	Incl. 5.00656	+0.28066044	+0.20417626	
P 3.44	H 13.5	G 0.15		

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

530407	024	0.3+	0.6+	891121	095	1.0+	1.0+	910414	399	1.5+	1.9-
530412	024	0.7+	0.2+	891123	046	0.8+	1.1-	910414	399	0.5-	1.0+
530419	024	(0.02+	0.03+)X	891123	046	0.7-	0.4+	910416	399	0.1+	1.5+
770315	381	0.6-	0.2+	891129	046	(9.6-	0.6+)	910416	399	0.3+	0.5-
770315	381	0.5-	0.2-	891129	046	(10.8-	2.8+)	910504	399	0.8+	0.1-
821114	381	0.4-	0.3+	891130	046	(13.8+	2.0+)	910504	399	0.7-	0.8-
821114	381	0.8-	0.8+	891130	046	(4.8-	2.7+)	910505	399	1.6-	0.5+
891121	095	0.1-	0.4-	910414	399	1.6+	0.3-	910505	399	1.0-	1.1+

1989 WL7 = 1974 DT = 1982 BW8

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 200.39122	(1950.0)	P	Q	
n 0.23780509	Peri. 274.66790	+0.84419869	-0.47613237	
a 2.5802113	Node 113.94453	+0.53246061	+0.79779567	
e 0.1205609	Incl. 15.62918	-0.06175976	+0.36989193	
P 4.14	H 12.0	G 0.15		

Residuals in seconds of arc

740216	095	0.0	1.1-	891122	808	0.1-	1.1+	891127	808	1.4-	0.8+
820119	095	0.5+	1.1+	891122	808	1.0-	0.9+	891204	808	1.7+	1.9-
820123	095	1.0-	0.5+	891127	808	0.7+	0.1+	891204	808	0.5+	2.0-

1989 YK8 = 1976 OT

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M 296.36293	(1950.0)	P	Q	
n 0.17720478	Peri. 158.47855	+0.16068649	+0.98195771	
a 3.1392008	Node 120.64479	-0.92158878	+0.18542944	
e 0.0797636	Incl. 6.65421	-0.35334681	-0.03708070	
P 5.56	H 11.6	G 0.15		

Residuals in seconds of arc

760727	095	0.3+	1.4+	891223	399	2.0+	0.1-	900101	511	0.6-	0.7+
760801	095	0.3-	1.4-	891231	399	0.4+	0.4-	900102	511	0.1+	0.1-
891223	399	0.2-	1.0-	891231	399	1.6-	0.2-				
891223	399	1.3-	0.0	891231	399	1.2+	1.4+				

1990 KC1 = 1977 CE3 = 1984 YK5

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

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 190.15393	(1950.0)	P	Q	
n 0.23945487	Peri. 59.23490	-0.95909486	-0.16058581	
a 2.5683464	Node 110.64697	+0.08476332	-0.94865529	
e 0.0922627	Incl. 14.42608	+0.27009670	-0.27251666	
P 4.12	H 13.5	G 0.15		

Residuals in seconds of arc

770212	675	0.0	0.0	900520	413	1.5+	0.5+	900526	413	0.8+	1.6-
770213	675	0.0	0.0	900520	413	1.2+	0.8+	900529	413	1.2-	0.7+
841228	095	0.0	0.1-	900526	413	2.4-	0.5-	900529	413	(3.8+	1.8+)

1990 OE4 = 1981 TG3 = 1981 UU19

Id. G. V. Williams, N. S. Chernykh (d)

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 103.87477	(1950.0)	P	Q	
n 0.21359802	Peri. 113.53703	+0.80427898	+0.59071027	
a 2.7716469	Node 210.37362	-0.58116758	+0.75913228	
e 0.3057476	Incl. 7.36094	-0.12401436	+0.27345854	
P 4.61	H 14.0	G 0.15		

Residuals in seconds of arc

811006 095	2.3-	0.9-	900728 675	0.2-	0.8+	900920 675	0.4+	1.0-
811027 095	2.1+	1.9+	900728 675	0.1+	0.5+	900920 675	0.2-	1.3-
900726 675	0.1-	0.2-	900730 675	0.4-	0.6-			
900726 675	1.0+	0.5+	900730 675	0.4-	0.7+			

1990 QG2 = 1979 SZ12
Id. S. J. Bus
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Bowell

M 12.70729	(1950.0)	P	Q	
n 0.17792495	Peri. 262.78859	+0.35885169	-0.93139390	
a 3.1307242	Node 165.71335	+0.92386870	+0.34510271	
e 0.0971090	Incl. 14.33070	+0.13301163	+0.11579950	
P 5.54	H 11.9	G 0.15		

Residuals in seconds of arc

790920 675	0.0	0.2+	900914 675	0.4+	0.7+	900921 809	0.1-	0.2+
790921 675	0.0	0.1-	900914 675	0.9-	0.2-	900921 809	0.5+	0.2+
900822 675	0.2+	0.3+	900914 675	0.5+	0.3-	900922 809	0.2-	0.7+
900822 675	0.3+	0.3+	900919 675	0.3-	0.7-	900922 809	0.1+	0.7+
900828 675	0.5+	0.3-	900919 675	0.0	1.0-	900922 809	0.3+	0.4+
900828 675	(2.8+	1.7+)	900920 675	0.5-	1.2-			
900914 675	0.4-	0.2-	900921 809	0.4-	0.3+			

1990 QU5 = 1972 QR = 1980 GX1 = 1981 RB3 = 1986 TX17 = 1989 GU7
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M 121.89393	(1950.0)	P	Q	
n 0.22001506	Peri. 114.81388	+0.64765684	+0.76184268	
a 2.7174889	Node 195.56864	-0.71379716	+0.60130930	
e 0.1506983	Incl. 2.49347	-0.26652247	+0.24087934	
P 4.48	H 13.0	G 0.15		

Residuals in seconds of arc

720817 095	0.2+	2.1+	890412 809	0.8+	0.2+	900829 675	0.1+	1.3-
800408 675	1.2-	0.6+	890412 809	0.9+	0.3+	900829 675	0.3+	1.8-
800409 675	0.6-	0.5+	890412 809	0.9+	0.7+	900916 675	0.7-	0.7-
810902 095	1.0-	1.3+	900822 675	0.5-	0.7-	900919 675	2.2+	1.8+
861012 095	0.4-	2.1+	900822 675	0.7-	1.4-	900919 675	0.1-	1.2+

1990 QY7 = 1981 UC9 = 1981 UF21 = 1987 RZ4 = 1987 SJ20 = 1987 UD7
Id. H. Kaneda, N. S. Chernykh (d)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M 315.80800	(1950.0)	P	Q	
n 0.31117570	Peri. 194.40489	-0.96983882	-0.24147620	
a 2.1567457	Node 331.55519	+0.22995441	-0.86127342	
e 0.0326935	Incl. 3.99627	+0.08083085	-0.44709881	
P 3.17	H 13.8	G 0.15		

Residuals in seconds of arc

811024 095	(3.5+	6.0+)	900816 809	0.2-	0.8+	900826 809	1.1-	0.3-
811030 381	0.1+	0.7+	900816 809	0.4-	0.5+	900826 809	0.6-	0.0
811030 381	0.4-	0.6+	900816 809	0.6-	0.3+	900826 809	0.3-	0.2+
870902 095	(3.8+	2.5-)	900818 809	0.1+	0.5-	900913 675	0.4+	1.0+
870917 095	0.5+	2.0-	900818 809	0.4-	0.9-	900913 675	1.2+	0.2+
871023 095	0.9+	0.4-	900818 809	1.1+	0.6+			

1990 QA8 = 1990 RL8 = 1982 RB2
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 98.60644 (1950.0) P Q
n 0.24419225 Peri. 215.69317 +0.99753451 -0.06356558
a 2.5350205 Node 147.91249 +0.06998088 +0.93272039
e 0.2520082 Incl. 3.20909 -0.00525063 +0.35495364
P 4.04 H 15.4 G 0.15
Residuals in seconds of arc

820915	046	0.6-	1.6-	900816	809	0.1-	0.3+	900826 809 1.0- 1.2+
820915	046	0.6-	0.1+	900816	809	0.6+	0.2-	900915 809 0.2- 1.0-
820916	046	0.9-	0.0	900818	809	1.1+	0.5-	900915 809 0.3+ 0.6-
820916	046	1.3+	0.4+	900818	809	0.3-	1.3-	900915 809 0.9+ 0.2-
820917	046	0.9+	1.5+	900818	809	0.6-	1.7-	900916 809 (7.4- 17.1+)
820917	046	(4.7-	0.1-)	900826	809	0.9-	1.7+	900916 809 (7.2- 17.3+)
900816	809	1.4+	0.7+	900826	809	1.2-	1.2+	900916 809 (7.2- 17.3+)

1990 QC8 = 1939 CH1 = 1971 DT = 1979 OZ12 = 1986 NO
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 299.09474 (1950.0) P Q
n 0.27802513 Peri. 24.25919 -0.96357476 -0.26045388
a 2.3249485 Node 140.48662 +0.22710469 -0.91678883
e 0.1688486 Incl. 5.47664 +0.14123436 -0.30275737
P 3.55 H 14.2 G 0.15
Residuals in seconds of arc (or two decimals in units of degrees)

390208	024(0.03+	0.02-)X		860708	010	4.0+	1.5-	900818 809 0.2+ 0.3+
710218	095	1.1+	1.9+	900816	809	0.0	0.7+	900818 809 0.2- 2.0+
790726	675	2.5-	4.5+	900816	809	0.9-	0.1+	900826 809 0.4- 1.1-
790727	675	2.1+	1.9+	900816	809	0.2-	1.2-	900826 809 0.6- 1.1-
860707	010	3.5-	2.9-	900818	809	1.6+	1.0+	900826 809 0.8+ 0.3-

1990 QZ8 = 1976 UV12 = 1978 GE5
Id. H. Kaneda, K. Ichikawa
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda
M 26.26203 (1950.0) P Q
n 0.27534959 Peri. 327.01239 -0.06144996 -0.99704198
a 2.3399851 Node 126.46921 +0.92768998 -0.07411841
e 0.1202866 Incl. 3.29095 +0.36825969 +0.02034085
P 3.58 H 14.9 G 0.15
Residuals in seconds of arc

761022	381	0.3+	0.3+	900816	809	1.9+	0.5+	900818 809 1.3- 0.9+
761022	381	0.6+	0.0	900816	809	0.8+	0.8-	900826 809 0.1+ 1.0+
761024	381	0.6-	0.2+	900816	809	1.3+	1.6-	900826 809 0.3- 0.2+
761024	381	0.0	0.7-	900818	809	0.7-	0.7-	900826 809 0.4- 0.4+
780407	095	0.0	0.2-	900818	809	1.3-	0.2+	

1990 ST6 = 1979 SC13
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 112.86366 (1950.0) P Q
n 0.18043872 Peri. 216.05369 +0.77294613 +0.62975987
a 3.1015793 Node 104.72972 -0.56180324 +0.73586380
e 0.1456290 Incl. 4.57723 -0.29484131 +0.24881112
P 5.46 H 14.0 G 0.15
Residuals in seconds of arc

790920	675	0.1+	0.0	900915	809	0.1-	0.2-	900925 809 0.4+ 0.1+
790921	675	0.1-	0.1-	900922	809	0.1-	0.8+	900925 809 0.8+ 0.4-
900915	809	0.1+	0.1+	900922	809	0.1-	0.2-	900925 809 0.2- 0.5-
900915	809	0.3+	0.1-	900922	809	1.1-	0.5+	

1990 SU8 = 1980 PD4
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M 177.94523	(1950.0)	P	Q	
n 0.30067012	Peri. 141.82651	+0.43091007	+0.90102869	
a 2.2066961	Node 153.58985	-0.85291088	+0.42462862	
e 0.2087927	Incl. 6.40727	-0.29471942	+0.08853155	
P 3.28	H 14.4	G 0.15		

Residuals in seconds of arc

800804 675	0.1+	0.1+	900922 809	0.2+	0.7-	900925 809	0.9-	1.0+
800805 675	0.2-	0.1-	900922 809	0.3+	1.0-	900925 809	0.5-	0.5+
900914 809	0.2+	0.7+	900922 809	0.7+	0.8-	900925 809	1.0-	0.4+
900914 809	0.6-	0.1-	900924 046	1.7+	0.1+			
900914 809	0.0	0.1-	900924 046	(1.0+	3.4-)			

1990 VH1 = 1968 YD = 1979 VP2 = 1981 JU
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Urata

M 356.59450	(1950.0)	P	Q	
n 0.26287853	Peri. 109.93743	-0.91043846	-0.38047995	
a 2.4134185	Node 48.07710	+0.24800650	-0.81609488	
e 0.1442894	Incl. 12.59826	+0.33105072	-0.43499902	
P 3.75	H 12.5	G 0.15		

Residuals in seconds of arc

681223 095	0.3+	0.4-	901107 385	0.4-	0.2-	901111 385	0.9+	1.4+
791114 095	1.2-	1.5+	901107 385	(3.5+	4.4-)	901116 385	1.0+	0.6+
810505 688	1.8-	0.3+	901110 385	0.7+	1.9-	901116 385	1.4-	1.7+
810505 688	2.5+	1.2+	901110 385	0.4-	0.9-	901122 385	0.1+	0.2+
901026 385	1.7-	2.1-	901111 385	0.1+	0.5+	901122 385	1.3+	1.2+

1990 VF2 = 1981 WG8 = 1985 PW1 = 1987 BG3
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Urata

M 98.99804	(1950.0)	P	Q	
n 0.21248989	Peri. 190.20101	+0.95110986	-0.30869053	
a 2.7812746	Node 187.80123	+0.28829580	+0.89896453	
e 0.0839696	Incl. 4.22896	+0.11079513	+0.31076185	
P 4.64	H 12.5	G 0.15		

Residuals in seconds of arc

811125 095	0.0	0.3-	870130 010	1.1+	0.2-	901111 385	(1.6-	3.5+)
850814 010	0.4+	0.8-	870130 010	1.5-	1.3+	901111 385	1.3+	1.3-
850816 010	0.6-	1.6+	901110 385	0.8-	0.4+	901122 385	0.3+	0.3+
870130 010	0.4+	0.1-	901110 385	0.1-	0.2-	901122 385	0.6-	0.5+

1990 VS5 = 1973 AZ1
Id. E. Goffin
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 (J-P) Marsden

M 88.75142	(1950.0)	P	Q	
n 0.21429007	Peri. 314.49189	+0.60500440	-0.77566819	
a 2.7656818	Node 97.43091	+0.77223532	+0.51663722	
e 0.1524832	Incl. 10.44363	+0.19396464	+0.36252564	
P 4.60	H 13.5	G 0.15		

Residuals in seconds of arc

730101 095	0.8-	3.4+	901115 809	3.3-	0.7-	901121 809	0.9+	0.2+
730102 095	0.8+	3.3-	901117 809	2.2+	0.7-	901121 809	0.7+	0.6+
901115 809	1.8+	0.3+	901117 809	1.6+	0.7+	901121 809	0.8+	0.7+
901115 809	2.8+	0.1-	901117 809	0.6+	0.2+	901123 809	0.2+	0.2-
901115 809	1.4+	0.3-	901117 809	2.0-	0.1+	901123 809	0.1+	0.0
901115 809	2.4-	0.7-	901117 809	1.2-	0.1-	901123 809	0.5-	0.9-
901115 809	2.0-	0.6+	901117 809	1.6-	0.0			

1990 VL8 = 1973 UG1 = 1984 SX6
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano
M 108.01661 (1950.0) P Q
n 0.17410376 Peri. 236.73096 +0.97701110 +0.20880772
a 3.1763665 Node 111.18467 -0.17702183 +0.90697816
e 0.1594436 Incl. 2.64297 -0.11879641 +0.36577308
P 5.66 H 13.0 G 0.15
Residuals in seconds of arc

731026 095	0.7+	1.9-	840929 809	1.2+	0.5-	901117 372	1.3+	0.4+
840928 809	0.2-	0.1+	840930 809	1.0-	0.9+	901117 372	2.0-	1.2+
840928 809	0.1-	0.4-	840930 809	0.9-	0.9+	901123 372	1.0-	1.2-
840928 809	0.1+	0.5-	840930 809	0.9-	0.8+	901123 372	1.0+	0.6-
840929 809	0.7+	0.4-	901114 372	0.0	2.5+			
840929 809	1.0+	0.5-	901114 372	0.1+	0.5-			

1990 XM = 1974 VS1 = 1977 RJ20
Id. H. Kaneda
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Urata
M 156.96655 (1950.0) P Q
n 0.30975481 Peri. 257.86607 +0.97749380 -0.20761690
a 2.1633361 Node 114.10721 +0.20597089 +0.90084099
e 0.1736178 Incl. 2.35023 +0.04562745 +0.38128826
P 3.18 H 13.5 G 0.15
Residuals in seconds of arc

741115 095	0.1-	0.4+	901208 400	0.9+	0.4+	901216 400	0.2-	1.4+
770909 675	0.0	0.3+	901208 400	2.6+	1.5+	901220 400	2.6-	0.2+
770910 675	0.2-	0.0	901213 400	0.4-	1.5-	901220 400	1.2-	1.0+
901111 885	0.1-	0.2-	901213 400	0.7-	2.3-			
901111 885	0.0	2.1-	901216 400	1.5+	1.1+			

1991 CY = 1978 EK4 = 1980 RM5
Id. E. Bowell (k), G. V. Williams
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams
M 64.93819 (1950.0) P Q
n 0.22965304 Peri. 226.60626 -0.90701243 -0.39168284
a 2.6409160 Node 289.78604 +0.41799039 -0.79283272
e 0.1213305 Incl. 9.45892 +0.05111256 -0.46690559
P 4.29 H 12.5 G 0.15
Residuals in seconds of arc

780306 095	0.3-	0.6-	910209 885	1.2+	0.8+	910217 385	0.2-	0.2-
800913 675	0.2-	0.2+	910209 885	1.1-	0.2+	910217 385	0.2-	0.7+
800914 675	0.1+	0.1-	910211 385	0.7+	0.9-			

1991 DA
Epoch 1991 Mar. 5.0 ET = JDE 2448320.5 Williams
M 2.20354 (1950.0) P Q
n 0.02407806 Peri. 191.23686 -0.74068761 -0.20187808
a 11.8774090 Node 313.40490 +0.66425452 -0.07703689
e 0.8671110 Incl. 61.88706 +0.10073626 -0.97637624
P 40.93 H 13.5 G 0.15
From 28 observations 1991 Feb. 18-Apr. 15.

1991 EE
Epoch 1991 Mar. 25.0 ET = JDE 2448340.5 Marsden

M	323.13595	(1950.0)	P	Q
n	0.29320454	Peri. 115.03739	+0.23642564	+0.97105898
a	2.2439969	Node 168.48370	-0.94136351	+0.23755312
e	0.6238729	Incl. 9.76832	-0.24070241	+0.02475836
P	3.36	H 17.5	G 0.15	

From 30 observations 1991 Mar. 13-May 10.

1991 EE1 = 1955 SJ2 = 1979 VA2 = 1979 YB1 = 1982 SD11 = 1982 UA12
Id. H. Kaneda, N. S. Chernykh (d)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	277.11167	(1950.0)	P	Q
n	0.29118310	Peri. 327.85868	+0.95020644	+0.30869929
a	2.2543704	Node 14.34828	-0.23695541	+0.80448642
e	0.0661386	Incl. 9.89211	-0.20238541	+0.50745083
P	3.38	H 12.2	G 0.15	

Residuals in seconds of arc

550923	024	4.0+	6.4-	910315	400	0.3+	1.2-	910402	400	0.2-	2.0+
791114	095	3.2-	0.1-	910315	400	(4.6+ | 0.5-)	910411	400	(3.0- | 0.5-)
791217	095	2.6+	1.2+	910321	400	(0.4-	4.2-)	910411	400	2.6-	0.4-
820927	095	1.5-	1.1+	910321	400	0.5+	2.7-				
821022	095	0.7-	2.8+	910402	400	0.4+	0.1-				

1991 FA
Epoch 1991 Mar. 25.0 ET = JDE 2448340.5 Marsden

M	53.54446	(1950.0)	P	Q
n	0.35387551	Peri. 91.49931	+0.33252590	-0.94289860
a	1.9795617	Node 339.04720	+0.84246800	+0.30613614
e	0.4467652	Incl. 3.07823	+0.42387992	+0.13123602
P	2.79	H 17.5	G 0.15	

From 16 observations 1991 Mar. 17-Apr. 18.

1991 FB
Epoch 1991 Mar. 25.0 ET = JDE 2448340.5 Marsden

M	347.73601	(1950.0)	P	Q
n	0.27049175	Peri. 218.29810	-0.55113411	+0.83288859
a	2.3679182	Node 18.42946	-0.72075160	-0.44470605
e	0.5622065	Incl. 9.18738	-0.42043825	-0.32944366
P	3.64	H 18.5	G 0.15	

From 16 observations 1991 Mar. 18-Apr. 21.

1991 FE = 1970 RA
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	164.22104	(1950.0)	P	Q
n	0.30329424	Peri. 231.04295	+0.71980901	-0.69412221
a	2.1939494	Node 172.90030	+0.65588926	+0.67613444
e	0.4549635	Incl. 3.86340	+0.22734177	+0.24705581
P	3.25	H 14.9	G 0.15	

Residuals in seconds of arc

700908	323	0.4+	0.3-	910318	691	0.0	0.1-	910405	691	0.2+	0.7+
700908	323	0.4+	0.2-	910318	691	0.0	0.0	910405	691	0.2+	0.1+
700909	323	0.3-	0.4+	910318	691	0.3+	0.1-	910418	691	0.1+	0.2-
700909	323	0.4-	0.1+	910320	691	0.0	0.1+	910418	691	0.1-	0.1-
910318	691	0.2-	0.4-	910320	691	0.2-	0.2+	910418	691	0.3-	0.3-
910318	691	0.1-	0.1+	910320	691	0.1+	0.3+				
910318	691	0.2-	0.1-	910405	691	0.1+	0.1-				

1991 FF
Id. R. H. McNaught (1987 obs.)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	53.74588	(1950.0)	P	Q	
n	0.17033948	Peri.	198.31519	-0.99192191	-0.05089062
a	3.2229915	Node	337.77131	+0.11391818	-0.76031044
e	0.0611504	Incl.	17.88723	-0.05579943	-0.64756326
P	5.79	H	13.0	G 0.15	

Residuals in seconds of arc

871018	413	0.0	0.0		910321	413	0.5-	0.4-	910507	413	0.1-	0.4+
910318	413	0.3+	0.8-		910406	413	0.1-	0.2-				
910319	413	0.1+	1.7+		910413	413	0.3+	0.6-				

1991 FM = 1952 DS1 = 1978 EX9 = 1981 CQ = 1989 SF8
Id. S. Nakano, K. Ichikawa
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	87.25884	(1950.0)	P	Q	
n	0.30472616	Peri.	199.21066	-0.99754763	-0.06686347
a	2.1870711	Node	336.92586	+0.06911433	-0.89440772
e	0.0618169	Incl.	3.02583	+0.01104209	-0.44222631
P	3.23	H	13.6	G 0.15	

Residuals in seconds of arc

520219	711	3.0+	5.7+	Y	890928	675	0.9+	0.4-	910319	894	0.3-	2.1+
780315	675	1.8-	1.2-		890928	675	0.4-	0.4+	910319	894	0.9-	1.9+
780316	675	1.1-	1.6-		890929	675	0.7+	2.1-	910320	894	0.8+	0.7-
810208	688	0.2+	2.4-		890929	675	0.8-	0.6+	910323	894	1.1+	0.1+ Y
810208	688	1.4-	1.5-		910317	894	0.7+	0.3-	910415	894	1.4-	2.0-
890927	675	0.1-	0.7+		910317	894	0.9+	1.4-				

1991 FV = 1973 YN1 = 1982 QZ3 = 1988 SL4 = 1989 YR5
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	281.18788	(1950.0)	P	Q	
n	0.18899459	Peri.	41.95740	+0.59106109	+0.78938956
a	3.0072518	Node	264.93818	-0.77724219	+0.50236331
e	0.0766786	Incl.	9.58517	-0.21573447	+0.35283882
P	5.22	H	10.9	G 0.15	

Residuals in seconds of arc

731220	095	1.0+	1.8-		891229	511	1.1-	0.1+	910317	675	0.5+	0.1+
820818	808	0.3-	2.1-		891230	511	1.9-	0.8-	910318	675	1.8+	0.0
820818	808	0.4-	1.6-		891230	511	0.5+	0.8+	910318	675	0.9+	0.0
880916	095	0.7-	1.7+		900104	511	0.2-	0.8-	910412	413	0.3+	0.2+
880916	095	2.4+	2.8+		900104	511	0.1-	0.8-	910412	413	0.8-	0.0
891229	511	2.0-	0.5+		910317	675	0.2+	0.2+				

1991 FF1 = 1976 SM7 = 1978 EW7
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	158.51974	(1950.0)	P	Q	
n	0.23425581	Peri.	265.97401	+0.19513878	-0.98025260
a	2.6062084	Node	172.53928	+0.96892138	+0.18761577
e	0.1595678	Incl.	14.27931	+0.15202701	+0.06249130
P	4.21	H	12.2	G 0.15	

Residuals in seconds of arc

760925	095	1.3-	0.1+		910321	400	1.0-	0.7+	910402	400	0.0	0.0
760928	095	1.2+	0.3+		910321	400	(1.5-	3.6+)	910409	400	1.2+	0.5-
780305	095	0.0	0.2+		910402	400	0.2-	0.2+	910409	400	(1.2-	3.8-)

1991 GK
Epoch 1991 Mar. 25.0 ET = JDE 2448340.5 Marsden

M	6.63415		(1950.0)	P	Q
n	0.26060558	Peri.	149.61400	-0.96793383	-0.19579357
a	2.4274311	Node	20.93077	+0.01772140	-0.67816629
e	0.4085189	Incl.	26.13892	+0.25057942	-0.70834692
P	3.78	H	20.0	G 0.15	

From 12 observations 1991 Apr. 9-17.

1991 GO
Epoch 1991 Apr. 14.0 ET = JDE 2448360.5 Williams

M	20.17150		(1950.0)	P	Q
n	0.35922735	Peri.	88.55094	-0.38338503	-0.92098975
a	1.9598513	Node	24.35608	+0.76644943	-0.35908934
e	0.6618867	Incl.	9.66494	+0.51533599	-0.15110504
P	2.74	H	19.0	G 0.15	

From 14 observations 1991 Apr. 11-20.

1991 GY = 1969 EU1 = 1979 SE10
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	20.50744		(1950.0)	P	Q
n	0.22663906	Peri.	244.16732	-0.19789279	+0.97916363
a	2.6642780	Node	14.63684	-0.82228628	-0.14052032
e	0.2364956	Incl.	10.39050	-0.53355760	-0.14660363
P	4.35	H	12.6	G 0.15	

Residuals in seconds of arc

690313	095	0.4- 0.8+	910414	400	0.8+ 0.4+	910421	896	0.6- 0.7+
690314	095	0.1+ 1.3-	910414	400	1.3+ 0.6+	910421	896	0.9- 0.9+
790928	095	0.6+ 1.0-	910415	896	(3.1- 2.4-)Y	910502	896	1.4- 1.7- Y
910411	896	1.2+ 0.4+	910415	896	0.1- 0.8- Y	910502	896	0.3+ 0.4+ Y
910411	896	0.8- 1.2-	910416	400	(0.5- 7.2+)			

1991 HD = 1975 JE = 1981 EM48 = 1982 TY2
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Nakano

M	33.30592		(1950.0)	P	Q
n	0.30791123	Peri.	148.67221	-0.10652168	+0.99169755
a	2.1719627	Node	115.12695	-0.92788691	-0.07310918
e	0.1413376	Incl.	4.56354	-0.35732199	-0.10578760
P	3.20	H	13.2	G 0.15	

Residuals in seconds of arc

750511	095	0.3+ 1.1+	910416	402	0.9+ 0.8+	910421	402	0.5- 0.4-
810301	095	0.7+ 1.8+	910416	402	1.0+ 0.9+	910505	402	0.4+ 0.4-
821014	095	0.7- 2.6+	910419	402	0.9- 0.2+	910505	402	0.4+ 1.0-
821015	095	(3.9+ 7.6+)	910419	402	1.2- 0.1+			
821021	095	0.6- 0.7+	910421	402	0.2+ 0.4+			

1991 JR
Epoch 1991 May 4.0 ET = JDE 2448380.5 Marsden

M	334.63693		(1950.0)	P	Q
n	0.59038360	Peri.	206.87057	-0.06815932	+0.98602507
a	1.4072779	Node	59.57165	-0.88067503	+0.01213289
e	0.2615904	Incl.	10.15425	-0.46879185	-0.16615462
P	1.67	H	23.0	G 0.15	

From 14 observations 1991 May 8-12.

1991 JT = 1983 JN = 1983 LA1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	23.42712	(1950.0)	P	Q
n	0.23830808	Peri. 359.29621	-0.48153125	+0.86468756
a	2.5765794	Node 241.90897	-0.80327413	-0.50067525
e	0.2138135	Incl. 9.32714	-0.35054006	-0.04049355
P	4.14	H 12.5	G 0.15	

Residuals in seconds of arc

830506	688	0.5+	0.1-	910210	413	0.2+	0.3-	910507	413	0.1+	0.8-
830506	688	0.1-	0.8-	910413	413	0.2-	1.3+	910510	413	0.4+	0.7-
830605	095	0.4-	0.9+	910413	413	0.3-	0.4+				

1991 JW
Epoch 1991 Apr. 14.0 ET = JDE 2448360.5 Marsden

M	214.76270	(1950.0)	P	Q
n	0.93218706	Peri. 301.84367	+0.98888951	+0.08562994
a	1.0378486	Node 53.52419	-0.01769410	+0.87941364
e	0.1180757	Incl. 8.69146	-0.14759561	+0.46829388
P	1.06	H 19.0	G 0.15	

From 9 observations 1991 Apr. 19-May 12.

6612 P-L = 1990 WF6 = 1990 WH7
Id. B. G. Marsden (k), G. V. Williams (d)
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Williams

M	179.67782	(1950.0)	P	Q
n	0.23399183	Peri. 148.64964	+0.76692897	+0.64164742
a	2.6081682	Node 171.41237	-0.60224870	+0.72525447
e	0.1388355	Incl. 4.00074	-0.22162232	+0.24958873
P	4.21	H 14.5	G 0.15	

Residuals in seconds of arc

600924	675	0.1+	0.3-	601026	675	0.0	0.1+	901122	809	1.4+	1.1+
600926	675	0.2-	0.4-	901117	809	0.4+	0.1+	901122	809	0.3-	0.7+
601017	675	0.5+	0.3+	901121	809	(6.7-	0.2-)	901122	809	0.5-	0.5-
601022	675	1.0-	0.3+	901121	809	(7.5-	0.1-)				
601024	675	0.5+	0.2+	901121	809	1.1-	1.5-				

3365 T-2 = 1990 QJ8
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	15.37295	(1950.0)	P	Q
n	0.17215296	Peri. 8.30644	+0.49110043	-0.87049485
a	3.2003174	Node 52.28698	+0.79679879	+0.43379844
e	0.1627855	Incl. 2.35771	+0.35203985	+0.23250298
P	5.73	H 13.5	G 0.15	

Residuals in seconds of arc

730919	675	0.6-	0.1-	730925	675	0.9+	0.5-	900818	809	0.2-	0.3+
730919	675	0.4-	0.3+	900816	809	0.8-	0.9+	900826	809	0.2-	0.9-
730920	675	0.2+	0.0	900816	809	0.3-	0.3+	900826	809	0.7+	0.5-
730924	675	1.2-	1.1+	900816	809	0.5-	0.1-	900826	809	0.5-	1.0-
730924	675	0.6-	1.2+	900818	809	1.5+	0.4+				
730925	675	1.6+	1.8-	900818	809	0.3+	0.3+				

4047 T-2 = 1980 GQ1
Epoch 1991 Dec. 10.0 ET = JDE 2448600.5 Kaneda

M	270.71360	(1950.0)	P	Q
n	0.21986623	Peri. 117.75472	-0.62289221	-0.78052174
a	2.7187151	Node 11.24708	+0.58781986	-0.51152937
e	0.1302598	Incl. 15.71616	+0.51621033	-0.35933761
P	4.48	H 13.3	G 0.15	

Residuals in seconds of arc

730919	675	0.8+	0.9-	730930	675	0.1+	0.2-	731004	675	1.2-	0.5+
730919	675	0.5-	0.5-	730930	675	0.4-	1.9+	731005	675	0.3+	1.3-
730920	675	0.0	0.5-	730930	675	0.7+	0.1+	731005	675	(2.6+	2.5+)
730924	675	0.2-	2.4+	730930	675	0.1+	0.7-	731005	675	1.0-	0.4-
730924	675	0.8-	0.4+	730930	675	0.1-	1.9+	731005	675	1.1+	0.2-
730925	675	0.4+	0.2-	730930	675	1.6+	0.4+	731005	675	(2.9+	0.8+)
730925	675	0.3-	0.2+	731004	675	0.1-	0.5-	731005	675	0.5-	0.0
730929	675	1.1+	1.7-	731004	675	1.2-	0.1-	800408	675	0.3+	0.4+
730929	675	(2.4+	3.0+)	731004	675	0.1+	0.5-	800409	675	0.3-	0.4-

5469 T-2 = 1980 RV5

Epoch 1991 Dec. 10.0 ET = JDE 2448600.5				Bowell	
M	302.10501	(1950.0)	P	Q	
n	0.27775857	Peri.	227.28380	-0.47620217	-0.87167547
a	2.3264358	Node	251.49425	+0.83822670	-0.41018495
e	0.0607587	Incl.	7.01512	+0.26572070	-0.26819802
P	3.55	H	13.8	G 0.15	

Residuals in seconds of arc

730929	675	0.1-	0.6-	731004	675	0.2-	0.1-	800913	675	0.2-	0.3+
730929	675	0.3-	0.1+	731004	675	0.4-	1.0+	800914	675	0.2+	0.3-
730930	675	0.1-	0.6+	731005	675	0.3+	0.5+				
730930	675	0.8+	0.3-	731005	675	0.2+	1.1-				

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NEW NAMES OF MINOR PLANETS.

(2097) Galle = 1953 PV

Discovered 1953 Aug. 11 by K. Reinmuth at Heidelberg.

Named in memory of Johann Gottfried Galle (1812-1910), famous German astronomer who in 1846 discovered the planet Neptune, the existence of which had been theoretically demonstrated by J. C. Adams and U. J. Leverrier. Galle studied mathematics and natural sciences in Berlin and was appointed staff astronomer at the Berlin Observatory by its director J. F. Encke. He then went to the University of Breslau and in 1851 became professor of astronomy and director of the Breslau Observatory. The discoverer of three comets within only three months in 1839-40, Galle was also known for his catalogues of cometary orbits that culminated with the definitive edition of 1894. In 1872, more than three decades before its realization, Galle proposed the use of minor planet observations for the determination of the solar parallax. He was also engaged in meteorological problems. Name suggested and citation prepared by L. D. Schmadel, endorsed by the Heidelberg-Konigstuhl Observatory.

(2458) Veniakaverin = 1977 RC7

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

Named in memory of the famous Soviet writer Veniamin Aleksandrovich Kaverin (1902-1989).

(2702) Batrakov = 1978 SZ2

Discovered 1978 Sept. 26 by L. V. Zhuravleva at the Crimean Astrophysical Observatory.

Named in honor of Yurij Vasil’evich Batrakov, deputy director of the Institute for Theoretical Astronomy, Leningrad, head of the Small Bodies of the Solar System Department and editor-in-chief of the annual Efemeridy Malykh Planet. Soon after joining ITA in 1955 he studied new classes of periodic solutions in celestial mechanics and application of the results to

minor planets and the rings of Saturn. Beginning in 1958 he worked extensively on the orbits of artificial satellites, including the development, with V. F. Proskurin, of a widely-used analytical theory of their motions, the use of radio measurements and of synchronous observations, and he was the pioneer in the determination of the earth's gravitational field from resonant satellites. He served as vice president of IAU Commission 20 during 1985-1988.

(2997) Cabrera = 1974 MJ

Discovered 1974 June 17 at the Carlos U. Cesco Observatory, El Leoncito.

Named in honor of Laurentino Ascencion Cabrera (1917-), an outstanding Argentine astronomer, long on the staff of the La Plata Observatory. His early research involved gravimetry, and from 1949 to 1952 he also worked for the International Latitude Service. From 1958 to 1969 he was in charge of the site-survey commission for the 2.15-m reflector of the Argentine National Observatory and since 1986 has been collaborating with that observatory.

(3305) Ceadams = 1985 KB

Discovered 1985 May 21 by A. C. Gilmore and P. M. Kilmartin at Mount John University Observatory.

Named in memory of Charles Edward Adams (1870-1945), New Zealand Government Astronomer and Seismologist 1912-36. Among his many innovations was the introduction of the P and Q coefficients for ephemeris computation. He began the transmission of radio time signals in New Zealand, pioneered the use of the cine-camera for astronomical timing and devised one of the first moon cameras for direct measurement of the moon's position against background stars. He was also noted for his contributions to seismology.

(3400) Aotearoa = 1981 GX

Discovered 1981 Apr. 2 by A. C. Gilmore and P. M. Kilmartin at Mount John University Observatory.

Usually taken to be the Maori name for New Zealand, although originally it referred only to the North Island. Commonly accepted to mean 'Land of the Long White Cloud', it is attributed to Hine-te-aparangi, wife of the legendary Maori navigator, Kupe. She is said to have called out 'He, ao' ('A cloud!') on sighting land when first arriving in the vicinity of the country, and Kupe used this declaration in naming the new land. The name is therefore particularly appropriate for this minor planet, the first to be discovered from New Zealand.

(3474) Linsley = 1962 HE

Discovered 1962 Apr. 27 at the Goethe Link Observatory, Indiana University.

Named in memory of Earl Garfield Linsley (1882-1969), professor of geography at Mills College, Oakland, California. He was the second director of the Chabot Observatory, serving from 1923 until his retirement in 1947. He nurtured several young astronomers who went on to distinguished research careers, including John W. Evans, Gibson Reaves, Elizabeth Roemer, Dorothy Locanthi and Elizabeth Scott. Name proposed by Norman Sperling with the concurrence of F. K. Edmondson.

(3520) Klopsteg = 1952 SG

Discovered 1952 Sept. 16 at the Goethe Link Observatory, Indiana University.

Named in memory of Paul E. Klopsteg (1889-1991), who died on 1991 Apr. 28, a month before his 102nd birthday. He left Northwestern University in 1951 to become the National Science Foundation's first assistant director

for mathematical, physical and engineering sciences. He was appointed to the new position of associate director in 1952 and retired in 1958. His many honors include election as president of the American Association for the Advancement of Science in 1959, two medals and an award from three different archery organizations and membership in the Archery Hall of Fame. During his time at the National Science Foundation he played an important role in the planning for the National Radio Astronomy Observatory and the Kitt Peak National Observatory. Name proposed by F. K. Edmondson.

(3521) Comrie = 1982 MH

Discovered 1982 June 26 by A. C. Gilmore and P. M. Kilmartin at Mount John University Observatory.

Named in memory of Leslie John Comrie (1893-1950), New Zealand-born innovator in computational science and authority on the production of mathematical tables. Superintendent of the British Nautical Almanac Office for six years from 1930, he applied calculating machines to astronomical computing. As president of IAU Commission 4 (Ephemerides) he initiated the annual "Apparent Places of Fundamental Stars" and saw adopted his earlier proposal for the use of standard equinoxes, the first being 1950. Though resident in Britain for most of his working life he actively fostered and assisted astronomy in New Zealand.

(3563) Canterbury = 1985 FE

Discovered 1985 Mar. 23 by A. C. Gilmore and P. M. Kilmartin at Mount John University Observatory.

Named for the province of New Zealand on the eastern side of the South Island. The name also honors Canterbury University, based in the city of Christchurch, of which Mount John University Observatory is a field station. The region was named after the Canterbury Association formed in England in 1848 with the purpose of organizing an idealized Anglican settlement in New Zealand.

(3754) Kathleen = 1931 FM

Discovered 1931 Mar. 16 by C. W. Tombaugh at the Lowell Observatory.

Named in honor of Kathleen Willoughby Clifford, granddaughter of the discoverer.

(3775) Ellenbeth = 1931 TC4

Discovered 1931 Oct. 6 by C. W. Tombaugh at the Lowell Observatory.

Named in honor of Ellen Elizabeth Willoughby, granddaughter of the discoverer.

(3810) Aoraki = 1985 DX

Discovered 1985 Feb. 20 by A. C. Gilmore and P. M. Kilmartin at Mount John University Observatory.

Aoraki, or Aorangi in northern dialects, is the Maori name for New Zealand’s highest mountain, 3764 metres high, also known as Mount Cook. The name is also given to the region in which Mount John lies, east of the mountain.

(3824) Brendalee = 1929 TK

Discovered 1929 Oct. 5 by C. W. Tombaugh at the Lowell Observatory.

Named in honor of Brenda Willoughby Anderson, granddaughter of the discoverer.

(3982) Kastel = 1984 JP1

Discovered 1984 May 2 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Named in honor of Galina Richardovna Kastel', well-known expert on the study of the motions of minor planets and comets, and a staff member of the Institute for Theoretical Astronomy since 1962. She contributed much to study of the 1886 close approach of periodic comet Brooks 2 to Jupiter. For more than a quarter of a century she has headed the ITA service on comets and fast-moving minor planets, maintaining contacts with the IAU Central Bureau for Astronomical Telegrams and supplying observers in the U.S.S.R. with the necessary information on orbits and ephemerides. She has also put much effort into the identification and orbit determination of minor planets observed in the course of the program at the Crimean Astrophysical Observatory, and the success of this program is in no small measure due to her help.

(4183) Cuno = 1959 LM

Discovered 1959 June 5 by C. Hoffmeister at Sonneberg.

Following the theme that several earth-approaching minor planets have four-letter masculine names, this object bears the first name of its discoverer.

(4230) van den Bergh = 1973 ST1

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

Named in honor of Sidney van den Bergh (1929-), Dutch-born Canadian astronomer, former director of the Dominion Astrophysical Observatory in Victoria, B.C. He was president of IAU Commision 50 from 1985 to 1988 and a vice president of the IAU during 1976-1982.

(4254) Kamel = 1985 UT3

Discovered 1985 Oct. 24 by C.-I. Lagerkvist at Kvistaberg.

Named in honor of Lars Kamel, planetary astronomer and meticulous compiler and analyzer of cometary brightness data, on the occasion of the defense of his doctoral dissertation on May 24. Kamel's analyses have been mainly directed toward interpretation of the nongravitational effects in cometary motions and elucidation of physical evolutionary effects in comets. Citation prepared by H. Rickman.

(4261) Gekko = 1989 BJ

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

Named for the observatory at which this minor planet was discovered. The name means "moonlight". Founded in 1957, the observatory belongs to the International Foundation for Cultural Harmony and is active in the education and popularization of astronomy.

(4293) Masumi = 1989 VT

Discovered 1989 Nov. 1 by Y. Oshima at the Gekko Observatory.

Named in honor of Masumi Furukawa (1917-), a board member of the International Foundation for Cultural Harmony and long an eminent popularizer of astronomy, mainly in Kyushu.

(4383) Suruga = 1989 XP

Discovered 1989 Dec. 1 by Y. Oshima at the Gekko Observatory.

Named for the district where the Gekko Observatory is located. Suruga is the old name of the central part of Shizuoka prefecture. The district is well known for its mild climate, and the view from the observatory covers the whole of beautiful Suruga Bay and its seashore.

(4403) Kuniharu = 1987 EA

Discovered 1987 Mar. 2 by Y. Oshima at the Gekko Observatory.

Named for a sister observatory that also belongs to the International Foundation for Cultural Harmony. The Kuniharu Observatory was founded in 1958 in Okazaki, Aichi prefecture, and is also active in the local popularization of astronomy.

(4510) Shawna = 1930 XK
Discovered 1930 Dec. 13 by C. W. Tombaugh at the Lowell Observatory.
Named in honor of Shawna Willoughby, granddaughter of the discoverer.

(4606) Saheki = 1987 UM1
Discovered 1987 Oct. 27 by T. Seki at Geisei.
Named in honor of Tsuneo Saheki, president of the Toa Astronomical Society. An observer of Mars, Saheki has extensive records of his results covering half a century.

(4639) Minox = 1989 EK2
Discovered 1989 Mar. 5 by T. Seki at Geisei.
Named in honor of the Minox club, a group of Japanese miniature-camera enthusiasts established in 1968. The discoverer is a member of the club, which holds an exhibition of still works and 9-mm movies each year in Tokyo.

(4650) Mori = 1950 TF
Discovered 1950 Oct. 5 by K. Reinmuth at Heidelberg.
Named in memory of Kiyoshi Mori (1906-1976), who calculated more than 400 circular, elliptical and parabolic orbits of minor planets and comets using an abacus and logarithm tables. After carrying out a statistical study of orbits of minor planets at Tokyo Imperial University in 1929 under the guidance of Hirayama, he was a professor of physics, mathematics and statistics at many high schools and colleges. Name proposed by H. Oishi, who found the identifications involving this minor planet.

(4722) Agelaos = 4271 T-3
Discovered 1977 Oct. 16 by C. J. van Houten and I. van Houten-Groeneveld at Leiden on Palomar Schmidt plates taken by T. Gehrels.
Agelaos was a shepherd, who got the order to expose the baby Paris, son of Priamus, king of Troy. He did not fulfill this order but raised and educated the boy. When Paris was still working for Agelaos as a shepherd, he had to give the 'judgment of Paris'.

(4754) Panthoos = 5010 T-3
Discovered 1977 Oct. 16 by C. J. van Houten and I. van Houten-Groeneveld at Leiden on Palomar Schmidt plates taken by T. Gehrels.
A member of the Trojan senate, Panthoos warned against a marriage of a Trojan prince and a Greek princess and felt that disaster for Troy was inevitable.

(4755) Nicky = 1931 TE4
Discovered 1931 Oct. 6 by C. W. Tombaugh at the Lowell Observatory.
Named in honor of Nichole Tombaugh, granddaughter of the discoverer.

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EPHEMERIDES.

Periodic Comet Shoemaker-Levy 3 (1991e) Elements MPC 18255

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1991	05 24	09 32.16	+11 18.6	2.930	2.928	79.9	19.9	18.0
1991	06 03	09 42.87	+10 24.1					
1991	06 13	09 54.37	+09 23.2	3.210	2.957	66.6	18.4	18.2

1991 06 23	10 06.52	+08 16.4					
1991 07 03	10 19.15	+07 04.3	3.469	2.989	54.1	16.0	18.5
1991 07 13	10 32.18	+05 47.4					
1991 07 23	10 45.49	+04 26.2	3.698	3.022	42.1	13.0	18.6
1991 08 02	10 59.03	+03 01.4					
1991 08 12	11 12.72	+01 33.6	3.888	3.058	30.4	9.7	18.8
1991 08 22	11 26.53	+00 03.4					
1991 09 01	11 40.41	-01 28.6	4.034	3.096	18.9	6.1	18.9

1991 FE a,e,i = 2.19, 0.45, 4 Elements MPC 18300

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 05 24	11 17.52	+05 55.4	2.307	2.765	106.1	20.6	19.9
1991 06 03	11 22.14	+05 29.4					
1991 06 13	11 28.32	+04 52.7	2.645	2.831	89.9	21.0	20.3
1991 06 23	11 35.81	+04 07.0					
1991 07 03	11 44.35	+03 13.9	2.981	2.892	75.1	19.9	20.6
1991 07 13	11 53.76	+02 14.7					
1991 07 23	12 03.89	+01 10.7	3.295	2.946	61.3	17.6	20.8

1991 JW a,e,i = 1.04, 0.12, 9 Elements MPC 18303

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 05 24	11 58.31	-01 57.9	0.142	1.088	118.6	54.8	16.9
1991 05 29	11 47.47	-05 48.8					
1991 06 03	11 38.84	-09 31.3	0.153	1.070	107.3	64.8	17.4
1991 06 08	11 32.05	-13 04.1					
1991 06 13	11 26.76	-16 27.5	0.165	1.051	97.8	73.3	17.8
1991 06 18	11 22.61	-19 42.4					
1991 06 23	11 19.21	-22 49.5	0.176	1.031	89.8	80.4	18.1
1991 06 28	11 16.18	-25 49.1					
1991 07 03	11 13.22	-28 41.1	0.184	1.011	83.0	86.6	18.4
1991 07 08	11 10.04	-31 25.5					
1991 07 13	11 06.40	-34 02.1	0.188	0.991	76.9	92.4	18.6
1991 07 18	11 01.98	-36 30.0					
1991 07 23	10 56.43	-38 47.2	0.189	0.972	71.5	97.9	18.9

1988 TJ1 a,e,i = 1.37, 0.17, 16 Elements MPC 18290

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 05 24	16 47.55	-00 48.0	0.602	1.584	156.9	14.5	19.2
1991 06 03	16 31.60	+02 51.0					
1991 06 13	16 16.02	+05 36.0	0.611	1.564	147.2	20.6	19.4
1991 06 23	16 03.35	+07 14.8					
1991 07 03	15 55.14	+07 51.3	0.683	1.538	128.5	31.2	19.9
1991 07 13	15 51.88	+07 37.0					
1991 07 23	15 53.44	+06 45.4	0.786	1.504	112.6	38.6	20.4

(4596) 1981 QB a,e,i = 2.24, 0.52, 37 Elements MPC 17003

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 05 24	20 48.62	+18 29.9	1.782	2.183	99.0	27.3	20.2
1991 06 03	20 54.67	+20 01.8					
1991 06 13	20 58.59	+21 23.4	1.467	2.058	110.7	27.5	19.6
1991 06 23	20 59.93	+22 26.8					
1991 07 03	20 58.27	+23 01.3	1.170	1.928	123.5	26.1	19.0
1991 07 13	20 53.15	+22 51.5					
1991 07 23	20 44.36	+21 36.1	0.910	1.792	137.0	22.8	18.1
1991 08 02	20 32.20	+18 49.6					
1991 08 12	20 17.63	+14 06.2	0.712	1.654	146.4	19.8	17.3
1991 08 22	20 02.55	+07 13.8					
1991 09 01	19 49.29	-01 29.6	0.608	1.516	137.7	26.6	17.0
1991 09 11	19 40.01	-11 11.8					

1991 09 21	19 36.34	-20 47.8	0.611	1.381	115.5	41.0	17.2
1991 10 01	19 39.05	-29 30.9					
1991 10 11	19 48.49	-37 02.7	0.679	1.259	95.4	52.1	17.6
1991 10 21	20 04.88	-43 22.8					
1991 10 31	20 28.33	-48 37.5	0.760	1.160	81.7	57.9	17.8
1991 11 10	20 59.18	-52 50.4					
1991 11 20	21 37.74	-56 01.0	0.818	1.097	74.1	60.0	17.9
1991 11 30	22 23.73	-58 02.9					
1991 12 10	23 15.93	-58 44.0	0.838	1.082	72.3	60.1	17.9
1991 12 20	00 11.59	-57 51.7					
1991 12 30	01 06.93	-55 15.2	0.822	1.118	75.9	58.6	17.9
1992 01 09	01 58.82	-50 49.2					
1992 01 19	02 45.68	-44 38.4	0.802	1.198	83.6	54.7	17.9
1992 01 29	03 27.32	-36 59.3					
1992 02 08	04 04.46	-28 22.9	0.828	1.308	91.8	48.9	18.0
1992 02 18	04 38.02	-19 33.2					
1992 02 28	05 08.79	-11 13.8	0.948	1.436	95.6	43.3	18.3
1992 03 09	05 37.44	-03 55.2					
1992 03 19	06 04.43	+02 09.1	1.168	1.573	92.9	39.2	18.9
1992 03 29	06 30.08	+07 00.0					
1992 04 08	06 54.61	+10 45.2	1.460	1.712	86.0	35.7	19.5
1992 04 18	07 18.18	+13 34.6					
1992 04 28	07 40.88	+15 38.4	1.793	1.849	77.1	32.1	20.0
1992 05 08	08 02.79	+17 04.8					

1984 KB a,e,i = 2.22, 0.76, 5 Elements MPC 12959

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1991 05 24		21 00.51	-11 38.4	1.985	2.485	-0.36	-0.5	20.1
1991 06 03		20 56.58	-11 40.4					
1991 06 13		20 49.60	-11 56.3	1.873	2.635	-0.47	-0.7	19.9
1991 06 23		20 39.76	-12 25.6					
1991 07 03		20 27.61	-13 05.8	1.827	2.773	-0.60	-1.0	19.6
1991 07 13		20 14.00	-13 53.5					
1991 07 23		20 00.06	-14 44.0	1.889	2.902	-0.69	-1.1	19.4
1991 08 02		19 46.99	-15 33.1					
1991 08 12		19 35.73	-16 17.8	2.075	3.020	-0.69	-1.0	20.1
1991 08 22		19 26.95	-16 56.4					
1991 09 01		19 20.91	-17 28.5	2.367	3.130	-0.62	-0.8	20.6

1991 FB a,e,i = 2.37, 0.56, 9 Elements MPC 18300

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 05 24		23 04.83	-42 37.4	0.251	1.053	92.4	73.9	18.2
1991 06 03		23 26.10	-40 01.4					
1991 06 13		23 37.34	-38 15.7	0.325	1.124	101.0	62.5	18.5
1991 06 23		23 40.52	-37 12.9					
1991 07 03		23 36.33	-36 41.9	0.382	1.236	116.6	47.4	18.7
1991 07 13		23 24.97	-36 29.3					
1991 07 23		23 07.39	-36 14.5	0.440	1.372	137.3	30.2	18.7
1991 08 02		22 46.02	-35 37.1					
1991 08 12		22 24.17	-34 26.5	0.536	1.520	156.4	15.5	18.9
1991 08 22		22 05.19	-32 44.0					
1991 09 01		21 51.11	-30 41.4	0.700	1.672	155.6	14.4	19.7
1991 09 11		21 42.38	-28 31.2					
1991 09 21		21 38.60	-26 21.4	0.936	1.822	139.9	20.8	20.7

1989 UR a,e,i = 1.08, 0.36, 10 Elements MPC 16434

Date	ET	R. A. (1950)	Decl.	Delta	r	Variation		V
1991 05 24		23 36.98	+14 33.2	0.196	0.938	+12.52	+93.8	18.3
1991 05 29		23 13.02	+17 01.0					

1991 06 03	22 50.82	+19 17.0	0.207	1.000	+5.22	+102.2		17.7
1991 06 08	22 29.64	+21 18.0						
1991 06 13	22 08.79	+23 00.7	0.219	1.062	-0.81	+96.2		17.4
1991 06 18	21 47.83	+24 20.5						
1991 06 23	21 26.61	+25 13.6	0.234	1.120	-5.64	+75.2		17.2
1991 06 28	21 05.30	+25 36.6						
1991 07 03	20 44.26	+25 27.7	0.252	1.175	-9.12	+43.1		17.1
1991 07 08	20 24.00	+24 46.6						
1991 07 13	20 05.11	+23 35.5	0.279	1.225	-10.77	+10.0		17.2
1991 07 18	19 48.17	+21 59.1						
1991 07 23	19 33.57	+20 04.1	0.316	1.271	-10.52	-13.7		17.4
1991 07 28	19 21.46	+17 57.3						
1991 08 02	19 11.82	+15 44.6	0.364	1.312	-9.08	-25.4		17.7
1991 08 07	19 04.51	+13 30.7						
1991 08 12	18 59.39	+11 19.2	0.423	1.348	-7.31	-28.2		18.1
1991 08 17	18 56.26	+09 13.0						
1991 08 22	18 54.90	+07 14.0	0.491	1.380	-5.72	-26.5		18.6

Periodic Comet Gunn — Elements MPC 11502

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1991 06 13		02 34.48	+09 19.7	4.638	3.942	42.0	9.9	19.3
1991 06 23		02 43.67	+10 03.9					
1991 07 03		02 52.23	+10 42.8	4.464	3.991	56.4	12.2	19.3
1991 07 13		03 00.05	+11 16.2					
1991 07 23		03 06.98	+11 43.8	4.244	4.039	71.6	13.8	19.2
1991 08 02		03 12.89	+12 05.7					
1991 08 12		03 17.62	+12 21.8	3.994	4.085	87.9	14.4	19.1
1991 08 22		03 21.01	+12 32.0					
1991 09 01		03 22.92	+12 36.6	3.740	4.130	105.8	13.6	19.0
1991 09 11		03 23.22	+12 35.5					
1991 09 21		03 21.84	+12 29.1	3.511	4.173	125.4	11.3	18.9
1991 10 01		03 18.80	+12 17.9					
1991 10 11		03 14.20	+12 02.6	3.344	4.215	146.7	7.5	18.9
1991 10 21		03 08.32	+11 44.6					
1991 10 31		03 01.55	+11 25.3	3.277	4.255	168.8	2.6	18.9
1991 11 10		02 54.37	+11 06.7					
1991 11 20		02 47.34	+10 50.7	3.331	4.294	165.3	3.4	18.9
1991 11 30		02 40.98	+10 39.4					
1991 12 10		02 35.71	+10 34.2	3.505	4.331	142.9	7.9	19.1
1991 12 20		02 31.84	+10 36.1					
1991 12 30		02 29.52	+10 45.4	3.774	4.366	121.3	11.1	19.3
1992 01 09		02 28.81	+11 02.0					
1992 01 19		02 29.67	+11 25.2	4.102	4.400	101.2	12.7	19.5
1992 01 29		02 31.99	+11 54.3					
1992 02 08		02 35.65	+12 28.3	4.450	4.433	82.6	12.7	19.7
1992 02 18		02 40.49	+13 06.3					
1992 02 28		02 46.37	+13 47.2	4.785	4.463	65.3	11.6	19.9
1992 03 09		02 53.15	+14 30.2					
1992 03 19		03 00.70	+15 14.4	5.081	4.492	49.1	9.6	20.1
1992 03 29		03 08.89	+15 59.1					
1992 04 08		03 17.62	+16 43.6	5.319	4.520	33.6	7.1	20.2

Periodic Comet Schwassmann-Wachmann 1 — Elements MPC 18255

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m2
1991 06 13		03 00.83	+25 37.4	6.675	5.837	31.8	5.3	(19.3)
1991 06 23		03 08.49	+26 13.9					
1991 07 03		03 15.75	+26 49.0	6.488	5.841	46.9	7.3	(19.2)
1991 07 13		03 22.50	+27 22.6					

1991 07 23	03 28.63	+27 54.4	6.241	5.846	62.7	8.9	(19.1)	
1991 08 02	03 34.03	+28 24.3						
1991 08 12	03 38.58	+28 52.1	5.954	5.850	79.3	9.8	(19.0)	
1991 08 22	03 42.15	+29 17.4						
1991 09 01	03 44.65	+29 39.9	5.649	5.855	96.8	9.9	(18.9)	
1991 09 11	03 45.96	+29 59.2						
1991 09 21	03 46.02	+30 14.6	5.357	5.859	115.5	8.9	(18.8)	
1991 10 01	03 44.82	+30 25.6						
1991 10 11	03 42.39	+30 31.4	5.112	5.864	135.3	6.9	(18.7)	
1991 10 21	03 38.85	+30 31.3						
1991 10 31	03 34.42	+30 25.1	4.951	5.869	155.5	4.0	(18.7)	
1991 11 10	03 29.37	+30 12.6						
1991 11 20	03 24.09	+29 54.4	4.900	5.874	169.1	1.8	(18.6)	
1991 11 30	03 18.93	+29 31.8						
1991 12 10	03 14.28	+29 06.1	4.972	5.879	154.9	4.1	(18.7)	
1991 12 20	03 10.44	+28 39.4						
1991 12 30	03 07.66	+28 13.4	5.156	5.884	134.2	6.9	(18.8)	
1992 01 09	03 06.08	+27 49.9						
1992 01 19	03 05.77	+27 30.2	5.423	5.889	113.8	8.8	(18.9)	
1992 01 29	03 06.74	+27 15.0						
1992 02 08	03 08.93	+27 04.7	5.737	5.894	94.3	9.6	(19.0)	
1992 02 18	03 12.27	+26 59.4						
1992 02 28	03 16.65	+26 58.7	6.060	5.899	76.0	9.4	(19.1)	
1992 03 09	03 21.95	+27 02.3						
1992 03 19	03 28.07	+27 09.5	6.360	5.905	58.7	8.3	(19.2)	
1992 03 29	03 34.89	+27 19.8						
1992 04 08	03 42.31	+27 32.4	6.611	5.910	42.4	6.6	(19.3)	

1991 05 14	17 05.60	-20 46.0	1.929	2.876	154.8	8.6	17.8	
- 7.18	-0.99	+ 5.0	+ 0.9	1988 VN	18291	- 9.24	+0.38	+ 7.6	- 0.5
1991 06 13	16 38.44	-20 24.5	1.850	2.855	169.9	3.6	17.5	

1991 06 13	18 34.88	-04 36.3	1.984	2.932	154.2	8.7	17.1	
- 7.82	-0.60	+ 20.8	- 7.1	1971 SX3	12007	- 7.72	+0.63	- 22.6	- 6.5
1991 07 13	18 09.30	-04 40.1	1.995	2.947	154.8	8.4	17.1	

1991 06 13	19 20.75	-35 49.6	1.288	2.232	151.1	12.7	16.0	
- 6.17	-1.61	- 61.1	+ 3.4	1975 SF1	18281	-10.13	+0.53	- 10.7	+11.3
1991 07 13	18 52.35	-37 52.1	1.244	2.235	162.7	7.8	15.8	

1991 07 13	19 33.22	-24 41.4	2.215	3.231	176.7	1.0	15.4	
- 8.83	-0.02	+ 11.8	+ 1.9	1989 AM1	18291	- 5.57	+1.00	+ 22.7	+ 1.3
1991 08 12	19 09.73	-23 48.3	2.352	3.253	147.7	9.6	16.0	

1991 07 13	19 41.94	-06 00.4	2.019	3.008	163.5	5.5	16.3	
- 7.71	-0.15	- 16.7	- 6.3	(4532)	16567	- 5.25	+0.90	- 42.7	- 2.0
1991 08 12	19 20.56	-07 37.4	2.104	3.019	149.1	9.9	16.6	

1991 07 13	19 43.72	-15 18.8	2.211	3.221	171.9	2.5	16.3	
- 7.71	-0.15	- 26.4	- 2.1	(4530)	16567	- 5.37	+0.86	- 29.2	+ 1.0
1991 08 12	19 22.26	-16 47.8	2.319	3.243	151.1	8.7	16.8	

1991 07 13	19 46.10	-25 59.2	1.795	2.807	173.7	2.3	16.1	
- 8.60	-0.28	- 15.8	+ 2.5	1986 RD5	16872	- 5.87	+1.10	+ 5.3	+ 3.6
1991 08 12	19 21.86	-26 16.8	1.853	2.776	149.8	10.6	16.5	

1991 07 13	19 47.53	-34 50.1	1.965	2.963	166.2	4.7	17.7	
- 9.97	-0.31	- 21.8	+ 6.6	2285 T-2	15571	- 7.08	+1.17	+ 20.7	+ 6.2
1991 08 12	19 19.22	-34 50.9	2.030	2.926	146.2	11.1	18.1	

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1991 07 13    19 47.17   -02 09.7    1.404    2.382   159.4     8.6    16.7
- 8.03  -0.41  - 31.6  -11.7  1981 EX21 13157  - 5.63  +1.15  - 82.8  - 4.1
1991 08 12    19 23.80   -05 15.3    1.396    2.324   149.1    12.9    16.8

1991 07 13    19 50.22   +21 16.8    0.948    1.823   136.3    22.7    16.8
- 9.60  -0.64  + 61.1  -28.5  1977 FT   13463  - 6.21  +1.66 -104.3  -21.8
1991 08 12    19 22.25   +19 59.6    0.933    1.791   133.9    24.1    16.7

1991 07 13    19 51.91   -19 58.0    1.965    2.977   173.3     2.3    18.1
- 9.20  -0.31  - 13.2  - 0.2  1981 EO8  10614  - 6.99  +0.98  -  6.8  + 1.8
1991 08 12    19 25.25   -20 31.6    2.015    2.946   151.6     9.4    18.5

1991 07 13    19 53.29   -19 15.6    2.004    3.015   172.8     2.4    18.2
- 8.41  -0.32  - 35.4  - 0.9  3145 T-2  14968  - 6.48  +0.91  - 28.9  + 2.5
1991 08 12    19 28.67   -20 58.3    2.053    2.988   152.4     9.0    18.5

1991 07 13    19 53.60   -24 17.1    1.730    2.741   173.0     2.6    16.7
- 8.63  -0.36  - 24.6  + 1.6  1977 RW6   9754  - 6.22  +1.08  -  5.7  + 3.8
1991 08 12    19 28.67   -25 06.4    1.785    2.720   151.6    10.2    17.1

1991 07 13    19 55.02   -10 35.8    1.499    2.499   166.5     5.5    17.0
- 9.29  -0.39  - 23.8  - 5.9  (4546)    16573  - 6.73  +1.15  - 43.3  - 0.4
1991 08 12    19 28.13   -12 26.4    1.552    2.493   152.1    11.0    17.3

1991 07 13    19 55.51   -10 59.6    1.346    2.347   166.7     5.7    18.0
- 8.20  -0.45  -  6.4  - 6.1  1981 EZ7  11044  - 5.77  +1.18  - 30.5  - 1.5
1991 08 12    19 31.53   -12 03.7    1.370    2.319   152.8    11.5    18.2

1991 07 13    19 56.26   -18 29.0    2.225    3.234   171.8     2.6    16.1
- 8.51  -0.31  - 14.4  - 0.8  1989 BT   15419  - 6.82  +0.83  - 11.7  + 1.4
1991 08 12    19 31.18   -19 12.2    2.267    3.204   153.1     8.2    16.4

1991 07 13    19 56.88   -23 07.8    2.255    3.266   172.5     2.3    17.1
- 8.11  -0.34  - 22.5  + 0.8  1976 YP1   9962  - 6.57  +0.81  -  9.6  + 3.0
1991 08 12    19 32.75   -23 59.9    2.283    3.218   152.8     8.3    17.4

1991 07 13    19 57.70   -10 55.2    1.802    2.800   166.4     4.9    17.9
- 8.53  -0.44  -  2.8  - 4.6  5069 T-2  15087  - 6.99  +0.92  - 22.2  - 1.5
1991 08 12    19 31.91   -11 38.3    1.790    2.731   152.8     9.8    18.1

1991 07 13    19 59.42   -09 59.9    1.062    2.062   165.4     7.2    15.2
- 8.75  -0.53  -  0.8  - 8.1  1988 VO1  14026  - 5.72  +1.40  - 33.4  - 2.1
1991 08 12    19 34.14   -11 02.2    1.108    2.064   153.3    12.8    15.5

1991 07 13    20 01.60   -30 43.0    1.369    2.373   168.0     5.1    16.0
-11.09  -0.68  - 35.4  + 5.8  1988 RP1  13693  - 8.47  +1.45  + 11.6  + 7.7
1991 08 12    19 28.33   -31 22.1    1.394    2.325   149.4    12.8    16.3

1991 07 13    20 01.83   -18 27.6    1.656    2.664   170.6     3.6    16.1
- 8.73  -0.43  -  7.0  - 1.2  1987 RP3  15248  - 6.72  +1.04  -  5.3  + 1.4
1991 08 12    19 35.93   -18 50.7    1.696    2.646   154.3     9.6    16.4

1991 07 13    20 01.16   -12 53.9    1.727    2.728   167.4     4.7    17.0
- 8.18  -0.39  - 23.5  - 4.2  1978 RM2  11142  - 6.30  +0.96  - 34.9  + 0.3
1991 08 12    19 36.96   -14 29.8    1.776    2.726   154.5     9.2    17.2

1991 07 13    20 02.01   -22 23.3    1.559    2.568   171.3     3.4    15.4
- 8.55  -0.48  + 14.4  + 1.2  1986 TL   15886  - 6.50  +1.10  + 25.3  + 1.8
1991 08 12    19 36.52   -21 24.8    1.575    2.526   154.1    10.1    15.7
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1991 07 13	20 02.82	+09 14.8	2.036	2.943	147.4	10.7	17.4
- 8.59	-0.39	- 28.8	-12.8	(4533)	16568	- 7.19	+0.82	- 92.1	- 6.8
1991 08 12	19 36.93	+06 02.2	2.032	2.929	146.2	11.1	17.4
1991 07 13	20 05.91	-10 47.4	0.868	1.869	165.0	8.1	15.1
- 7.91	-0.77	+ 6.6	- 8.7	1988 VJ	13862	- 5.43	+1.50	- 30.4	- 2.6
1991 08 12	19 41.68	-11 34.3	0.878	1.847	155.2	13.3	15.3
1991 07 13	20 09.44	-19 31.2	1.581	2.586	169.2	4.2	17.4
- 8.58	-0.53	- 19.1	- 1.0	1981 EZ18	11045	- 6.89	+1.03	- 12.7	+ 2.6
1991 08 12	19 43.37	-20 25.4	1.620	2.578	155.9	9.2	17.7
1991 07 13	20 10.99	-12 22.6	1.434	2.431	165.3	6.1	16.2
- 9.10	-0.62	- 14.8	- 5.2	1986 CQ1	13857	- 7.59	+1.08	- 31.6	- 0.2
1991 08 12	19 42.80	-13 41.4	1.447	2.408	155.8	9.9	16.4
1991 07 13	20 13.09	-34 30.7	1.570	2.562	163.6	6.4	17.9
-10.73	-0.72	- 3.6	+ 7.7	(4275)	15541	- 8.86	+1.27	+ 48.7	+ 7.6
1991 08 12	19 40.02	-33 22.9	1.572	2.505	150.6	11.4	18.1
1991 07 13	20 14.04	-40 22.1	1.543	2.518	158.9	8.4	18.0
-10.93	-0.88	- 26.4	+10.1	4017 P-L	6639	- 9.32	+1.37	+ 46.3	+11.2
1991 08 12	19 39.48	-39 54.2	1.523	2.434	146.7	13.2	18.1
1991 07 13	20 13.41	-10 38.9	1.734	2.724	163.7	6.0	17.8
- 9.61	-0.58	-110.6	- 6.7	1983 AC1	16231	- 8.49	+0.93	-116.9	+ 4.3
1991 08 12	19 43.48	-16 40.6	1.775	2.733	156.1	8.6	18.0
1991 07 13	20 14.36	-24 12.6	1.251	2.256	168.4	5.2	17.2
- 9.95	-0.67	- 28.4	+ 1.9	6626 P-L	16882	- 7.59	+1.33	- 2.1	+ 5.3
1991 08 12	19 44.34	-25 04.5	1.317	2.276	155.0	10.8	17.6
1991 07 13	20 13.49	-12 16.4	2.064	3.057	164.8	5.0	16.3
- 8.46	-0.40	- 11.2	- 3.6	(4540)	16570	- 7.18	+0.79	- 22.8	- 0.2
1991 08 12	19 47.84	-13 13.7	2.122	3.080	156.9	7.4	16.5
1991 07 13	20 15.30	-11 01.8	1.472	2.464	163.6	6.7	17.0
- 9.13	-0.59	- 24.0	- 5.9	(4586)	16866	- 7.62	+1.04	- 42.4	0.0
1991 08 12	19 47.15	-12 52.3	1.511	2.474	156.7	9.3	17.2
1991 07 13	20 13.61	-27 02.3	2.544	3.544	167.8	3.5	16.6
- 7.52	-0.40	- 46.8	+ 1.8	1977 AZ1	12448	- 6.70	+0.66	- 24.6	+ 4.8
1991 08 12	19 50.32	-28 55.1	2.597	3.540	154.8	7.0	16.8
1991 07 13	20 13.32	-18 12.0	2.261	3.262	168.0	3.7	16.2
- 7.24	-0.42	- 60.2	- 1.8	1983 AO2	16577	- 6.46	+0.67	- 54.5	+ 3.3
1991 08 12	19 50.75	-21 13.4	2.300	3.259	157.4	6.9	16.4
1991 07 13	20 18.21	-32 29.1	1.113	2.110	164.2	7.6	15.4
- 9.86	-0.97	- 27.6	+ 7.3	(4510)	16559	- 8.00	+1.50	+ 31.6	+ 9.6
1991 08 12	19 46.84	-32 27.2	1.127	2.079	152.3	13.1	15.6
1991 07 13	20 16.21	-16 55.4	1.478	2.478	166.8	5.4	17.8
- 7.87	-0.61	- 33.5	- 3.0	1981 ED28	10026	- 6.61	+0.99	- 33.4	+ 2.6
1991 08 12	19 51.55	-18 45.9	1.511	2.480	158.0	8.8	18.0
1991 07 13	20 18.15	-24 00.0	1.287	2.290	167.5	5.5	16.8
- 9.15	-0.89	- 35.3	+ 0.7	1969 TT1	9291	- 8.31	+1.18	- 11.1	+ 6.0
1991 08 12	19 48.13	-25 19.4	1.266	2.229	155.8	10.8	16.9

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1991 07 13    20 17.55   -30 22.7    2.395    3.388   165.5     4.3    17.9
- 8.54  -0.50  - 50.9  + 3.1  1983 WG    8540  - 7.81  +0.73  - 19.6  + 6.3
1991 08 12    19 50.74   -32 14.3    2.436    3.371   153.2     7.8    18.1

1991 07 13    20 17.15   +02 53.2    1.434    2.380   152.0    11.6    15.9
- 7.39  -0.70  + 11.4  -12.9  1953 UD   12316  - 6.87  +0.89  - 59.6  - 8.7
1991 08 12    19 52.83   +01 33.2    1.384    2.328   152.1    11.8    15.8

1991 07 13    20 21.33   -18 21.4    1.411    2.410   166.2     5.8    17.3
- 9.48  -0.64  - 38.2  - 1.8  (4364)    15864  - 7.82  +1.11  - 30.0  + 3.7
1991 08 12    19 52.15   -20 13.9    1.484    2.453   157.9     8.9    17.6

1991 07 13    20 20.70   -26 31.6    1.112    2.114   166.5     6.5    16.3
- 8.01  -1.04  - 44.8  + 1.6  1979 TT2  13164  - 7.53  +1.25  -  9.3  + 8.5
1991 08 12    19 53.16   -28 05.6    1.074    2.040   155.7    11.8    16.4

1991 07 13    20 22.72   -17 03.2    0.896    1.897   165.5     7.7    14.7
- 7.45  -0.91  - 92.5  - 5.2  1989 YF   16435  - 5.85  +1.36  - 78.0  + 8.5
1991 08 12    19 58.58   -21 44.3    0.956    1.937   159.1    10.8    15.0

1991 07 13    20 25.98   -17 47.2    1.551    2.546   165.0     5.9    16.5
- 9.40  -0.78  -  1.2  - 1.7  1988 VO2  16431  - 8.93  +0.94  -  0.5  + 1.5
1991 08 12    19 55.29   -17 55.5    1.532    2.504   158.9     8.4    16.5

1991 07 13    20 25.48   -06 38.7    1.411    2.387   158.7     8.9    16.2
- 7.24  -0.64  - 21.4  - 8.7  1246 T-2  14963  - 6.32  +0.91  - 55.0  - 1.8
1991 08 12    20 02.29   -08 46.1    1.454    2.428   159.3     8.5    16.3

1991 07 13    20 28.60   -26 06.5    1.756    2.750   164.8     5.5    16.9
- 9.18  -0.62  - 74.4  + 2.4  1982 DK   10828  - 8.09  +0.94  - 39.3  + 7.7
1991 08 12    19 59.83   -29 06.9    1.866    2.824   156.5     8.2    17.2

1991 07 13    20 31.15   -36 58.3    1.398    2.376   159.3     8.7    17.7
-10.24  -0.94  - 23.7  + 8.8  1990 GS   16587  - 9.01  +1.29  + 41.7  +10.2
1991 08 12    19 58.15   -36 33.8    1.432    2.374   151.7    11.7    17.9

1991 07 13    20 26.78   -19 13.9    1.968    2.963   165.2     5.0    15.8
- 7.20  -0.63  - 32.1  - 1.7  1986 QY4  14788  - 7.19  +0.66  - 27.8  + 2.8
1991 08 12    20 02.82   -20 52.1    1.935    2.909   160.3     6.8    15.8

1991 07 13    20 33.06   -01 43.2    1.861    2.809   153.8     9.2    16.7
- 7.22  -0.60  - 30.5  - 9.3  (4601)    17006  - 7.08  +0.66  - 70.9  - 3.2
1991 08 12    20 09.30   -04 26.5    1.864    2.833   158.9     7.4    16.6

1991 07 13    20 33.43   +02 14.8    1.074    2.022   150.5    14.3    16.0
- 5.35  -0.93  - 44.9  -18.0  1983 QE   16578  - 5.62  +0.89  -128.2  - 6.7
1991 08 12    20 13.61   -02 25.7    1.040    2.018   158.6    10.5    15.8

1991 07 13    20 34.85   +00 06.1    1.275    2.224   152.0    12.4    16.0
- 5.85  -0.86  - 40.4  -14.5  1987 SB1  15711  - 6.25  +0.78  -106.9  - 5.4
1991 08 12    20 13.67   -03 51.7    1.233    2.211   159.5     9.2    15.8

1991 07 13    20 43.51   -29 52.0    1.622    2.603   160.6     7.4    18.2
- 8.64  -0.90  - 27.6  + 3.6  1981 EB37 12785  - 8.79  +0.87  + 10.9  + 7.6
1991 08 12    20 14.10   -30 24.3    1.635    2.604   158.2     8.3    18.2

1991 07 13    20 39.99   -02 45.8    0.965    1.929   153.4    13.6    15.6
- 5.79  -1.14  -176.3  -22.3  1987 HS   13457  - 6.79  +0.93  -234.6  + 6.0
1991 08 12    20 17.29   -13 55.0    0.938    1.933   164.1     8.2    15.4
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1991 07 13    20 41.02   -15 43.4    2.189    3.167   160.9     6.0    16.3
- 6.64  -0.61  - 51.0  - 3.3  (4529)    16566  - 7.06  +0.50  - 53.3  + 2.4
1991 08 12    20 18.43   -18 30.3    2.183    3.171   164.3     5.0    16.2

1991 07 13    20 45.39   -15 01.6    0.919    1.905   159.6    10.7    14.9
- 7.76  -1.24  +  7.3  - 5.4  1987 DU6  16025  - 8.15  +1.15  -  8.3  + 0.3
1991 08 12    20 17.10   -15 13.6    0.924    1.919   164.2     8.3    14.8

1991 07 13    20 45.94   -13 56.7    1.547    2.522   159.1     8.3    17.9
- 8.20  -0.92  - 52.6  - 5.5  1990 EA   16436  - 8.95  +0.72  - 61.2  + 2.7
1991 08 12    20 17.18   -17 02.5    1.531    2.522   164.2     6.3    17.8

1991 07 13    20 42.22   -14 16.4    2.179    3.153   160.0     6.3    15.2
- 6.31  -0.63  - 79.6  - 4.6  1990 HF1  16588  - 6.93  +0.47  - 84.6  + 2.9
1991 08 12    20 20.33   -18 36.7    2.162    3.151   164.8     4.9    15.1

1991 07 13    20 55.04   -47 36.4    2.197    3.110   148.6     9.8    18.3
-12.79  -1.04  - 40.5  +10.5  1943 DF   17952  -12.68  +1.07  + 36.3  +12.4
1991 08 12    20 12.94   -47 46.2    2.251    3.132   144.5    10.8    18.4

1991 07 13    20 47.95   -19 44.3    1.178    2.163   160.4     9.1    16.7
- 7.27  -1.26  - 61.6  - 4.6  1988 WE   16698  - 9.14  +0.80  - 55.1  + 6.4
1991 08 12    20 19.52   -22 59.6    1.115    2.106   163.3     8.0    16.5

1991 07 13    20 49.18   -39 13.8    1.931    2.885   155.1     8.5    15.7
- 7.85  -0.91  - 62.2  + 6.5  (4521)    16563  - 8.46  +0.74  -  3.6  +11.1
1991 08 12    20 21.65   -41 00.9    1.971    2.900   151.1     9.7    15.8

1991 07 13    20 51.49   -18 34.1    1.129    2.111   159.4     9.8    17.0
- 8.37  -1.34  - 10.7  - 2.9  1985 SM3  14194  -10.21  +0.88  -  7.7  + 3.4
1991 08 12    20 19.50   -19 13.5    1.066    2.061   164.4     7.6    16.8

1991 07 13    20 49.04   -13 27.8    0.999    1.980   158.2    11.0    16.7
- 6.63  -1.29  - 15.9  - 7.3  1980 FT3  14344  - 8.26  +0.89  - 37.9  + 0.6
1991 08 12    20 22.68   -15 03.2    0.952    1.949   165.5     7.5    16.4

1991 07 13    20 46.82   -03 30.6    1.300    2.252   152.8    11.9    17.6
- 5.62  -1.02  - 23.4  -12.0  1981 EO34 12444  - 7.24  +0.61  - 81.6  - 5.3
1991 08 12    20 24.54   -06 20.5    1.209    2.198   163.1     7.7    17.2

1991 07 13    20 46.92   -02 17.0    1.757    2.697   151.9    10.2    16.0
- 5.84  -0.76  - 16.3  - 9.4  1985 JJ   16696  - 6.80  +0.50  - 61.8  - 4.5
1991 08 12    20 25.63   -04 23.0    1.698    2.681   162.2     6.6    15.8

1991 07 13    20 52.53   -18 20.0    1.276    2.255   159.1     9.3    17.4
- 7.95  -1.21  - 22.0  - 3.3  1981 SU2  10528  - 9.72  +0.76  - 20.2  + 3.6
1991 08 12    20 22.38   -19 36.1    1.214    2.209   165.0     6.8    17.2

1991 07 13    20 56.95   -28 15.5    1.913    2.882   158.2     7.5    16.4
- 7.97  -1.04  - 40.5  + 1.1  1941 UN   16019  -10.08  +0.47  - 11.6  + 7.6
1991 08 12    20 27.10   -29 45.8    1.805    2.782   160.8     6.9    16.2

1991 07 13    20 56.21   -14 35.6    1.089    2.064   157.1    11.1    15.9
- 6.93  -1.32  +  3.3  - 5.3  1988 US   14024  - 9.14  +0.76  - 12.8  + 0.3
1991 08 12    20 28.24   -15 00.1    1.023    2.023   166.9     6.5    15.6

1991 07 13    20 54.70   -23 37.3    2.005    2.977   159.2     7.0    18.4
- 6.23  -0.82  - 48.4  - 0.9  1975 VB1  18281  - 7.65  +0.43  - 33.8  + 5.3
1991 08 12    20 31.56   -25 52.1    1.947    2.935   164.1     5.4    18.2
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1991 07 13    20 59.28   -24 59.6    1.342    2.316   158.1     9.4    16.9
- 8.42  -1.11  - 48.7  + 0.7  3297 T-2  18133  - 9.28  +0.86  - 17.9  + 8.0
1991 08 12    20 29.08   -26 52.9    1.382    2.370   163.0     7.2    16.9

1991 07 13    20 58.59   -09 20.7    1.424    2.380   154.1    10.7    15.9
- 7.55  -0.98  - 15.8  - 7.4  (4437)    16218  - 8.60  +0.68  - 42.7  - 0.9
1991 08 12    20 31.31   -11 00.5    1.428    2.426   166.8     5.5    15.7

1991 07 13    21 00.64   -17 35.3    1.491    2.459   157.0     9.3    16.9
- 8.33  -1.06  - 28.0  - 3.2  1990 DM1  16879  - 9.71  +0.68  - 26.3  + 3.4
1991 08 12    20 30.37   -19 09.0    1.478    2.476   167.0     5.3    16.8

1991 07 13    20 58.17   -11 03.9    0.984    1.953   155.1    12.7    15.8
- 6.18  -1.43  + 18.9  - 7.3  (4323)    15685  - 9.10  +0.70  - 15.8  - 3.1
1991 08 12    20 31.32   -11 07.0    0.895    1.895   166.8     7.0    15.3

1991 07 13    20 57.28   -17 57.7    2.153    3.118   157.9     7.1    17.2
- 6.87  -0.72  - 50.7  - 2.6  1990 FM1  16437  - 7.86  +0.44  - 47.3  + 3.4
1991 08 12    20 33.04   -20 35.8    2.152    3.148   167.1     4.1    17.0

1991 07 13    20 59.27   -16 46.5    1.748    2.714   157.1     8.4    16.5
- 5.90  -0.88  - 32.2  - 3.7  1986 QA4  14476  - 7.45  +0.45  - 35.8  + 2.5
1991 08 12    20 36.80   -18 39.9    1.700    2.701   168.6     4.3    16.2

1991 07 13    21 02.40   -17 33.4    2.136    3.096   156.6     7.5    17.4
- 6.79  -0.80  - 21.5  - 2.4  1989 AE7  15894  - 8.27  +0.37  - 22.1  + 2.2
1991 08 12    20 37.66   -18 47.2    2.075    3.076   168.7     3.7    17.2

1991 07 13    21 04.59   -16 22.0    2.417    3.370   155.8     7.1    18.5
- 6.73  -0.71  - 39.4  - 2.9  (4578)    16864  - 8.09  +0.32  - 41.5  + 2.2
1991 08 12    20 40.46   -18 32.9    2.374    3.375   169.4     3.2    18.2

1991 07 13    21 06.82   -14 43.4    1.015    1.982   154.7    12.6    16.1
- 6.19  -1.37  - 70.5  - 8.0  1977 EL   16021  - 8.43  +0.75  - 77.4  + 5.8
1991 08 12    20 40.96   -18 50.9    1.020    2.025   169.4     5.3    15.8

1991 07 13    21 07.70   -09 39.8    1.509    2.456   152.4    11.1    17.5
- 7.22  -1.06  - 34.0  - 7.7  (4794)    18098  - 9.15  +0.52  - 59.4  - 0.1
1991 08 12    20 40.23   -12 14.0    1.477    2.480   169.2     4.4    17.2

1991 07 13    21 08.07   -14 26.9    1.504    2.460   154.3    10.3    17.5
- 7.22  -1.14  - 36.7  - 5.6  1978 TW2  14013  - 9.60  +0.48  - 48.2  + 2.1
1991 08 12    20 39.85   -16 48.7    1.442    2.446   169.6     4.3    17.1

1991 07 13    21 04.54   -13 36.8    0.830    1.803   154.8    13.9    17.3
- 4.51  -1.54  +  4.6  - 7.6  1978 VU10 15876  - 7.70  +0.71  - 22.3  - 0.3
1991 08 12    20 42.05   -14 16.9    0.776    1.783   170.1     5.6    16.8

1991 07 13    21 07.27   -19 10.4    2.036    2.992   155.8     8.0    17.6
- 6.87  -0.90  - 31.7  - 2.4  1987 RD1  14352  - 8.88  +0.34  - 28.6  + 3.3
1991 08 12    20 41.37   -20 51.2    1.952    2.953   168.8     3.8    17.3

1991 07 13    21 13.23   -50 18.7    2.128    3.015   144.6    11.3    16.2
- 8.93  -1.25  - 55.2  + 9.4  1969 TX5  13453  -10.81  +0.72  + 22.4  +14.1
1991 08 12    20 39.97   -51 16.6    2.156    3.028   143.1    11.6    16.3

1991 07 13    21 09.44   -15 07.8    1.803    2.754   154.3     9.2    17.1
- 7.39  -0.98  - 26.3  - 4.1  2416 T-3  13863  - 9.43  +0.41  - 33.6  + 1.8
1991 08 12    20 41.63   -16 48.6    1.743    2.747   170.0     3.7    16.7
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1991 07 13	21 07.36	-16 00.4	2.321	3.271	155.0	7.5	17.4		
- 5.91	-0.77	- 27.5	- 3.2	1981 UB1	13152	- 7.74	+0.24	- 33.1	+ 1.5
1991 08 12	20 45.01	-17 39.9	2.220	3.224	170.7	2.9	17.1		
1991 07 13	21 10.18	-12 03.1	1.805	2.750	152.9	9.7	16.2		
- 6.12	-0.90	- 36.2	- 5.7	(4479)	16410	- 7.93	+0.38	- 51.7	+ 0.9
1991 08 12	20 46.76	-14 27.1	1.774	2.780	171.3	3.2	15.9		
1991 07 13	21 09.30	-02 32.0	1.955	2.868	148.0	10.8	17.5		
- 5.46	-0.82	- 2.0	- 8.1	2093 P-L	15726	- 7.28	+0.29	- 43.2	- 4.6
1991 08 12	20 48.15	-03 46.3	1.882	2.875	165.6	5.0	17.2		
1991 07 13	21 12.96	-03 03.1	1.384	2.307	147.6	13.7	17.1		
- 6.19	-1.21	+ 2.5	-10.5	1988 UV	17207	- 9.31	+0.35	- 53.5	- 6.4
1991 08 12	20 46.83	-04 27.0	1.279	2.276	166.0	6.2	16.6		
1991 07 13	21 16.20	-10 21.9	1.662	2.597	150.9	11.0	18.5		
- 7.01	-1.10	- 25.7	- 6.8	1983 AW	18108	- 9.75	+0.33	- 50.0	- 0.5
1991 08 12	20 48.42	-12 27.1	1.576	2.582	171.2	3.4	18.0		
1991 07 13	21 13.22	-16 49.1	1.804	2.754	153.9	9.3	17.1		
- 5.86	-0.98	- 23.5	- 3.6	1982 UP2	14474	- 8.22	+0.31	- 28.1	+ 2.2
1991 08 12	20 49.72	-18 17.2	1.725	2.731	171.6	3.1	16.7		
1991 07 13	21 13.86	-10 41.4	1.869	2.805	151.5	10.0	16.6		
- 5.74	-0.92	- 27.0	- 6.1	(4516)	16561	- 7.94	+0.28	- 47.9	- 0.4
1991 08 12	20 51.13	-12 44.2	1.797	2.804	171.9	2.9	16.2		
1991 07 13	21 14.60	-17 47.3	2.141	3.086	153.8	8.3	16.2		
- 5.85	-0.82	- 23.3	- 2.6	1984 GR	14785	- 7.70	+0.28	- 23.9	+ 2.3
1991 08 12	20 52.23	-19 07.1	2.094	3.100	171.8	2.7	15.8		
1991 07 13	21 20.20	-26 30.9	1.151	2.109	153.3	12.5	16.2		
- 6.53	-1.68	- 23.1	+ 0.2	(4336)	15690	-11.32	+0.41	+ 11.0	+10.0
1991 08 12	20 49.57	-27 07.4	1.036	2.034	165.9	6.9	15.6		
1991 07 13	21 14.79	-06 13.7	1.666	2.591	149.1	11.6	17.5		
- 5.12	-1.07	- 10.5	- 8.3	1988 AA5	14621	- 8.44	+0.15	- 52.3	- 4.3
1991 08 12	20 52.20	-07 55.1	1.496	2.500	169.5	4.3	16.8		
1991 07 13	21 23.47	-46 44.6	2.362	3.252	145.6	10.2	16.6		
- 8.04	-1.16	- 51.2	+ 6.8	1975 VD9	16694	-10.59	+0.44	+ 12.2	+12.5
1991 08 12	20 52.57	-47 53.8	2.347	3.243	146.9	9.8	16.5		
1991 07 13	21 16.53	-01 29.5	1.308	2.224	145.9	14.8	17.1		
- 4.48	-1.24	+ 31.2	-10.1	1981 EH4	10768	- 8.25	+0.21	- 32.6	- 9.3
1991 08 12	20 54.79	-01 32.8	1.168	2.162	164.6	7.2	16.5		
1991 07 13	21 21.66	-13 56.8	1.553	2.492	151.1	11.4	17.6		
- 6.71	-1.21	- 3.7	- 4.8	5485 T-2	15259	- 9.95	+0.30	- 17.7	+ 0.4
1991 08 12	20 53.90	-14 38.5	1.457	2.466	173.0	2.9	17.1		
1991 07 13	21 19.89	-22 12.1	1.071	2.031	153.3	13.0	17.4		
- 5.05	-1.61	- 51.6	- 4.3	1971 UQ	12442	- 9.75	+0.36	- 39.1	+ 8.3
1991 08 12	20 54.07	-24 51.7	0.977	1.981	168.4	5.9	16.9		
1991 07 13	21 15.80	-01 53.8	1.958	2.860	146.3	11.4	16.4		
- 4.69	-0.84	- 12.6	- 8.7	1980 PB2	14015	- 6.87	+0.21	- 56.3	- 4.7
1991 08 12	20 56.52	-03 44.4	1.868	2.864	166.7	4.7	16.0		

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1991 07 13    21 18.88   -12 12.1    1.731    2.667   151.1    10.6    17.0
- 5.58  -1.04  - 22.7  - 5.9  1978 PY2  12443  - 8.43  +0.23  - 42.2    0.0
1991 08 12    20 55.54   -14 00.3    1.630    2.639   173.3     2.6    16.4

1991 07 13    21 20.14   -09 44.0    1.329    2.266   149.7    13.1    15.7
- 5.72  -1.28  + 34.9  - 5.9  1962 SR   15549  - 9.19  +0.32  +  3.6  - 3.7
1991 08 12    20 54.81   -08 50.2    1.233    2.239   170.6     4.3    15.1

1991 07 13    21 20.54   -09 46.9    2.087    3.009   149.6     9.8    18.6
- 6.44  -0.91  - 25.5  - 5.8  1982 FK3  16023  - 8.85  +0.21  - 47.0  - 0.7
1991 08 12    20 55.54   -11 45.0    1.994    3.002   172.5     2.5    18.2

1991 07 13    21 20.62   -24 39.5    1.576    2.526   153.3    10.4    16.2
- 5.44  -1.22  - 52.5  - 1.9  1987 UF5  15250  - 8.94  +0.25  - 34.6  + 7.4
1991 08 12    20 56.33   -27 07.5    1.482    2.479   166.7     5.4    15.8

1991 07 13    21 25.72   -23 30.5    1.476    2.422   152.1    11.3    17.5
- 6.97  -1.40  -  2.0  - 0.2  1983 RT3  12317  -10.98  +0.29  + 17.3  + 6.0
1991 08 12    20 55.69   -23 19.2    1.357    2.362   169.8     4.4    16.9

1991 07 13    21 26.05   -20 44.8    1.442    2.387   151.8    11.6    18.1
- 6.80  -1.35  - 40.5  - 3.2  1988 RR3  16582  -10.46  +0.33  - 31.7  + 5.9
1991 08 12    20 57.07   -22 50.0    1.372    2.378   170.4     4.1    17.6

1991 07 13    21 26.37   -44 14.2    1.397    2.314   146.5    14.0    15.8
- 5.33  -1.70  -108.4  + 6.8  1987 VT   16026  -10.10  +0.43  - 21.1  +19.5
1991 08 12    20 59.29   -47 51.9    1.376    2.295   147.1    13.9    15.8

1991 07 13    21 30.47   -16 55.5    1.439    2.375   150.0    12.4    17.4
- 6.66  -1.38  - 23.3  - 4.7  1985 UA   14195  -10.78  +0.23  - 28.9  + 3.1
1991 08 12    21 01.35   -18 28.0    1.341    2.352   174.0     2.6    16.8

1991 07 13    21 29.99   -17 17.4    1.535    2.469   150.2    11.8    16.6
- 6.86  -1.23  - 38.6  - 4.4  2562 P-L  15901  - 9.99  +0.34  - 39.7  + 4.0
1991 08 12    21 01.83   -19 30.3    1.502    2.512   173.5     2.6    16.2

1991 07 13    21 25.48   +01 02.6    2.098    2.970   142.6    12.0    16.9
- 5.58  -0.87  -  1.6  - 8.8  (4523)    16564  - 8.00  +0.16  - 49.2  - 5.9
1991 08 12    21 03.21   -00 18.8    2.005    2.993   164.2     5.3    16.5

1991 07 13    21 24.14   -10 22.4    2.185    3.102   149.1     9.7    16.8
- 4.75  -0.86  - 41.5  - 6.2  1970 PS   14470  - 7.34  +0.10  - 63.5  - 0.5
1991 08 12    21 04.26   -13 10.5    2.065    3.076   175.0     1.6    16.2

1991 07 13    21 28.00   -06 00.3    1.334    2.251   146.2    14.6    16.7
- 4.70  -1.32  + 10.7  - 9.0  1980 SJ   14015  - 9.03  +0.11  - 37.2  - 5.5
1991 08 12    21 04.77   -06 46.4    1.202    2.208   170.4     4.4    16.0

1991 07 13    21 31.03   -16 41.2    0.971    1.919   149.8    15.5    15.7
- 4.97  -1.68  +  1.9  - 5.3  1981 SY1  13855  - 9.60  +0.40  -  7.9  + 2.3
1991 08 12    21 05.33   -17 04.4    0.924    1.936   175.5     2.4    15.0

1991 07 13    21 31.80   -12 21.5    1.653    2.574   148.2    12.0    18.4
- 6.15  -1.14  - 32.7  - 6.3  1990 DK3  17444  - 9.29  +0.23  - 50.1  + 1.0
1991 08 12    21 06.12   -14 39.2    1.601    2.612   175.9     1.6    17.8

1991 07 13    21 26.94   +02 50.8    2.080    2.941   141.1    12.5    17.7
- 4.39  -0.93  - 16.1  -10.2  1981 QG1  10041  - 7.70  -0.03  - 76.3  - 8.3
1991 08 12    21 07.15   +00 28.8    1.860    2.847   163.7     5.7    17.1
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1991 07 13	21 34.34	-17 44.6	1.403	2.336	149.3	12.9	16.4		
- 6.57	-1.37	- 11.2	- 3.8	1990 CH	16240	-10.36	+0.30	- 13.1	+ 3.1
1991 08 12	21 05.88	-18 33.7	1.345	2.356	174.9	2.2	15.9		
1991 07 13	21 29.80	-06 57.5	1.732	2.639	146.3	12.3	17.7		
- 4.47	-1.09	- 22.0	- 8.4	1978 RN	15700	- 8.16	+0.03	- 60.9	- 3.3
1991 08 12	21 08.80	-09 11.1	1.577	2.586	173.0	2.8	17.0		
1991 07 13	21 29.95	-26 15.6	2.159	3.088	151.2	9.1	16.2		
- 4.60	-1.01	- 91.1	- 2.6	1979 KO	13691	- 8.05	+0.01	- 77.0	+ 7.2
1991 08 12	21 09.11	-30 45.9	2.045	3.033	164.3	5.2	15.9		
1991 07 13	21 35.49	-14 48.5	1.466	2.391	148.2	12.9	17.5		
- 5.63	-1.38	- 23.0	- 6.0	1988 UB	13862	-10.44	+0.03	- 39.1	+ 1.4
1991 08 12	21 08.79	-16 35.5	1.325	2.337	176.4	1.5	16.7		
1991 07 13	21 34.84	-27 24.5	2.446	3.365	150.0	8.7	17.4		
- 6.37	-0.96	- 56.7	- 0.5	(4577)	16863	- 9.37	+0.09	- 37.1	+ 6.6
1991 08 12	21 09.31	-29 58.4	2.359	3.349	165.1	4.5	17.1		
1991 07 13	21 32.21	-14 52.5	2.036	2.954	149.0	10.2	18.0		
- 4.78	-0.97	- 26.6	- 4.5	4657 P-L	14206	- 7.90	+0.06	- 38.0	+ 1.1
1991 08 12	21 11.31	-16 39.6	1.914	2.927	177.0	1.0	17.3		
1991 07 13	21 37.59	-08 54.7	1.675	2.578	145.5	12.9	18.0		
- 5.74	-1.19	- 15.9	- 7.4	2019 P-L	15901	- 9.59	+0.08	- 46.4	- 1.8
1991 08 12	21 12.25	-10 38.3	1.566	2.576	174.6	2.1	17.4		
1991 07 13	21 38.19	-12 59.9	1.692	2.604	147.0	12.3	16.6		
- 6.10	-1.19	- 18.8	- 5.6	(4494)	16415	- 9.80	+0.13	- 35.7	+ 0.6
1991 08 12	21 11.91	-14 33.0	1.602	2.615	177.3	1.1	15.9		
1991 07 13	21 32.27	-14 52.0	1.074	2.014	149.0	15.1	15.9		
- 2.64	-1.47	- 43.9	- 8.4	1983 TW1	12454	- 7.36	+0.15	- 62.9	+ 3.1
1991 08 12	21 14.28	-17 53.6	1.010	2.023	176.8	1.6	15.2		
1991 07 13	21 35.23	-25 03.5	0.893	1.845	150.0	16.0	15.5		
- 1.79	-1.80	- 80.0	- 5.1	1988 VD7	14201	- 8.27	+0.06	- 57.0	+13.0
1991 08 12	21 16.72	-29 02.8	0.814	1.814	166.2	7.6	14.9		
1991 07 13	21 42.61	-12 08.1	1.762	2.664	145.7	12.4	17.6		
- 5.20	-1.20	- 19.2	- 6.2	1969 TN4	14183	- 9.58	-0.06	- 41.3	- 0.4
1991 08 12	21 18.37	-13 49.3	1.606	2.620	178.1	0.7	16.7		
1991 07 13	21 40.42	-05 54.2	1.992	2.873	143.5	12.2	18.5		
- 4.95	-0.99	+ 17.8	- 6.2	3005 P-L	14627	- 8.17	+0.04	- 14.6	- 3.9
1991 08 12	21 18.85	-05 53.6	1.884	2.888	170.5	3.3	18.0		
1991 07 13	21 45.16	-14 05.9	1.239	2.156	145.8	15.4	15.8		
- 5.08	-1.57	- 5.6	- 6.4	(4491)	16414	-10.57	+0.03	- 25.0	+ 0.8
1991 08 12	21 18.75	-15 05.0	1.133	2.147	179.0	0.5	14.8		
1991 07 13	21 41.23	-11 32.9	1.564	2.472	145.8	13.4	16.2		
- 4.12	-1.21	- 23.4	- 7.1	1981 ED19	15407	- 8.28	+0.01	- 48.6	- 0.4
1991 08 12	21 20.37	-13 33.3	1.461	2.474	178.1	0.8	15.4		
1991 07 13	21 46.59	-17 21.2	1.401	2.316	146.3	14.1	16.7		
- 5.52	-1.40	- 40.4	- 5.2	(4371)	15867	- 9.79	+0.17	- 43.4	+ 4.4
1991 08 12	21 20.75	-19 44.7	1.368	2.380	175.6	1.9	16.1		

1991 07 13	21 46.38	-10 59.4	1.626	2.523	144.4	13.6	16.1
- 4.93	-1.30	+ 27.5	- 4.6	(4308)	15680	- 9.90	-0.13	+ 5.4	- 2.2
1991 08 12	21 21.99	-10 14.5	1.450	2.461	174.9	2.1	15.3
1991 08 12	21 23.37	-14 11.8	1.656	2.669	178.8	0.4	15.3
- 6.85	-0.04	- 98.7	+ 0.1	1987 YL1	16581	- 3.29	+1.10	- 69.9	+ 8.2
1991 09 11	21 06.06	-18 39.7	1.787	2.683	146.2	12.0	16.1
1991 08 12	21 27.20	-45 19.4	1.414	2.347	150.0	12.5	18.3
-16.62	-0.32	+ 7.6	+20.7	1984 SR	9584	- 9.55	+2.25	+120.0	+13.2
1991 09 11	20 43.18	-41 53.6	1.435	2.223	130.4	20.2	18.5
1991 08 12	21 27.05	-15 33.9	1.677	2.691	178.9	0.4	16.4
- 8.34	-0.05	- 34.5	+ 0.7	1982 ST6	13675	- 4.62	+1.15	- 14.6	+ 5.1
1991 09 11	21 05.40	-16 55.5	1.798	2.696	146.6	11.9	17.1
1991 08 12	21 28.87	-24 55.7	1.922	2.926	170.3	3.3	15.2
- 7.81	-0.07	- 64.8	+ 5.2	(4542)	16571	- 4.47	+1.06	- 20.0	+ 8.3
1991 09 11	21 08.37	-27 08.3	2.074	2.941	143.0	11.9	15.7
1991 08 12	21 33.10	-35 53.5	1.598	2.571	159.3	8.0	14.8
-12.08	-0.08	+ 9.1	+12.4	(4547)	16573	- 6.84	+1.56	+ 76.9	+ 8.3
1991 09 11	21 01.69	-33 36.6	1.708	2.549	138.3	15.2	15.2
1991 08 12	21 32.50	-05 46.5	1.287	2.292	170.1	4.4	16.7
-10.05	-0.32	- 21.7	- 5.9	1988 VZ3	14200	- 6.34	+1.42	- 33.7	+ 2.0
1991 09 11	21 04.69	-07 24.3	1.312	2.231	148.1	13.8	17.1
1991 08 12	21 36.16	-14 50.7	1.844	2.857	176.7	1.2	15.8
- 7.51	-0.22	- 43.8	- 0.3	1986 UA	11351	- 4.98	+0.99	- 27.1	+ 5.2
1991 09 11	21 15.20	-16 47.1	1.894	2.805	148.9	10.7	16.3
1991 08 12	21 37.22	-27 15.5	3.639	4.634	167.6	2.7	16.7
- 6.43	-0.08	- 27.3	+ 3.3	(4317)	15683	- 4.84	+0.58	- 1.5	+ 4.7
1991 09 11	21 19.10	-28 01.2	3.775	4.632	144.5	7.2	17.0
1991 08 12	21 39.76	-17 20.5	1.986	2.997	175.5	1.5	16.6
- 8.41	-0.17	- 41.6	+ 1.4	1989 AN1	14358	- 5.74	+0.98	- 18.2	+ 5.6
1991 09 11	21 16.42	-18 57.9	2.092	2.996	148.4	10.1	17.1
1991 08 12	21 41.19	-15 25.5	1.469	2.481	175.5	1.8	16.2
-10.19	-0.11	- 21.4	+ 1.1	1987 QS1	16025	- 6.02	+1.31	- 0.7	+ 4.9
1991 09 11	21 14.27	-16 05.5	1.620	2.536	148.9	11.8	17.0
1991 08 12	21 40.60	-15 24.8	2.048	3.059	175.7	1.4	17.2
- 7.72	-0.19	- 47.4	+ 0.3	1982 VY2	17433	- 5.34	+0.91	- 28.7	+ 5.2
1991 09 11	21 18.98	-17 28.0	2.141	3.052	149.5	9.6	17.7
1991 08 12	21 41.73	+05 31.3	1.697	2.666	158.6	8.0	17.1
- 7.54	-0.25	- 46.0	-10.6	3066 P-L	16438	- 5.06	+1.00	- 83.2	- 0.9
1991 09 11	21 20.53	+01 59.6	1.732	2.659	151.1	10.6	17.3
1991 08 12	21 43.53	-19 14.4	1.573	2.582	173.7	2.5	17.8
- 9.57	-0.19	- 49.4	+ 3.1	1979 HE3	11518	- 6.02	+1.22	- 13.6	+ 7.4
1991 09 11	21 17.53	-20 56.8	1.709	2.617	147.8	11.8	18.5
1991 08 12	21 42.58	+00 34.5	1.522	2.509	163.3	6.7	15.4
- 7.47	-0.36	- 18.3	- 8.8	1981 XH2	11344	- 5.16	+1.07	- 50.0	- 0.9
1991 09 11	21 21.01	-01 22.5	1.515	2.449	151.8	11.2	15.5

1991 08 12	21 43.70	-10 45.1	1.362	2.372	173.1	2.9	15.8		
- 8.41	-0.44	- 44.7	- 3.4	1974 QU1	8533	- 5.83	+1.23	- 38.4	+ 5.1
1991 09 11	21 19.26	-13 05.4	1.366	2.298	150.9	12.3	16.2		
1991 08 12	21 46.12	-12 04.5	1.726	2.735	173.4	2.4	16.6		
- 9.33	-0.31	- 42.0	- 1.5	1986 EZ1	14022	- 6.78	+1.07	- 30.1	+ 4.8
1991 09 11	21 19.40	-14 04.1	1.789	2.712	150.6	10.5	17.1		
1991 08 12	21 46.54	-10 21.8	1.230	2.238	172.3	3.5	16.5		
- 7.90	-0.31	- 29.7	- 3.0	1107 T-2	15256	- 4.55	+1.27	- 23.0	+ 4.6
1991 09 11	21 24.95	-11 54.8	1.314	2.255	152.5	11.9	17.1		
1991 08 12	21 47.47	-11 17.9	1.849	2.857	172.7	2.6	16.4		
- 7.76	-0.28	- 40.5	- 1.9	1982 UQ6	12941	- 5.62	+0.93	- 32.2	+ 4.2
1991 09 11	21 25.16	-13 18.0	1.909	2.839	152.2	9.5	16.8		
1991 08 12	21 47.04	-13 54.5	1.816	2.826	173.9	2.2	16.5		
- 7.04	-0.25	- 77.2	- 0.7	1986 QS3	16427	- 4.80	+0.93	- 55.7	+ 6.9
1991 09 11	21 27.11	-17 27.8	1.912	2.837	151.3	9.8	17.0		
1991 08 12	21 48.68	-08 38.0	1.064	2.071	170.7	4.5	16.0		
- 8.47	-0.49	- 54.9	- 5.5	1936 QV	10153	- 5.25	+1.43	- 51.6	+ 6.0
1991 09 11	21 24.55	-11 39.3	1.103	2.050	152.4	13.1	16.4		
1991 08 12	21 48.70	-09 04.2	1.694	2.700	171.1	3.3	16.6		
- 7.46	-0.36	- 43.2	- 3.6	1981 RM3	14347	- 5.52	+0.96	- 42.0	+ 3.8
1991 09 11	21 26.78	-11 25.5	1.711	2.648	153.0	9.9	16.9		
1991 08 12	21 48.43	+04 07.8	1.913	2.884	159.5	7.1	16.2		
- 6.90	-0.25	- 33.9	- 8.7	1984 HE1	11516	- 4.92	+0.85	- 64.6	- 0.9
1991 09 11	21 28.67	+01 25.7	1.964	2.899	153.2	9.0	16.4		
1991 08 12	21 51.46	-35 34.9	1.480	2.452	158.8	8.6	16.4		
-11.71	-0.18	- 2.9	+12.7	1986 EJ1	11855	- 6.89	+1.52	+ 68.7	+ 9.1
1991 09 11	21 20.42	-33 49.1	1.636	2.501	141.2	14.6	16.9		
1991 08 12	21 50.68	-25 32.2	1.452	2.452	167.9	5.0	16.7		
- 9.83	-0.45	- 48.9	+ 6.1	1984 UX1	10841	- 6.90	+1.31	+ 6.3	+10.2
1991 09 11	21 22.33	-26 43.4	1.513	2.413	145.9	13.5	17.1		
1991 08 12	21 53.59	-33 16.0	1.676	2.654	160.8	7.2	15.8		
- 9.26	-0.35	- 84.1	+10.4	1990 FP	16586	- 6.25	+1.22	- 7.7	+12.6
1991 09 11	21 27.43	-35 37.6	1.832	2.690	141.0	13.6	16.2		
1991 08 12	21 54.21	-22 36.4	2.180	3.182	169.6	3.3	17.5		
- 8.63	-0.25	- 74.2	+ 3.8	1990 FR	16436	- 6.50	+0.89	- 34.0	+ 8.2
1991 09 11	21 29.42	-25 26.5	2.333	3.231	147.9	9.5	18.0		
1991 08 12	21 54.39	+01 56.1	1.830	2.808	161.0	6.7	18.1		
- 8.01	-0.31	- 30.2	- 8.0	1981 DZ	10819	- 6.03	+0.91	- 56.7	- 0.3
1991 09 11	21 31.08	-00 28.6	1.888	2.829	154.2	8.9	18.2		
1991 08 12	21 54.80	-06 22.7	1.697	2.696	168.0	4.5	17.2		
- 8.66	-0.40	- 43.4	- 4.7	1984 UK1	14616	- 6.73	+0.99	- 48.0	+ 3.1
1991 09 11	21 29.15	-08 54.2	1.735	2.676	154.0	9.5	17.5		
1991 08 12	21 56.76	-27 05.2	1.153	2.150	165.9	6.6	17.1		
-10.93	-0.33	- 31.3	+ 9.5	2579 P-L	18130	- 6.37	+1.58	+ 34.3	+ 9.8
1991 09 11	21 27.29	-27 01.0	1.297	2.208	146.6	14.5	17.7		