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

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

EDITORIAL NOTICE.

Contributors of perturbed orbital elements are advised that use of the Epoch 1991 Dec. 10.0 ET (rather than 1990 Nov. 5.0 ET) will become effective FOLLOWING the 1990 Dec. 2 batch of MPCs.

* * * * *

ERRATA.

MPC	Line	
16766	-18	The entry for (442) was inadvertently repeated from MPC 16474.
16934	-14	Add Measured by R. H. McNaught and Y. Nakajima.
16946	24	For Observatore read Observatoire
16948	23	For W. Kakei, M. Kizawa, T. Urata read T. Urata
16948	24	For M. Kizawa, T. Urata read T. Urata
16957	25	For Sollingen read Sohlingen
16992	- 7	For AGK3 read SAOC
16993	-14	For Muramatsubara read Muramatsuhara

* * * * *

CORRECTED OBSERVATIONS.

The following observations correct those previously published.

Object		Date	UT	R. A. (1950)	Decl.	Reference	Mag.	N Obs.
1979 CB	*	1979 02	02.78472	11 22 34.46	-05 55 58.6	MPC 9398		1 323
1988 PY		1988 10	07.23073	22 22 45.90	-04 55 21.6	MPC15326		675
1988 SM		1988 10	07.23073	22 21 14.82	-04 56 24.0	MPC15326	17.8	675
1990 SD	*	1990 09	19.81181	00 44 55.10	+12 07 44.7	MPC16948	18	372
118		1975 05	04.86455	13 11 10.66	-03 02 04.0	MPC 4207		2 095
160		1972 07	16.09027	18 22 24.37	-29 10 32.5	MPC 3584		3 839
161		1965 10	29.10	00 16.8	+01 33	MPC 2654		760
163		1961 09	17.96864	21 41 24.11	-13 09 59.1	MPC 3146		839
165		1955 12	13.66711	05 03 46	+34 03.7	MPC 1671		377
165		1973 01	26.05210	06 43 39.26	+27 20 16.2	MPC 4866		020
165		1973 01	26.06353	06 43 38.67	+27 20 16.5	MPC 4866		020
165		1975 06	06.88264	17 05 08.53	-35 08 55.4	MPC 4034	12.5	076
169		1966 06	13.90972	17 26 24.67	-33 25 52.5	MPC 2715	12.8	4 076
171		1959 11	29.85715	06 44 52.13	+22 18 19.0	MPC 2214		330
173		1963 07	19.30451	19 01 27	-07 59.4	MPC 2197		2 669
174		1967 01	14.13479	09 15 55.60	+22 08 41.2	MPC 3330		4 020
174		1967 01	14.14587	09 15 54.85	+22 08 43.0	MPC 3330		4 020

176	1932	05	26.25000	15	36	03.24	-00	34	23.0	MPC 3486	12.8	3 690
181	1953	09	12.86003	22	44	01.96	-16	26	14.3	MPC 993		990
181	1956	04	05.67222	13	29	35.32	+14	10	04.3	MPC 2644		388
184	1975	05	04.86455	12	53	41.34	-07	11	53.2	MPC 4207		2 095
185	1973	03	07.86215	09	31	17.83	+12	00	45.2	MPC 4721		5 999
185	1973	04	25.85521	09	27	39.04	+17	10	41.6	MPC 4721		6 999
185	1973	04	25.86215	09	27	39.23	+17	10	42.9	MPC 4721		6 999
185	1973	04	25.86910	09	27	39.45	+17	10	43.5	MPC 4721		6 999
186	1959	11	09.75018	01	17	46.14	+16	45	56.2	MPC 2537		073
186	1959	11	09.76541	01	17	45.28	+16	45	56.7	MPC 2537		073
189	1973	07	02.02168	16	32	21.74	-14	52	36.0	MPC 3803		7 839
190	1975	04	16.88958	10	21	27.70	+08	52	09.9	MPC 4049		022
191	1957	10	20.93256	00	53	44.57	-06	08	33.1	MPC 2009		8 024
192	1977	06	09.83681	16	51	13.45	-33	53	17.7	MPC 4422	11.5	076
194	1939	07	05.98467	17	30	08.33	+07	19	01.4	MPC 608		804
194	1956	07	09.94634	18	21	56.56	+06	04	27.1	MPC 1566		983
194	1964	04	05.82847	14	31	19.44	+07	30	01.4	MPC 2736		075
196	1944	01	22.09230	07	32	01.17	+28	40	05.8	MPC 408		804
198	1939	01	14.88600	07	28	12	+15	46	.0	RI 1959		057
198	1964	07	10.00417	18	28	.6	-19	17		MPC 2408		990
198	1964	07	11.04792	18	27	.9	-19	14		MPC 2408		990
199	1946	05	03.9	13	03	.1	+16	17		MPC 24	11.8	008
200	1942	07	07.807	18	42	.9	-30	26		RI 2474	12.5	078
202	1955	10	20.88088	02	41	41.87	+02	28	45.6	MPC 2341		047
203	1956	10	28.77257	00	35	33.05	+06	41	25.9	MPC 1793		075
206	1970	11	27.06482	02	28	21.53	+08	37	09.6	MPC 3201		012
208	1976	06	30.86042	17	44	56.38	-26	04	10.2	MPC 4137	14.3	076
209	1977	03	12.95662	11	27	18.43	+05	28	54.0	MPC 4559		022
210	1950	07	10.86070	19	58	25	-28	55	.7	MPC 534	12.0	078
210	1976	05	25.84688	13	53	16.68	-12	51	31.6	MPC 4137	14.3	076
215	1946	09	26.9	00	53	.5	+04	59		MPC 53		020
216	1956	07	06.80972	18	07	.2	-06	14		MPC 1561		990
216	1961	08	01.88765	20	18	16.74	+02	16	23.1	MPC 2539		073
219	1948	06	03.57410	15	37	05	-06	42	.2	MPC 170		377
220	1970	02	28.12793	09	23	30.79	+04	12	30.3	MPC 3492		9 805
221	1951	05	05.9	14	39	.0	+00	49		MPC 694		A 020
223	1948	06	12.11390	14	54	45.90	-17	02	35.5	MPC 260		839
224	1959	03	02.68667	09	51	25.78	+16	42	25.1	MPC 2215		330
226	1943	02	06.04405	08	46	58.43	+16	26	11.6	MPC 3208		7 020
226	1949	08	15.85697	21	23	55	-17	53	.1	MPC 284	11.5	078
227	1938	07	25.99838	22	32	51.70	-09	47	42.2	MPC 3208		020
227	1938	07	26.04133	22	32	50.54	-09	47	45.1	MPC 3208		020
229	1936	01	23.12787	09	47	05.13	+16	14	03.1	MPC 3208		020
229	1936	01	23.17047	09	47	04.03	+16	14	11.6	MPC 3208		020
230	1966	07	08.20097	16	54	10.33	-15	35	01.0	MPC 2737		B 669
230	1966	07	13.20236	16	51	23.40	-15	21	32.6	MPC 2737		B 669
230	1966	07	20.21243	16	48	41.04	-15	07	42.4	MPC 2737		B 669
230	1974	10	28.79470	22	51	50.84	+05	28	52.5	MPC 3877		3 006
230	1981	08	08.81094	19	35	02.27	-06	56	14.9	MPC 7533		073
230	1981	08	08.81994	19	35	01.87	-06	56	16.4	MPC 7533		073
233	1966	07	08.27326	18	36	09.98	-12	08	47.4	MPC 2737		B 669
233	1966	07	13.23333	18	31	46.83	-12	07	59.9	MPC 2737		B 669
233	1966	07	19.29843	18	26	47.65	-12	10	09.6	MPC 2737		B 669
234	1968	11	17.49370	01	44	43.4	-16	41	53	MPC 3107	12.0	385
234	1968	11	17.55082	01	44	41.9	-16	41	46	MPC 3107		385
236	1950	04	24.96059	15	18	35.03	-11	01	15.6	MPC 564		1 006
238	1969	08	25.11533	03	56	05.21	+12	45	47.5	MPC 3429		C 020
238	1969	08	25.11776	03	56	05.46	+12	45	45.5	MPC 3429		C 020
238	1969	09	22.14345	04	15	31.11	+10	54	37.3	MPC 3429		020

238	1969 09 22.14587	04 15 31.17	+10 54 37.3	MPC 3429			020
240	1948 05 12.339	15 21 05.7	-15 37.1	MPC 4573	13		662
245	1942 06 12.847	17 55.5	-26 30	RI 2473	12.6		078
246	1956 03 13.63681	13 03 36.14	+03 56 16.0	MPC 2585		D	388
246	1956 03 15.70972	13 02 28.74	+04 20 10.3	MPC 2585			388
249	1954 05 04.62274	15 23 50.46	-33 47 30.1	MPC 1177			420
257	1975 06 17.24718	18 19 01.18	-27 42 03.5	MPC 4909			808
258	1967 07 04.99576	18 38 29.04	+00 11 46.8	MPC 3332			020
258	1967 07 05.00892	18 38 28.31	+00 11 46.6	MPC 3332			020
259	1947 05 29.9	15 54.5	-12 44	MPC 26	10.4		008
261	1953 07 13.96493	21 34 49.89	-17 41 13.2	MPC 1009	12.3		078
268	1973 01 09.11030	09 18 27.05	+16 06 10.1	MPC 4870			020
268	1973 01 09.11272	09 18 26.98	+16 06 11.0	MPC 4870			020
271	1949 07 26.35179	22 08 27.78	-13 01 41.5	MPC 434			760
273	1966 04 22.81517	11 36 26.26	+18 12 32.8	MPC 2659			095
275	1943 02 06.04405	08 49 15.77	+17 29 39.1	MPC 3209		7	020
275	1969 12 02.85937	03 26 12.85	+11 37 03.2	MPC 3405			022
280	1961 04 09.89728	11 41 16.68	+03 40 08.8	MPC 2122			020
280	1961 04 09.92481	11 41 15.06	+03 40 12.6	MPC 2122			020
285	1970 05 28.88403	17 46 48.69	-44 36 59.4	MPC 3163	15.7		076
287	1961 08 10.90422	20 09 50.18	-15 47 21.0	MPC 2539			073
288	1950 04 24.96059	15 25 04.10	-10 52 04.5	MPC 564		1	006
298	1967 03 17.92772	12 24 16.98	-01 08 15.1	MPC 3333		E	020
300	1957 05 03.19182	13 31 08.54	-09 16 20.8	MPC 1727	13.5		839
303	1954 08 29.15209	20 52 22.58	-22 15 25.1	MPC 3620		F	760
779	1943 12 26.99025	06 31 22.96	+26 27 48.6	MPC 3207		G	020
779	1973 12 06.73084	02 16 17.31	+32 03 27.2	MPC 5166			073

Note 1: date changed by -2 days. 2: date changed by +2 days. 3: date changed by +1 day. 4: date changed by -1 month. 5: date originally given as 1973 03 07.96215. 6: date changed by -7 days. 7: date changed by +1 month. 8: originally given as (190). 9: date originally given as 1970 02 11.12793. A: originally given as (222). B: time changed by -12 hours. C: date changed by -1 day. D: originally given as (249). E: originally given as (297). F: originally given as (300). G: originally given as (179).

* * * * *

DELETED OBSERVATIONS.

The following observations are to be deleted.

Object	Date	UT	R. A. (1950)	Decl.	Reference	Obs.
1990 QF1	1990 08 23.43941	23 17 12.30	-03 18 47.0	MPC16963		675
1990 QF1	1990 08 23.47517	23 17 10.62	-03 18 55.0	MPC16963		675
151	1974 07 17.98312	19 08 40.97	-32 17 00.6	MPC 4866		020
151	1974 07 17.98554	19 08 40.80	-32 17 01.1	MPC 4866		020
152	1944 03 03.12639	10 44 55.42	+25 35 57.3	RI 2547		028
152	1944 03 04.15069	10 44 02.14	+25 38 10.0	RI 2547		028
155	1973 05 09.00357	12 07 50.16	+06 51 59.3	MPC 4866		020
155	1973 05 09.00807	12 07 50.02	+06 52 02.7	MPC 4866		020
159	1948 03 02.66264	10 09 28	+14 36.8	MPC 106		377
162	1976 05 01.71215	15 25 26.88	-21 43 57.7	MPC 4484		414
162	1976 05 01.72743	15 25 26.28	-21 43 47.6	MPC 4484		414
165	1906 12 17.34375	09 19 14.52	+15 43 21.0	MPC16527		690
165	1906 12 21.31250	09 18 09.97	+15 38 42.6	MPC16527		690
168	1956 07 28.50486	21 04 21.25	-10 02 17.0	MPC 2644		388
168	1956 07 29.50694	21 03 41.35	-10 06 42.3	MPC 2644		388
171	1953 11 07.98611	03 38 15.91	+16 35 29.2	MPC 1019		990

172	1950	02	07.9	07	09.0	+31	16		MPC 453	020
174	1948	03	09.86	10	26.0	+04	35		MPC 97	990
176	1954	05	05.89236	13	28 27.45	-05	08	06.7	MPC 1145	990
176	1971	03	30.07541	14	00 49.21	-09	37	50.6	MPC 6364	020
176	1971	03	30.08441	14	00 48.73	-09	37	49.3	MPC 6364	020
177	1943	01	05.92448	07	37 07.61	+23	50	55.3	RI 2522	028
178	1943	12	16.82523	05	56 13.35	+25	15	10.1	RI 2546	028
181	1974	07	26.88410	18	37 05.04	-07	22	48.5	MPC 4867	020
181	1974	07	26.88721	18	37 04.93	-07	22	48.6	MPC 4867	020
182	1963	12	11.90530	05	32 35.68	+21	30	52.8	MPC 2543	073
182	1963	12	11.91456	05	32 35.15	+21	30	50.5	MPC 2543	073
182	1972	04	10.76232	10	36 21.69	+11	41	17.8	MPC 5160	073
182	1972	04	10.77340	10	36 21.47	+11	41	24.3	MPC 5160	073
185	1973	01	09.25911	10	09 49.32	+02	31	29.0	MPC 3790	804
185	1973	01	09.26603	10	09 49.35	+02	31	28.8	MPC 3790	804
185	1973	01	09.27296	10	09 49.35	+02	31	28.7	MPC 3790	804
185	1973	04	25.86701	09	25 43.46	+16	54	11.3	MPC 4721	999
185	1973	04	25.87396	09	25 43.83	+16	54	09.6	MPC 4721	999
185	1973	04	25.88100	09	25 44.06	+16	54	08.9	MPC 4721	999
189	1947	10	10.86	06	20.4	+04	30		MPC 96	990
189	1947	10	11.86	00	19.6	+04	22		MPC 97	990
190	1944	04	11.84549	12	20 08.21	-00	03	12.4	RI 2548	028
192	1963	11	19.92505	06	25 09.94	+35	03	12.7	MPC 2543	073
192	1963	11	19.93342	06	25 09.54	+35	03	24.7	MPC 2543	073
192	1963	12	10.94655	06	04 55.78	+35	46	32.1	MPC 2543	073
192	1963	12	10.95261	06	04 55.29	+35	46	32.1	MPC 2543	073
192	1963	12	11.92504	06	03 08.06	+35	46	28.3	MPC 2543	073
192	1963	12	11.93256	06	03 06.81	+35	46	28.2	MPC 2543	073
192	1973	06	06.99953	14	30 25.35	-24	59	40.2	MPC 4867	020
192	1973	06	07.00196	14	30 25.25	-24	59	42.4	MPC 4867	020
195	1968	08	16.89065	19	52 07.50	-30	08	15.9	MPC 3427	020
195	1968	08	16.90450	19	52 06.25	-30	08	20.0	MPC 3427	020
196	1947	09	18.99360	00	02 05.48	-11	13	58.0	MPC 2341	047
197	1968	03	18.84701	06	48 40.46	+29	04	20.1	MPC 3428	020
197	1968	03	18.85453	06	48 39.77	+29	04	33.7	MPC 3428	020
203	1949	03	01.50417	08	51 23	+20	04.9		MPC 369	388
203	1972	02	24.89018	11	34 24.86	+02	54	29.5	MPC 5160	073
203	1972	02	24.90334	11	34 24.77	+02	54	15.8	MPC 5160	073
205	1971	07	12.94662	22	10 34.76	+04	02	06.5	MPC 5110	073
205	1971	07	12.96047	22	10 34.38	+04	02	07.0	MPC 5110	073
207	1953	01	16.87360	06	48 38.87	+20	49	10.1	MPC 917	990
209	1955	04	25.92014	12	52.4	-09	32		MPC 1273	990
209	1955	04	26.92153	12	51.9	-09	30		MPC 1273	990
209	1968	09	05.03725	00	09 13.59	-00	00	06.9	MPC 3428	020
209	1968	09	05.04002	00	09 13.57	-00	00	09.8	MPC 3428	020
212	1973	02	05.80988	07	45 37.89	+22	33	51.5	MPC 5160	073
212	1973	02	05.82858	07	45 37.38	+22	33	46.3	MPC 5160	073
214	1974	07	26.95231	19	41 44.05	-25	28	55.4	MPC 4868	020
214	1974	07	26.95474	19	41 43.92	-25	28	56.5	MPC 4868	020
216	1961	08	10.86786	20	10 51.18	+01	38	59.1	MPC 2539	073
216	1961	08	10.88327	20	10 50.49	+01	38	49.6	MPC 2539	073
217	1968	12	18.86648	03	22 49.96	+03	23	45.5	MPC 3428	020
217	1968	12	18.87549	03	22 49.64	+03	23	39.8	MPC 3428	020
218	1944	03	25.84375	11	14 33.17	+06	27	32.4	RI 2548	028
218	1971	07	14.90967	19	33 10.85	-00	11	14.8	MPC 3487	006
219	1961	01	17.49	06	58.1	+05	33		MPC 2548	388
220	1967	04	12.95523	12	14 22.14	-13	10	25.2	MPC 3331	020
220	1967	04	12.97598	12	14 21.65	-13	10	14.2	MPC 3331	020
221	1956	04	29.50972	13	21 07.99	+06	09	00.2	MPC 2644	388

222	1968	11	19.88922	02	26	02.48	+12	31	27.5	MPC 3428 020
223	1948	05	01.0	14	45.8		-20	08		MPC 135 020
223	1966	08	24.98	22	48.8		-10	27		MPC 2700 020
223	1966	09	19.86	22	30.8		-12	14		MPC 2700 020
223	1966	09	21.91	22	29.0		-12	17		MPC 2700 020
223	1971	08	16.87875	20	45	42.40	-20	49	31.4	MPC 6366 020
223	1971	08	16.88775	20	45	41.95	-20	49	27.5	MPC 6366 020
223	1971	08	24.89396	20	39	42.02	-21	12	15.6	MPC 6366 020
223	1971	08	24.90505	20	39	41.42	-21	12	16.5	MPC 6366 020
224	1964	05	05.65891	14	33	53.20	-22	40	07.2	MPC 2535 334
226	1961	02	12.95966	09	29	09.76	+17	15	10.4	MPC 2060 020
229	1953	12	31.93794	05	53	24.84	+25	58	52.8	MPC 1323 020
229	1968	03	27.88372	10	50	15.89	+09	23	56.8	MPC 3428 020
229	1968	03	27.90519	10	50	14.78	+09	24	10.1	MPC 3428 020
230	1959	07	28.94722	20	05.7		-05	13		MPC 1994 990
230	1959	07	29.89583	20	05.2		-05	15		MPC 1994 990
230	1966	06	22.88465	17	04	05.31	-16	33	09.6	MPC 3331 020
230	1966	06	22.88742	17	04	05.39	-16	33	11.0	MPC 3331 020
230	1966	06	22.89019	17	04	05.32	-16	33	07.8	MPC 3331 020
230	1966	06	22.89296	17	04	05.22	-16	33	12.2	MPC 3331 020
231	1966	05	24.02	16	47.5		-31	01		MPC 2700 020
231	1968	11	27.06347	05	02	20.20	+29	56	11.9	MPC 3429 020
231	1968	11	27.07455	05	02	19.68	+29	56	15.8	MPC 3429 020
231	1968	12	18.90353	04	41	41.76	+29	27	15.7	MPC 3429 020
232	1953	06	04.0	16	39.6		-11	12		MPC 995 020
234	1957	10	28.87986	03	02.2		-12	12		MPC 1698 990
234	1957	10	29.93403	03	01.2		-12	18		MPC 1698 990
234	1957	11	21.85	02	39.9		-12	52		MPC 1698 990
234	1975	06	28.87452	18	48	17.27	-01	05	23.6	MPC 5338 073
234	1975	06	28.88560	18	48	17.20	-01	05	23.5	MPC 5338 073
235	1953	01	10.8	06	05.0		+30	00		MPC 921 020
240	1977	01	20.72204	05	41	35.49	+22	30	01.4	MPC 5338 073
240	1977	01	20.73312	05	41	35.49	+22	30	01.7	MPC 5338 073
241	1947	06	17.67145	18	00	51	-23	55.7		MPC 169 377
244	1950	04	06.9	11	14.8		+02	23		MPC 454 020
244	1967	08	01.94469	20	20	41.22	-13	41	20.6	MPC 3331 020
244	1967	08	01.96616	20	20	40.72	-13	41	04.8	MPC 3331 020
244	1967	08	03.86911	20	18	40.91	-13	51	13.0	MPC 3331 020
244	1967	08	03.88573	20	18	40.11	-13	51	01.4	MPC 3331 020
244	1967	08	08.94491	20	13	40.39	-14	11	45.7	MPC 3331 020
244	1967	08	08.95944	20	13	38.55	-14	11	49.8	MPC 3331 020
246	1957	08	28.99861	21	34.9		-07	40		MPC 1697 990
253	1948	04	08.9	11	41.3		+02	02		MPC 134 020
254	1971	08	24.92132	20	48	31.32	-26	11	37.7	MPC 6368 020
254	1971	08	24.93517	20	48	30.49	-26	11	37.3	MPC 6368 020
257	1962	02	26.49	09	05.3		+21	48		MPC 2549 388
257	1962	02	28.83050	09	04	57.67	+21	57	17.8	MPC 2209 006
258	1953	02	09.67778	11	33	59.59	-11	03	18.2	MPC 2203 388
265	1967	09	26.87500	22	39	11.53	+03	19	24.7	MPC 3332 020
265	1967	09	26.88747	22	39	10.89	+03	19	33.1	MPC 3332 020
265	1967	10	02.83975	22	34	02.56	+03	21	44.5	MPC 3332 020
265	1967	10	02.85153	22	34	01.73	+03	21	43.1	MPC 3332 020
268	1947	06	17.67145	17	56	49	-21	28.2		MPC 333 377
268	1975	09	04.84687	21	25	39.24	-16	38	01.6	MPC 4870 020
268	1975	09	04.85172	21	25	39.22	-16	38	01.6	MPC 4870 020
269	1966	03	14.90563	09	01	17.14	+15	28	55.8	MPC 3332 020
269	1966	03	14.92224	09	01	17.12	+15	29	04.5	MPC 3332 020
270	1954	02	02.59722	09	48	28.68	+11	33	36.6	MPC 2297 388
270	1968	06	27.89305	17	11	44.37	-21	56	20.0	MPC 2932 990

270		1968	06	27.91388	17	11	43.76	-21 56 14.6	MPC 2932	990
271		1954	07	29.90764	20	30.1		-21 45	MPC 1207	990
271		1969	06	19.96793	16	27	11.65	-26 49 03.8	MPC 3430	020
271		1969	06	19.98109	16	27	11.28	-26 49 03.2	MPC 3430	020
272		1941	03	19.92493	12	03	39.07	+01 36 58.7	MPC 3209	020
273		1955	04	26.00278	12	58.0		+18 06	MPC 1273	990
273		1955	04	27.89236	12	56.9		+18 19	MPC 1273	990
274		1969	08	14.02491	22	08	07.20	-16 06 04.2	MPC 3430	020
274		1969	08	14.04222	22	08	06.05	-16 06 08.6	MPC 3430	020
275		1944	06	25.92963	17	51	25.23	-17 54 52.3	RI 2560	028
275		1944	06	26.00450	17	51	21.71	-17 54 55.6	RI 2560	028
275		1949	08	16.9	20	09.8		-18 49	MPC 352	020
275		1954	08	24.93056	22	19.1		-12 40	MPC 1207	990
275		1954	08	25.94782	22	18.4		-12 43	MPC 1207	990
275		1955	11	16.89931	02	38.3		+08 24	MPC 1382	990
276		1951	10	26.90280	02	19	02.87	+11 48 26.1	MPC 763	990
276		1954	05	04.95417	13	50	06.66	-10 17 38.4	MPC 1144	990
276		1954	05	05.91667	13	49	40.81	-10 17 41.1	MPC 1145	990
279		1967	10	07.98023	23	37	33.62	-05 34 21.2	MPC 3332	020
281		1954	01	07.50556	06	34	07.46	+33 08 20.2	MPC 2297	388
282		1972	05	09.98598	15	45	02.79	-04 32 37.9	MPC 5732	020
282		1972	05	09.99602	15	45	02.27	-04 32 30.7	MPC 5732	020
284		1961	03	15.59505	10	26	48.54	-03 24 36.0	MPC 2222	334
286		1953	11	11.52847	04	17	05.48	-04 42 49.4	MPC 2297	388
288		1960	08	23.94426	22	05	58.70	-15 01 27.1	MPC 2060	020
289		1973	03	26.83178	10	23	49.10	+06 59 21.2	MPC 5161	073
289		1973	03	26.84425	10	23	48.59	+06 59 23.9	MPC 5161	073
289		1973	03	29.80212	10	22	46.75	+07 08 26.1	MPC 5161	073
289		1973	03	29.81251	10	22	46.33	+07 08 29.5	MPC 5161	073
294		1955	01	26.1	10	24.9		+11 35	MPC 1321	020
294		1968	07	31.89619	18	56	00.16	-18 46 19.1	MPC 3430	020
294		1968	07	31.90935	18	55	59.13	-18 46 27.4	MPC 3430	020
294		1968	08	02.89482	18	55	03.99	-18 59 04.8	MPC 3430	020
294		1968	08	02.91421	18	55	03.06	-18 58 59.8	MPC 3430	020
295		1937	10	10.93749	00	12	48.23	+06 05 08.4	MPC 3210	020
295		1937	10	10.96877	00	12	46.99	+06 05 12.4	MPC 3210	020
296		1955	03	15.84378	08	19	04.85	+20 07 26.5	MPC 1754	020
296		1967	12	04.93845	05	39	06.35	+21 02 32.3	MPC 3333	020
296		1967	12	04.96959	05	39	03.93	+21 02 32.8	MPC 3333	020
299		1968	02	27.97269	11	35	46.86	-00 06 47.9	MPC 3430	020
299		1968	02	27.98861	11	35	45.56	-00 06 30.5	MPC 3431	020
299		1968	02	29.99650	11	34	33.44	-00 00 33.7	MPC 3431	020
299		1968	03	01.01377	11	34	32.01	-00 00 27.8	MPC 3431	020
299		1968	03	23.90852	11	14	29.61	+02 14 29.9	MPC 3431	020
299		1968	03	23.92168	11	14	29.22	+02 14 34.3	MPC 3431	020
300		1944	01	21.85960	06	22	04.68	+24 18 59.0	RI 2546	028
300		1944	01	21.91875	06	22	02.19	+24 19 01.6	RI 2546	028
300		1953	10	05.8	22	35.1		-10 03	MPC 1035	020
300		1968	03	27.92596	11	19	55.04	+05 14 24.3	MPC 3431	020
300		1968	03	27.94466	11	19	54.16	+05 14 31.5	MPC 3431	020

* * * * *

IDENTIFICATION CHANGES.

Continuation to MPC 16932-16934.

Object		Date	UT	R. A. (1950)	Decl.	Old desig.	Mag.	Obs.
A902 EG	*	1902 03	03.93055	10 06 49.04	+09 36 45.9	296		024
A903 CB	*	1903 02	01.04563	08 00 08.31	+18 06 47.5	299		024
A908 BH	*	1908 01	23.79007	06 22 36.01	+09 46 16.4	A908 AD		024
A908 BH		1908 01	24.86785	06 21 58.21	+09 51 15.8	A908 AD		024
1927 SP	*	1927 09	26.89000	00 06 27.06	-05 12 30.6	274		024
1928 WE	*	1928 11	21.06285	09 43 46.99	+16 04 44.0	178		024
1934 TO	*	1934 10	05.17569	23 29 56.79	+14 01 59.6	220	12.5	690
1934 TO		1934 10	08.16111	23 28 06.61	+13 34 59.7	220	12.5	690
1934 TO		1934 10	09.15694	23 27 32.90	+13 25 46.8	220	12.5	690
1938 HF	*	1938 04	20.03	13 37.9	-01 53	278	11.9	119
1939 XM	*	1939 12	06.98	06 31.1	+34 50	280	14.2	020
1940 RB1	*	1940 09	10.00	23 12.6	-03 40	190	12.0	094
1941 OF	*	1941 07	29.83	19 16.4	-16 19	232	13.2	119
1942 TL	*	1942 10	03.85091	01 34 43.81	+09 23 20.8	300		012
1945 XA	*	1945 12	02.04965	03 41 11.92	+18 48 19.3	230		804
1947 EC	*	1947 03	12.19028	09 37 33.80	+12 24 58.2	263		754
1947 KJ	*	1947 05	19.868	16 32.6	-30 48	224	11.5	078
1947 QJ	*	1947 08	19.1	20 35.5	-12 54	181		020
1948 AL	*	1948 01	09.77883	05 51 47.1	+22 25 12	261		119
1948 EL1	*	1948 03	12.84220	09 51 28.5	+16 59 18	234	13.1	085
1948 QS	*	1948 08	28.94348	21 24 41.53	-08 20 10.2	217		983
1948 QS		1948 08	28.95007	21 24 41.19	-08 20 10.1	217		983
1948 QT	*	1948 08	29.853	23 18.0	-10 50	274	13.5	078
1948 VU	*	1948 11	08.70514	02 54 24	+16 49.7	300		377
1949 CQ	*	1949 02	01.96116	08 49 23.40	+16 40 37.2	294		012
1949 FT1	*	1949 03	23.81979	11 03.0	+16 24	262	14.2	094
1949 HT1	*	1949 04	26.93501	13 58 20.02	-07 32 54.2	239		012
1950 BY1	*	1950 01	22.07254	10 21 36.40	+09 26 57.5	181		012
1950 LN1	*	1950 06	11.00600	17 12 14.61	+10 46 04.7	183		012
1951 KD1	*	1951 05	31.56596	14 22 44.38	+01 17 25.8	221		330
1951 QP	*	1951 08	27.81993	20 40.7	-14 14	244	13.2	094
1951 TX	*	1951 10	10.06767	03 34 10.61	+12 21 26.4	269		012
1952 FQ1	*	1952 03	19.90847	11 11 31.32	+07 30 50.0	296		012
1953 AQ	*	1953 01	14.98035	06 59 56.14	+21 08 20.8	207		119
1953 OS	*	1953 07	20.23	18 56.6	-21 49	296	15.4	760
1953 RS1	*	1953 09	05.66058	22 53 55	-08 15.9	300		377
1953 RS1		1953 09	09.66340	22 50 14	-08 36.9	300		377
1954 HN	*	1954 04	27.96425	14 31 39.51	+03 13 53.6	166		012
1954 TD1	*	1954 10	01.01735	01 25 37.33	+05 26 08.4	151		119
1954 WD1	*	1954 11	27.05	01 04.6	+05 37	178	14.0	760
1955 FG2	*	1955 03	20.09	09 36.6	+13 22	294	17.1	760
1955 HA1	*	1955 04	25.98611	14 34 24.79	-16 30 47.2	180		024
1955 SD3	*	1955 09	19.34	01 55.6	+13 10	160	14.4	760
1955 VK1	*	1955 11	15.77083	01 50 07	+01 09 16	213		119
1956 XZ	*	1956 12	02.86458	02 31 49	+18 00	281		119
1957 JF1	*	1957 05	06.24	12 21.7	+03 52	274	15.1	760
1959 MA	*	1959 06	27.85625	19 26 55.21	-23 12 05.2	184	11.8	076
1959 UR	*	1959 10	22.63326	23 40 38.81	+05 51 39.9	258		330
1960 PB	*	1960 08	13.90486	22 25 01.82	-21 17 42.9	255	15.8	076
1960 WK1	*	1960 11	19.56857	01 49 02.10	+28 00 00.1	165		330
1961 RC	*	1961 09	13.24139	00 17.9	+02 31	239	14.0	760
1964 JJ	*	1964 05	07.52565	14 16 31.99	+04 19 45.0	287		330
1965 AP1	*	1965 01	10.71250	07 16 35.56	+12 07 27.1	226		330
1965 DF	*	1965 02	26.88860	08 37 53.21	+20 58 56.1	222		012
1965 ME	*	1965 06	25.18	16 18.0	-12 55	239	16.0	760
1966 HU	*	1966 04	16.92877	11 29 00.73	+01 36 47.7	277		095
1967 CO	*	1967 02	08.98510	10 59 15.80	+14 01 33.5	254		095
1969 RS2	*	1969 09	13.24679	00 33 38.78	-00 37 45.7	272		805

1969 SE	*	1969	09	17.84688	04	04	32.25	+13	56	46.7	275		323
1969 SE		1969	09	17.86146	04	04	32.67	+13	56	45.4	275		323
1969 SE		1969	09	17.87674	04	04	33.05	+13	56	44.1	275		323
1969 SE		1969	09	17.88889	04	04	33.34	+13	56	43.0	275		323
1970 FM	*	1970	03	16.20968	11	16	14.79	-00	20	17.9	227		805
1970 FM		1970	03	16.22007	11	16	14.25	-00	20	14.6	227		805
1970 FM		1970	03	16.23045	11	16	13.74	-00	20	12.7	227		805
1971 OY1	*	1971	07	30.86647	21	13	38.50	-25	25	38.2	254		095
1972 TE11	*	1972	10	13.85679	00	56	13.24	+03	29	48.6	1972 TV3	17.0	095
1972 UJ	*	1972	10	28.80150	00	28	14.22	+00	22	37.0	1972 TO8	17.0	095
1974 VJ3	*	1974	11	12.84072	22	51	26.61	+04	14	46.1	230		095
1975 VM10	*	1975	11	13.78811	02	16	05.13	+07	33	47.3	196		057
1976 HE1	*	1976	04	30.15035	14	05	38.79	-12	28	30.6	244		808
1976 HE1		1976	04	30.18567	14	05	36.65	-12	28	16.4	244		808
1976 YZ7	*	1976	12	23.01450	07	56	05.79	+07	09	54.6	234		012
1976 YZ7		1976	12	23.04220	07	56	04.58	+07	09	58.6	234		012
1980 XK3	*	1980	12	10.85974	04	37	44.49	+16	01	52.3	1980 WA2	17.5	095
1981 CL1	*	1981	02	02.00843	10	37	42.85	+11	02	21.4	159		012
1981 CL1		1981	02	02.02609	10	37	42.30	+11	02	27.3	159		012
1981 CL1		1981	02	02.04375	10	37	41.72	+11	02	33.5	159		012
1982 SB13	*	1982	09	22.32594	23	37	22.16	-07	14	37.0	275		704
1984 YO6	*	1984	12	23.01190	07	21	53.85	+22	24	36.0	1984 YO5		010
1984 YO6		1984	12	23.05380	07	21	51.59	+22	24	32.7	1984 YO5		010
1986 TH18	*	1986	10	02.87262	23	30	31.50	-06	48	09.2	1986 RA7	16.2V	095
1987 TB1	*	1987	10	02.96355	01	24	26.49	+08	40	37.6	1987 SV2	16.5V	095
1989 NY1	*	1989	07	09.17743	17	54	16.40	-21	52	34.0	1983 JQ		293
1990 HP3	*	1990	04	16.98715	11	04	20.21	+05	39	43.2	1990 GL		809
1990 HP3		1990	04	17.00451	11	04	19.67	+05	39	42.1	1990 GL		809
1990 HP3		1990	04	17.02188	11	04	19.09	+05	39	40.2	1990 GL		809
1990 SM4	*	1990	09	16.57500	23	02	38.28	-09	18	06.0	1990 QQ5	16.5	400
1990 SM4		1990	09	16.59236	23	02	37.29	-09	18	09.2	1990 QQ5		400

* * * * *

ERRONEOUS IDENTIFICATIONS.

The following identifications are erroneous:

			Note				Note
A916 MB	=	(234)	1	1957 OO	=	(252)	2

Note 1: cf. AN 205, 195. 2: cf. Japan Astron. Study Assoc. Circ. No. 173.

* * * * *

IDENTIFICATIONS.

The following list of identifications with numbered minor planets, by G. V. Williams, continues that on MPC 16934.

A902 EG	=	(125)	A903 CB	=	(3425)	1928 WE	=	(414)
1934 TO	=	(1224)	1940 RB1	=	(601)	1947 QJ	=	(190)
1948 AL	=	(140)	1948 QS	=	(165)	1948 QT	=	(1544)
1948 VU	=	(1472)	1953 OS	=	(62)	1953 RS1	=	(3519)
1954 TD1	=	(125)	1954 WD1	=	(26)	1955 FG2	=	(2717)
1955 HA1	=	(158)	1955 SD3	=	(832)	1956 XZ	=	(142)
1957 JF1	=	(651)	1959 MA	=	(424)	1959 UR	=	(133)
1960 WK1	=	(143)	1965 AP1	=	(3125)	1969 SE	=	(5)
1970 FM	=	(1319)	1974 VJ3	=	(84)			

INDEX TO ORBITAL ELEMENTS.

The following index to orbital elements continues that on MPC 16114-16122 and refers to orbits of both comets and minor planets published since then. Only the latest orbit for each object is indexed, and multiple-designation minor planets are listed only under the principal designation.

Comet	MPC	Comet	MPC	Comet	MPC	Comet	MPC
/1985 XII	16377	/1985 XVI	16378	/1986 IX	16377	/1986 XIV	16377
/1987 IV	16377	/1987 V	16377	/1988 II	16377	/1988 XX	16204
/1989e	16204	/1989r	16378	/1989c1	16551	/1989e1	16378
/1989f1	16204	/1990a	16551	/1990b	16551	/1990c	16841
/1990g	16842	/1989h1	16205	/1990i	16841	/1990j	16994
/1990k	16994						

Comet	MPC	Comet	MPC
P/Ashbrook-Jackson	16380	P/Forbes	16379
P/Gehrels 3	16381	P/Holmes	16379
P/Howell	16379	P/Lovas 2	16380
P/Neujmin 3	16381	P/Schaumasse	16379
P/Shajn-Schaldach	16381	P/Slaughter-Burnham	16380
P/Urata-Niijima	16380	P/Vaisala 1	16379
P/West-Kohoutek-Ikemura	16381	P/Wiseman-Skiff	16380

Planet	MPC	Planet	MPC	Planet	MPC	Planet	MPC	Planet	MPC
(23)	16208	(66)	16685	(67)	16208	(96)	16843	(106)	16995
(137)	16843	(147)	16685	(151)	16844	(157)	16208	(181)	16996
(191)	16844	(211)	16685	(212)	16685	(214)	16208	(223)	16554
(246)	16383	(247)	16383	(249)	16844	(250)	16996	(259)	16996
(260)	16554	(264)	16383	(267)	16554	(269)	16383	(270)	16844
(275)	16383	(281)	16383	(283)	16554	(286)	16383	(291)	16383
(296)	16383	(304)	16384	(305)	16844	(307)	16996	(314)	16384
(320)	16384	(321)	16554	(323)	16996	(325)	16384	(326)	16384
(329)	16554	(335)	16384	(336)	16384	(337)	16384	(339)	16844
(343)	16384	(344)	16384	(347)	16844	(351)	16685	(352)	16385
(353)	16996	(367)	16385	(371)	16385	(374)	16385	(375)	16385
(376)	16385	(379)	16996	(380)	16385	(382)	16996	(383)	16385
(389)	16385	(398)	16385	(400)	16996	(406)	16385	(407)	16385
(409)	16844	(413)	16386	(416)	16554	(417)	16386	(419)	16386
(422)	16554	(436)	16685	(443)	16844	(446)	16386	(447)	16386
(465)	16685	(477)	16386	(480)	16386	(482)	16208	(483)	16386
(484)	16386	(491)	16386	(492)	16208	(493)	16386	(494)	16554
(495)	16386	(504)	16387	(509)	16387	(510)	16387	(511)	16387
(512)	16387	(519)	16387	(520)	16387	(524)	16387	(525)	16208
(526)	16387	(527)	16387	(533)	16554	(534)	16208	(535)	16208
(540)	16209	(541)	16209	(543)	16209	(546)	16387	(549)	16387
(551)	16996	(552)	16209	(554)	16209	(555)	16209	(556)	16388
(557)	16209	(558)	16685	(560)	16844	(561)	16388	(563)	16388
(567)	16388	(568)	16388	(569)	16844	(570)	16554	(571)	16388
(572)	16388	(573)	16388	(575)	16388	(578)	16388	(582)	16388
(583)	16388	(589)	16389	(590)	16389	(593)	16389	(596)	16996
(598)	16844	(599)	16389	(600)	16389	(606)	16389	(609)	16389
(616)	16389	(618)	16389	(622)	16389	(625)	16389	(627)	16845
(628)	16390	(634)	16390	(636)	16390	(640)	16390	(651)	16390
(652)	16390	(653)	16390	(656)	16555	(657)	16390	(658)	16390
(659)	16390	(661)	16390	(663)	16391	(664)	16391	(665)	16845
(666)	16391	(669)	16391	(673)	16996	(674)	16391	(675)	16391
(680)	16391	(687)	16391	(688)	16845	(689)	16391	(693)	16391
(698)	16391	(707)	16392	(710)	16392	(711)	16392	(715)	16392

(716) 16392 (717) 16997 (720) 16392 (721) 16392 (723) 16392
(728) 16392 (730) 16997 (731) 16845 (733) 16392 (734) 16392
(741) 16392 (744) 16393 (749) 16393 (750) 16393 (752) 16555
(754) 16555 (756) 16393 (757) 16393 (758) 16393 (767) 16393
(769) 16393 (775) 16845 (784) 16393 (785) 16393 (787) 16393
(789) 16393 (798) 16394 (799) 16394 (800) 16394 (803) 16394
(809) 16394 (813) 16394 (817) 16394 (818) 16394 (820) 16845
(821) 16394 (822) 16394 (823) 16394 (826) 16555 (831) 16394
(833) 16395 (837) 16395 (839) 16997 (840) 16395 (848) 16686
(849) 16395 (850) 16845 (855) 16395 (867) 16555 (873) 16997
(875) 16395 (876) 16555 (879) 16845 (890) 16845 (897) 16395
(898) 16395 (900) 16395 (902) 16395 (904) 16395 (905) 16396
(906) 16396 (907) 16396 (910) 16396 (915) 16396 (918) 16396
(920) 16396 (921) 16396 (922) 16396 (927) 16396 (928) 16396
(929) 16396 (930) 16397 (932) 16397 (934) 16397 (937) 16397
(939) 16397 (942) 16997 (943) 16397 (946) 16997 (947) 16397
(948) 16397 (955) 16397 (958) 16397 (964) 16397 (968) 16397
(979) 16398 (982) 16398 (990) 16398 (996) 16398 (997) 16398
(998) 16398 (999) 16398 (1000) 16398 (1001) 16398 (1003) 16997
(1005) 16398 (1009) 16398 (1010) 16398 (1015) 16399 (1016) 16399
(1017) 16399 (1018) 16399 (1021) 16399 (1028) 16555 (1035) 16997
(1038) 16399 (1039) 16845 (1041) 16399 (1047) 16399 (1054) 16399
(1055) 16399 (1056) 16209 (1060) 16846 (1063) 16846 (1064) 16846
(1069) 16846 (1071) 16846 (1072) 16846 (1075) 16555 (1076) 16686
(1078) 16846 (1081) 16846 (1084) 16846 (1085) 16555 (1093) 16846
(1099) 16846 (1102) 16555 (1110) 16846 (1119) 16847 (1127) 16997
(1140) 16847 (1144) 16847 (1147) 16847 (1148) 16847 (1155) 16847
(1158) 16847 (1160) 16847 (1165) 16997 (1167) 16686 (1168) 16847
(1172) 16847 (1173) 16847 (1181) 16848 (1189) 16848 (1197) 16848
(1201) 16556 (1208) 16848 (1214) 16848 (1215) 16848 (1216) 16848
(1219) 16848 (1226) 16848 (1229) 16556 (1233) 16848 (1238) 16848
(1239) 16848 (1241) 16849 (1242) 16556 (1248) 16849 (1254) 16849
(1255) 16849 (1257) 16556 (1258) 16997 (1259) 16849 (1263) 16849
(1273) 16849 (1277) 16556 (1278) 16849 (1281) 16849 (1282) 16849
(1286) 16849 (1291) 16850 (1294) 16850 (1295) 16686 (1298) 16686
(1300) 16850 (1302) 16850 (1303) 16850 (1314) 16997 (1321) 16556
(1324) 16998 (1326) 16850 (1333) 16850 (1336) 16686 (1340) 16556
(1343) 16400 (1345) 16686 (1347) 16686 (1348) 16850 (1357) 16400
(1360) 16850 (1363) 16850 (1368) 16850 (1374) 16851 (1378) 16851
(1383) 16556 (1384) 16400 (1385) 16851 (1388) 16556 (1390) 16851
(1395) 16851 (1400) 16998 (1404) 16556 (1409) 16998 (1413) 16400
(1415) 16400 (1416) 16400 (1428) 16851 (1429) 16557 (1458) 16557
(1466) 16557 (1469) 16851 (1492) 16998 (1502) 16557 (1508) 16557
(1524) 16851 (1530) 16557 (1532) 16998 (1533) 16851 (1539) 16851
(1540) 16998 (1542) 16851 (1556) 16851 (1577) 16852 (1588) 16557
(1597) 16852 (1602) 16852 (1607) 16209 (1620) 16400 (1643) 16557
(1658) 16852 (1674) 16400 (1698) 16557 (1708) 16557 (1716) 16557
(1720) 16557 (1734) 16558 (1736) 16400 (1748) 16209 (1754) 16209
(1772) 16209 (1791) 16998 (1794) 16400 (1805) 16558 (1806) 16558
(1817) 16210 (1819) 16852 (1826) 16400 (1834) 16852 (1836) 16400
(1838) 16401 (1848) 16210 (1855) 16210 (1860) 16210 (1893) 16401
(1897) 16401 (1898) 16401 (1899) 16401 (1904) 16210 (1911) 16401
(1914) 16401 (1918) 16852 (1925) 16401 (1931) 16401 (1933) 16558
(1934) 16852 (1938) 16558 (1945) 16852 (1949) 16852 (1958) 16852
(1960) 16852 (1961) 16853 (1962) 16558 (1967) 16401 (1973) 16401
(1977) 16210 (1978) 16210 (2012) 16686 (2021) 16401 (2079) 16853
(2135) 16998 (2136) 16686 (2149) 16853 (2165) 16402 (2166) 16402
(2193) 16686 (2203) 16558 (2208) 16998 (2222) 16402 (2232) 16558
(2244) 16402 (2246) 16402 (2269) 16558 (2275) 16686 (2290) 16853

(2292) 16687 (2305) 16687 (2307) 16853 (2310) 16853 (2312) 16687
(2314) 16853 (2347) 16853 (2353) 16687 (2365) 16402 (2371) 16998
(2385) 16558 (2395) 16998 (2397) 16853 (2408) 16402 (2417) 16998
(2419) 16853 (2428) 16853 (2430) 16558 (2432) 16687 (2433) 16853
(2437) 16854 (2439) 16210 (2442) 16210 (2460) 16999 (2464) 16210
(2466) 16687 (2468) 16854 (2470) 16854 (2512) 16687 (2524) 16402
(2548) 16558 (2555) 16999 (2564) 16854 (2572) 16687 (2578) 16687
(2580) 16854 (2605) 16854 (2612) 16687 (2623) 16854 (2632) 16854
(2637) 16854 (2642) 16854 (2648) 16402 (2657) 16999 (2707) 16402
(2715) 16854 (2723) 16687 (2747) 16402 (2751) 16854 (2753) 16559
(2779) 16402 (2796) 16999 (2812) 16855 (2850) 16403 (2859) 16687
(2876) 16403 (2890) 16855 (2924) 16688 (2931) 16688 (2940) 16855
(2944) 16403 (2984) 16855 (2990) 16403 (2996) 16688 (2998) 16999
(3003) 16210 (3005) 16999 (3020) 16855 (3022) 16688 (3040) 16855
(3051) 16855 (3055) 16559 (3059) 16403 (3065) 16855 (3068) 16403
(3071) 16855 (3086) 16855 (3105) 16688 (3109) 16403 (3128) 16210
(3132) 16559 (3138) 16688 (3141) 16211 (3166) 16855 (3182) 16855
(3233) 16856 (3241) 16688 (3256) 16999 (3261) 16688 (3270) 16999
(3272) 16856 (3280) 16559 (3282) 16211 (3283) 16999 (3286) 16403
(3290) 16688 (3299) 16856 (3311) 16999 (3313) 16856 (3329) 16999
(3331) 16856 (3343) 16999 (3344) 16403 (3352) 17000 (3389) 16403
(3392) 16856 (3444) 16688 (3449) 16688 (3459) 16856 (3479) 16856
(3481) 16856 (3511) 16856 (3534) 16856 (3548) 16856 (3553) 17000
(3557) 16688 (3600) 17000 (3609) 16857 (3618) 17000 (3631) 16403
(3635) 17000 (3649) 16689 (3672) 16403 (3736) 16211 (3748) 16857
(3773) 17000 (3791) 16857 (3811) 17000 (3828) 16857 (3860) 16857
(3884) 16857 (3886) 17000 (3946) 17000 (3970) 16404 (3988) 17000
(4027) 16559 (4099) 17000 (4106) 16857 (4167) 17000 (4215) 16857
(4231) 16689 (4324) 16404 (4362) 16689 (4372) 16857 (4417) 16211
(4418) 16211 (4419) 16212 (4420) 16212 (4421) 16212 (4422) 16213
(4423) 16213 (4424) 16213 (4425) 16213 (4426) 16214 (4427) 16214
(4428) 16214 (4429) 16215 (4430) 16215 (4431) 16215 (4432) 16216
(4433) 16216 (4434) 16216 (4435) 16217 (4436) 16217 (4437) 16218
(4438) 16218 (4439) 16218 (4440) 16219 (4441) 16219 (4442) 16219
(4443) 16220 (4444) 16220 (4445) 16220 (4446) 16221 (4447) 16221
(4448) 16221 (4449) 16222 (4450) 16222 (4451) 16223 (4452) 16223
(4453) 16223 (4454) 16224 (4455) 16224 (4456) 16224 (4457) 16225
(4458) 16225 (4459) 16225 (4460) 16226 (4461) 16226 (4462) 16404
(4463) 16404 (4464) 16404 (4465) 16405 (4466) 16405 (4467) 16405
(4468) 16406 (4469) 16406 (4470) 16407 (4471) 16407 (4472) 16407
(4473) 16407 (4474) 16408 (4475) 16408 (4476) 16409 (4477) 16409
(4478) 16409 (4479) 16410 (4480) 16410 (4481) 16411 (4482) 16411
(4483) 16411 (4484) 16412 (4485) 16412 (4486) 16412 (4487) 16413
(4488) 16413 (4489) 16414 (4490) 16414 (4491) 16414 (4492) 16415
(4493) 16415 (4494) 16415 (4495) 16416 (4496) 16416 (4497) 16416
(4498) 16417 (4499) 16417 (4500) 16417 (4501) 16418 (4502) 16418
(4503) 16419 (4504) 16419 (4505) 16419 (4506) 16420 (4507) 16420
(4508) 16420 (4509) 16559 (4510) 16559 (4511) 16560 (4512) 16560
(4513) 16560 (4514) 16561 (4515) 16561 (4516) 16561 (4517) 16562
(4518) 16562 (4519) 16562 (4520) 16563 (4521) 16563 (4522) 16564
(4523) 16564 (4524) 16564 (4525) 16565 (4526) 16565 (4527) 16565
(4528) 16566 (4529) 16566 (4530) 16567 (4531) 16567 (4532) 16567
(4533) 16568 (4534) 16568 (4535) 16568 (4536) 16569 (4537) 16569
(4538) 16570 (4539) 16570 (4540) 16570 (4541) 16571 (4542) 16571
(4543) 16571 (4544) 16572 (4545) 16572 (4546) 16573 (4547) 16573
(4548) 16573 (4549) 16574 (4550) 16689 (4551) 16689 (4552) 16689
(4553) 16690 (4554) 16690 (4555) 16690 (4556) 16691 (4557) 16691
(4558) 16691 (4559) 16692 (4560) 16857 (4561) 16858 (4562) 16858
(4563) 16858 (4564) 16859 (4565) 16859 (4566) 16859 (4567) 16860

(4568) 16860	(4569) 16860	(4570) 16861	(4571) 16861	(4572) 16862
(4573) 16862	(4574) 16862	(4575) 16863	(4576) 16863	(4577) 16863
(4578) 16864	(4579) 16864	(4580) 16864	(4581) 16864	(4582) 16865
(4583) 16865	(4584) 16866	(4585) 16866	(4586) 16866	(4587) 16867
(4588) 17001	(4589) 17001	(4590) 17001	(4591) 17001	(4592) 17002
(4593) 17002	(4594) 17003	(4595) 17003	(4596) 17003	(4597) 17004
(4598) 17004	(4599) 17005	(4600) 17005	(4601) 17006	(4602) 17006
(4603) 17006	(4604) 17006	(4605) 17007	(4606) 17007	(4607) 17007
(4608) 17008	(4609) 17008	(4610) 17009	(4611) 17009	(4612) 17009
(4613) 17010	(4614) 17010			

Planet	MPC	Planet	MPC	Planet	MPC	Planet	MPC
A923 RH	16692	1927 TC	16574	1931 AK	16552	1931 AL	16552
1931 TD3	16684	1933 UM1	16692	1934 GA	16226	1936 QE1	16574
1939 VD	16227	1948 AA	17011	1949 QQ1	17011	1949 SA1	17011
1951 SY	16693	1952 SW1	16684	1966 BB	16994	1966 CM	16227
1971 OV	16693	1972 TF	16421	1973 SY	16693	1973 SM1	16693
1973 SR1	16421	1974 QX1	17011	1974 SJ3	17012	1975 VV2	16421
1975 VD9	16694	1976 DZ	16842	1976 DA1	16842	1976 DB1	16842
1976 DC1	16842	1976 DD1	16842	1976 DE1	16842	1976 DF1	16842
1976 DG1	16842	1976 DH1	16842	1976 DJ1	16842	1976 EQ	16842
1976 ES	16842	1976 EU	16842	1976 EV	16842	1976 EW	16842
1976 EX	16842	1976 EY	16842	1976 GH2	17012	1976 GN2	16867
1976 US1	16227	1977 DB1	16575	1977 EF1	16694	1977 EL5	17012
1977 PO1	16421	1977 QF1	16868	1977 RK	16422	1978 NS	16868
1978 QC3	16575	1978 RJ1	16868	1978 ST7	16422	1978 VZ2	16575
1978 VX3	16227	1978 VF6	16422	1978 VR8	16422	1978 WC	16868
1979 FA3	16576	1979 KM	16381	1979 MF	16842	1979 MZ2	16576
1979 MX6	16868	1979 OQ5	16869	1979 PA	16694	1979 WE2	17012
1979 WX3	17013	1980 FH1	16228	1980 FH12	16228	1980 PV1	16423
1980 PU2	16205	1980 PV2	16205	1980 PW2	16205	1980 PX2	16205
1980 PY2	16205	1980 PZ2	16205	1980 PA3	16205	1980 PB3	16423
1980 PC3	16685	1980 PE3	16685	1980 RE1	16576	1980 TH	16228
1980 TM	16694	1981 DQ	16423	1981 EU8	16423	1981 EL10	16424
1981 EO20	16228	1981 ER21	16576	1981 ET31	16577	1981 ED37	16229
1981 EF37	16695	1981 EW38	16424	1981 EA39	16229	1981 EQ40	16229
1981 EQ42	16424	1981 JE2	16230	1981 JS2	16230	1981 JB3	16230
1981 KJ	16425	1981 QT	16230	1981 SM	17013	1981 SD4	17013
1981 WA1	17013	1981 WF9	16695	1982 BP2	16695	1982 DB	17014
1982 FJ	17014	1982 OS	17014	1982 RO1	17014	1982 RW1	16231
1982 SM7	16577	1982 ST7	16231	1982 TX	17015	1982 UT6	16425
1983 AC1	16231	1983 AO2	16577	1983 CM	16425	1983 CF1	16869
1983 GQ	16869	1983 NL	16578	1983 PY	16231	1983 QE	16578
1983 RK3	16232	1983 XX	17015	1984 DR	16552	1984 DC1	16425
1984 SZ1	16870	1984 SQ2	16870	1984 SQ4	16696	1984 UT	16578
1984 UC1	16578	1985 CS1	16696	1985 DY1	16579	1985 DX2	16579
1985 GW	16870	1985 JJ	16696	1985 JL	16870	1985 PJ	17015
1985 QM5	17016	1985 RD	17016	1985 RJ5	16697	1985 SW4	17016
1985 TL	16871	1985 TJ1	17016	1985 UC	16232	1985 UW4	17017
1985 VD	17017	1985 VD1	16871	1985 VP3	17017	1985 XS	16426
1986 AJ	16871	1986 AA2	16579	1986 EJ	16871	1986 EN	16426
1986 JA	17017	1986 JD	16871	1986 JQ	16579	1986 PQ	16872
1986 PT4	16426	1986 QJ2	16580	1986 QS3	16427	1986 RB5	16427
1986 RD5	16872	1986 RQ5	16872	1986 TU6	17018	1986 TB12	16873
1986 VG1	16873	1986 WQ2	16580	1987 BS2	16697	1987 DG6	17018
1987 DW6	16232	1987 HW	16233	1987 HE1	16233	1987 OC	16697
1987 OR	16427	1987 QT1	16428	1987 QF6	16552	1987 QY10	16428
1987 RG1	16552	1987 RQ2	16552	1987 SH2	17018	1987 ST11	16580
1987 SE13	16552	1987 UV1	16428	1987 UU2	16873	1987 VG1	17019

1987 WF	17019	1987 YL1	16581	1987 YU1	16428	1988 AF1	16581
1988 AW1	16873	1988 AX4	16874	1988 AE5	16429	1988 BJ	16581
1988 BW1	16429	1988 BS3	17019	1988 BO5	16874	1988 CD4	16697
1988 CF5	16698	1988 CT5	16429	1988 DJ	16874	1988 ED	17019
1988 EG	16875	1988 EP	16381	1988 ER2	16698	1988 JE	16381
1988 JN	16233	1988 LK	16206	1988 PV	16994	1988 PH1	16429
1988 RD	16430	1988 RV	16206	1988 RD3	16430	1988 RR3	16582
1988 RR4	16430	1988 RQ5	16431	1988 RB11	16582	1988 RR12	16381
1988 SH1	16582	1988 TZ1	16206	1988 UA	16206	1988 UJ	16234
1988 UV	16842	1988 VO2	16431	1988 VW2	16381	1988 VM3	16431
1988 VP4	17020	1988 VS4	16582	1988 VA6	16381	1988 WC	16875
1988 WE	16698	1988 XE1	16234	1988 XO1	16431	1988 XV1	16381
1988 XY1	16381	1988 XX2	16552	1988 XY2	16552	1988 XM4	16381
1989 AE	16552	1989 AH	16583	1989 AM	16583	1989 AL2	16583
1989 AN2	16583	1989 AY6	16875	1989 AF7	16552	1989 BQ	16234
1989 BA1	16699	1989 BB1	16234	1989 CV	16432	1989 CW	16876
1989 CK1	16432	1989 CW1	16432	1989 CE2	17020	1989 CH2	16583
1989 DJ	16432	1989 EL	16876	1989 EO11	16433	1989 FA	17020
1989 GF	16876	1989 GN	17020	1989 GO	17021	1989 GB1	16877
1989 GQ1	16235	1989 GP6	16699	1989 OB	16235	1989 PB	16584
1989 QL	16433	1989 QO	16434	1989 RH	16235	1989 RS	16206
1989 RE1	16842	1989 RP1	16206	1989 RT1	16206	1989 RV2	16206
1989 SC	16552	1989 SG	16434	1989 SL	16877	1989 SX	16842
1989 SY	16842	1989 SG5	16235	1989 SC8	16842	1989 SL8	16842
1989 SM8	16842	1989 SO8	16877	1989 SV8	16206	1989 SW8	16206
1989 SY8	16206	1989 SZ8	16206	1989 SG9	16206	1989 SO9	16206
1989 SP9	16206	1989 SQ9	16206	1989 ST9	16206	1989 SX9	16206
1989 SY9	16206	1989 SZ9	16206	1989 SA10	16206	1989 SC10	16206
1989 SH10	16206	1989 SK10	16206	1989 SL10	16206	1989 SM10	16206
1989 SN10	16206	1989 SP10	16206	1989 SQ10	16206	1989 SC11	16206
1989 SH12	16206	1989 SJ12	16206	1989 SL12	16206	1989 TW	16842
1989 TT1	16206	1989 TU1	16842	1989 TD2	16206	1989 TJ2	16206
1989 TR2	16552	1989 TS2	16236	1989 TU5	16236	1989 TX6	16381
1989 TU10	16206	1989 TX10	16206	1989 TB11	16236	1989 TN11	16206
1989 TO11	16236	1989 TP11	16206	1989 TU11	16206	1989 TV11	16206
1989 TF14	16206	1989 TH14	16206	1989 TJ14	16206	1989 TK14	16206
1989 TM14	16206	1989 TO14	16206	1989 TP14	16206	1989 TQ14	16206
1989 TW14	16206	1989 TL15	16206	1989 TN15	16207	1989 TO15	16207
1989 TP15	16207	1989 TQ15	16381	1989 TR15	16207	1989 TS15	16207
1989 TV15	16207	1989 TW15	16207	1989 TX15	16207	1989 TZ15	16207
1989 TA16	16207	1989 TB16	16207	1989 TD16	16207	1989 TE16	16207
1989 TF16	16207	1989 TG16	16207	1989 TH16	16207	1989 TK16	16207
1989 TM16	16207	1989 TN16	16207	1989 TP16	16207	1989 TG17	16877
1989 TS17	16207	1989 UF	16842	1989 UN	16842	1989 UP	16236
1989 UR	16434	1989 UT	16842	1989 UA1	16842	1989 UD1	16207
1989 UE1	16207	1989 UF1	16207	1989 UH1	16552	1989 UP1	16842
1989 US1	16552	1989 UU1	16699	1989 UV1	16207	1989 UY1	16552
1989 UB3	16552	1989 UN3	16552	1989 US3	16552	1989 UY3	16237
1989 UB4	16842	1989 UR4	16584	1989 UL5	16237	1989 UT5	16237
1989 UW5	16552	1989 UX5	16237	1989 UZ5	16552	1989 UF6	16552
1989 UF7	16434	1989 UB8	16585	1989 UE8	16585	1989 UG8	16842
1989 UK8	16878	1989 VP	16207	1989 VQ	16585	1989 VW	16207
1989 VS1	16552	1989 VC2	17021	1989 WE	16842	1989 WW	16878
1989 WL1	16207	1989 WR1	16842	1989 WJ2	16381	1989 WK2	16237
1989 WL2	16585	1989 WU2	16878	1989 WC3	16552	1989 WH4	16552
1989 XC1	16435	1989 YF	16435	1989 YM	16207	1989 YT	16435
1989 YZ1	16238	1989 YL2	16552	1989 YO3	16552	1989 YE4	16552
1989 YV4	16552	1989 YA5	16552	1989 YB5	16552	1989 YC5	16552
1989 YD5	16207	1989 YF5	16586	1989 YG5	16207	1989 YJ5	16207

1989 YK5	16207	1989 YL5	16207	1989 YN5	16207	1989 YO5	16207
1989 YP5	16878	1989 YR5	16552	1989 YU5	16435	1989 YB6	16552
1989 YC6	16552	1989 YD6	16552	1989 YE6	16552	1989 YF6	16552
1989 YG6	16552	1989 YH7	16238	1989 YG8	16879	1989 YH8	16552
1990 BA	16238	1990 BG	16879	1990 BJ	16238	1990 BK	16239
1990 BM	16239	1990 BN	16207	1990 BS	16207	1990 BV	16239
1990 BW	16436	1990 BZ	16207	1990 BA1	16207	1990 BE1	16207
1990 BG1	16207	1990 BL1	16207	1990 BM1	16207	1990 BQ1	16552
1990 BR1	16239	1990 BS1	16207	1990 BT1	16240	1990 BY1	16207
1990 BA2	16207	1990 BB2	16207	1990 BC2	16207	1990 BE2	16381
1990 BF2	16382	1990 BJ2	16240	1990 BN2	16240	1990 CH	16240
1990 DA	16586	1990 DD	16241	1990 DJ	16436	1990 DK	16208
1990 DL	16552	1990 DM	16241	1990 DV	16552	1990 DX	16241
1990 DY	16208	1990 DZ	16208	1990 DA1	16382	1990 DE1	16208
1990 DF1	16208	1990 DG1	16208	1990 DM1	16879	1990 DQ1	16553
1990 EA	16436	1990 EB	16382	1990 EC	16241	1990 EJ	16553
1990 EK	16382	1990 EO	16382	1990 ER	16382	1990 EU	16382
1990 EZ	16382	1990 EC1	16382	1990 EG1	16382	1990 EH1	16382
1990 EJ1	16382	1990 EL1	16382	1990 EM1	16382	1990 EN1	16382
1990 EO1	16382	1990 EP1	16382	1990 ES1	16382	1990 ET1	16382
1990 EU1	16382	1990 EV1	16553	1990 EX1	16382	1990 EY1	16382
1990 EF2	16382	1990 EJ2	16879	1990 EK2	16382	1990 EL2	16382
1990 EP2	16382	1990 EQ2	16382	1990 ER2	16382	1990 ES2	16382
1990 ET2	16553	1990 EX2	16880	1990 EZ2	16553	1990 EG3	16553
1990 EM3	16553	1990 EN3	16553	1990 EP3	16553	1990 ES3	16553
1990 EN4	16553	1990 EO4	16553	1990 ES4	16553	1990 EU4	16553
1990 EA5	16553	1990 FC	16382	1990 FD	16382	1990 FG	16994
1990 FH	16382	1990 FL	16382	1990 FM	16382	1990 FP	16586
1990 FQ	16553	1990 FR	16436	1990 FS	16586	1990 FT	16437
1990 FU	16382	1990 FW	16553	1990 FX	16382	1990 FC1	16437
1990 FD1	16382	1990 FH1	16382	1990 FK1	16382	1990 FM1	16437
1990 FP1	16587	1990 FQ1	16382	1990 FR1	16382	1990 FS1	16437
1990 FT1	16587	1990 FV1	16553	1990 FW1	16587	1990 FX1	16382
1990 FY1	16382	1990 FA2	16382	1990 FC2	16383	1990 FJ2	16383
1990 GA	16553	1990 GE	16553	1990 GF	16553	1990 GN	16553
1990 GS	16587	1990 HA	16588	1990 HE	16553	1990 HF	16553
1990 HG	16553	1990 HJ	16553	1990 HK	16553	1990 HP	16553
1990 HR	16700	1990 HW	16553	1990 HY	16553	1990 HC1	16553
1990 HF1	16588	1990 HH1	16553	1990 HL1	16685	1990 HM1	16588
1990 HU1	16553	1990 HW1	16553	1990 HZ1	16553	1990 HA2	16553
1990 HB2	16553	1990 KA	16588	1990 KC	16553	1990 KD	16553
1990 KE	16553	1990 KF	16553	1990 KG	16588	1990 KJ	16685
1990 KK	17021	1990 KL	16842	1990 KM	16685	1990 KO	16842
1990 KR	16553	1990 KT	16685	1990 KV	16685	1990 KX	16685
1990 KB1	16700	1990 KC1	16553	1990 KD1	16553	1990 KE1	16553
1990 KF1	16553	1990 KL1	16553	1990 KM1	16553	1990 KN1	16553
1990 LA	16880	1990 MA	16880	1990 MB	17022	1990 MC	16685
1990 ME	16881	1990 MF	17022	1990 MG	16842	1990 MJ	17022
1990 MK	16685	1990 MN	16881	1990 MR	16994	1990 MU	16881
1990 MV	16842	1990 MX	16881	1990 OA	16881	1990 OB	16994
1990 OD	16994	1990 OE	16994	1990 OF	16994	1990 OH	16994
1990 OJ	16994	1990 OK	16994	1990 OL	17022	1990 OO	17022
1990 OS	16882	1990 OT	16994	1990 OV	16994	1990 OX	17023
1990 OY	16994	1990 OZ	16842	1990 OA1	16994	1990 OB1	16994
1990 OC1	16994	1990 OD1	16843	1990 OF1	16994	1990 OH1	16994
1990 OK1	16843	1990 OE2	17023	1990 OF2	16843	1990 OG2	16843
1990 OJ2	17023	1990 OK2	16843	1990 OM2	16843	1990 ON2	16843
1990 OO2	16843	1990 OQ2	16843	1990 OX2	16843	1990 OY2	16994
1990 OZ2	16843	1990 OA3	16843	1990 OB3	16843	1990 OC3	16843

1990 OD3	16843	1990 OK3	16843	1990 OO3	16994	1990 OR3	16994
1990 OT3	16994	1990 OY3	16994	1990 OB4	16843	1990 OD4	17023
1990 OE4	16843	1990 OG4	16843	1990 OH4	16882	1990 OJ4	16843
1990 OK4	16843	1990 OL4	16843	1990 OM4	16843	1990 ON4	16843
1990 OO4	16843	1990 OS4	16843	1990 OT4	16843	1990 OV4	16843
1990 OY4	16843	1990 OZ4	16843	1990 OA5	16843	1990 OB5	16843
1990 OD5	16843	1990 OE5	16843	1990 OG5	16843	1990 PA	16994
1990 PC	16843	1990 PF	16994	1990 QA	16994	1990 QB	16994
1990 QF	17024	1990 QG	16994	1990 QM	16995	1990 QY	16995
1990 QA1	16995	1990 QC1	17024	1990 QG1	16995	1990 QH1	16995
1990 QL1	16995	1990 QM1	16995	1990 QR1	16995	1990 QS1	16995
1990 QV1	16995	1990 QA2	16995	1990 QM2	16995	1990 QN2	16995
1990 QY2	16995	1990 QZ2	16995	1990 QB3	16995	1990 QG3	16995
1990 QH3	16995	1990 QO3	16995	1990 QP3	16995	1990 QT3	17024
1990 QU3	16995	1990 QV3	16995	1990 QW3	17024	1990 QX3	16995
1990 QY3	16995	1990 QZ3	16995	1990 QA4	16995	1990 QB4	16995
1990 QD4	16995	1990 QE4	16995	1990 QF4	16995	1990 QG4	16995
1990 QH4	16995	1990 QL4	16995	1990 QS4	16995	1990 QT4	16995
1990 QU4	16995	1990 QV4	16995	1990 QW4	16995	1990 QX4	16995
1990 QZ4	16995	1990 QB5	16995	1990 QC5	16995	1990 QD5	16995
1990 QE5	16995	1990 QF5	16995	1990 QJ5	16995	1990 RC	16995
1990 SA	17026	1990 SB	17025	1990 SC	16995	1990 SM	17025
1990 SN	16995	1990 SO	16995	1990 SP	17025	2557 P-L	16438
2647 P-L	16438	3066 P-L	16438	3553 P-L	16589	4015 P-L	16882
4226 P-L	16439	4274 P-L	16439	4577 P-L	17025	4594 P-L	16439
6097 P-L	16701	6372 P-L	16242	6626 P-L	16882	6743 P-L	16883
7606 P-L	16242	1038 T-2	16242	1167 T-2	16589	2145 T-2	16242
2181 T-2	16883	2222 T-2	16243	2315 T-2	16883	3033 T-2	16243
3099 T-2	17025	3269 T-2	16439	4069 T-2	17025	5187 T-2	16883
5447 T-2	16589	5493 T-2	16884	1182 T-3	16440	1214 T-3	16440
2078 T-3	16243	3104 T-3	16243	3166 T-3	16440	3453 T-3	16590
4046 T-3	16440	4250 T-3	16884	5175 T-3	16441	5193 T-3	16441

* * * * *

OBSERVATIONS OF COMETS.

Observations are published here for the following observatory codes:

006 Fabra. 0.38-m f/11 Mailhat astrograph. Observers J. M. Codina. J. Nunez and N. Torras.
026 Zimmerwald. Observers P. Wild, T. Schildknecht and U. Hugentobler.
046 Klet. Observer A. Mrkos.
114 Engelhardt Observatory, Zelenchukskaya Station. 0.40-m astrograph. Observers V. N. Kitkin and S. K. Fomin. From Kiev Komet. Tsirk.
210 Alma Ata. Observers N. S. Gorodetskaya, I. B. L'vova and D. A. Rozhkovskij. From Kiev Komet. Tsirk.
372 Geisei. 0.60-m reflector. Observer T. Seki.
373 JCPM Oishi Station. Observer M. Tsumura. Measured by T. Kojima.
413 Siding Spring. Uppsala Southern Schmidt. Observer R. H. McNaught.
494 Stakenbridge. Observer B. Manning.
503 Cambridge. Observer J. D. Shanklin.
553 Chorzow. Observers I. Wlodarczyk, M. Szczepanski, T. Firszt, S. Janta, M. Greupner, I. Kuczynzki, B. Osiejuk, B. Pawicka and T. Piwek.
657 Victoria. Observers J. Tatum and D. Balam.
675 Palomar. 1.2-m and 0.46-cm Schmidt, 1.6-m reflector + PFUEI. Observers J. A. Brown, G. A. Carlson, J. Gibson, H. E. Holt, H. R. Holt, J. D. Mendenhall, J. Mueller and C. M. Olmstead.

688 Lowell Observatory, Anderson Mesa Station. 1.8-m reflector + CCD. Observers B. A. Skiff and T. A. Polakis. Measured by B. A. Skiff.
801 Oak Ridge Observatory. 1.5-m reflector + CCD. Observers R. E. McCrosky and C.-Y. Shao.
887 Ojima. 0.30-m f/5.8 reflector. Observer T. Niijima. Measured by T. Urata.

Object	Date	UT	R. A. (1950)	Decl.	Mag.	N	Obs.
		Periodic Comet Schwassmann-Wachmann 1					
/1974 II	1990	09 16.31708	01 42 36.06	+21 49 22.6			801
/1974 II	1990	09 18.31535	01 41 56.27	+21 48 47.1			801
/1974 II	1990	09 19.30618	01 41 35.45	+21 48 24.0			801
/1974 II	1990	09 16.93889	01 42 24.00	+21 49 11.3	13.3T		046
/1974 II	1990	09 16.95389	01 42 23.69	+21 49 10.9			046
/1974 II	1990	09 24.97014	01 39 28.63	+21 44 40.9	14.2T		046
/1974 II	1990	09 24.98090	01 39 27.95	+21 44 40.6			046
		Periodic Comet Arend-Rigaux					
/1984 XXI	1990	09 18.20443	21 09 45.54	-25 34 55.5	19.5N	1	675
/1984 XXI	1990	09 18.26882	21 09 43.24	-25 35 08.5		1	675
		Periodic Comet Encke					
/1987 XIII	1990	09 20.52611	08 09 43.80	+33 14 50.3			657
/1987 XIII	1990	09 20.82361	08 12 31.44	+33 05 44.6			372
/1987 XIII	1990	09 20.82535	08 12 32.06	+33 05 41.4			372
/1987 XIII	1990	09 30.83432	09 46 27.41	+25 12 23.6	8.5T		372
/1987 XIII	1990	09 30.83709	09 46 28.77	+25 12 12.1			372
/1987 XIII	1990	10 01.19326	09 49 41.7	+24 50 00		2	494
		Comet Furuyama (1988 IV)					
/1988 IV	1988	01 18.69307	01 55 02.87	-16 04 56.2			114
/1988 IV	1988	02 05.69292	01 40 30.14	-20 20 20.6			114
		Comet Liller (1988 V)					
/1988 V	1988	01 24.65428	23 54 20.96	-19 02 40.8			114
/1988 V	1988	02 05.68039	00 00 18.54	-10 38 16.8			114
/1988 V	1988	02 08.68377	00 02 05.56	-08 29 55.4			114
/1988 V	1988	02 10.67450	00 03 19.71	-07 04 10.4			114
		Periodic Comet Kopff					
/1988k	1990	09 22.34306	02 24 04.50	+07 01 23.5	16.0T		688
/1988k	1990	09 22.35594	02 24 04.01	+07 01 20.0			688
/1988k	1990	09 22.36149	02 24 03.79	+07 01 18.3	16.0T		688
/1988k	1990	09 25.36097	02 22 08.56	+06 46 40.6			688
/1988k	1990	09 25.36750	02 22 08.35	+06 46 38.5			688
/1988k	1990	09 25.37701	02 22 07.96	+06 46 35.4			688
		Comet Helin-Roman-Alu (1989v)					
/1989v	1989	10 28.64797	21 56 12.60	+17 43 48.7	12.0T		210
/1989v	1989	11 17.62240	20 32 40.30	+32 23 01.2	11.4T		210
		Comet Austin (1989c1)					
/1989c1	1990	04 26.15139	00 31 36.15	+35 56 30.1		3	006
/1989c1	1990	04 26.16424	00 31 32.22	+35 56 33.7		3	006
/1989c1	1990	05 08.14271	23 19 34.73	+33 17 12.5			006
/1989c1	1990	05 08.14896	23 19 31.95	+33 17 00.2			006
/1989c1	1990	05 12.12917	22 46 30.07	+30 22 43.6			006
/1989c1	1990	05 12.13403	22 46 27.40	+30 22 27.1			006

/1989c1	1990	05	15.13958	22	16	01.51	+26	57	14.7		006
/1989c1	1990	05	15.14688	22	15	56.58	+26	56	39.2		006
/1989c1	1990	05	18.12986	21	39	54.14	+22	00	42.6		006
/1989c1	1990	05	18.13958	21	39	46.43	+21	59	34.3		006
/1989c1	1990	05	21.13056	20	57	26.16	+15	03	43.5		006
/1989c1	1990	05	21.14097	20	57	16.55	+15	02	03.8		006
/1989c1	1990	05	25.13090	19	53	33.52	+02	54	45.7		006
/1989c1	1990	05	25.13854	19	53	25.83	+02	53	15.5		006
/1989c1	1990	05	29.11840	18	49	17.65	-09	42	47.9		006
/1989c1	1990	05	29.13785	18	48	59.53	-09	46	10.3		006

Periodic Comet Schwassmann-Wachmann 3

/1989d1	1990	09	16.32194	02	13	49.68	-07	18	41.4		801
/1989d1	1990	09	16.33845	02	13	48.22	-07	18	47.3		801
/1989d1	1990	09	18.32244	02	10	56.27	-07	29	58.7		801
/1989d1	1990	09	18.33083	02	10	55.50	-07	30	01.7		801

Comet Skorichenko-George (1989e1)

/1989e1	1990	01	13.58628	20	49	12.82	+29	31	16.3	11.3T	210
/1989e1	1990	10	16.75720	09	08	11.97	-16	39	03.5	15 T	413
/1989e1	1990	10	17.75832	09	08	48.05	-17	00	00.5		413

Periodic Comet Wild 4

/1990a	1990	05	27.88819	10	00	10.60	+13	56	35.7		026
/1990a	1990	06	16.90139	10	34	35.19	+10	02	00.2		026
/1990a	1990	06	25.90104	10	51	05.89	+08	06	22.6		026

Comet Levy (1990c)

/1990c	1990	07	28.94272	23	34	39.93	+28	22	59.1		503
/1990c	1990	08	24.57850	20	16	43.45	-00	51	10.3		372
/1990c	1990	08	24.58058	20	16	41.66	-00	51	29.9		372
/1990c	1990	08	24.58267	20	16	39.93	-00	51	50.0		372
/1990c	1990	08	24.65351	20	15	42.25	-01	02	53.5		372
/1990c	1990	08	24.90729	20	12	17.07	-01	42	42.2		553
/1990c	1990	08	25.84759	19	59	30.30	-04	10	47.8		553
/1990c	1990	08	25.86009	19	59	20.14	-04	12	43.3		553
/1990c	1990	08	25.87259	19	59	09.83	-04	14	42.5		553
/1990c	1990	08	30.51244	18	56	45.45	-15	45	36.7		887
/1990c	1990	08	30.51314	18	56	44.93	-15	45	41.9		887
/1990c	1990	08	30.51580	18	56	42.82	-15	46	03.4		887
/1990c	1990	10	17.42590	15	05	04.21	-39	55	13.0		413
/1990c	1990	10	17.42781	15	05	04.12	-39	55	12.7		413

Periodic Comet Peters-Hartley

/1990d	1990	07	19.50833	14	10	34.75	-18	01	38.9	15 T	372

Periodic Comet Honda-Mrkos-Pajdusakova

/1990f	1990	09	19.82760	09	48	30.14	+12	47	57.0	7.5T	372
/1990f	1990	09	21.51326	09	56	00.49	+12	21	07.3		657

Periodic Comet Johnson

/1990h	1990	09	09.39587	18	39	11.21	-24	51	41.9	17 T	413
/1990h	1990	09	09.43753	18	39	12.71	-24	51	53.1		413
/1990h	1990	09	11.37725	18	40	34.61	-25	00	43.4	17 T	413
/1990h	1990	09	11.41891	18	40	36.31	-25	00	53.8		413

Comet Tsuchiya-Kiuchi (1990i)

/1990i	1990	10	15.76793	10	53	04.38	-01	28	16.8		413
/1990i	1990	10	15.83872	10	52	59.86	-01	30	12.5	6 T	372

/1990i	1990	10	15.84306	10	52	59.57	-01	30	20.7	6	T	372
/1990i	1990	10	16.76383	10	51	57.05	-01	55	12.2			413
/1990i	1990	10	16.84063	10	51	51.72	-01	57	18.4	8	T	372
/1990i	1990	10	17.76430	10	50	47.20	-02	22	40.7		4	413

Periodic Comet Mueller 2

/1990j	1990	09	15.34653	00	44	43.82	+12	33	55.5	17	T 5	675
/1990j	1990	09	15.40299	00	44	42.90	+12	33	44.2		5	675
/1990j	1990	09	16.39254	00	44	23.57	+12	29	02.1	16.8T	5	675
/1990j	1990	09	16.42795	00	44	22.77	+12	28	51.5		5	675
/1990j	1990	09	17.40017	00	44	03.01	+12	24	06.2	17.0T		675
/1990j	1990	09	17.47899	00	44	01.13	+12	23	42.2			675
/1990j	1990	09	18.35972	00	43	42.26	+12	19	10.4	16.8T	6	675
/1990j	1990	09	18.38351	00	43	41.91	+12	19	06.3	16.8T	6	675
/1990j	1990	09	18.39149	00	43	41.66	+12	18	59.9			675
/1990j	1990	09	18.41493	00	43	41.10	+12	18	54.6			675
/1990j	1990	09	20.39878	00	42	55.31	+12	08	01.0	17.0T		675
/1990j	1990	09	20.43299	00	42	54.42	+12	07	50.0			675
/1990j	1990	09	20.64491	00	42	49.45	+12	06	38.5	15	T	373
/1990j	1990	09	20.65560	00	42	49.13	+12	06	33.0			373
/1990j	1990	09	21.60729	00	42	25.79	+12	00	59.5	16.5T		372
/1990j	1990	09	21.61840	00	42	25.52	+12	00	55.1			372
/1990j	1990	09	26.70556	00	40	07.29	+11	27	48.5	16	T	372
/1990j	1990	09	27.33618	00	39	49.20	+11	23	17.9			657
/1990j	1990	09	30.68715	00	38	09.15	+10	58	34.4	16.5T		372

Periodic Comet Holt-Olmstead

/1990k	1990	09	20.69896	01	35	56.58	+08	30	45.8	17	T	372
/1990k	1990	09	21.72569	01	35	17.46	+08	39	07.6	17	T	372
/1990k	1990	09	21.73785	01	35	16.87	+08	39	13.3			372
/1990k	1990	09	22.31924	01	34	54.33	+08	43	56.4	16.2T		688
/1990k	1990	09	22.32417	01	34	54.13	+08	43	58.7			688
/1990k	1990	09	23.36771	01	34	11.27	+08	52	21.1			675
/1990k	1990	09	23.39358	01	34	10.10	+08	52	34.2			675
/1990k	1990	09	25.28397	01	32	48.20	+09	07	38.5	16.1T		688
/1990k	1990	09	25.28811	01	32	47.99	+09	07	40.5			688
/1990k	1990	09	26.72812	01	31	41.09	+09	19	00.6	17	T	372
/1990k	1990	09	30.69757	01	28	22.01	+09	49	38.6	17	T	372
/1990k	1990	10	20.65069	01	08	31.78	+12	06	55.7	16.5T		372
/1990k	1990	10	23.65035	01	05	34.71	+12	25	10.4	16.5T		372
/1990k	1990	10	23.66146	01	05	33.86	+12	25	15.6			372

Periodic Comet Mueller 3

/1990l	1990	09	17.41736	01	38	56.91	-01	46	30.1	17.5T		675
/1990l	1990	09	17.45139	01	38	55.92	-01	46	45.6			675
/1990l	1990	09	19.44965	01	38	13.76	-01	58	34.7	17.5T		675
/1990l	1990	09	19.48385	01	38	12.94	-01	58	46.0			675
/1990l	1990	09	24.35833	01	36	13.41	-02	28	01.9	18	T	675
/1990l	1990	09	24.41389	01	36	12.20	-02	28	16.7			675
/1990l	1990	09	25.35486	01	35	45.97	-02	34	02.2			675
/1990l	1990	09	25.39306	01	35	45.21	-02	34	11.6			675
/1990l	1990	09	30.77326	01	33	05.63	-03	06	21.1	18	T	372
/1990l	1990	09	30.78472	01	33	05.24	-03	06	25.0			372
/1990l	1990	10	19.62917	01	22	06.18	-04	45	06.5	19	T	372
/1990l	1990	10	20.58472	01	21	32.10	-04	49	07.4	18.5T		372

Note 1: stellar image. 2: poor solution. 3: very faint and diffuse. 4: narrow tail 5′ long in p.a. 290 . 5: remeasurement of position on MPC 16937. 6: position uncertain.

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.	
012 Uccle							
T. Pauwels, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180 Brussels, Belgium							
Double astrograph							
1990 SQ	1990 10 16.92049		21 21 46.01	-02 58 45.3			012
1990 SQ	1990 10 16.93368		21 21 45.33	-02 58 03.4			012
026 Zimmerwald							
P. Wild, Astronomisches Institut der Universitat, Sidlerstrasse 5, CH-3012 Berne, Switzerland							
Observers P. Wild, T. Schildknecht							
Measurers P. Wild, U. Hugentobler							
0.4-m Schmidt telescope							
65	1990 09 21.86774		23 24 14.18	-05 26 10.4			026
65	1990 09 24.90347		23 22 17.60	-05 40 49.6			026
292	1990 02 20.95139		10 49 35.21	+31 59 12.0	14	T	026
544	1990 02 23.89653		09 50 18.43	+05 45 04.2	15		026

```
 645       1987 10 01.01181  01 34 54.29  +13 44 07.3                    026
 729       1990 02 23.91458  10 17 30.11  +24 33 07.6            13      026
 927       1989 03 04.83958  07 51 36.59  +37 48 08.2            14.5    026
 927       1989 03 05.84444  07 51 21.16  +37 42 12.4                    026
1627       1990 05 29.95625  13 49 56.10  +14 58 35.1            13.5    026
1627       1990 06 01.00625  13 48 41.35  +14 51 11.6                    026
1627       1990 06 16.91736  13 46 27.12  +12 23 26.8                    026
1687       1988 11 07.12992  04 38 33.03  +19 53 57.9            14.5    026
1687       1988 11 14.95417  04 33 03.62  +19 47 38.9                    026
1687       1990 04 19.86736  10 42 43.52  +11 43 22.9            16.5    026
1773       1990 01 21.94028  05 43 34.80  +26 40 34.5            15      026
1773       1990 01 22.94028  05 42 53.93  +26 41 07.1                    026
1775       1986 06 10.02361  18 11 53.34  -01 32 43.4            15.5    026
1775       1986 06 16.03056  18 07 20.14  -01 02 37.8                    026
1775       1986 06 29.96875  17 56 02.96  -00 31 24.6                    026
1775       1986 07 09.97014  17 48 47.79  -00 43 28.4                    026
1775       1990 04 29.09861  15 45 51.11  -07 37 30.2            15      026
1844       1988 11 07.07153  04 23 10.88  +10 19 10.0            16      026
1844       1988 11 14.93958  04 17 00.96  +10 13 25.3                    026
1844       1990 02 23.91458  10 21 00.15  +25 14 12.6            15.5    026
1845       1990 04 29.04792  13 01 11.27  +07 43 35.7            16      026
1865       1989 11 08.12049  04 08 29.63  -02 45 53.6                    026
1937       1990 05 17.00556  14 20 54.13  -00 30 26.2            15.5    026
2034       1990 04 29.02708  13 01 28.47  -08 30 23.3                  M 026
2034       1990 04 29.88958  13 00 41.93  -08 28 39.9            16      026
2087       1988 11 07.12992  04 38 44.03  +20 08 01.7            16      026
2087       1988 11 14.95417  04 31 45.43  +19 58 10.2                    026
2138       1990 04 19.89097  12 44 23.89  +05 21 26.0            15.5    026
2303       1990 04 29.09861  15 42 22.20  -03 02 13.8            15.5    026
2695       1990 02 20.95139  10 43 42.41  +32 14 32.3            16.5  T 026
2906       1990 05 27.91111  14 27 50.28  +16 54 55.1            15.5    026
3040       1989 02 12.09863  10 58 25.80  +22 14 00.7            15      026
4132       1990 09 18.97986  23 26 38.64  -03 55 27.7            14      026
4132       1990 09 21.86774  23 24 33.14  -05 00 20.7                    026
4132       1990 09 24.90347  23 22 23.55  -06 08 27.0                    026
```

033 Tautenburg
F. Borngen, Karl Schwarzschild Observatorium, O-6901 Tautenburg,
Federal Republic of Germany
L. D. Schmadel, Astronomisches Rechen-Institut, W-6900 Heidelberg,
Federal Republic of Germany
Observers F. Borngen, L. D. Schmadel
1.3-m Schmidt telescope
PPM

```
1990 TS1 * 1990 10 10.82201  01 00 22.86  +11 50 49.9                    033
1990 TS1   1990 10 11.84493  00 59 30.90  +11 48 04.0            17.8    033
1990 TS1   1990 10 11.89215  00 59 28.46  +11 47 56.4                    033
1990 TS1   1990 10 12.84632  00 58 40.00  +11 45 17.6                    033
1990 TS1   1990 10 13.87271  00 57 48.02  +11 42 24.1                    033
1990 TS1   1990 10 14.87132  00 56 57.58  +11 39 31.8                    033
1990 TT1 * 1990 10 10.82201  01 00 43.89  +13 07 01.7                    033
1990 TT1   1990 10 11.84493  00 59 56.29  +13 00 31.5            19.1    033
1990 TT1   1990 10 11.89215  00 59 53.93  +13 00 14.0                    033
1990 TT1   1990 10 12.84632  00 59 09.55  +12 54 05.5                    033
1990 TT1   1990 10 13.87271  00 58 21.77  +12 47 22.4                    033
1990 TT1   1990 10 14.87132  00 57 35.52  +12 40 44.6                    033
1990 TU1 * 1990 10 10.82201  01 01 24.72  +13 23 12.8                    033
1990 TU1   1990 10 11.84493  01 00 38.05  +13 17 35.2            18.8    033
1990 TU1   1990 10 11.89215  01 00 35.88  +13 17 19.2                    033
```

1990	TU1		1990	10	12.84632	00	59	52.36	+13	12	00.8		033
1990	TU1		1990	10	13.87271	00	59	05.81	+13	06	13.5		033
1990	TV1	*	1990	10	10.82201	01	01	48.80	+13	03	41.3		033
1990	TV1		1990	10	11.84493	01	00	53.13	+12	57	43.2	19.2	033
1990	TV1		1990	10	11.89215	01	00	50.50	+12	57	26.6		033
1990	TV1		1990	10	12.84632	00	59	58.50	+12	51	45.7		033
1990	TV1		1990	10	13.87271	00	59	02.50	+12	45	34.9		033
1990	TV1		1990	10	14.87132	00	58	08.07	+12	39	26.3		033
1990	TW1	*	1990	10	10.82201	01	02	36.15	+10	57	25.0		033
1990	TW1		1990	10	11.84493	01	01	28.71	+10	56	11.5	19.1	033
1990	TW1		1990	10	11.89215	01	01	25.49	+10	56	07.7		033
1990	TW1		1990	10	12.84632	01	00	22.53	+10	54	55.3		033
1990	TW1		1990	10	13.87271	00	59	14.89	+10	53	30.5		033
1990	TW1		1990	10	14.87132	00	58	09.21	+10	52	04.5		033
1990	TX1	*	1990	10	10.82201	01	02	51.47	+10	45	56.6		033
1990	TX1		1990	10	11.84493	01	01	53.16	+10	39	07.3	18.7	033
1990	TX1		1990	10	11.89215	01	01	50.45	+10	38	48.6		033
1990	TX1		1990	10	12.84632	01	00	56.28	+10	32	23.1		033
1990	TX1		1990	10	13.87271	00	59	58.40	+10	25	26.0		033
1990	TX1		1990	10	14.87132	00	59	02.33	+10	18	41.4		033
1990	TY1	*	1990	10	10.82201	01	02	54.52	+13	32	22.2		033
1990	TY1		1990	10	11.84493	01	02	00.83	+13	27	44.4	18.8	033
1990	TY1		1990	10	11.89215	01	01	58.28	+13	27	32.8		033
1990	TY1		1990	10	12.84632	01	01	08.22	+13	23	09.7		033
1990	TY1		1990	10	13.87271	01	00	14.46	+13	18	21.9		033
1990	TY1		1990	10	14.87132	00	59	22.22	+13	13	39.1		033
1990	TZ1	*	1990	10	10.82201	01	02	58.00	+10	46	41.7		033
1990	TZ1		1990	10	11.84493	01	02	06.26	+10	41	13.6	17.9	033
1990	TZ1		1990	10	11.89215	01	02	03.81	+10	40	58.8		033
1990	TZ1		1990	10	12.84632	01	01	15.63	+10	35	49.3		033
1990	TZ1		1990	10	13.87271	01	00	23.86	+10	30	14.0		033
1990	TZ1		1990	10	14.87132	00	59	33.70	+10	24	46.1		033
1990	TA2	*	1990	10	10.82201	01	03	03.42	+13	15	42.9		033
1990	TA2		1990	10	11.84493	01	02	12.57	+13	09	25.0	19.7	033
1990	TA2		1990	10	11.89215	01	02	10.22	+13	09	08.1		033
1990	TA2		1990	10	13.87271	01	00	31.91	+12	56	42.4		033
1990	TB2	*	1990	10	10.82201	01	04	18.46	+10	30	33.0		033
1990	TB2		1990	10	11.84493	01	03	23.19	+10	29	18.9	19.0	033
1990	TB2		1990	10	11.89215	01	03	20.61	+10	29	16.0		033
1990	TB2		1990	10	12.84632	01	02	28.96	+10	28	01.3		033
1990	TB2		1990	10	13.87271	01	01	33.52	+10	26	40.7		033
1990	TB2		1990	10	14.87132	01	00	39.71	+10	25	21.6		033
1990	TC2	*	1990	10	10.82201	01	05	07.41	+11	26	57.7		033
1990	TC2		1990	10	11.84493	01	04	13.21	+11	18	51.6	18.7	033
1990	TC2		1990	10	11.89215	01	04	10.67	+11	18	29.2		033
1990	TC2		1990	10	12.84632	01	03	19.94	+11	10	47.3		033
1990	TC2		1990	10	13.87271	01	02	25.38	+11	02	26.1		033
1990	TC2		1990	10	14.87132	01	01	32.25	+10	54	13.0		033
1990	TD2	*	1990	10	10.82201	01	07	06.64	+11	50	55.5		033
1990	TD2		1990	10	11.84493	01	06	12.84	+11	44	26.4	19.0	033
1990	TD2		1990	10	11.89215	01	06	10.27	+11	44	08.6		033
1990	TD2		1990	10	12.84632	01	05	20.14	+11	38	01.2		033
1990	TD2		1990	10	13.87271	01	04	26.38	+11	31	21.9		033
1990	TD2		1990	10	14.87132	01	03	34.27	+11	24	50.8		033
1990	TE2	*	1990	10	10.82201	01	07	09.94	+11	52	47.2		033
1990	TE2		1990	10	11.84493	01	06	12.28	+11	45	48.8	19.6	033
1990	TE2		1990	10	11.89215	01	06	09.61	+11	45	31.4		033
1990	TE2		1990	10	12.84632	01	05	15.79	+11	38	57.2		033
1990	TE2		1990	10	13.87271	01	04	18.02	+11	31	49.4		033

1990	TE2		1990	10	14.87132	01	03	21.67	+11	24	49.7		033
1990	TF2	*	1990	10	10.82201	01	07	28.33	+13	28	54.9		033
1990	TF2		1990	10	11.84493	01	06	30.57	+13	24	29.9	18.9	033
1990	TF2		1990	10	11.89215	01	06	27.79	+13	24	18.5		033
1990	TF2		1990	10	12.84632	01	05	33.87	+13	20	04.1		033
1990	TF2		1990	10	13.87271	01	04	35.79	+13	15	25.9		033
1990	TF2		1990	10	14.87132	01	03	39.41	+13	10	45.6		033
1990	TG2	*	1990	10	10.82201	01	07	59.00	+11	22	10.5		033
1990	TG2		1990	10	11.84493	01	06	53.24	+11	23	58.8	18.2	033
1990	TG2		1990	10	11.89215	01	06	50.13	+11	24	04.4		033
1990	TG2		1990	10	12.84632	01	05	48.72	+11	25	40.4		033
1990	TG2		1990	10	13.87271	01	04	42.66	+11	27	21.3		033
1990	TG2		1990	10	14.87132	01	03	38.36	+11	28	55.6		033
1990	TH2	*	1990	10	10.82201	01	08	00.09	+11	19	45.9		033
1990	TH2		1990	10	11.84493	01	07	08.94	+11	14	06.9	19.0	033
1990	TH2		1990	10	11.89215	01	07	06.59	+11	13	51.2		033
1990	TH2		1990	10	12.84632	01	06	18.80	+11	08	31.4		033
1990	TH2		1990	10	13.87271	01	05	27.57	+11	02	45.0		033
1990	TH2		1990	10	14.87132	01	04	37.87	+10	57	04.8		033
1990	TJ2	*	1990	10	10.82201	01	08	41.93	+12	13	58.2		033
1990	TJ2		1990	10	11.84493	01	07	57.08	+12	06	34.9	17.6	033
1990	TJ2		1990	10	11.89215	01	07	55.06	+12	06	14.1		033
1990	TJ2		1990	10	12.84632	01	07	13.16	+11	59	16.3		033
1990	TJ2		1990	10	13.87271	01	06	28.26	+11	51	43.6		033
1990	TJ2		1990	10	14.87132	01	05	44.55	+11	44	20.8		033
1990	TK2	*	1990	10	10.82201	01	08	51.82	+12	13	39.3		033
1990	TK2		1990	10	11.84493	01	07	56.04	+12	12	56.4	17.7	033
1990	TK2		1990	10	11.89215	01	07	53.42	+12	12	54.8		033
1990	TK2		1990	10	12.84632	01	07	01.41	+12	12	11.9		033
1990	TK2		1990	10	13.87271	01	06	05.52	+12	11	22.8		033
1990	TK2		1990	10	14.87132	01	05	11.22	+12	10	32.0		033
1990	TL2	*	1990	10	10.82201	01	09	25.54	+13	08	54.2		033
1990	TL2		1990	10	11.84493	01	08	19.92	+13	04	58.7	19.2	033
1990	TL2		1990	10	11.89215	01	08	16.82	+13	04	47.0		033
1990	TL2		1990	10	12.84632	01	07	15.85	+13	01	02.2		033
1990	TL2		1990	10	13.87271	01	06	10.55	+12	56	55.4		033
1990	TL2		1990	10	14.87132	01	05	07.35	+12	52	53.9		033
1990	TM2	*	1990	10	10.82201	01	09	47.18	+11	36	04.4		033
1990	TM2		1990	10	11.84493	01	09	00.98	+11	30	38.4	19.3	033
1990	TM2		1990	10	11.89215	01	08	58.78	+11	30	23.9		033
1990	TM2		1990	10	12.84632	01	08	15.59	+11	25	16.0	V	033
1990	TM2		1990	10	13.87271	01	07	29.43	+11	19	46.6		033
1990	TM2		1990	10	14.87132	01	06	44.49	+11	14	21.9		033
1990	TN2	*	1990	10	10.82201	01	09	57.94	+11	52	27.5		033
1990	TN2		1990	10	11.84493	01	09	14.23	+11	38	49.6	18.0	033
1990	TN2		1990	10	11.89215	01	09	12.13	+11	38	12.6		033
1990	TN2		1990	10	12.84632	01	08	31.21	+11	25	23.3		033
1990	TN2		1990	10	13.87271	01	07	47.32	+11	11	31.6		033
1990	TN2		1990	10	14.87132	01	07	04.54	+10	57	58.6		033
1990	TO2	*	1990	10	10.82201	01	09	58.58	+13	06	49.8		033
1990	TO2		1990	10	11.84493	01	09	01.75	+13	00	08.4	18.6	033
1990	TO2		1990	10	11.89215	01	08	59.05	+12	59	51.0		033
1990	TO2		1990	10	12.84632	01	08	06.23	+12	53	33.5		033
1990	TO2		1990	10	13.87271	01	07	09.61	+12	46	46.8		033
1990	TO2		1990	10	14.87132	01	06	14.76	+12	40	06.5		033
1990	TP2	*	1990	10	10.82201	01	12	25.14	+10	43	20.4		033
1990	TP2		1990	10	11.84493	01	11	37.43	+10	39	41.3	19.5	033
1990	TP2		1990	10	11.89215	01	11	35.33	+10	39	31.6		033
1990	TP2		1990	10	12.84632	01	10	50.66	+10	36	05.3		033

1990	TP2		1990	10	13.87271	01	10	02.64	+10	32	22.2	033
1990	TP2		1990	10	14.87132	01	09	16.04	+10	28	42.3	033
1990	TQ2	*	1990	10	10.82201	01	12	41.09	+12	30	06.3	033
1990	TQ2		1990	10	11.84493	01	11	29.79	+12	31	13.0	18.3 033
1990	TQ2		1990	10	11.89215	01	11	26.41	+12	31	16.9	033
1990	TQ2		1990	10	12.84632	01	10	19.93	+12	32	12.6	033
1990	TQ2		1990	10	13.87271	01	09	08.50	+12	33	09.0	033
1990	TQ2		1990	10	14.87132	01	07	59.19	+12	33	59.5	033
1990	TR2	*	1990	10	10.82201	01	13	01.98	+12	33	35.3	033
1990	TR2		1990	10	11.84493	01	12	17.25	+12	28	05.0	18.9 033
1990	TR2		1990	10	11.89215	01	12	15.13	+12	27	49.9	033
1990	TR2		1990	10	12.84632	01	11	33.33	+12	22	37.3	033
1990	TR2		1990	10	13.87271	01	10	48.26	+12	16	59.5	033
1990	TR2		1990	10	14.87132	01	10	04.46	+12	11	27.2	033
1990	TS2	*	1990	10	10.82201	01	13	08.67	+12	43	57.3	033
1990	TS2		1990	10	11.84493	01	12	01.24	+12	44	17.3	18.6 033
1990	TS2		1990	10	11.89215	01	11	58.04	+12	44	18.1	033
1990	TS2		1990	10	12.84632	01	10	54.95	+12	44	33.5	033
1990	TS2		1990	10	13.87271	01	09	46.93	+12	44	43.4	033
1990	TS2		1990	10	14.87132	01	08	40.67	+12	44	49.9	033
1990	TT2	*	1990	10	11.84493	01	01	38.88	+13	36	38.6	18.1 033
1990	TT2		1990	10	11.89215	01	01	36.56	+13	36	13.1	033
1990	TT2		1990	10	12.84632	01	00	50.87	+13	27	22.3	033
1990	TT2		1990	10	13.87271	01	00	01.80	+13	17	47.4	033
1990	TT2		1990	10	14.87132	00	59	14.28	+13	08	20.1	033
1990	TU2	*	1990	10	11.84493	01	12	29.07	+10	41	56.2	18.4 033
1990	TU2		1990	10	11.89215	01	12	25.99	+10	41	39.4	033
1990	TU2		1990	10	12.84632	01	11	23.83	+10	35	52.5	033
1990	TU2		1990	10	13.87271	01	10	17.18	+10	29	37.2	033
1990	TU2		1990	10	14.87132	01	09	12.70	+10	23	29.9	033
828			1990	08	17.01458	00	17	56.24	+01	39	47.2	16.3 033
1691			1990	08	17.01458	00	18	14.42	+02	02	49.9	16.5 033
2716			1990	10	10.82201	01	01	57.96	+10	53	07.8	033
2716			1990	10	11.84493	01	01	06.56	+10	43	47.3	16.6 033
2716			1990	10	11.89215	01	01	04.14	+10	43	21.1	033
2716			1990	10	12.84632	01	00	16.28	+10	34	33.8	033
2716			1990	10	13.87271	00	59	25.06	+10	25	03.4	033
2716			1990	10	14.87132	00	58	35.43	+10	15	46.3	033
3199			1990	08	22.98472	02	14	20.64	+30	01	20.0	16.3 033
3199			1990	08	22.99306	02	14	21.33	+30	02	11.0	033
3311			1990	08	17.01458	00	14	31.57	+01	13	43.7	18.0 033
3660			1990	10	10.82201	01	07	08.60	+12	05	39.6	033
3660			1990	10	11.84493	01	06	20.89	+12	02	32.0	17.4 033
3660			1990	10	11.89215	01	06	18.66	+12	02	24.1	033
3660			1990	10	12.84632	01	05	34.07	+11	59	26.8	033
3660			1990	10	13.87271	01	04	46.26	+11	56	14.2	033
3660			1990	10	14.87132	01	03	59.81	+11	53	05.0	033
3752			1990	08	15.84653	21	37	22.18	-00	31	42.4	17.3 033
3752			1990	08	15.85486	21	37	20.48	-00	32	14.7	033
3752			1990	08	15.91667	21	37	12.06	-00	36	03.7	033
3752			1990	08	15.92500	21	37	10.43	-00	36	39.1	V 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

1979	SS		1990	09	16.86780	22	31	36.20	-06	44	10.0	046
1979	SS		1990	09	16.88220	22	31	35.44	-06	44	11.6	046

1979	SS		1990	09	24.82535	22	25	40.28	-06	42	18.2	046
1979	SS		1990	09	24.83958	22	25	39.80	-06	42	17.8	046
1984	SM1		1990	09	16.93889	01	40	13.86	+20	25	56.5	046
1984	SM1		1990	09	16.95359	01	40	13.27	+20	25	59.8	046
1990	DL3		1990	03	15.87245	10	39	53.86	+09	59	08.0	16.7	046
1990	DL3		1990	03	15.88657	10	39	53.12	+09	59	10.4	046
1990	DL3		1990	03	16.84005	10	38	53.15	+10	01	53.0	16.8	046
1990	DL3		1990	03	16.85417	10	38	52.59	+10	01	56.1	046
1990	FD3		1990	03	17.84826	10	39	40.95	+10	48	36.7	16.8	046
1990	FD3		1990	03	17.86238	10	39	40.11	+10	48	44.6	046
1990	QF		1990	08	24.94819	22	06	48.94	-11	45	13.0	16.3	046
1990	QF		1990	08	24.96093	22	06	48.22	-11	45	14.2	046
1990	ST4	*	1990	09	16.86780	22	28	29.95	-07	14	25.7	16.6	046
1990	ST4		1990	09	16.88220	22	28	29.48	-07	14	34.9	046
1990	ST4		1990	09	24.82535	22	25	51.33	-08	20	53.4	046
1990	ST4		1990	09	24.83958	22	25	51.03	-08	20	58.9	046
1990	SU4	*	1990	09	16.90278	22	41	24.34	-15	17	07.0	16.5	046
1990	SU4		1990	09	16.91667	22	41	23.50	-15	17	08.6	046
1990	SU4		1990	09	24.86250	22	35	43.80	-15	16	10.0	046
1990	SU4		1990	09	24.87674	22	35	43.19	-15	16	08.8	046
693			1990	09	24.97014	01	43	54.31	+21	58	00.5	046
693			1990	09	24.98090	01	43	53.87	+21	58	02.1	046
1280			1990	09	24.89792	23	00	28.82	+02	10	46.8	046
1280			1990	09	24.91215	23	00	28.26	+02	10	43.5	046
2176			1990	09	24.93472	00	07	58.24	-04	10	50.1	046
2176			1990	09	24.94896	00	07	57.65	-04	10	54.9	046
3718			1990	09	16.90278	22	44	24.53	-14	15	06.6	046
3718			1990	09	16.91667	22	44	23.90	-14	15	06.4	046
4604			1990	08	15.96458	21	22	23.25	-17	22	30.9	046
4604			1990	08	15.97743	21	22	22.50	-17	22	34.4	046
4604			1990	08	24.88194	21	13	50.17	-17	50	53.1	046
4604			1990	08	24.89597	21	13	49.62	-17	50	53.2	046
4610			1990	08	24.88194	21	14	46.34	-18	50	17.8	046
4610			1990	08	24.89597	21	14	45.64	-18	50	23.0	046

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

1990	FC3	*	1990	03	30.91142	12	07	39.21	-01	30	29.3	16.3V	095
1990	FC3		1990	03	30.92531	12	07	38.64	-01	30	21.7	16.3V	095
4583			1989	10	07.88800	00	01	13.21	-02	47	00.4	095

210 Alma Ata
D. A. Rozhkovskij, Astrophysical Institute, 480068 Alma-Ata, U.S.S.R.
Observers D. A. Rozhkovskij, D. I. Gorodetskij
Measurers I. B. L'vova, S. G. Moshkina, N. S. Gorodetskaya
From Kiev Komet. Tsirk.

1917			1989	10	02.65955	20	33	05.26	-00	29	23.3	210
1917			1989	10	02.66891	20	33	07.63	-00	30	51.4	210

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

1988	BA		1990	10	16.76417	01	36	12.17	+11	20	41.0	17	372
1988	BA		1990	10	17.68538	01	35	15.61	+11	18	09.5	372

1988	BN		1990	09	21.69965	23	20	37.81	+31	22	55.9	18.5	372
1988	BN		1990	09	21.71215	23	20	37.21	+31	22	55.8		372
1989	EK2		1990	09	20.62917	00	17	43.04	-06	19	15.1	16	372
1989	EK2		1990	09	20.63924	00	17	42.47	-06	19	17.1		372
1989	EK2		1990	10	08.47917	00	00	37.33	-06	52	16.3	17	372
1989	EK2		1990	10	08.48750	00	00	36.87	-06	52	16.9		372
1989	EK2		1990	10	15.62708	23	54	54.74	-06	53	06.5	17	372
1989	EK2		1990	10	15.63611	23	54	54.35	-06	53	04.2		372
1990	QG		1990	09	20.57812	22	17	15.67	-07	08	27.0	17.5	372
1990	QG		1990	09	20.58872	22	17	15.34	-07	08	25.2		372
1990	QM		1990	09	20.55799	22	17	08.98	-10	59	32.5	17.5	372
1990	QM		1990	09	20.56771	22	17	08.59	-10	59	32.8		372
1990	QH2		1990	09	20.71389	23	13	10.75	-05	42	53.2	17	372
1990	QH2		1990	09	20.72465	23	13	10.30	-05	42	54.6		372
1990	QG4		1990	09	20.60313	22	38	12.01	-09	02	20.0	17	372
1990	QG4		1990	09	20.61580	22	38	11.39	-09	02	26.5		372
1990	SD		1990	09	21.60729	00	43	19.84	+12	00	07.4	18	372
1990	SD		1990	09	21.61840	00	43	19.27	+12	00	04.7		372
1990	SD		1990	09	26.70556	00	38	38.76	+11	36	04.6	17.5	372
1990	SA2	*	1990	09	20.75972	01	57	53.14	+12	49	52.6	18	372
1990	SA2		1990	09	20.77639	01	57	52.73	+12	49	52.6		372
1990	SA2		1990	09	21.77361	01	57	27.21	+12	48	53.0	18	372
1990	SA2		1990	09	26.76111	01	54	50.66	+12	41	23.8	17.5	372
1990	SA2		1990	09	26.77222	01	54	50.25	+12	41	24.7		372
1990	SA2		1990	10	16.76417	01	38	10.83	+11	33	37.6	17	372
1990	SA2		1990	10	17.68538	01	37	17.02	+11	29	28.4	17	372
1990	SA2		1990	10	19.67292	01	35	20.15	+11	20	25.6	16.5	372
1990	SS3	*	1990	09	20.73681	00	49	04.84	+06	41	39.9	16.5	372
1990	SS3		1990	09	20.74823	00	49	04.26	+06	41	45.6		372
1990	SS3		1990	09	30.70760	00	39	20.94	+07	34	45.2	16.5	372
1990	SS3		1990	09	30.73483	00	39	18.93	+07	34	52.9		372
1990	ST3	*	1990	09	20.73681	00	52	16.29	+06	35	03.8	17.5	372
1990	ST3		1990	09	20.74823	00	52	15.73	+06	34	59.8		372
1990	ST3		1990	09	26.67552	00	48	46.60	+05	58	21.4	18	372
1990	SU3	*	1990	09	20.73681	00	52	39.61	+06	43	12.0	18	372
1990	SU3		1990	09	20.74823	00	52	39.13	+06	43	04.8		372
1990	SU3		1990	09	26.67552	00	48	26.74	+05	50	40.1	17.5	372
1990	SE4	*	1990	09	20.73681	00	51	13.59	+06	22	30.6	18	372
1990	SE4		1990	09	20.74823	00	51	12.98	+06	22	28.1		372
1990	SE4		1990	09	26.66250	00	46	40.23	+05	51	46.6	18	372
1990	SE4		1990	09	26.67552	00	46	39.69	+05	51	43.7		372
1990	SL4	*	1990	09	26.73854	01	32	02.35	+16	47	56.0	17	372
1990	SL4		1990	09	26.74896	01	32	01.98	+16	47	53.6		372
1990	SL4		1990	10	08.49653	01	23	25.98	+15	36	26.4	17	372
1990	SL4		1990	10	08.50747	01	23	25.53	+15	36	23.2		372
1990	TR		1990	10	17.71590	02	15	39.92	+21	51	10.6	13.5	372
1990	TR		1990	10	17.72517	02	15	39.40	+21	51	24.6		372
1990	TU		1990	10	16.76417	01	38	09.00	+11	34	56.1	17	372
1990	TU		1990	10	17.68538	01	37	29.95	+11	26	05.3	17	372
1990	TU		1990	10	19.67292	01	36	05.12	+11	06	58.7	16	372
1990	TY	*	1990	10	15.71094	01	23	47.52	-04	30	09.9	17	372
1990	TY		1990	10	15.72048	01	23	47.16	-04	30	19.8		372
1990	TY		1990	10	16.71660	01	23	00.46	-04	50	54.1	16.5	372
1990	TY		1990	10	16.73083	01	22	59.79	-04	51	12.1		372
1990	TY		1990	10	17.61354	01	22	18.46	-05	09	14.0	17	372
1990	TY		1990	10	17.62917	01	22	17.68	-05	09	33.1		372
1990	TE1	*	1990	10	15.76389	03	15	30.87	+26	52	43.8	16	372
1990	TE1		1990	10	16.78569	03	14	39.67	+27	02	27.3	16	372
1990	TE1		1990	10	17.74479	03	13	49.80	+27	11	21.6	16.5	372

1990	TQ1	*	1990	10	15.71094	01	24	20.24	-04	29	08.6	17.5	372
1990	TQ1		1990	10	15.72048	01	24	19.67	-04	29	11.6		372
1990	TQ1		1990	10	17.63885	01	22	42.02	-04	39	18.3	17.5	372
1990	TQ1		1990	10	17.64896	01	22	41.33	-04	39	20.5		372
1990	UF	*	1990	10	16.74385	01	45	56.67	+11	15	14.1	17.5	372
1990	UF		1990	10	17.70556	01	45	12.45	+11	09	19.6	17.5	372
1990	UG	*	1990	10	16.74385	01	47	24.76	+10	37	09.8	17.5	372
1990	UG		1990	10	17.70556	01	46	42.12	+10	29	16.4	17.5	372
1764			1990	09	26.63646	22	34	44.76	-09	42	41.4	16.5	372
1764			1990	09	26.65104	22	34	44.46	-09	42	43.2		372
2635			1990	09	21.74965	01	32	50.15	+16	52	15.0	17.5	372
2635			1990	09	21.76146	01	32	49.85	+16	52	13.4		372
2635			1990	09	26.73854	01	28	57.24	+16	36	35.5	16.5	372
2635			1990	09	26.74896	01	28	56.75	+16	36	33.8		372

374 Minami-Oda
T. Nomura, 1-1-8, Yamate, Tarumi-Ku, Kobe 655, Japan
Observer T. Nomura
Measurer K. Kawanishi
0.25-m f/3.4 Schmidt camera
AGK3

1990	TO		1990	10	15.70903	01	46	12.30	+01	42	43.1	16.0	374
1990	TO		1990	10	15.73403	01	46	10.87	+01	42	39.2	16.0	374
1990	TO		1990	10	20.57295	01	41	21.61	+01	35	26.4	16.0	374
1990	TO		1990	10	20.58719	01	41	20.84	+01	35	25.7	16.0	374
1990	TX	*	1990	10	15.70903	01	54	01.90	+02	54	07.9	15.5	374
1990	TX		1990	10	15.73403	01	54	00.51	+02	54	06.2	15.5	374

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

1990	TR		1990	10	19.60166	02	13	59.55	+22	28	07.1		376

385 Nihondaira Observatory Oohira station
T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan
Observers T. Urata, S. Inoda, A. Natori
0.30-m f/3.8 hyperboloid astrocamera
AGK3, SAOC

1990	RB		1990	09	27.52865	23	57	16.03	+14	21	36.9	16	385
1990	RB		1990	09	27.56424	23	57	14.10	+14	21	31.7		385
1990	SQ		1990	09	27.51215	21	50	14.35	-18	44	43.6	12.5	385
1990	SQ		1990	09	27.51493	21	50	14.02	-18	44	39.9		385
1990	SQ		1990	10	08.52720	21	30	31.87	-10	07	09.5	13	385
1990	SQ		1990	10	08.52977	21	30	31.66	-10	07	02.4		385
1990	SN4	*	1990	09	27.60972	01	50	49.99	+21	06	51.5	16	385
1990	SN4		1990	09	27.64549	01	50	48.56	+21	07	00.7		385
1990	SN4		1990	10	08.54410	01	40	52.60	+21	46	16.4	16	385
1990	SN4		1990	10	13.62778	01	35	26.66	+21	56	53.2	16	385
1990	SN4		1990	10	13.66181	01	35	24.53	+21	56	56.7		385
1990	SO4	*	1990	09	27.63646	01	57	02.26	+27	58	41.3	16	r 385
1990	SO4		1990	09	27.67361	01	57	00.46	+27	58	43.4		r 385
1990	SO4		1990	10	08.55278	01	48	32.32	+28	05	11.8	16	385
1990	SO4		1990	10	13.63611	01	43	40.69	+27	53	58.7	15.5	385
1990	SO4		1990	10	13.67014	01	43	38.54	+27	53	52.3		385
1990	TR		1990	10	18.56493	02	14	56.03	+22	08	11.6	14	385
1990	TR		1990	10	18.58889	02	14	54.56	+22	08	41.0		385
1990	UC	*	1990	10	18.57315	02	18	44.05	+05	27	27.7	16	385
1990	UC		1990	10	18.59787	02	18	42.86	+05	27	11.7		385
1990	UC		1990	10	19.68510	02	17	56.79	+05	14	44.1	16	385
1990	UC		1990	10	19.70660	02	17	55.91	+05	14	29.3		385

1990	UC		1990	10	20.66528	02	17	14.99	+05	03	35.7	15.5		385
1990	UC		1990	10	20.68889	02	17	13.82	+05	03	18.5			385
1990	UD	*	1990	10	19.68510	02	14	42.6	+06	42	16	16	N	385
1990	UD		1990	10	19.70660	02	14	41.0	+06	42	17		N	385
1990	UD		1990	10	20.72222	02	13	41.02	+06	41	21.1	15.5		385
1990	UD		1990	10	20.74583	02	13	39.51	+06	41	18.7			385
1990	UJ	*	1990	10	20.66528	02	18	36.31	+04	12	42.2	16.5		385
1990	UJ		1990	10	20.68889	02	18	35.04	+04	12	32.8			385
1990	UJ		1990	10	21.60625	02	17	46.68	+04	05	50.9	16.5		385
1990	UK	*	1990	10	20.66528	02	20	05.00	+04	10	28.9	16.5		385
1990	UK		1990	10	20.68889	02	20	03.38	+04	10	32.5			385
1990	UK		1990	10	21.60625	02	19	04.08	+04	12	21.5	16.5		385
1990	UL	*	1990	10	20.66528	02	23	40.2	+03	51	58	16	r	385
1990	UL		1990	10	20.68889	02	23	38.9	+03	51	49		r	385
1990	UL		1990	10	21.66528	02	22	44.61	+03	45	57.9			385
1990	UM	*	1990	10	20.73403	02	16	15.39	-02	21	46.4	16.5		385
1990	UM		1990	10	20.75764	02	16	14.14	-02	21	44.6			385
1990	UM		1990	10	21.59306	02	15	28.22	-02	19	26.0	16.5		385
1990	UM		1990	10	21.61806	02	15	26.96	-02	19	22.2			385
1902			1990	10	19.68510	02	16	20.54	+04	49	12.0	14.5		385
1902			1990	10	19.70660	02	16	19.57	+04	49	09.3			385

392 JCPM Sapporo Station
K. Watanabe, 3-8-B203, Ashibetsu Chuo 3 Jo 4 Chome, Shiroishi-Ku,
Sapporo 005, Japan
0.30-m f/2.7 Schmidt camera

1990	QT3		1990	09	26.58802	23	00	05.27	-09	58	16.9	16		392
1990	SZ1		1990	09	26.57535	00	08	59.67	-00	23	25.9	16.0		392
1990	SZ1		1990	09	26.58108	00	08	59.59	-00	23	29.4			392
1990	SZ1		1990	09	26.60174	00	08	58.46	-00	23	43.0			392
1990	TR		1990	10	15.48113	02	17	38.03	+21	03	36.4	13.5		392
1990	TR		1990	10	15.49375	02	17	37.31	+21	03	53.4			392
1990	TR		1990	10	18.47622	02	15	01.22	+22	06	16.2	14		392
1990	TS		1990	10	15.48715	02	19	23.97	+18	30	58.4	16		392
1990	TS		1990	10	15.49965	02	19	23.18	+18	30	58.3			392
1990	TS		1990	10	18.48125	02	16	36.81	+18	31	35.8	16		392
1990	TS		1990	10	18.51829	02	16	34.49	+18	31	38.1			392
1990	TW		1990	10	18.48854	02	53	26.96	+10	55	38.4	15		392
1990	TW		1990	10	18.52378	02	53	24.69	+10	55	43.3			392

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

1983	RP2		1990	10	11.51910	01	03	23.45	-00	07	50.8	16		399
1983	RP2		1990	10	11.53507	01	03	22.79	-00	07	56.0			399
1983	RP2		1990	10	11.55486	01	03	21.53	-00	08	07.8			399
1989	LP		1989	06	12.62674	16	06	48.25	-16	37	38.8	16.5		399
1989	LP		1989	06	12.64167	16	06	47.36	-16	37	40.8			399
1990	DU3		1990	02	16.55498	10	11	44.05	+09	00	38.9	16.5		399
1990	DU3		1990	02	16.56944	10	11	43.20	+09	00	40.6			399
1990	DU3		1990	02	16.58495	10	11	42.14	+09	00	44.0			399
1990	EW5		1990	02	28.62222	09	49	23.81	+12	33	49.7	16		399
1990	EW5		1990	02	28.63941	09	49	22.42	+12	33	54.4			399
1990	EW5		1990	02	28.65770	09	49	21.33	+12	33	55.7			399
1990	EX5		1990	02	16.55498	09	58	29.35	+10	50	02.2	16.5		399
1990	EX5		1990	02	16.56944	09	58	28.69	+10	50	10.1			399

1990	EX5		1990	02	16.58495	09	58	27.98	+10	50	17.1		399
1990	SJ2		1990	10	11.51910	01	16	01.39	-01	40	46.8	16	399
1990	SJ2		1990	10	11.53507	01	16	00.43	-01	40	53.7		399
1990	SJ2		1990	10	11.55486	01	15	59.21	-01	40	56.0		399
1990	TR	*	1990	10	11.46545	02	20	48.30	+19	28	27.1	13.5	399
1990	TR		1990	10	11.48194	02	20	47.46	+19	28	53.0		399
1990	TR		1990	10	11.49757	02	20	46.82	+19	29	16.4		399
1990	TR		1990	10	15.46910	02	17	38.73	+21	03	22.8	13.5	399
1990	TR		1990	10	15.48819	02	17	37.76	+21	03	48.2		399
1990	TR		1990	10	15.50417	02	17	36.82	+21	04	09.7		399
1990	TS	*	1990	10	11.46545	02	22	47.13	+18	27	40.0	16	399
1990	TS		1990	10	11.48194	02	22	46.21	+18	27	41.4		399
1990	TS		1990	10	11.49757	02	22	45.42	+18	27	42.4		399
1990	TS		1990	10	15.52245	02	19	21.84	+18	31	00.6	16	399
1990	TS		1990	10	15.53819	02	19	20.86	+18	31	03.3		399
1990	TS		1990	10	15.55729	02	19	19.95	+18	31	02.6		399
1990	UE	*	1990	10	16.54525	01	32	44.35	+08	27	38.2	16.5	399
1990	UE		1990	10	16.55972	01	32	43.46	+08	27	33.9		399
1990	UE		1990	10	16.57743	01	32	42.24	+08	27	29.3		399
1990	UE		1990	10	19.60139	01	29	29.39	+08	13	50.9	16.5	399
1990	UE		1990	10	19.61597	01	29	28.39	+08	13	47.6		399
1990	UE		1990	10	19.63194	01	29	27.52	+08	13	43.0		399

400 Kitami
K. Watanabe, 3-8 Mason Hashimoto B-203, atsubetsu cyuo 3 jo 4 chome,
Atsubetsu-ku, Sapporo 004, Japan
Observers K. Endate, T. Fujii
Measurer K. Watanabe
0.20-m f/4.0 reflector, 0.25-m f/3.5 reflector
SAOC

1973	UB5		1990	09	16.63194	00	10	27.68	+01	24	47.6	16.5	400
1973	UB5		1990	09	16.65278	00	10	26.91	+01	24	42.7		400
1973	UB5		1990	09	16.66875	00	10	26.27	+01	24	37.1		400
1982	FJ		1990	10	10.53715	00	13	19.30	+05	49	22.8	16.0	400
1982	FJ		1990	10	10.55382	00	13	18.61	+05	49	23.1		400
1982	FJ		1990	10	10.57257	00	13	17.71	+05	49	21.3		400
1983	AO2		1989	02	26.52222	09	51	04.85	+23	26	19.8	16.5	400
1983	AO2		1989	02	26.53750	09	51	04.27	+23	26	25.6		400
1989	AZ9	*	1989	01	15.65347	08	15	12.91	+24	34	58.8	16.5	400
1989	AZ9		1989	01	15.66736	08	15	12.14	+24	35	01.2		400
1989	AZ9		1989	01	15.68264	08	15	10.88	+24	35	03.5		400
1989	LL1	*	1989	06	02.53264	17	05	32.49	-08	51	49.5	16.5	400
1989	LL1		1989	06	02.54514	17	05	31.81	-08	51	48.5		400
1989	LL1		1989	06	02.56319	17	05	30.61	-08	51	47.9		400
1989	WY1		1989	12	19.46389	04	29	32.74	+22	24	04.6	16.5	400
1989	WY1		1989	12	19.48472	04	29	31.40	+22	24	10.0		400
1989	WZ1		1989	12	28.50313	04	23	45.94	+24	10	18.0	16.5	400
1989	WZ1		1989	12	28.51979	04	23	45.25	+24	10	17.7		400
1989	WG7	*	1989	11	29.54826	04	58	07.24	+21	54	17.3	16.5	400
1989	WG7		1989	11	29.56563	04	58	06.31	+21	54	13.3		400
1989	WG7		1989	12	01.57049	04	56	09.56	+21	49	17.7	16.5	400
1989	WG7		1989	12	01.58646	04	56	08.67	+21	49	13.9		400
1989	WG7		1989	12	06.56181	04	51	11.83	+21	36	25.7	16.5	400
1990	QB6		1990	10	10.53715	00	10	37.89	+06	58	04.1	16.0	400
1990	QB6		1990	10	10.55382	00	10	36.81	+06	58	06.8		400
1990	QB6		1990	10	10.57257	00	10	35.72	+06	58	11.7		400
1990	QB6		1990	10	11.56563	00	09	32.83	+07	00	08.5	16.0	400
1990	QB6		1990	10	11.58160	00	09	32.00	+07	00	10.9		400
1990	SW		1990	10	10.53715	00	15	19.32	+05	53	09.9	16.0	400

1990	SW		1990	10	10.55382	00	15	18.51	+05	52	59.7		400
1990	SW		1990	10	10.57257	00	15	17.92	+05	52	50.0		400
1990	SU1		1990	09	16.60903	00	31	07.14	+07	14	13.4	16.0	400
1990	SU1		1990	09	16.62708	00	31	06.40	+07	14	11.4		400
1990	SU1		1990	10	10.53715	00	13	41.69	+05	56	25.7	16.0	400
1990	SU1		1990	10	10.55382	00	13	40.96	+05	56	20.2		400
1990	SU1		1990	10	10.57257	00	13	40.38	+05	56	18.6		400
1990	SU1		1990	10	11.56563	00	12	59.29	+05	52	33.8	16.0	400
1990	SU1		1990	10	11.58160	00	12	58.83	+05	52	33.0		400
1990	SZ1	*	1990	09	16.63194	00	15	07.01	+01	28	03.2	16.0	400
1990	SZ1		1990	09	16.65278	00	15	06.32	+01	27	50.4		400
1990	SZ1		1990	09	16.66875	00	15	05.78	+01	27	39.6		400
1990	SR3	*	1990	09	16.60417	00	27	22.63	-16	17	20.6	16.5	400
1990	SR3		1990	09	16.62847	00	27	21.08	-16	17	28.0		400
1990	SR3		1990	09	16.64583	00	27	20.14	-16	17	29.6		400
1990	SR3		1990	09	26.54549	00	17	25.73	-16	41	15.6	16.5	400
1990	SR3		1990	09	26.58819	00	17	23.14	-16	41	21.2		400
1990	SR3		1990	09	26.61319	00	17	21.38	-16	41	22.8		400
1990	SR3		1990	10	11.49653	00	03	07.19	-16	40	19.1	16.5	400
1990	SR3		1990	10	11.53681	00	03	05.41	-16	40	22.0		400
1990	SD4	*	1990	09	16.54583	22	31	06.92	+03	55	04.3	16.5	400
1990	SD4		1990	09	16.56875	22	31	05.81	+03	54	52.9		400
1990	SD4		1990	09	16.58611	22	31	05.05	+03	54	43.6		400
1990	SD4		1990	09	26.58889	22	24	21.67	+02	29	43.8	16.5	400
1990	SD4		1990	09	26.61319	22	24	20.69	+02	29	31.7		400
1990	SP4	*	1990	09	16.63194	00	10	13.05	+01	07	44.0	16.5	400
1990	SP4		1990	09	16.65278	00	10	12.23	+01	07	35.5		400
1990	SP4		1990	09	16.66875	00	10	11.61	+01	07	30.0		400
1990	SP4		1990	10	11.49653	23	51	39.56	-02	19	02.8	16.5	400
1990	SP4		1990	10	11.52085	23	51	38.53	-02	19	14.1		400
1990	SP4		1990	10	11.53681	23	51	37.84	-02	19	22.3		400
1990	SP4		1990	10	17.58542	23	47	53.51	-03	02	51.9	16.5	400
1990	SP4		1990	10	17.60625	23	47	52.80	-03	03	00.9		400
1990	SQ4	*	1990	09	26.63889	00	22	55.52	+02	22	35.9	16.5	400
1990	SQ4		1990	09	26.66042	00	22	54.62	+02	22	27.4		400
1990	SQ4		1990	10	11.55972	00	11	47.23	+01	13	18.1	16.5	400
1990	SQ4		1990	10	11.58264	00	11	46.16	+01	13	13.7		400
1990	TQ	*	1990	10	10.53715	00	15	32.13	+06	40	18.6	16.0	400
1990	TQ		1990	10	10.55382	00	15	31.27	+06	40	21.9		400
1990	TQ		1990	10	10.57257	00	15	30.27	+06	40	26.0		400
1990	TQ		1990	10	11.56563	00	14	38.68	+06	43	12.8	16.0	400
1990	TQ		1990	10	11.58160	00	14	37.63	+06	43	17.8		400
1990	TT	*	1990	10	10.58472	01	40	15.96	+13	26	02.4	16.0	400
1990	TT		1990	10	10.60000	01	40	15.11	+13	26	02.1		400
1990	TT		1990	10	11.59688	01	39	20.15	+13	24	38.6	16.0	400
1990	TT		1990	10	11.61285	01	39	19.14	+13	24	39.2		400
1990	TU	*	1990	10	10.58472	01	42	26.27	+12	32	46.3	16.0	400
1990	TU		1990	10	10.60000	01	42	25.68	+12	32	38.8		400
1990	TU		1990	10	11.59688	01	41	45.20	+12	23	27.9	16.0	400
1990	TU		1990	10	11.61285	01	41	44.43	+12	23	19.3		400
1990	TV	*	1990	10	10.58472	01	42	44.65	+09	38	25.8	16.0	400
1990	TV		1990	10	10.60000	01	42	44.02	+09	38	21.6		400
1990	TV		1990	10	11.59688	01	41	56.54	+09	34	53.2	16.0	400
1990	TV		1990	10	11.61285	01	41	55.52	+09	34	47.6		400
1990	TW	*	1990	10	15.61319	02	56	08.45	+10	46	57.9	14.5	400
1990	TW		1990	10	15.63125	02	56	07.30	+10	47	04.2		400
1990	TA1	*	1990	10	11.60347	01	35	34.30	+17	11	15.9	17	400
1990	TA1		1990	10	11.62639	01	35	32.61	+17	11	26.4		400
1990	TA1		1990	10	11.64097	01	35	31.56	+17	11	26.7		400

1990	TA1		1990	10	15.66181	01	30	30.87	+17	31	17.0	16.5	400
1990	TB1	*	1990	10	11.60347	01	38	09.94	+16	27	29.6	16.5	400
1990	TB1		1990	10	11.62639	01	38	08.08	+16	27	26.3		400
1990	TB1		1990	10	11.64097	01	38	07.47	+16	27	27.4		400
1990	TB1		1990	10	15.62431	01	33	34.73	+16	20	15.1	16.5	400
1990	TB1		1990	10	15.64722	01	33	33.16	+16	20	11.2		400
1990	TB1		1990	10	15.66181	01	33	32.01	+16	20	08.8		400
1990	TC1	*	1990	10	15.47396	02	07	28.97	+12	57	13.0	16.0	400
1990	TC1		1990	10	15.49063	02	07	28.08	+12	57	00.1		400
1990	TC1		1990	10	17.50104	02	05	56.10	+12	40	06.6	16.0	400
1990	TC1		1990	10	17.51701	02	05	55.23	+12	39	56.4		400
1990	TD1	*	1990	10	15.50486	02	19	54.16	+08	40	25.8	16.0	400
1990	TD1		1990	10	15.52292	02	19	53.03	+08	40	25.0		400
1990	TD1		1990	10	17.53021	02	18	04.27	+08	37	31.5	16.0	400
1990	TD1		1990	10	17.54549	02	18	03.04	+08	37	30.1		400
1990	TJ1	*	1990	10	15.54514	02	30	01.97	+08	31	51.6	15.5	400
1990	TJ1		1990	10	15.56806	02	30	00.76	+08	31	51.2		400
1990	TJ1		1990	10	19.48750	02	26	49.98	+08	22	54.0	15.5	400
1990	TJ1		1990	10	19.50486	02	26	49.03	+08	22	51.9		400
1990	TK1	*	1990	10	15.54514	02	30	28.81	+09	55	06.3	16.0	400
1990	TK1		1990	10	15.56806	02	30	27.82	+09	55	00.6		400
1990	TK1		1990	10	19.48750	02	27	32.90	+09	38	01.8	16.0	400
1990	TK1		1990	10	19.50486	02	27	31.80	+09	37	55.3		400
1990	TL1	*	1990	10	15.54514	02	32	03.54	+11	25	35.7	16.0	400
1990	TL1		1990	10	15.56806	02	32	02.61	+11	25	28.1		400
1990	TL1		1990	10	19.48750	02	29	09.96	+10	52	24.8	16.0	400
1990	TL1		1990	10	19.50486	02	29	08.95	+10	52	15.1		400
1990	TM1	*	1990	10	15.58194	02	48	27.37	+08	36	59.2	16.0	400
1990	TM1		1990	10	15.60000	02	48	26.91	+08	36	55.9		400
1990	TM1		1990	10	19.51875	02	45	45.58	+08	25	40.6	16.0	400
1990	TM1		1990	10	19.53611	02	45	44.92	+08	25	39.1		400
1990	UB	*	1990	10	16.52500	01	48	43.77	+17	57	13.4	16.5	400
1990	UB		1990	10	16.57569	01	48	40.84	+17	56	58.8		400
1990	UB		1990	10	17.57361	01	47	45.14	+17	52	11.7		400
1990	UB		1990	10	17.59653	01	47	43.88	+17	52	05.0		400
1990	UB		1990	10	17.61111	01	47	43.12	+17	52	01.3		400
467			1990	10	10.53715	00	16	59.31	+10	12	27.3	14.5	400
467			1990	10	10.55382	00	16	58.47	+10	12	24.0		400
467			1990	10	11.56563	00	16	09.86	+10	08	19.7	14.5	400
467			1990	10	11.58160	00	16	09.04	+10	08	15.2		400
657			1990	09	26.58889	22	23	15.54	+02	16	13.4	16.0	400
657			1990	09	26.61319	22	23	14.46	+02	16	06.4		400
743			1990	10	10.53715	00	14	14.71	+06	47	20.6	13.0	400
743			1990	10	10.55382	00	14	13.90	+06	47	14.1		400
743			1990	10	10.57257	00	14	13.05	+06	47	08.1		400
743			1990	10	11.56563	00	13	29.87	+06	40	24.4	13.0	400
743			1990	10	11.58160	00	13	29.14	+06	40	17.5		400
1619			1990	10	15.58194	02	45	37.31	+09	07	50.4	14.0	400
1619			1990	10	15.60000	02	45	36.45	+09	07	51.7		400
1744			1990	10	11.49653	23	56	45.14	-03	13	03.7	16.5	400
1744			1990	10	11.52085	23	56	43.60	-03	13	08.0		400
1744			1990	10	11.53681	23	56	42.63	-03	13	11.7		400
2250			1990	10	11.52882	22	45	11.85	-08	34	54.8	15.5	400
2250			1990	10	11.54896	22	45	11.72	-08	34	56.2		400
2460			1990	10	11.52882	22	44	42.65	-07	50	29.1	16	400
2460			1990	10	11.54896	22	44	42.26	-07	50	34.0		400
2733			1990	10	11.49653	00	04	40.09	-16	07	07.7	16.5	400
2733			1990	10	11.53681	00	04	38.12	-16	07	19.1		400
3367			1990	10	11.60347	01	38	03.07	+17	09	53.3	16.5	400

3367		1990 10 11.62639	01 38 01.90	+17 09 46.4					400
3367		1990 10 11.64097	01 38 01.15	+17 09 42.6					400
3865		1990 10 10.53715	00 17 28.80	+06 39 32.6			16.0		400
3865		1990 10 10.55382	00 17 27.91	+06 39 24.8					400
3865		1990 10 10.57257	00 17 27.12	+06 39 17.5					400
4607		1990 10 10.53715	00 16 00.71	+05 28 51.4			16.0		400
4607		1990 10 10.55382	00 15 59.76	+05 28 46.1					400
4607		1990 10 10.57257	00 15 58.75	+05 28 39.7					400

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

1990 SS3		1990 09 27.59306	00 42 34.20	+07 18 52.4			16.0		402
1990 SS3		1990 09 27.61042	00 42 33.19	+07 18 59.8					402

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

4552		1990 08 21.56840	22 12 00.73	-13 02 41.7			15.5		403
4552		1990 08 21.58854	22 11 59.39	-13 02 47.5					403
4552		1990 08 24.60104	22 09 03.88	-13 11 59.4					403
4552		1990 08 24.62361	22 09 02.72	-13 12 06.0					403

413 Siding Spring
R. H. McNaught, Siding Spring Observatory, Coonabarabran, N.S.W. 2357, Australia
A. N. Zytkow, Institute of Astronomy, The Observatories, Madingley Road, Cambridge CB3 0HA, England
Observers M. Hartley, S. M. Hughes, S. J. Hutcheon, P. McKenzie, R. H. McNaught
Measurers R. H. McNaught, Y. Nakajima, A. N. Zytkow, M. J. Irwin
1.2-m U. K. Schmidt Telescope and Uppsala Southern Schmidt

1975 RP2	*	1975 09 10.62994	00 23 19.81	-57 26 10.7			18	V	413
1975 RP2		1975 09 10.67508	00 23 15.62	-57 26 26.7					413
1980 PF		1990 09 09.39587	18 50 15.58	-23 23 46.2					413
1980 PF		1990 09 09.43753	18 50 17.37	-23 23 30.9					413
1980 PF		1990 09 11.37725	18 51 54.62	-23 10 54.7					413
1980 PF		1990 09 11.41891	18 51 56.50	-23 10 39.6					413
1981 EF2		1990 10 12.51282	23 34 35.40	+07 53 30.5					413
1981 EF2		1990 10 12.56838	23 34 33.08	+07 53 13.2					413
1981 EH3		1990 10 12.51282	23 40 23.97	+11 20 53.2					413
1981 EH3		1990 10 12.56838	23 40 21.84	+11 20 27.9					413
1983 VQ1		1990 09 21.63735	01 39 48.37	-41 20 07.2			16	V V	413
1983 VQ1		1990 09 21.69985	01 39 43.36	-41 20 08.8				V	413
1983 VQ1		1990 09 25.59734	01 34 24.14	-41 17 26.2					413
1983 VQ1		1990 09 25.64942	01 34 19.54	-41 17 20.2					413
1985 FU1		1990 10 12.59248	01 33 24.32	+02 57 36.5					413
1985 FU1		1990 10 12.64803	01 33 21.17	+02 57 16.0					413
1985 TZ1		1990 10 12.51282	23 38 24.80	+07 42 25.2			17	V	413
1985 TZ1		1990 10 12.56838	23 38 23.11	+07 42 02.6					413
1988 BE5		1990 10 12.51282	23 45 19.74	+09 38 00.3					413
1988 BE5		1990 10 12.56838	23 45 17.77	+09 37 35.7					413
1990 HM3	*	1990 04 29.76870	18 37 03.47	-23 08 21.6			20.5		413
1990 HM3		1990 05 02.74389	18 37 07.91	-23 09 52.4					413
1990 HN3	*	1990 04 29.76870	18 37 17.53	-23 35 17.2			19.5		413
1990 HN3		1990 05 02.74389	18 38 07.69	-23 35 12.4					413
1990 HO3	*	1990 04 29.76870	18 40 26.20	-23 57 04.0			21		413
1990 HO3		1990 05 02.74389	18 40 23.75	-23 59 06.1					413

1990	PA		1990	10	15.75578	03	11	24.17	+00	02	04.7	13.9V	413
1990	QN4		1990	09	11.55492	22	58	10.78	-05	44	01.8	15.0	413
1990	QN4		1990	09	11.58027	22	58	09.61	-05	44	12.6		413
1990	QP4		1990	09	11.55492	23	00	26.49	-06	28	57.1	16.0	413
1990	QP4		1990	09	11.58027	23	00	24.79	-06	29	00.4		413
1990	RC		1990	10	13.40133	21	34	48.59	-45	57	58.2	18 V	p 413
1990	SB		1990	10	10.55417	01	11	10.40	+02	18	57.3	14.5V	413
1990	SF		1990	09	22.58476	00	50	35.32	-26	01	26.5		413
1990	SF		1990	09	22.61892	00	50	33.56	-26	01	31.7		413
1990	SF		1990	09	22.65872	00	50	31.54	-26	01	37.1		413
1990	SF		1990	09	28.55521	00	45	30.11	-26	10	15.9		F 413
1990	SF		1990	09	28.68021	00	45	23.44	-26	10	18.0		F 413
1990	SG		1990	09	22.58476	00	55	09.48	-25	37	40.1		413
1990	SG		1990	09	22.61892	00	55	07.72	-25	37	47.7		413
1990	SG		1990	09	22.65872	00	55	05.75	-25	37	55.8		413
1990	SG		1990	09	28.55521	00	50	01.78	-25	53	42.8		V 413
1990	SG		1990	09	28.68021	00	49	56.00	-25	53	56.3		V 413
1990	SH		1990	09	22.58476	00	45	44.55	-25	32	22.5		413
1990	SH		1990	09	22.61892	00	45	42.90	-25	32	35.0		413
1990	SH		1990	09	22.65872	00	45	41.14	-25	32	47.7		413
1990	SK		1990	09	27.72984	23	30	29.41	-52	53	04.3		413
1990	SK		1990	10	13.48802	23	12	24.92	-46	41	59.3		413
1990	SL		1990	09	27.74282	23	48	07.52	-53	08	31.7		413
1990	SL		1990	10	13.45682	23	35	51.55	-48	57	17.3		413
1990	SP		1990	10	10.53333	00	09	02.08	-56	26	09.6		413
1990	SP		1990	10	11.51497	00	02	44.64	-56	53	46.7		413
1990	SP		1990	10	16.54728	23	22	25.42	-58	56	14.1		413
1990	SP		1990	10	17.43125	23	13	48.71	-59	12	48.1		413
1990	SQ		1990	10	10.52882	21	27	55.94	-08	25	49.6	12.6V	413
1990	ST		1990	09	21.63735	01	54	41.61	-37	06	25.2		V 413
1990	ST		1990	09	21.69985	01	54	41.60	-37	07	29.9		V 413
1990	ST	*	1990	09	25.59734	01	54	30.15	-38	21	16.4	17 V	413
1990	ST		1990	09	25.64942	01	54	29.58	-38	22	12.1		413
1990	SK4	*	1990	09	22.38889	20	04	13.55	-50	12	18.6	16 V	413
1990	SK4		1990	09	22.42244	20	04	16.85	-50	11	49.9		413
1990	SK4		1990	09	22.45050	20	04	19.50	-50	11	27.4		413
1990	SK4		1990	09	23.65778	20	06	23.35	-49	54	07.8		413
1990	SS4	*	1990	09	24.45810	22	08	32.71	-17	17	45.0	15.5V	413
1990	SS4		1990	09	24.51019	22	08	31.51	-17	17	35.6		413
1990	SS4		1990	09	28.70326	22	07	25.03	-17	02	46.1		413
1990	TA	*	1990	10	07.47060	21	10	14.54	+14	46	18.4	18 V	413
1990	TA		1990	10	09.39221	21	10	51.27	+14	36	03.5		413
1990	TA		1990	10	09.46860	21	10	52.46	+14	35	42.7		413
1990	TB		1983	10	07.45670	21	32	15.92	-03	13	40.4	15 V	413
1990	TB		1983	10	07.49837	21	32	18.16	-03	14	00.1		413
1990	TB		1989	05	28.39034	11	43	28.61	-01	12	15.3	18 V	413
1990	TB		1990	06	20.75001	22	11	35.20	+02	34	58.2	16.5V	413
1990	TB		1990	06	20.79168	22	11	38.11	+02	35	32.5		413
1990	TB	*	1990	10	09.48778	22	34	38.64	+01	22	38.3		413
1990	TB		1990	10	09.53986	22	34	39.91	+01	22	06.2		413
1990	TB		1990	10	11.47054	22	35	42.12	+01	01	19.6		413
1990	TB		1990	10	11.50602	22	35	43.12	+01	00	58.5	15.0V	413
1990	TB		1990	10	11.52263	22	35	43.57	+01	00	49.1		413
1990	TB		1990	10	12.65897	22	36	23.30	+00	49	04.8		413
1990	TC	*	1990	10	09.48778	22	29	04.64	+01	15	19.4	17 V	413
1990	TC		1990	10	09.53986	22	29	03.68	+01	14	58.9		413
1990	TC		1990	10	11.47054	22	28	31.94	+01	01	33.9		413
1990	TC		1990	10	11.52263	22	28	31.03	+01	01	14.2		413
1990	TD	*	1990	10	09.48778	22	29	34.50	+00	27	44.8	17 V	413

1990	TD		1990	10	09.53986	22	29	34.22	+00	27	31.0		413
1990	TD		1990	10	11.49659	22	29	35.14	+00	17	52.2		413
1990	TE	*	1990	10	09.48778	22	35	56.16	+00	53	27.6	17 V	413
1990	TE		1990	10	09.53986	22	35	55.01	+00	53	02.7		413
1990	TE		1990	10	11.47054	22	35	17.95	+00	36	39.8		413
1990	TE		1990	10	11.52263	22	35	16.96	+00	36	16.3		413
1990	TF	*	1990	10	09.48778	22	42	43.87	+01	39	57.1	16.5V	413
1990	TF		1990	10	09.53986	22	42	42.15	+01	40	02.4		413
1990	TF		1990	10	11.47054	22	41	45.19	+01	42	36.2		413
1990	TF		1990	10	11.52263	22	41	43.68	+01	42	41.2		413
1990	TF		1990	10	12.65897	22	41	13.17	+01	44	16.7		413
1990	TG	*	1990	10	09.48778	22	51	34.77	+00	43	50.8	16.5V	413
1990	TG		1990	10	09.53986	22	51	33.99	+00	43	19.8		413
1990	TG		1990	10	11.47054	22	51	16.01	+00	22	55.4		413
1990	TG		1990	10	11.52263	22	51	15.43	+00	22	25.7		413
1990	TH	*	1990	10	12.59248	01	29	08.11	+06	05	19.2	17 V	413
1990	TH		1990	10	12.64803	01	29	05.60	+06	04	52.2		413
1990	TH		1990	10	13.71230	01	28	16.02	+05	55	58.0		413
1990	TJ	*	1990	10	12.59248	01	34	17.18	+04	43	40.9	17 V	413
1990	TJ		1990	10	12.64803	01	34	14.10	+04	43	29.9		413
1990	TJ		1990	10	13.71230	01	33	14.28	+04	39	45.0		413
1990	TK	*	1990	10	12.59248	01	34	43.50	+06	57	19.6	17 V	413
1990	TK		1990	10	12.64803	01	34	37.40	+06	57	53.4		413
1990	TK		1990	10	13.71230	01	32	42.60	+07	08	32.0		413
1990	TL	*	1990	10	12.59248	01	36	44.03	+04	10	55.0	16 V	413
1990	TL		1990	10	12.64803	01	36	40.32	+04	10	55.9		413
1990	TL		1990	10	13.72324	01	35	31.82	+04	11	18.2		413
1990	TM	*	1990	10	12.59248	01	43	40.11	+04	30	26.0	17 V	413
1990	TM		1990	10	12.64803	01	43	37.48	+04	30	05.2		413
1990	TM		1990	10	13.72324	01	42	46.87	+04	22	57.8	V	413
1990	TN	*	1990	10	12.59248	01	47	14.70	+06	35	51.9	16 V	413
1990	TN		1990	10	12.64803	01	47	11.28	+06	35	48.5		413
1990	TN		1990	10	13.75630	01	46	01.18	+06	34	24.0		413
1990	TO	*	1990	10	12.59248	01	49	15.09	+01	48	59.8	16.5V	413
1990	TO		1990	10	12.64803	01	49	11.77	+01	48	53.7		413
1990	TO		1990	10	13.73442	01	48	08.44	+01	46	40.1		413
1990	TP	*	1990	10	12.59248	01	52	40.78	+03	18	48.0	17 V	413
1990	TP		1990	10	12.64803	01	52	37.80	+03	18	27.9		413
1990	TP		1990	10	13.73442	01	51	40.43	+03	11	25.6		413
2777	P-L		1990	10	12.59248	01	50	54.45	+07	48	04.9	V	413
2777	P-L		1990	10	12.64803	01	50	51.24	+07	47	46.0	V	413
4017	T-3		1990	10	12.59248	01	29	25.39	+04	57	02.7		413
367			1990	10	12.59248	01	45	42.02	+06	07	13.3		413
367			1990	10	12.64803	01	45	38.74	+06	06	57.1		413
367			1990	10	13.75630	01	44	32.13	+06	01	07.2		413
413			1990	10	10.60212	01	08	24.13	-37	32	14.4		413
473			1990	10	12.51282	23	27	54.83	+07	55	53.6		413
473			1990	10	12.56838	23	27	52.31	+07	55	43.6		413
507			1990	10	12.51282	23	29	33.33	+11	19	37.8		413
507			1990	10	12.56838	23	29	31.48	+11	19	21.1		413
1260			1990	10	12.51282	23	31	03.59	+09	04	56.8		413
1260			1990	10	12.56838	23	31	01.38	+09	04	41.5		413
2001			1990	10	12.51282	23	40	11.19	+07	10	23.2		413
2001			1990	10	12.56838	23	40	06.72	+07	10	31.7		413
2015			1990	10	12.51282	23	50	32.53	+07	57	51.4		413
2015			1990	10	12.56838	23	50	29.45	+07	57	45.4		413
2044			1990	09	22.58476	01	00	23.64	-30	31	28.0		413
2044			1990	09	22.61892	01	00	21.00	-30	31	37.7		413
2044			1990	09	22.65872	01	00	17.94	-30	31	46.5		413

3124		1990	10	12.59248	01	47	49.18	+04	10	41.9	413
3124		1990	10	12.64803	01	47	46.59	+04	10	21.9	413
3124		1990	10	13.73442	01	46	55.14	+04	03	06.8	413
3327		1990	04	29.76870	18	37	16.63	-23	35	07.4	18.5 413
3327		1990	05	02.74389	18	37	45.08	-23	36	19.9	413
3349		1990	10	12.59248	01	32	09.49	+05	26	23.1	413
3349		1990	10	12.64803	01	32	06.69	+05	26	10.2	413
3349		1990	10	13.71230	01	31	11.47	+05	21	55.0	F 413
3349		1990	10	13.72324	01	31	10.80	+05	21	54.8	413
3825		1990	10	12.59248	01	37	27.43	+02	39	35.4	413
3825		1990	10	12.64803	01	37	24.03	+02	39	20.4	413
4171		1990	10	12.59248	01	31	02.95	+07	23	15.8	413
4171		1990	10	12.64803	01	30	59.66	+07	22	50.2	413
4171		1990	10	13.71230	01	29	58.25	+07	14	46.3	F 413

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

1987	WA	1990	06	28.88264	15	16	50.01	-18	47	37.8	493
1987	WA	1990	06	28.91053	15	16	49.37	-18	47	38.3	493

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

243		1990	10	07.91696	22	32	35.30	-08	25	44.8	494
951		1990	01	17.97383	09	03	38.81	+10	43	15.4	494
951		1990	01	26.93638	08	53	50.55	+11	09	24.0	494
951		1990	02	03.94883	08	44	47.08	+11	38	24.7	494
951		1990	02	18.88518	08	29	55.22	+12	35	49.0	494
951		1990	03	01.88128	08	22	29.73	+13	13	06.3	494
951		1990	03	14.86315	08	18	44.29	+13	45	15.4	494
951		1990	03	15.87909	08	18	40.55	+13	47	08.1	494

553 Chorzow
I. Wlodarczyk, Planetarium and Astronomical Observatory, PL-41501 Chorzow 1 s.p.10, Poland
Observers I. Wlodarczyk, M. Szczepanski, T. Firszt, S. Janta, M. Greupner, I. Kuczynzki, B. Pawicka
Measurers I. Wlodarczyk, S. Janta, B. Osiejuk, T. Piwek

39		1990	03	25.01270	13	12	47.86	+01	50	33.8	553
39		1990	04	02.95755	13	06	17.22	+02	57	47.2	553
39		1990	04	02.97609	13	06	16.31	+02	57	54.4	553
39		1990	04	02.99845	13	06	15.38	+02	58	04.0	553
704		1990	08	24.94375	22	33	06.53	+16	30	12.0	553
704		1990	08	24.96458	22	33	05.55	+16	30	13.3	553
704		1990	08	24.98542	22	33	04.30	+16	30	15.7	553
704		1990	08	25.00625	22	33	03.33	+16	30	17.1	553
704		1990	08	26.92850	22	31	25.53	+16	32	10.2	553
704		1990	08	26.94725	22	31	24.39	+16	32	11.8	553
704		1990	08	26.96738	22	31	23.41	+16	32	10.9	553
704		1990	08	27.92815	22	30	33.91	+16	32	47.0	553
704		1990	08	27.94481	22	30	33.10	+16	32	49.7	553
704		1990	08	27.95940	22	30	32.27	+16	32	48.3	553
704		1990	08	28.91251	22	29	43.11	+16	33	10.5	553
704		1990	08	28.93091	22	29	42.10	+16	33	09.3	553
704		1990	08	28.95244	22	29	41.03	+16	33	10.2	553

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

1927 TC	1990 10 15.23461	23 21 11.89	+16 34 35.6		13.8V	568
1990 MB	1990 09 23.29080	17 57 27.24	+04 20 13.9		18.9V	568
1990 MB	1990 10 14.28958	18 46 28.36	+02 45 52.8		19.1V	568
1990 SB	1990 10 15.55525	01 05 48.49	+00 38 51.5		15.5V	568
1990 SM	1990 10 15.28664	22 29 01.05	-31 25 21.0		17.5V	568
1990 SM	1990 10 15.37411	22 29 11.75	-31 22 41.9		17.5V	568
1990 SQ	1990 10 14.40852	21 23 47.73	-05 07 58.1		12.1V	568
1990 SQ	1990 10 15.21587	21 23 06.92	-04 26 25.4		12.1V	568
944	1990 10 15.51806	00 59 58.64	-00 44 17.6		14.2V	568

591 Resse Observatory
N. Ehring, Wiesenstrasse 7, D-3002 Wedemark 15, Federal Republic of Germany

73	1990 09 25.87784	00 33 12.76	+03 33 09.6		591
73	1990 09 25.88686	00 33 12.29	+03 33 07.2		591
172	1989 11 28.84416	03 45 46.92	+37 19 17.0		591
172	1989 11 28.85805	03 45 45.88	+37 19 13.2		591
372	1989 12 25.83241	03 55 40.49	+57 02 06.8		591
372	1989 12 25.84624	03 55 39.92	+57 01 56.4		591
376	1990 09 16.92343	01 11 14.48	+16 31 05.6		591
376	1990 09 16.94104	01 11 13.60	+16 31 03.6		591
388	1990 09 16.89029	23 46 52.91	-01 12 48.4		591
388	1990 09 16.90749	23 46 52.04	-01 12 51.5		591
568	1989 12 25.77610	04 16 38.97	+17 34 02.4		591
568	1989 12 25.79346	04 16 38.35	+17 33 52.8		591
687	1990 09 25.84031	00 24 34.55	+20 36 41.6		591
687	1990 09 25.84905	00 24 33.96	+20 36 44.8		591
704	1990 09 16.86027	22 13 58.92	+15 55 22.3		591
704	1990 09 16.87497	22 13 58.25	+15 55 18.8		591

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

1927 TC	1990 09 10.23056	23 22 58.22	+04 53 22.1		657
1927 TC	1990 09 11.19382	23 22 37.82	+05 22 22.5		657
1927 TC	1990 09 11.22333	23 22 37.03	+05 23 18.1		657
1927 TC	1990 09 30.25903	23 17 42.57	+13 06 11.3		657
1927 TC	1990 09 30.30625	23 17 42.14	+13 07 03.8		657
1927 TC	1990 10 06.27431	23 18 07.17	+14 44 47.9		657
1979 QC1	1990 09 22.19601	00 30 30.55	+19 58 05.0		657
1979 QC1	1990 09 22.27049	00 30 25.79	+19 58 24.2		657
1979 QE10	1990 08 28.36257	00 06 36.65	+03 17 29.3		657
1979 QE10	1990 08 28.40562	00 06 35.30	+03 17 16.9		657
1979 QE10	1990 09 22.25937	23 47 35.40	+00 21 51.1		657
1985 TZ1	1990 09 22.27951	23 51 37.01	+10 13 11.8		657
1986 RU4	1990 09 13.18618	23 37 14.69	+16 36 42.1		657
1986 RU4	1990 09 13.22368	23 37 12.68	+16 36 32.8		657
1986 RU4	1990 09 14.21465	23 36 21.50	+16 32 53.8		657
1986 RU4	1990 09 14.24937	23 36 19.68	+16 32 46.8		657
1988 CJ5	1990 09 11.21049	23 05 18.69	-01 23 10.3		657
1988 CJ5	1990 09 11.23722	23 05 17.44	-01 23 29.9		657
1988 CJ5	1990 09 14.23062	23 03 16.30	-02 02 28.7		657
1988 CJ5	1990 09 14.26326	23 03 14.77	-02 02 55.4		657

1990	SQ	1990	09	27.21979	21	50	53.04	-18	57	20.2	657
1990	SQ	1990	09	27.25573	21	50	48.05	-18	55	47.5	657
1990	SQ	1990	09	30.25174	21	44	31.56	-16	44	00.5	657
1990	SQ	1990	10	06.26667	21	33	50.36	-11	59	17.7	657
1990	SA1	1990	09	20.24868	00	36	01.60	+12	56	38.3	15.5 657
1990	SA1	1990	09	20.27646	00	36	00.08	+12	56	29.2	657
1990	SA1	1990	09	21.27368	00	35	06.10	+12	50	52.0	657
1990	SA1	1990	09	21.29590	00	35	04.93	+12	50	44.9	657
44		1990	08	28.30910	22	06	28.90	-13	47	32.1	657
44		1990	08	28.33757	22	06	27.26	-13	47	43.3	657
44		1990	09	30.25174	21	43	28.69	-16	14	03.9	657
117		1990	08	28.36257	00	02	04.59	+01	48	49.3	657
117		1990	08	28.40562	00	02	02.79	+01	48	49.1	657
313		1990	08	28.36257	00	03	27.39	+02	00	31.7	657
313		1990	08	28.40562	00	03	25.82	+02	00	11.1	657
687		1990	09	13.19451	00	37	01.06	+18	59	22.4	657
687		1990	09	13.23271	00	36	59.04	+18	59	44.8	657
687		1990	09	22.19601	00	28	28.53	+20	13	05.3	657
687		1990	09	22.27049	00	28	23.74	+20	13	35.8	657
1260		1990	09	22.27951	23	47	43.66	+10	37	18.1	657
1422		1990	09	22.25937	23	50	34.48	+01	23	56.8	657
1739		1990	09	11.21049	23	05	56.43	-01	39	41.4	657
1739		1990	09	11.23722	23	05	55.00	-01	39	54.5	657
1739		1990	09	14.23062	23	03	17.14	-02	03	21.6	657
1739		1990	09	14.26326	23	03	15.38	-02	03	37.2	657
2043		1990	07	19.32229	21	43	32.84	-14	19	07.5	657
2043		1990	07	19.36674	21	43	31.24	-14	19	15.5	657
2043		1990	07	20.32160	21	42	59.13	-14	21	06.0	657
2043		1990	07	20.36535	21	42	57.65	-14	21	10.9	657
2648		1990	09	10.23056	23	27	26.38	+06	20	12.1	657
2648		1990	09	11.22333	23	26	30.58	+06	16	33.5	657
4603		1990	09	11.20215	23	45	30.20	+04	38	30.9	657
4603		1990	09	11.23028	23	45	28.40	+04	38	28.0	657
4603		1990	09	14.24174	23	42	17.15	+04	36	02.9	657
4603		1990	09	14.27090	23	42	15.29	+04	35	59.6	657

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

1927	TC	1990	09	23.26476	23	18	41.64	+10	42	57.9	14.3	2	675
1927	TC	1990	09	23.28889	23	18	41.01	+10	43	31.7		2	675
1927	TC	1990	09	25.24253	23	18	16.77	+11	26	43.4		2	675
1927	TC	1990	09	25.26615	23	18	16.28	+11	27	14.3		2	675
1931	FC	1990	09	20.39878	00	38	42.23	+06	19	30.4	17.5	9	675
1931	FC	1990	09	20.43299	00	38	40.13	+06	19	23.9		9	675
1955	EH	1990	09	18.37517	01	16	53.74	+00	08	43.1	16.5	9	675

1955	EH	1990	09	18.40694	01	16	52.67	+00	08	27.1		9 675
1955	EH	1990	09	20.45156	01	15	45.36	-00	09	45.8	16.5	9 675
1955	EH	1990	09	20.49010	01	15	43.96	-00	10	06.4		9 675
1967	GM1	1990	09	17.41736	01	43	58.52	-05	40	12.9	17.5	9 675
1967	GM1	1990	09	17.45139	01	43	57.36	-05	40	24.5		9 675
1978	GJ	1990	09	18.35972	00	20	23.43	+08	13	29.2	17.2	9 675
1978	GJ	1990	09	18.39149	00	20	21.80	+08	13	15.1		9 675
1978	GJ	1990	09	20.39878	00	18	38.74	+07	58	44.9	17.5	9 675
1978	GJ	1990	09	20.43299	00	18	36.89	+07	58	29.3		9 675
1978	VG8	1990	09	22.30590	00	24	46.96	-06	01	43.3	16.3	2 675
1978	VG8	1990	09	22.33073	00	24	45.72	-06	01	48.4		2 675
1978	VG8	1990	09	24.33403	00	23	10.80	-06	07	36.1		2 675
1978	VG8	1990	09	24.35747	00	23	09.56	-06	07	39.8		2 675
1979	OB9	1990	09	16.39254	00	59	58.99	+11	17	27.7	16.8	9 675
1979	OB9	1990	09	16.42795	00	59	57.86	+11	17	16.0		9 675
1979	OB9	1990	09	17.40017	00	59	29.66	+11	11	44.4	16.5	9 675
1979	OB9	1990	09	17.47899	00	59	27.07	+11	11	16.7		9 675
1979	OB9	1990	09	18.38351	00	58	59.60	+11	05	54.4		9 675
1979	OB9	1990	09	18.41493	00	58	58.51	+11	05	42.7		9 675
1979	SU11	1990	09	18.37517	01	11	23.53	+03	24	13.9	17.0	9 675
1979	SU11	1990	09	18.40694	01	11	22.39	+03	24	08.8		9 675
1979	SU11	1990	09	20.45156	01	10	09.74	+03	15	46.2	17.0	9 675
1979	SU11	1990	09	20.49010	01	10	08.36	+03	15	37.6		9 675
1979	WE2	1990	09	14.32222	23	00	06.18	-06	12	01.0	17.2	9 675
1979	WE2	1990	09	14.35938	23	00	04.52	-06	12	12.1		9 675
1979	WE2	1990	09	19.31962	22	56	38.89	-06	36	52.4	17.2	9 675
1979	WE2	1990	09	19.35000	22	56	37.65	-06	37	02.0		9 675
1980	LY	1990	09	22.30590	00	30	00.55	-06	04	12.5	16.5	2 675
1980	LY	1990	09	22.33073	00	29	58.92	-06	04	22.8		2 675
1980	LY	1990	09	24.33403	00	27	58.46	-06	18	08.5		2 675
1980	LY	1990	09	24.35747	00	27	56.98	-06	18	17.9		2 675
1980	RJ	1990	09	14.32222	22	57	04.87	-08	33	46.8	16.8	9 675
1980	RJ	1990	09	14.35938	22	57	02.41	-08	33	49.5		9 675
1981	UT15	1990	09	14.32222	22	52	33.39	-08	09	20.8	16.8	9 675
1981	UT15	1990	09	14.35938	22	52	31.69	-08	09	29.9		9 675
1982	FJ	1990	09	18.35972	00	31	44.87	+06	21	19.3	17.0	9 675
1982	FJ	1990	09	18.39149	00	31	43.33	+06	21	17.6		9 675
1982	FJ	1990	09	20.39878	00	30	06.06	+06	19	13.4	17.2	9 675
1982	FJ	1990	09	20.43299	00	30	04.37	+06	19	12.5		9 675
1982	FV2	1990	09	14.32222	23	03	44.57	-09	55	32.2	17.8	9 675
1982	FV2	1990	09	14.35938	23	03	42.84	-09	55	43.2		9 675
1983	CA1	1990	09	16.39254	00	32	59.62	+09	08	54.6	17.8	9 675
1983	CA1	1990	09	16.42795	00	32	57.95	+09	08	49.8		9 675
1983	CA1	1990	09	17.40017	00	32	12.34	+09	06	19.5	17.8	9 675
1983	CA1	1990	09	17.47899	00	32	08.46	+09	06	07.8		9 675
1983	CA1	1990	09	18.35972	00	31	26.60	+09	03	44.6	17.8	9 675
1983	CA1	1990	09	18.39149	00	31	25.00	+09	03	39.7		9 675
1983	CA1	1990	09	20.39878	00	29	47.90	+08	57	59.4	18.0	9 675
1983	CA1	1990	09	20.43299	00	29	46.08	+08	57	54.4		9 675
1983	JQ	1990	09	18.37517	01	03	17.12	+02	35	40.7	17.8	9 675
1983	JQ	1990	09	18.40694	01	03	15.79	+02	35	33.8		9 675
1983	JQ	1990	09	20.45156	01	01	56.87	+02	25	58.9	17.5	9 675
1983	JQ	1990	09	20.49010	01	01	55.39	+02	25	46.1		9 675
1983	XX	1990	09	22.24306	22	41	23.64	+16	15	25.4	16.0	2 675
1983	XX	1990	09	22.26875	22	41	22.26	+16	15	13.8		2 675
1983	XX	1990	09	24.21962	22	39	46.23	+16	00	46.1		2 675
1983	XX	1990	09	24.24375	22	39	45.03	+16	00	35.4		2 675
1984	QS	1990	09	18.37517	01	13	30.47	+05	11	49.9	17.5	9 675
1984	QS	1990	09	18.40694	01	13	29.24	+05	11	44.6		9 675

1985	FU1	1990	10	15.29618	01	30	52.25	+02	40	28.3	16.3	2 675
1985	FU1	1990	10	15.32222	01	30	50.77	+02	40	18.1		2 675
1985	FU1	1990	10	17.37309	01	28	54.50	+02	27	39.7		2 675
1985	FU1	1990	10	17.40399	01	28	52.69	+02	27	28.4		2 675
1985	UG5	1990	01	26.40694	10	16	43.82	+26	31	32.1		3 675
1985	UG5	1990	01	26.43941	10	16	42.11	+26	31	50.7		3 675
1985	VP3	1990	09	14.32222	23	14	40.33	-07	35	27.3	16.2	9 675
1985	VP3	1990	09	14.35938	23	14	38.65	-07	35	36.5		9 675
1985	VP3	1990	09	19.35000	23	11	04.12	-07	56	09.2	16.5	9 675
1986	RE2	1990	09	22.18559	21	39	05.87	+11	39	15.5	16.7	2 675
1986	RE2	1990	09	22.21146	21	39	04.94	+11	39	11.5		2 675
1986	RE2	1990	09	24.18837	21	37	48.71	+11	33	09.9		2 675
1986	RE2	1990	09	24.21285	21	37	47.71	+11	33	05.1		2 675
1986	TD7	1990	09	22.24931	22	49	25.40	-24	20	36.6	16.5	2 675
1986	TD7	1990	09	22.27465	22	49	24.01	-24	20	27.8		2 675
1986	TD7	1990	09	24.22604	22	47	51.81	-24	09	54.0		2 675
1986	TD7	1990	09	24.24983	22	47	50.63	-24	09	46.0		2 675
1988	AJ5	1990	09	14.32222	22	50	24.72	-07	16	43.4	17.5	9 675
1988	AJ5	1990	09	14.35938	22	50	23.27	-07	16	53.8		9 675
1988	CJ5	1990	09	14.32222	23	03	12.35	-02	03	41.8	16.5	9 675
1988	CJ5	1990	09	14.35938	23	03	10.60	-02	04	12.1		9 675
1988	CJ5	1990	09	19.31962	22	59	56.37	-03	08	55.1	16.5	9 675
1988	CJ5	1990	09	19.35000	22	59	55.14	-03	09	18.7		9 675
1988	PY	1988	10	07.20312	22	22	46.40	-04	55	18.1		3 675
1988	PY	1988	10	09.20660	22	22	12.46	-04	58	33.4		3 675
1988	SM	1988	10	07.20312	22	21	12.42	-04	57	45.2		3 675
1988	SM	1988	10	09.20660	22	24	29.27	-03	22	47.6		3 675
1989	CJ1	1990	09	23.41771	03	18	37.94	-27	17	49.4	16.5	2 675
1989	CJ1	1990	09	23.44184	03	18	38.21	-27	18	25.4		2 675
1989	CJ1	1990	09	25.41736	03	19	04.69	-28	04	48.1		2 675
1989	CJ1	1990	09	25.44149	03	19	04.97	-28	05	31.5		2 675
1989	CE2	1990	09	22.26215	23	40	56.77	+33	24	39.6	15.7	2 675
1989	CE2	1990	09	22.28698	23	40	54.00	+33	24	51.9		2 675
1989	CE2	1990	09	24.23802	23	37	25.50	+33	39	56.6		2 675
1989	CE2	1990	09	24.26250	23	37	22.80	+33	40	07.1		2 675
1989	EC	1990	09	22.31233	00	38	48.01	+29	50	15.3	16.0	2 675
1989	EC	1990	09	22.33681	00	38	45.41	+29	50	37.6		2 675
1989	EC	1990	09	24.37587	00	35	06.34	+30	20	00.0		2 675
1989	EC	1990	09	24.39965	00	35	03.66	+30	20	20.0		2 675
1989	EC	1990	10	14.23177	23	56	39.13	+33	10	53.2	15.0	2 675
1989	EC	1990	10	14.25625	23	56	36.33	+33	10	57.5		2 675
1989	EC	1990	10	17.20920	23	51	17.83	+33	18	10.6		2 675
1989	EC	1990	10	17.23542	23	51	14.87	+33	18	13.5		2 675
1989	GM	1990	09	22.29410	00	04	23.69	-25	56	03.6	17.0	2 675
1989	GM	1990	09	22.31840	00	04	22.16	-25	56	14.3		2 675
1989	GM	1990	09	24.30104	00	02	41.65	-26	08	49.8		2 675
1989	GN	1990	09	23.17760	22	05	58.88	-09	52	21.5	16.5	2 675
1989	GN	1990	09	23.20243	22	05	57.98	-09	52	31.3		2 675
1989	GN	1990	09	25.19965	22	04	55.23	-10	07	12.6		2 675
1989	GN	1990	09	25.22344	22	04	54.48	-10	07	22.5		2 675
1989	JC	1990	09	23.42431	03	57	32.95	+30	53	03.0	16.7	2 675
1989	JC	1990	09	25.42378	03	59	03.56	+30	42	24.4		2 675
1989	KK	1990	09	16.39254	00	33	05.19	+09	04	52.7	17.5	9 675
1989	KK	1990	09	16.42795	00	33	03.64	+09	04	36.3		9 675
1989	KK	1990	09	17.40017	00	32	22.49	+08	56	47.6	17.5	9 675
1989	KK	1990	09	17.47899	00	32	18.97	+08	56	08.6		9 675
1989	KK	1990	09	18.35972	00	31	41.30	+08	48	55.5	17.8	9 675
1989	KK	1990	09	18.39149	00	31	39.88	+08	48	40.9		9 675
1989	KK	1990	09	20.39878	00	30	11.97	+08	31	57.4	17.5	9 675

1989	KK	1990	09	20.43299	00	30	10.38	+08	31	40.7		9 675
1989	LJ	1990	09	22.29410	23	56	06.84	-24	13	22.0	17.0	2 675
1989	LJ	1990	09	22.31840	23	56	03.38	-24	13	27.4		2 675
1989	LJ	1990	09	24.27517	23	54	19.88	-24	21	32.7		2 675
1989	LJ	1990	09	24.30104	23	54	18.35	-24	21	38.3		2 675
1989	NB1	1990	09	23.41163	02	34	59.77	-08	51	31.0	16.7	2 675
1989	NB1	1990	09	23.43594	02	34	59.16	-08	51	44.1		2 675
1989	NB1	1990	09	25.36372	02	34	15.97	-09	06	58.2		2 675
1989	NB1	1990	09	25.39253	02	34	15.32	-09	07	12.6		2 675
1989	QF	1989	09	27.24965	22	44	20.20	-04	17	36.1		3 675
1990	BG	1990	01	26.18194	06	50	26.84	+34	52	58.4		3 675
1990	BG	1990	01	26.21016	06	50	19.61	+34	54	08.9		3 675
1990	BG	1990	01	30.18472	06	33	43.10	+37	33	40.8		3 675
1990	BG	1990	02	20.11615	05	10	35.07	+47	35	58.6		3 675
1990	BG	1990	02	20.14809	05	10	28.41	+47	36	35.5		3 675
1990	BG	1990	02	23.12483	05	01	02.24	+48	32	41.8		3 675
1990	BG	1990	02	23.14983	05	00	57.49	+48	33	08.6		3 675
1990	QB	1990	09	24.16302	21	32	00.65	-05	57	55.9	16.5	2 675
1990	QB	1990	09	24.19392	21	31	59.02	-05	57	34.9		2 675
1990	QE	1990	09	22.18559	21	42	54.25	+07	10	34.7	16.3	2 675
1990	QE	1990	09	22.21146	21	42	53.28	+07	10	38.6		2 675
1990	QE	1990	09	24.15625	21	41	46.66	+07	14	09.2		2 675
1990	QE	1990	09	24.21285	21	41	44.65	+07	14	16.2		2 675
1990	QF	1990	09	22.19184	21	41	55.01	-11	48	11.6	16.3	2 675
1990	QF	1990	09	22.23628	21	41	53.37	-11	48	03.6		2 675
1990	QF	1990	09	24.16944	21	41	02.15	-11	45	03.3		2 675
1990	QF	1990	09	24.20000	21	41	01.33	-11	45	00.8		2 675
1990	QJ	1990	09	22.18559	21	35	42.55	+11	25	35.4	16.7	2 675
1990	QJ	1990	09	22.21146	21	35	41.54	+11	25	30.6		2 675
1990	QJ	1990	09	24.18837	21	34	29.00	+11	17	25.1		2 675
1990	QJ	1990	09	24.21285	21	34	28.10	+11	17	19.1		2 675
1990	QM	1990	08	22.39288	22	39	13.29	-07	52	18.8	17.2	9 675
1990	QM	1990	08	22.43351	22	39	11.24	-07	52	37.3		9 675
1990	QO	1990	09	22.21736	21	38	07.22	-14	24	40.3	16.2	2 675
1990	QO	1990	09	22.23628	21	38	06.70	-14	25	03.4		2 675
1990	QO	1990	09	24.16944	21	37	26.36	-15	03	36.1		2 675
1990	QO	1990	09	24.20009	21	37	25.64	-15	04	11.3		2 675
1990	QR	1990	09	23.17760	22	06	52.09	-09	04	26.2	16.2	2 675
1990	QR	1990	09	23.20243	22	06	51.50	-09	04	42.5		2 675
1990	QR	1990	09	25.19965	22	06	15.56	-09	24	25.8		2 675
1990	QR	1990	09	25.22344	22	06	15.09	-09	24	39.2		2 675
1990	QS	1990	09	22.19184	21	47	17.41	-14	32	46.1	16.0	2 675
1990	QS	1990	09	22.23628	21	47	15.69	-14	32	31.0		2 675
1990	QS	1990	09	24.16944	21	46	10.52	-14	23	06.2		2 675
1990	QS	1990	09	24.20000	21	46	09.45	-14	22	57.0		2 675
1990	QT	1990	09	22.19184	21	51	14.86	-15	05	20.4	16.7	2 675
1990	QT	1990	09	22.23628	21	51	13.46	-15	05	09.0		2 675
1990	QT	1990	09	24.16944	21	50	27.43	-14	57	33.5		2 675
1990	QT	1990	09	24.20000	21	50	26.64	-14	57	27.5		2 675
1990	QW	1990	09	22.19184	21	57	40.82	-13	46	57.8	17.0	2 675
1990	QW	1990	09	22.23628	21	57	39.20	-13	46	48.1		2 675
1990	QW	1990	09	24.16944	21	56	42.70	-13	39	12.3		2 675
1990	QG1	1990	09	14.32222	22	58	00.02	-05	48	22.7	17.0	9 675
1990	QG1	1990	09	14.35938	22	57	57.65	-05	48	25.1		9 675
1990	QG1	1990	09	19.31962	22	53	14.65	-05	52	23.0	17.0	9 675
1990	QG1	1990	09	19.35000	22	53	12.94	-05	52	24.6		9 675
1990	QH1	1990	09	14.32222	22	58	52.54	-06	02	41.7	17.0	9 675
1990	QH1	1990	09	14.35938	22	58	50.29	-06	02	46.8		9 675
1990	QH1	1990	09	19.31962	22	54	08.85	-06	13	40.4	17.2	9 675

1990	QH1	1990	09	19.35000	22	54	07.19	-06	13	44.7		9	675
1990	QL1	1990	09	14.32222	23	07	56.72	-07	14	50.7	17.2	9	675
1990	QL1	1990	09	14.35938	23	07	55.14	-07	15	09.0		9	675
1990	QL1	1990	09	19.31962	23	04	38.15	-07	56	52.6	17.5	9	675
1990	QL1	1990	09	19.35000	23	04	36.90	-07	57	08.4		9	675
1990	QM1	1990	09	14.32222	23	06	58.23	-07	10	17.7	17.2	9	675
1990	QM1	1990	09	14.35938	23	06	56.57	-07	10	29.7		9	675
1990	QM1	1990	09	19.31962	23	03	26.89	-07	36	47.5	17.5	9	675
1990	QM1	1990	09	19.35000	23	03	25.51	-07	36	56.0		9	675
1990	QO1	1990	09	14.32222	23	06	09.73	-02	39	46.7	17.5	9	675
1990	QO1	1990	09	14.35938	23	06	07.79	-02	39	51.3		9	675
1990	QO1	1990	09	19.31962	23	02	02.83	-02	51	28.2	17.5	9	675
1990	QO1	1990	09	19.35000	23	02	01.40	-02	51	31.9		9	675
1990	QP1	1990	09	14.32222	23	05	04.69	-03	57	52.6	17.5	9	675
1990	QP1	1990	09	14.35938	23	05	02.47	-03	58	01.6		9	675
1990	QP1	1990	09	19.31962	23	00	42.39	-04	19	21.4	17.5	9	675
1990	QP1	1990	09	19.35000	23	00	40.82	-04	19	29.1		9	675
1990	QQ1	1990	09	14.32222	23	06	32.65	-02	18	24.6	17.2	9	675
1990	QQ1	1990	09	14.35938	23	06	30.48	-02	18	25.2		9	675
1990	QQ1	1990	09	19.31962	23	01	58.05	-02	22	12.4	17.5	9	675
1990	QQ1	1990	09	19.35000	23	01	56.30	-02	22	14.4		9	675
1990	QR1	1990	09	14.32222	23	10	00.21	-06	37	00.0	17.8	9	675
1990	QR1	1990	09	14.35938	23	09	58.31	-06	37	12.5		9	675
1990	QR1	1990	09	19.31962	23	06	06.47	-07	02	48.8	17.8	9	675
1990	QR1	1990	09	19.35000	23	06	05.24	-07	02	58.6		9	675
1990	QS1	1990	09	14.35938	23	09	30.48	-06	52	10.3	17.8	9	675
1990	QS1	1990	09	19.31962	23	05	17.12	-07	11	20.3	17.8	9	675
1990	QS1	1990	09	19.35000	23	05	15.46	-07	11	27.1		9	675
1990	QV1	1990	09	14.32222	23	14	08.00	-08	52	59.6	17.5	9	675
1990	QV1	1990	09	14.35938	23	14	06.19	-08	53	11.7		9	675
1990	QV1	1990	09	19.31962	23	10	20.91	-09	19	33.9	17.8	9	675
1990	QV1	1990	09	19.35000	23	10	19.45	-09	19	43.4		9	675
1990	QW1	1990	09	14.32222	23	11	58.02	-04	10	23.8	17.5	9	675
1990	QW1	1990	09	14.35938	23	11	55.82	-04	10	29.8		9	675
1990	QW1	1990	09	19.31962	23	07	10.55	-04	25	44.0	17.5	9	675
1990	QW1	1990	09	19.35000	23	07	08.79	-04	25	50.7		9	675
1990	QX1	1990	09	14.32222	23	14	42.01	-06	30	36.9	17.2	9	675
1990	QX1	1990	09	14.35938	23	14	39.80	-06	30	49.0		9	675
1990	QX1	1990	09	19.31962	23	10	00.26	-06	58	13.1	17.5	9	675
1990	QX1	1990	09	19.35000	23	09	58.52	-06	58	22.9		9	675
1990	QZ1	1990	09	14.32222	23	13	01.59	-04	14	59.4	17.5	9	675
1990	QZ1	1990	09	14.35938	23	12	59.30	-04	15	05.7		9	675
1990	QZ1	1990	09	19.31962	23	08	02.64	-04	29	41.9	17.5	9	675
1990	QZ1	1990	09	19.35000	23	08	00.84	-04	29	46.1		9	675
1990	QA2	1990	09	14.32222	23	16	23.06	-03	18	06.0	17.5	9	675
1990	QA2	1990	09	14.35938	23	16	21.10	-03	18	17.4		9	675
1990	QA2	1990	09	19.31962	23	12	07.59	-03	42	26.5	17.5	9	675
1990	QA2	1990	09	19.35000	23	12	06.00	-03	42	35.9		9	675
1990	QB2	1990	09	19.31962	23	15	28.82	-04	50	32.9	16.8	9	675
1990	QB2	1990	09	19.35000	23	15	27.41	-04	50	44.9		9	675
1990	QC2	1990	09	14.32222	23	18	24.26	-05	40	19.0	17.0	9	675
1990	QC2	1990	09	14.35938	23	18	22.15	-05	40	40.2		9	675
1990	QC2	1990	09	19.31962	23	14	05.91	-06	26	14.8	17.5	9	675
1990	QC2	1990	09	19.35000	23	14	04.30	-06	26	31.2		9	675
1990	QD2	1990	09	14.32222	23	20	46.49	-07	22	07.2	16.0	9	675
1990	QD2	1990	09	14.35938	23	20	44.52	-07	22	20.1		9	675
1990	QD2	1990	09	19.31962	23	16	46.91	-07	50	26.3	16.2	9	675
1990	QD2	1990	09	19.35000	23	16	45.43	-07	50	35.8		9	675
1990	QE2	1990	09	19.31962	23	10	10.68	-02	15	25.3	17.0	9	675

1990	QE2	1990	09	19.35000	23	10	08.82	-02	15	34.4		9 675
1990	QF2	1990	09	14.32222	23	21	42.49	-07	24	08.2	17.2	9 675
1990	QF2	1990	09	14.35938	23	21	40.72	-07	24	21.2		9 675
1990	QF2	1990	09	19.31962	23	17	54.00	-07	52	05.7	17.5	9 675
1990	QF2	1990	09	19.35000	23	17	52.56	-07	52	14.7		9 675
1990	QG2	1990	09	14.32222	23	24	23.99	-05	36	18.8	17.0	9 675
1990	QG2	1990	09	14.35938	23	24	22.42	-05	36	38.3		9 675
1990	QG2	1990	09	19.31962	23	21	05.03	-06	19	43.5	16.8	9 675
1990	QG2	1990	09	19.35000	23	21	03.81	-06	19	59.4		9 675
1990	QH2	1990	09	14.32222	23	19	18.05	-05	31	17.5	17.0	9 675
1990	QH2	1990	09	14.35938	23	19	15.72	-05	31	22.1		9 675
1990	QH2	1990	09	19.31962	23	14	29.46	-05	40	36.1	17.5	9 675
1990	QH2	1990	09	19.35000	23	14	27.67	-05	40	40.0		9 675
1990	QJ2	1990	09	14.32222	23	21	13.98	-06	38	10.9	17.5	9 675
1990	QJ2	1990	09	14.35938	23	21	11.69	-06	38	22.0		9 675
1990	QJ2	1990	09	19.31962	23	16	28.88	-07	02	35.3	17.8	9 675
1990	QJ2	1990	09	19.35000	23	16	27.05	-07	02	44.8		9 675
1990	QY2	1990	09	14.32222	23	01	37.93	-07	12	37.1	17.5	9 675
1990	QY2	1990	09	14.35938	23	01	35.75	-07	12	47.2		9 675
1990	QY2	1990	09	19.31962	22	57	10.97	-07	33	28.2	17.5	9 675
1990	QY2	1990	09	19.35000	22	57	09.37	-07	33	35.2		9 675
1990	QZ2	1990	09	14.32222	23	05	37.37	-06	13	05.3	17.5	9 675
1990	QZ2	1990	09	14.35938	23	05	35.33	-06	13	11.1		9 675
1990	QZ2	1990	09	19.31962	23	01	38.50	-06	25	23.0	17.8	9 675
1990	QZ2	1990	09	19.35000	23	01	36.94	-06	25	27.3		9 675
1990	QA3	1990	09	14.32222	23	05	47.02	-03	38	35.2	17.5	9 675
1990	QA3	1990	09	14.35938	23	05	45.12	-03	38	56.5		9 675
1990	QB3	1990	09	14.32222	23	07	45.04	-06	57	10.4	17.8	9 675
1990	QB3	1990	09	14.35938	23	07	43.01	-06	57	29.3		9 675
1990	QB3	1990	09	19.31962	23	03	31.27	-07	40	21.3	17.8	9 675
1990	QB3	1990	09	19.35000	23	03	29.67	-07	40	34.7		9 675
1990	QD3	1990	09	14.32222	23	07	06.36	-02	26	34.3	17.0	9 675
1990	QD3	1990	09	14.35938	23	07	03.89	-02	26	31.5		9 675
1990	QD3	1990	09	19.31962	23	02	10.60	-02	23	25.0	17.5	9 675
1990	QD3	1990	09	19.35000	23	02	08.81	-02	23	24.4		9 675
1990	QG3	1990	09	14.32222	23	16	50.31	-08	01	53.2	17.2	9 675
1990	QG3	1990	09	14.35938	23	16	48.79	-08	01	56.5		9 675
1990	QG3	1990	09	19.31962	23	13	55.84	-08	07	34.1	17.2	9 675
1990	QG3	1990	09	19.35000	23	13	54.68	-08	07	35.0		9 675
1990	QJ3	1990	09	14.32222	23	14	29.48	-04	52	23.6	17.5	9 675
1990	QJ3	1990	09	14.35938	23	14	27.31	-04	52	25.5		9 675
1990	QJ3	1990	09	19.31962	23	09	46.79	-04	56	36.3	17.5	9 675
1990	QK3	1990	09	14.32222	23	21	53.87	-08	20	19.8	17.0	9 675
1990	QK3	1990	09	14.35938	23	21	51.95	-08	20	41.4		9 675
1990	QK3	1990	09	19.31962	23	17	49.38	-09	07	17.7	17.5	9 675
1990	QK3	1990	09	19.35000	23	17	47.79	-09	07	33.3		9 675
1990	QL3	1990	09	14.32222	23	20	54.43	-03	53	09.2	16.8	9 675
1990	QL3	1990	09	14.35938	23	20	52.08	-03	53	13.6		9 675
1990	QL3	1990	09	19.31962	23	16	04.97	-04	03	41.6	17.2	9 675
1990	QL3	1990	09	19.35000	23	16	03.14	-04	03	45.4		9 675
1990	QM3	1990	09	14.32222	23	22	39.84	-04	34	46.7	17.5	9 675
1990	QM3	1990	09	14.35938	23	22	37.35	-04	34	47.1		9 675
1990	QM3	1990	09	19.31962	23	17	29.80	-04	36	45.0	17.5	9 675
1990	QM3	1990	09	19.35000	23	17	27.65	-04	36	45.2		9 675
1990	QO3	1990	09	14.32222	23	02	07.09	-08	43	55.3	17.0	9 675
1990	QO3	1990	09	14.35938	23	02	05.15	-08	43	58.7		9 675
1990	QO3	1990	09	19.31962	22	58	00.28	-08	51	05.9	17.5	9 675
1990	QO3	1990	09	19.35000	22	57	58.81	-08	51	07.2		9 675
1990	QP3	1990	09	14.32222	23	05	19.48	-10	03	05.4	17.2	9 675

1990	QP3		1990	09	14.35938	23	05	17.83	-10	03	16.0		9 675
1990	QP3		1990	09	19.31962	23	01	49.44	-10	24	51.4	17.2	9 675
1990	QP3		1990	09	19.35000	23	01	48.15	-10	24	59.3		9 675
1990	QT3		1990	09	14.32222	23	10	11.82	-08	53	56.6	16.0	9 675
1990	QT3		1990	09	14.35938	23	10	09.70	-08	54	10.4		9 675
1990	QT3		1990	09	19.31962	23	05	49.56	-09	23	00.3	16.5	9 675
1990	QT3		1990	09	19.35000	23	05	47.91	-09	23	10.3		9 675
1990	QW3		1990	09	14.32222	22	53	36.60	-05	02	28.0	17.5	9 675
1990	QW3		1990	09	14.35938	22	53	34.51	-05	02	37.5		9 675
1990	QX3		1990	09	19.31962	22	53	56.77	-04	13	25.1	17.5	9 675
1990	QX3		1990	09	19.35000	22	53	55.36	-04	13	24.4		9 675
1990	QY3		1990	09	14.32222	22	56	51.76	-05	53	53.5	17.2	9 675
1990	QY3		1990	09	14.35938	22	56	49.64	-05	54	02.9		9 675
1990	QY3		1990	09	19.31962	22	52	31.34	-06	12	43.6	17.2	9 675
1990	QY3		1990	09	19.35000	22	52	29.80	-06	12	51.3		9 675
1990	QZ3		1990	09	14.32222	23	02	26.75	-08	58	33.6	17.5	9 675
1990	QZ3		1990	09	14.35938	23	02	24.97	-08	58	54.0		9 675
1990	QZ3		1990	09	19.31962	22	58	51.31	-09	43	04.9	17.5	9 675
1990	QZ3		1990	09	19.35000	22	58	50.13	-09	43	19.1		9 675
1990	QN4		1990	09	14.32222	22	56	17.46	-06	02	02.6	15.8	9 675
1990	QN4		1990	09	14.35938	22	56	15.80	-06	02	18.0		9 675
1990	QN4		1990	09	19.31962	22	53	00.21	-06	33	38.1	16.2	9 675
1990	QN4		1990	09	19.35000	22	52	59.03	-06	33	48.9		9 675
1990	QP4		1990	09	14.32222	22	57	59.97	-06	38	20.3	17.5	9 675
1990	QP4		1990	09	14.35938	22	57	57.93	-06	38	27.1		9 675
1990	QP4		1990	09	19.31962	22	53	49.93	-06	53	37.5	17.5	9 675
1990	QJ5		1990	09	14.32222	23	04	37.19	-09	11	17.0	16.8	9 675
1990	QJ5		1990	09	14.35938	23	04	35.07	-09	11	24.1		9 675
1990	QJ5		1990	09	19.31962	23	00	16.31	-09	25	46.2	17.2	9 675
1990	QJ5		1990	09	19.35000	23	00	14.75	-09	25	50.0		9 675
1990	QL5		1990	08	22.39288	22	33	20.18	-10	06	26.1	17.0	9 675
1990	QL5		1990	08	22.43351	22	33	18.38	-10	06	42.8		9 675
1990	QM5		1990	08	22.39288	22	36	55.63	-11	07	41.0	17.5	9 675
1990	QM5		1990	08	22.43351	22	36	53.86	-11	07	54.9		9 675
1990	QN5		1990	08	22.39288	22	41	25.10	-11	22	41.7	17.5	9 675
1990	QN5		1990	08	22.43351	22	41	22.82	-11	22	44.2		9 675
1990	QO5		1990	08	22.39288	22	49	55.75	-10	52	43.5	17.8	9 675
1990	QO5		1990	08	22.43351	22	49	53.51	-10	52	57.7		9 675
1990	QR5		1990	08	22.39288	22	55	17.53	-09	13	02.1	17.2	9 675
1990	QR5		1990	08	22.43351	22	55	15.75	-09	13	14.7		9 675
1990	QR5	*	1990	08	26.36111	22	52	32.81	-09	34	08.0	17.2	9 675
1990	QR5		1990	08	26.39948	22	52	31.13	-09	34	20.5		9 675
1990	QS5		1990	08	22.39288	22	33	10.87	-08	58	09.1	17.5	9 675
1990	QS5		1990	08	22.43351	22	33	08.82	-08	58	21.4		9 675
1990	QS5	*	1990	08	29.40694	22	27	08.46	-09	34	45.7	17.2	9 675
1990	QS5		1990	08	29.44375	22	27	06.44	-09	34	57.3		9 675
1990	QT5		1990	08	22.39288	22	35	51.55	-07	19	31.7	17.8	9 675
1990	QT5		1990	08	22.43351	22	35	49.43	-07	19	47.3		9 675
1990	QT5	*	1990	08	29.40694	22	29	54.15	-08	06	25.6	17.5	9 675
1990	QT5		1990	08	29.44375	22	29	52.05	-08	06	41.0		9 675
1990	QU5		1990	08	22.39288	22	36	05.52	-05	42	48.3	17.0	9 675
1990	QU5		1990	08	22.43351	22	36	03.56	-05	43	02.2		9 675
1990	QU5	*	1990	08	29.40694	22	30	37.22	-06	22	23.6	16.5	9 675
1990	QU5		1990	08	29.44375	22	30	35.42	-06	22	36.8		9 675
1990	QV5		1990	08	22.39288	22	43	36.79	-06	21	38.6	17.2	9 675
1990	QV5		1990	08	22.43351	22	43	34.63	-06	21	54.5		9 675
1990	QV5	*	1990	08	29.40694	22	37	24.65	-07	08	50.9	17.0	9 675
1990	QV5		1990	08	29.44375	22	37	22.54	-07	09	06.4		9 675
1990	QW5		1990	08	22.39288	22	44	51.33	-06	50	03.6	17.5	9 675

1990	QW5		1990	08	22.43351	22	44	48.72	-06	50	00.5	9 675
1990	QW5	*	1990	08	29.40694	22	37	26.40	-06	39	13.9	17.5 9 675
1990	QW5		1990	08	29.44375	22	37	23.87	-06	39	09.5	9 675
1990	QX5		1990	08	22.39288	22	48	57.78	-05	57	23.1	17.5 9 675
1990	QX5		1990	08	22.43351	22	48	55.35	-05	57	19.7	9 675
1990	QX5	*	1990	08	29.40694	22	41	50.01	-05	45	29.8	17.5 9 675
1990	QX5		1990	08	29.44375	22	41	47.71	-05	45	26.1	9 675
1990	QY5		1990	08	22.39288	22	49	04.65	-06	06	33.1	17.2 9 675
1990	QY5		1990	08	22.43351	22	49	02.19	-06	06	29.7	9 675
1990	QY5	*	1990	08	29.40694	22	41	58.30	-05	49	17.1	16.8 9 675
1990	QY5		1990	08	29.44375	22	41	55.90	-05	49	11.6	9 675
1990	QZ5		1990	08	22.39288	22	50	34.65	-06	17	09.6	17.5 9 675
1990	QZ5		1990	08	22.43351	22	50	33.25	-06	17	41.0	9 675
1990	QZ5	*	1990	08	29.40694	22	45	51.50	-07	24	40.7	17.0 9 675
1990	QZ5		1990	08	29.44375	22	45	49.88	-07	25	02.1	9 675
1990	QA6		1990	08	22.39288	22	53	29.05	-09	37	44.7	17.0 9 675
1990	QA6		1990	08	22.43351	22	53	26.81	-09	37	48.9	9 675
1990	QA6	*	1990	08	29.40694	22	47	03.67	-09	51	31.4	17.0 9 675
1990	QA6		1990	08	29.44375	22	47	01.46	-09	51	35.4	9 675
1990	QB6	*	1990	08	24.45052	00	56	22.20	+03	37	51.7	16.8 9 675
1990	QB6		1990	08	24.48646	00	56	21.33	+03	38	06.9	9 675
1990	QB6		1990	09	18.35972	00	36	35.88	+05	56	32.8	16.5 9 675
1990	QB6		1990	09	18.39149	00	36	33.65	+05	56	40.1	9 675
1990	QB6		1990	09	20.39878	00	34	14.55	+06	04	10.1	16.8 9 675
1990	QB6		1990	09	20.43299	00	34	12.19	+06	04	20.7	9 675
1990	QC6	*	1990	08	23.43941	23	12	19.10	-06	24	28.9	17.5 9 675
1990	QC6		1990	08	23.47517	23	12	17.44	-06	24	41.6	9 675
1990	QC6		1990	09	14.32222	22	53	07.94	-08	29	35.7	17.5 9 675
1990	QC6		1990	09	14.35938	22	53	05.85	-08	29	48.6	9 675
1990	QD6	*	1990	08	23.43941	23	20	28.05	-07	17	47.1	16.2 9 675
1990	QD6		1990	08	23.47517	23	20	26.38	-07	18	00.7	9 675
1990	QD6		1990	09	14.32222	23	02	03.14	-09	30	39.9	16.0 9 675
1990	QD6		1990	09	14.35938	23	02	01.17	-09	30	52.1	9 675
1990	QD6		1990	09	19.31962	22	58	02.04	-09	55	47.2	16.2 9 675
1990	QD6		1990	09	19.35000	22	58	00.55	-09	55	55.7	9 675
1990	QE6	*	1990	08	25.35955	23	39	36.80	-09	14	18.3	17.2 9 675
1990	QE6		1990	08	25.39792	23	39	34.18	-09	14	05.9	9 675
1990	QE6		1990	09	14.32222	23	15	12.33	-07	24	11.6	17.2 9 675
1990	QE6		1990	09	14.35938	23	15	09.46	-07	23	58.6	9 675
1990	QE6		1990	09	19.31962	23	09	04.86	-06	54	37.8	17.0 9 675
1990	QE6		1990	09	19.35000	23	09	02.61	-06	54	26.7	9 675
1990	RD	*	1990	09	14.32222	22	57	47.73	-04	09	24.9	17.2 9 675
1990	RD		1990	09	14.35938	22	57	46.15	-04	09	46.1	9 675
1990	RD		1990	09	19.31962	22	54	32.50	-04	54	04.4	17.0 9 675
1990	RD		1990	09	19.35000	22	54	31.28	-04	54	21.6	9 675
1990	RE	*	1990	09	14.32222	23	02	35.38	-08	20	37.4	17.8 9 675
1990	RE		1990	09	14.35938	23	02	33.80	-08	20	55.9	9 675
1990	RE		1990	09	19.31962	22	59	19.34	-09	01	01.9	17.8 9 675
1990	RE		1990	09	19.35000	22	59	18.12	-09	01	15.9	9 675
1990	RF	*	1990	09	14.32222	23	03	04.20	-02	51	02.2	16.8 9 675
1990	RF		1990	09	14.35938	23	03	02.69	-02	51	22.8	9 675
1990	RF		1990	09	19.31962	22	59	58.54	-03	37	42.6	16.8 9 675
1990	RF		1990	09	19.35000	22	59	57.37	-03	37	58.5	9 675
1990	RG	*	1990	09	14.32222	23	07	31.81	-08	12	50.0	17.5 9 675
1990	RG		1990	09	14.35938	23	07	29.36	-08	12	49.2	9 675
1990	RG		1990	09	19.31962	23	02	19.86	-08	09	16.9	17.5 9 675
1990	RG		1990	09	19.35000	23	02	17.93	-08	09	14.7	9 675
1990	RH	*	1990	09	14.32222	23	10	36.25	-05	18	54.4	17.5 9 675
1990	RH		1990	09	14.35938	23	10	34.24	-05	19	14.3	9 675

1990	RH		1990	09	19.31962	23	06	31.47	-06	01	55.8	17.5	9	675
1990	RH		1990	09	19.35000	23	06	29.92	-06	02	11.3		9	675
1990	RJ	*	1990	09	14.32222	23	14	50.87	-07	43	20.9	17.5	9	675
1990	RJ		1990	09	14.35938	23	14	48.38	-07	43	25.1		9	675
1990	RJ		1990	09	19.31962	23	09	28.64	-07	52	39.1	17.5	9	675
1990	RJ		1990	09	19.35000	23	09	26.65	-07	52	42.0		9	675
1990	RK	*	1990	09	14.32222	23	17	11.70	-08	06	50.9	17.0	9	675
1990	RK		1990	09	14.35938	23	17	09.72	-08	07	09.3		9	675
1990	RK		1990	09	19.31962	23	13	01.56	-08	48	17.2	17.0	9	675
1990	RK		1990	09	19.35000	23	12	59.96	-08	48	31.0		9	675
1990	RL	*	1990	09	14.32222	23	19	17.68	-07	41	04.7	17.5	9	675
1990	RL		1990	09	14.35938	23	19	15.85	-07	41	10.3		9	675
1990	RL		1990	09	19.31962	23	15	13.07	-07	53	01.3	17.5	9	675
1990	RL		1990	09	19.35000	23	15	11.41	-07	53	06.8		9	675
1990	RM	*	1990	09	14.32222	23	20	43.69	-07	39	25.2	17.5	9	675
1990	RM		1990	09	14.35938	23	20	41.35	-07	39	31.2		9	675
1990	RM		1990	09	19.31962	23	15	45.66	-07	50	52.3	17.2	9	675
1990	RM		1990	09	19.35000	23	15	43.77	-07	50	56.2		9	675
1990	RN	*	1990	09	14.32222	23	24	15.61	-06	53	33.1	17.0	9	675
1990	RN		1990	09	14.35938	23	24	13.15	-06	53	30.9		9	675
1990	RN		1990	09	19.31962	23	19	02.22	-06	46	28.4	17.0	9	675
1990	RN		1990	09	19.35000	23	19	00.24	-06	46	25.5		9	675
1990	SA		1990	09	19.31962	23	05	50.04	-08	25	42.9	16.2	9	675
1990	SA		1990	09	19.35000	23	05	50.30	-08	28	35.4		9	675
1990	SA		1990	09	24.28854	23	07	23.44	-15	27	11.3		2	675
1990	SA		1990	09	24.31476	23	07	23.76	-15	29	09.5		2	675
1990	SB		1990	10	16.22760	01	05	08.42	+00	26	14.8		2	675
1990	SB		1990	10	16.25764	01	05	06.50	+00	25	41.6		2	675
1990	SC		1990	09	16.39254	00	45	44.79	+12	04	38.6	17.5	9	675
1990	SC		1990	09	16.42795	00	45	43.12	+12	04	42.8		9	675
1990	SC		1990	09	17.40017	00	44	59.62	+12	06	23.1	17.5	9	675
1990	SC		1990	09	17.47899	00	44	55.85	+12	06	29.9		9	675
1990	SC		1990	09	18.35972	00	44	15.27	+12	07	51.5	17.2	9	675
1990	SC		1990	09	18.38351	00	44	14.18	+12	07	54.9	17.5	9	675
1990	SC		1990	09	18.39149	00	44	13.71	+12	07	53.1		9	675
1990	SC		1990	09	18.41493	00	44	12.61	+12	07	56.9		9	675
1990	SC		1990	09	20.39878	00	42	36.80	+12	10	26.3	17.5	9	675
1990	SC		1990	09	20.43299	00	42	34.98	+12	10	27.9		9	675
1990	SD		1990	09	16.39254	00	47	50.39	+12	20	50.4	17.5	9	675
1990	SD		1990	09	16.42795	00	47	48.62	+12	20	42.6		9	675
1990	SD		1990	09	17.40017	00	46	59.82	+12	17	09.7	17.2	9	675
1990	SD		1990	09	17.47899	00	46	55.68	+12	16	51.3		9	675
1990	SD		1990	09	18.35972	00	46	10.80	+12	13	29.3	17.5	9	675
1990	SD		1990	09	18.38351	00	46	09.63	+12	13	26.0	17.5	9	675
1990	SD		1990	09	18.39149	00	46	09.12	+12	13	20.8		9	675
1990	SD		1990	09	18.41493	00	46	08.01	+12	13	18.5		9	675
1990	SD		1990	09	20.39878	00	44	24.35	+12	05	16.8	17.5	9	675
1990	SD		1990	09	20.43299	00	44	22.41	+12	05	09.4		9	675
1990	SQ	*	1990	09	23.17135	22	00	13.72	-21	41	20.6	14.0	2	675
1990	SQ		1990	09	23.19635	22	00	09.63	-21	40	22.1		2	675
1990	SQ		1990	09	25.16215	21	55	31.42	-20	22	49.5	14.0	2	675
1990	SQ		1990	09	25.33993	21	55	05.21	-20	15	33.5		2	675
1990	SQ		1990	09	26.25573	21	53	00.98	-19	37	53.4	14.0	2	675
1990	SQ		1990	09	26.31424	21	52	52.65	-19	35	26.9		2	675
1990	SQ		1990	10	14.15191	21	24	03.42	-05	21	15.2	13.7	2	675
1990	SQ		1990	10	17.15417	21	21	36.79	-02	46	32.8		2	675
1990	SQ		1990	10	17.17708	21	21	35.62	-02	45	22.0		2	675
1990	SR	*	1990	09	17.33941	23	41	33.62	-14	37	59.3	15.8	9	675
1990	SR		1990	09	19.30417	23	39	41.14	-14	36	37.2		9	675

1990	SR		1990	09	20.34306	23	38	41.98	-14	35	32.8	9 675
1990	SU	*	1990	09	16.39254	00	31	42.59	+10	43	38.9	17.5 9 675
1990	SU		1990	09	16.42795	00	31	41.18	+10	43	25.4	9 675
1990	SU		1990	09	17.40017	00	31	03.05	+10	37	41.3	17.8 9 675
1990	SU		1990	09	17.47899	00	30	59.90	+10	37	11.3	9 675
1990	SU		1990	09	18.35972	00	30	25.02	+10	31	50.2	17.8 9 675
1990	SU		1990	09	18.39149	00	30	23.66	+10	31	38.5	9 675
1990	SU		1990	09	20.39878	00	29	02.41	+10	19	08.5	17.8 9 675
1990	SU		1990	09	20.43299	00	29	00.90	+10	18	57.5	9 675
1990	SV	*	1990	09	16.39254	00	33	57.26	+10	45	54.7	17.5 9 675
1990	SV		1990	09	16.42795	00	33	55.71	+10	45	55.6	9 675
1990	SV		1990	09	17.40017	00	33	15.19	+10	46	30.3	17.5 9 675
1990	SV		1990	09	17.47899	00	33	11.55	+10	46	31.2	9 675
1990	SV		1990	09	18.35972	00	32	34.03	+10	46	49.5	17.5 9 675
1990	SV		1990	09	18.39149	00	32	32.53	+10	46	48.3	9 675
1990	SV		1990	09	20.39878	00	31	03.19	+10	46	50.3	17.5 9 675
1990	SV		1990	09	20.43299	00	31	01.47	+10	46	51.8	9 675
1990	SW	*	1990	09	16.39254	00	35	00.49	+09	54	23.8	17.2 9 675
1990	SW		1990	09	16.42795	00	34	58.83	+09	54	05.6	9 675
1990	SW		1990	09	17.40017	00	34	14.65	+09	45	39.5	17.2 9 675
1990	SW		1990	09	17.47899	00	34	10.85	+09	44	59.1	9 675
1990	SW		1990	09	18.35972	00	33	30.34	+09	37	08.0	17.5 9 675
1990	SW		1990	09	18.39149	00	33	28.74	+09	36	50.4	9 675
1990	SW		1990	09	20.39878	00	31	53.42	+09	18	30.9	17.2 9 675
1990	SW		1990	09	20.43299	00	31	51.68	+09	18	12.9	9 675
1990	SX	*	1990	09	16.39254	00	35	33.47	+13	31	27.6	17.0 9 675
1990	SX		1990	09	16.42795	00	35	31.64	+13	31	28.7	9 675
1990	SX		1990	09	17.40017	00	34	45.04	+13	32	22.6	17.0 9 675
1990	SX		1990	09	17.47899	00	34	41.04	+13	32	25.7	9 675
1990	SX		1990	09	18.35972	00	33	58.26	+13	33	07.1	17.0 9 675
1990	SX		1990	09	18.39149	00	33	56.67	+13	33	08.1	9 675
1990	SX		1990	09	20.39878	00	32	16.48	+13	34	09.2	17.2 9 675
1990	SX		1990	09	20.43299	00	32	14.60	+13	34	12.3	9 675
1990	SY	*	1990	09	16.39254	00	37	14.51	+13	00	05.2	17.2 9 675
1990	SY		1990	09	16.42795	00	37	12.63	+13	00	05.7	9 675
1990	SY		1990	09	17.40017	00	36	20.04	+12	59	50.7	17.2 9 675
1990	SY		1990	09	17.47899	00	36	15.56	+12	59	47.9	9 675
1990	SY		1990	09	18.35972	00	35	27.36	+12	59	25.1	17.0 9 675
1990	SY		1990	09	18.39149	00	35	25.58	+12	59	24.6	9 675
1990	SY		1990	09	20.39878	00	33	32.73	+12	57	55.9	17.2 9 675
1990	SY		1990	09	20.43299	00	33	30.68	+12	57	56.6	9 675
1990	SZ	*	1990	09	16.39254	00	38	57.46	+10	25	46.0	17.5 9 675
1990	SZ		1990	09	16.42795	00	38	55.49	+10	25	49.6	9 675
1990	SZ		1990	09	17.40017	00	38	03.42	+10	27	37.1	17.2 9 675
1990	SZ		1990	09	17.47899	00	37	58.92	+10	27	44.4	9 675
1990	SZ		1990	09	18.35972	00	37	10.78	+10	29	13.2	17.2 9 675
1990	SZ		1990	09	18.39149	00	37	09.00	+10	29	16.0	9 675
1990	SZ		1990	09	20.39878	00	35	15.39	+10	32	12.3	17.2 9 675
1990	SZ		1990	09	20.43299	00	35	13.27	+10	32	16.1	9 675
1990	SA1	*	1990	09	16.39254	00	39	21.73	+13	16	24.9	16.2 9 675
1990	SA1		1990	09	16.42795	00	39	19.89	+13	16	13.6	9 675
1990	SA1		1990	09	17.40017	00	38	30.68	+13	11	33.7	16.2 9 675
1990	SA1		1990	09	17.47899	00	38	26.46	+13	11	09.4	9 675
1990	SA1		1990	09	18.35972	00	37	41.25	+13	06	44.1	16.5 9 675
1990	SA1		1990	09	18.38351	00	37	39.90	+13	06	39.3	16.5 9 675
1990	SA1		1990	09	18.39149	00	37	39.50	+13	06	35.0	9 675
1990	SA1		1990	09	18.41493	00	37	38.24	+13	06	29.8	9 675
1990	SA1		1990	09	20.39878	00	35	53.19	+12	55	50.0	16.5 9 675
1990	SA1		1990	09	20.43299	00	35	51.20	+12	55	39.4	9 675

1990	SB1	*	1990	09	16.39254	00	42	43.57	+12	07	43.1	17.8	9 675
1990	SB1		1990	09	16.42795	00	42	41.67	+12	07	41.6		9 675
1990	SB1		1990	09	17.40017	00	41	50.15	+12	07	08.7	17.5	9 675
1990	SB1		1990	09	17.47899	00	41	45.79	+12	07	05.7		9 675
1990	SB1		1990	09	18.35972	00	40	58.36	+12	06	26.4	17.5	9 675
1990	SB1		1990	09	18.38351	00	40	57.16	+12	06	29.7	17.8	9 675
1990	SB1		1990	09	18.39149	00	40	56.63	+12	06	26.0		9 675
1990	SB1		1990	09	18.41493	00	40	55.38	+12	06	27.9		9 675
1990	SB1		1990	09	20.39878	00	39	06.27	+12	04	38.9	17.5	9 675
1990	SB1		1990	09	20.43299	00	39	04.26	+12	04	38.6		9 675
1990	SC1	*	1990	09	16.39254	00	42	52.51	+12	13	18.9	17.8	9 675
1990	SC1		1990	09	16.42795	00	42	50.88	+12	13	23.7		9 675
1990	SC1		1990	09	17.40017	00	42	06.56	+12	15	34.2	17.8	9 675
1990	SC1		1990	09	17.47899	00	42	02.79	+12	15	44.2		9 675
1990	SC1		1990	09	18.35972	00	41	21.74	+12	17	35.4	17.8	9 675
1990	SC1		1990	09	18.38351	00	41	20.60	+12	17	39.2	18.0	9 675
1990	SC1		1990	09	18.39149	00	41	20.23	+12	17	37.5		9 675
1990	SC1		1990	09	18.41493	00	41	19.09	+12	17	42.8		9 675
1990	SC1		1990	09	20.39878	00	39	43.22	+12	21	22.8	17.8	9 675
1990	SC1		1990	09	20.43299	00	39	41.41	+12	21	29.1		9 675
1990	SD1	*	1990	09	16.39254	00	44	01.68	+14	38	31.7	16.2	9 675
1990	SD1		1990	09	16.42795	00	43	59.81	+14	38	41.0		9 675
1990	SD1		1990	09	17.40017	00	43	10.23	+14	42	59.6	16.2	9 675
1990	SD1		1990	09	17.47899	00	43	05.91	+14	43	19.2		9 675
1990	SD1		1990	09	18.38351	00	42	18.68	+14	47	04.3	16.8	9 675
1990	SD1		1990	09	18.41493	00	42	16.97	+14	47	15.5		9 675
1990	SE1	*	1990	09	16.39254	00	45	08.49	+13	07	47.7	17.5	9 675
1990	SE1		1990	09	16.42795	00	45	06.27	+13	07	50.5		9 675
1990	SE1		1990	09	17.40017	00	44	08.79	+13	09	18.1	17.8	9 675
1990	SE1		1990	09	17.47899	00	44	04.01	+13	09	24.5		9 675
1990	SE1		1990	09	18.35972	00	43	11.01	+13	10	32.0	17.5	9 675
1990	SE1		1990	09	18.38351	00	43	09.59	+13	10	35.9	17.8	9 675
1990	SE1		1990	09	18.39149	00	43	08.99	+13	10	34.1		9 675
1990	SE1		1990	09	18.41493	00	43	07.64	+13	10	38.1		9 675
1990	SE1		1990	09	20.39878	00	41	05.64	+13	12	41.9	17.8	9 675
1990	SE1		1990	09	20.43299	00	41	03.19	+13	12	45.0		9 675
1990	SF1	*	1990	09	16.39254	00	48	56.67	+11	31	29.1	17.5	9 675
1990	SF1		1990	09	16.42795	00	48	55.35	+11	31	22.6		9 675
1990	SF1		1990	09	17.40017	00	48	18.73	+11	28	25.1	17.5	9 675
1990	SF1		1990	09	17.47899	00	48	15.56	+11	28	10.3		9 675
1990	SF1		1990	09	18.35972	00	47	41.49	+11	25	18.3	17.8	9 675
1990	SF1		1990	09	18.38351	00	47	40.62	+11	25	16.4	17.8	9 675
1990	SF1		1990	09	18.39149	00	47	40.19	+11	25	11.7		9 675
1990	SF1		1990	09	18.41493	00	47	39.33	+11	25	09.2		9 675
1990	SF1		1990	09	20.39878	00	46	19.43	+11	18	14.5	17.8	9 675
1990	SF1		1990	09	20.43299	00	46	17.89	+11	18	07.3		9 675
1990	SG1	*	1990	09	16.39254	00	49	08.40	+15	05	07.2	17.0	9 675
1990	SG1		1990	09	16.42795	00	49	06.82	+15	05	01.4		9 675
1990	SG1		1990	09	17.40017	00	48	23.22	+15	02	42.5	16.8	9 675
1990	SG1		1990	09	17.47899	00	48	19.43	+15	02	32.4		9 675
1990	SG1		1990	09	18.38351	00	47	38.06	+15	00	08.5	16.8	9 675
1990	SG1		1990	09	18.41493	00	47	36.61	+15	00	04.5		9 675
1990	SH1	*	1990	09	16.39254	00	51	54.14	+12	37	10.9	16.8	9 675
1990	SH1		1990	09	16.42795	00	51	53.27	+12	36	53.8		9 675
1990	SH1		1990	09	17.40017	00	51	33.10	+12	29	24.2	16.5	9 675
1990	SH1		1990	09	17.47899	00	51	31.20	+12	28	46.1		9 675
1990	SH1		1990	09	18.38351	00	51	11.35	+12	21	32.9	16.5	9 675
1990	SH1		1990	09	18.41493	00	51	10.57	+12	21	16.8		9 675
1990	SJ1	*	1990	09	16.39254	00	52	25.83	+11	59	32.8	16.8	9 675

1990	SJ1		1990	09	16.42795	00	52	24.31	+11	59	20.0	9 675
1990	SJ1		1990	09	17.40017	00	51	49.02	+11	54	04.5	16.8 9 675
1990	SJ1		1990	09	17.47899	00	51	45.84	+11	53	37.6	9 675
1990	SJ1		1990	09	18.38351	00	51	11.81	+11	48	29.9	17.0 9 675
1990	SJ1		1990	09	18.41493	00	51	10.52	+11	48	18.2	9 675
1990	SK1	*	1990	09	16.39254	00	53	00.63	+14	09	31.1	17.2 9 675
1990	SK1		1990	09	16.42795	00	52	59.59	+14	09	16.4	9 675
1990	SK1		1990	09	17.40017	00	52	35.47	+14	02	40.3	17.2 9 675
1990	SK1		1990	09	17.47899	00	52	33.09	+14	02	07.4	9 675
1990	SK1		1990	09	18.38351	00	52	09.45	+13	55	40.3	17.5 9 675
1990	SK1		1990	09	18.41493	00	52	08.47	+13	55	25.6	9 675
1990	SL1	*	1990	09	16.39254	00	54	57.73	+09	51	19.5	17.0 9 675
1990	SL1		1990	09	16.42795	00	54	56.89	+09	50	55.1	9 675
1990	SL1		1990	09	17.40017	00	54	35.77	+09	39	40.9	17.2 9 675
1990	SL1		1990	09	17.47899	00	54	33.75	+09	38	45.1	9 675
1990	SL1		1990	09	18.38351	00	54	13.07	+09	28	03.9	16.8 9 675
1990	SM1	*	1990	09	16.39254	00	55	06.35	+09	42	41.3	17.0 9 675
1990	SM1		1990	09	16.42795	00	55	04.27	+09	42	49.3	9 675
1990	SM1		1990	09	17.40017	00	54	08.88	+09	46	34.2	17.0 9 675
1990	SM1		1990	09	17.47899	00	54	04.15	+09	46	51.5	9 675
1990	SM1		1990	09	18.38351	00	53	11.57	+09	50	14.4	17.0 9 675
1990	SM1		1990	09	18.41493	00	53	09.58	+09	50	19.0	9 675
1990	SN1	*	1990	09	16.39254	00	58	17.00	+12	06	53.6	16.2 9 675
1990	SN1		1990	09	16.42795	00	58	15.69	+12	06	43.7	9 675
1990	SN1		1990	09	17.40017	00	57	42.51	+12	02	08.9	16.8 9 675
1990	SN1		1990	09	17.47899	00	57	39.52	+12	01	45.6	9 675
1990	SN1		1990	09	18.38351	00	57	07.42	+11	57	16.9	16.5 9 675
1990	SN1		1990	09	18.41493	00	57	06.17	+11	57	06.6	9 675
1990	SO1	*	1990	09	18.35972	00	19	27.77	+13	08	51.6	16.5 9 675
1990	SO1		1990	09	18.39149	00	19	26.39	+13	08	40.2	9 675
1990	SO1		1990	09	20.39878	00	18	04.15	+12	55	00.4	16.8 9 675
1990	SO1		1990	09	20.43299	00	18	02.60	+12	54	46.2	9 675
1990	SP1	*	1990	09	18.35972	00	21	36.10	+07	58	52.0	17.2 9 675
1990	SP1		1990	09	18.39149	00	21	34.16	+07	58	52.2	9 675
1990	SP1		1990	09	20.39878	00	19	33.21	+07	59	15.6	17.5 9 675
1990	SP1		1990	09	20.43299	00	19	30.85	+07	59	14.4	9 675
1990	SQ1	*	1990	09	18.35972	00	21	57.68	+09	52	39.6	17.2 9 675
1990	SQ1		1990	09	18.39149	00	21	55.77	+09	52	44.0	9 675
1990	SQ1		1990	09	20.39878	00	19	55.33	+09	57	26.5	17.5 9 675
1990	SQ1		1990	09	20.43299	00	19	53.07	+09	57	31.8	9 675
1990	SR1	*	1990	09	18.35972	00	22	24.21	+08	03	22.1	17.5 9 675
1990	SR1		1990	09	18.39149	00	22	22.44	+08	03	14.8	9 675
1990	SR1		1990	09	20.39878	00	20	34.10	+07	56	04.6	17.5 9 675
1990	SR1		1990	09	20.43299	00	20	32.12	+07	55	58.2	9 675
1990	SS1	*	1990	09	18.35972	00	24	20.21	+07	12	08.9	16.8 9 675
1990	SS1		1990	09	18.39149	00	24	18.87	+07	11	47.0	9 675
1990	SS1		1990	09	20.39878	00	22	58.86	+06	48	59.6	17.0 9 675
1990	SS1		1990	09	20.43299	00	22	57.36	+06	48	35.5	9 675
1990	ST1	*	1990	09	18.35972	00	29	28.70	+11	31	57.8	17.5 9 675
1990	ST1		1990	09	18.39149	00	29	27.46	+11	31	32.8	9 675
1990	ST1		1990	09	20.39878	00	28	17.90	+11	06	28.8	17.5 9 675
1990	ST1		1990	09	20.43299	00	28	16.56	+11	06	05.3	9 675
1990	SU1	*	1990	09	18.35972	00	29	56.99	+07	10	14.4	16.8 9 675
1990	SU1		1990	09	18.39149	00	29	55.61	+07	10	09.4	9 675
1990	SU1		1990	09	20.39878	00	28	32.32	+07	05	04.3	17.2 9 675
1990	SU1		1990	09	20.43299	00	28	30.75	+07	04	59.1	9 675
1990	SV1	*	1990	09	18.35972	00	30	10.68	+07	25	32.4	17.2 9 675
1990	SV1		1990	09	18.39149	00	30	08.90	+07	25	17.8	9 675
1990	SV1		1990	09	20.39878	00	28	23.63	+07	11	20.0	17.5 9 675

1990	SV1		1990	09	20.43299	00	28	21.68	+07	11	05.7	9 675
1990	SW1	*	1990	09	22.34340	23	41	50.29	+14	58	28.6	16.3 2 675
1990	SW1		1990	09	22.36927	23	41	49.52	+14	57	39.1	2 675
1990	SW1		1990	09	23.31944	23	41	30.96	+14	26	55.0	2 675
1990	SW1		1990	09	23.34323	23	41	30.46	+14	26	08.1	2 675
1990	SW1		1990	09	25.29722	23	40	52.74	+13	21	29.0	2 675
1990	SW1		1990	09	25.32240	23	40	52.25	+13	20	38.2	2 675
1990	SW1		1990	10	14.22448	23	37	51.64	+02	14	16.3	16.0 2 675
1990	SW1		1990	10	14.25000	23	37	51.65	+02	13	24.5	2 675
1990	SW1		1990	10	17.20226	23	38	10.94	+00	33	52.2	2 675
1990	SW1		1990	10	17.22882	23	38	11.05	+00	32	59.9	2 675
1990	SX1	*	1990	09	22.34340	23	46	44.72	+14	22	38.8	16.3 2 675
1990	SX1		1990	09	22.36927	23	46	41.70	+14	22	55.6	2 675
1990	SX1		1990	09	24.26858	23	43	17.13	+14	43	50.4	2 675
1990	SX1		1990	09	24.29497	23	43	14.27	+14	44	06.5	2 675
1990	SX1		1990	09	25.29722	23	41	26.19	+14	54	41.3	16.3 2 675
1990	SX1		1990	09	25.32240	23	41	23.49	+14	54	56.5	2 675
1990	SX1		1990	10	14.15833	23	11	48.20	+17	15	11.4	16.2 2 675
1990	SX1		1990	10	14.18351	23	11	46.23	+17	15	19.3	2 675
1990	SX1		1990	10	17.15990	23	08	21.85	+17	28	59.6	2 675
1990	SX1		1990	10	17.18299	23	08	20.33	+17	29	05.1	2 675
1990	SY1	*	1990	09	22.30000	00	04	04.05	+05	42	16.3	15.7 2 675
1990	SY1		1990	09	22.32465	00	04	02.79	+05	42	03.4	2 675
1990	SY1		1990	09	24.28108	00	02	31.64	+05	23	43.2	2 675
1990	SY1		1990	09	24.30712	00	02	30.30	+05	23	28.9	2 675
1990	SY1		1990	10	14.22448	23	49	26.13	+02	20	10.2	16.2 2 675
1990	SY1		1990	10	14.25000	23	49	25.29	+02	19	58.8	2 675
1990	SY1		1990	10	17.20226	23	48	12.43	+01	56	49.9	2 675
1990	SY1		1990	10	17.22882	23	48	11.76	+01	56	38.3	2 675
1990	SB2	*	1990	09	23.28229	00	26	55.69	-18	37	40.2	15.7 2 675
1990	SB2		1990	09	23.30712	00	26	54.85	-18	38	17.3	2 675
1990	SB2		1990	09	25.25990	00	25	56.65	-19	26	34.2	2 675
1990	SB2		1990	09	25.28472	00	25	55.85	-19	27	10.2	2 675
1990	SB2		1990	10	15.22309	00	15	33.69	-26	14	44.6	16.2 2 675
1990	SB2		1990	10	15.25365	00	15	32.72	-26	15	11.5	2 675
1990	SB2		1990	10	18.25608	00	14	21.69	-26	57	34.9	2 675
1990	SC2	*	1990	09	17.41736	01	25	21.70	-04	49	13.5	17.5 9 675
1990	SC2		1990	09	17.45139	01	25	20.44	-04	49	33.7	9 675
1990	SC2		1990	09	19.44965	01	24	12.23	-05	09	22.3	17.8 9 675
1990	SC2		1990	09	19.48385	01	24	10.89	-05	09	42.5	9 675
1990	SD2	*	1990	09	17.41736	01	26	50.96	-00	48	17.5	17.2 9 675
1990	SD2		1990	09	17.45139	01	26	50.02	-00	48	38.0	9 675
1990	SD2		1990	09	18.37517	01	26	27.21	-00	58	16.8	17.5 9 675
1990	SD2		1990	09	18.40694	01	26	26.30	-00	58	36.9	9 675
1990	SD2		1990	09	19.44965	01	25	58.39	-01	09	40.4	17.5 9 675
1990	SD2		1990	09	19.48385	01	25	57.39	-01	10	05.9	9 675
1990	SD2		1990	09	20.45156	01	25	29.79	-01	20	18.7	17.5 9 675
1990	SD2		1990	09	20.49010	01	25	28.53	-01	20	42.4	9 675
1990	SE2	*	1990	09	17.41736	01	27	31.99	-01	10	55.8	17.5 9 675
1990	SE2		1990	09	17.45139	01	27	30.48	-01	10	54.3	9 675
1990	SE2		1990	09	18.37517	01	26	50.47	-01	10	59.1	17.5 9 675
1990	SE2		1990	09	18.40694	01	26	48.89	-01	10	58.5	9 675
1990	SE2		1990	09	19.44965	01	26	01.97	-01	11	11.3	17.8 9 675
1990	SE2		1990	09	19.48385	01	26	00.38	-01	11	14.6	9 675
1990	SE2		1990	09	20.45156	01	25	15.21	-01	11	18.8	17.5 9 675
1990	SE2		1990	09	20.49010	01	25	13.36	-01	11	18.4	9 675
1990	SF2	*	1990	09	17.41736	01	29	22.66	-02	29	04.7	16.8 9 675
1990	SF2		1990	09	17.45139	01	29	21.55	-02	29	13.0	9 675
1990	SF2		1990	09	19.44965	01	28	15.69	-02	38	41.2	16.8 9 675

1990	SF2		1990	09	19.48385	01	28	14.41	-02	38	51.8		9 675
1990	SG2	*	1990	09	17.41736	01	30	43.35	-03	16	43.6	16.5	D 675
1990	SG2		1990	09	17.45139	01	30	42.27	-03	16	49.7		9 675
1990	SG2		1990	09	19.44965	01	29	41.49	-03	23	43.0	17.2	9 675
1990	SG2		1990	09	19.48385	01	29	40.26	-03	23	50.1		9 675
1990	SH2	*	1990	09	17.41736	01	31	07.13	-04	21	12.5	17.5	9 675
1990	SH2		1990	09	17.45139	01	31	05.76	-04	21	23.2		9 675
1990	SH2		1990	09	19.44965	01	29	49.06	-04	32	09.7	17.8	9 675
1990	SH2		1990	09	19.48385	01	29	47.56	-04	32	20.9		9 675
1990	SJ2	*	1990	09	17.41736	01	34	03.74	+00	06	04.2	16.8	9 675
1990	SJ2		1990	09	17.45139	01	34	02.80	+00	05	57.5		9 675
1990	SJ2		1990	09	19.44965	01	33	07.87	-00	02	40.8	17.2	9 675
1990	SJ2		1990	09	19.48385	01	33	06.74	-00	02	50.0		9 675
1990	SL2	*	1990	09	17.41736	01	37	47.38	-01	55	07.9	16.5	9 675
1990	SL2		1990	09	17.45139	01	37	46.09	-01	55	16.0		9 675
1990	SL2		1990	09	19.44965	01	36	32.31	-02	03	26.3	16.8	9 675
1990	SL2		1990	09	19.48385	01	36	30.89	-02	03	33.4		9 675
1990	SM2	*	1990	09	17.41736	01	41	13.36	-02	10	30.5	16.5	9 675
1990	SM2		1990	09	17.45139	01	41	12.19	-02	10	40.6		9 675
1990	SM2		1990	09	19.44965	01	40	05.97	-02	20	44.9	17.2	9 675
1990	SM2		1990	09	19.48385	01	40	04.80	-02	20	53.9		9 675
1990	SN2	*	1990	09	17.41736	01	45	43.94	-01	51	27.3	17.5	9 675
1990	SN2		1990	09	17.45139	01	45	42.89	-01	51	33.7		9 675
1990	SN2		1990	09	19.44965	01	44	44.94	-01	58	26.6	17.5	9 675
1990	SN2		1990	09	19.48385	01	44	43.80	-01	58	32.2		9 675
1990	SO2	*	1990	09	17.41736	01	50	49.87	-02	01	14.1	17.5	9 675
1990	SO2		1990	09	17.45139	01	50	48.70	-02	01	28.7		9 675
1990	SO2		1990	09	19.44965	01	49	42.94	-02	15	59.6	17.5	9 675
1990	SO2		1990	09	19.48385	01	49	41.67	-02	16	13.7		9 675
1990	SP2	*	1990	09	18.37517	01	00	07.28	+01	31	43.2	16.5	9 675
1990	SP2		1990	09	18.40694	01	00	06.05	+01	31	35.5		9 675
1990	SP2		1990	09	20.45156	00	58	52.25	+01	22	24.3	16.8	9 675
1990	SP2		1990	09	20.49010	00	58	50.80	+01	22	12.4		9 675
1990	SQ2	*	1990	09	18.37517	01	00	17.32	+01	07	28.6	17.2	9 675
1990	SQ2		1990	09	18.40694	01	00	15.97	+01	07	18.9		9 675
1990	SQ2		1990	09	20.45156	00	58	53.52	+00	55	24.7	17.5	9 675
1990	SQ2		1990	09	20.49010	00	58	51.85	+00	55	09.5		9 675
1990	SR2	*	1990	09	18.37517	01	05	07.84	+02	02	23.7	17.2	9 675
1990	SR2		1990	09	18.40694	01	05	06.04	+02	02	20.7		9 675
1990	SR2		1990	09	20.45156	01	03	14.72	+01	57	29.7	17.5	9 675
1990	SR2		1990	09	20.49010	01	03	12.49	+01	57	23.2		9 675
1990	SS2	*	1990	09	18.37517	01	05	25.58	+02	10	00.3	17.5	9 675
1990	SS2		1990	09	18.40694	01	05	23.89	+02	10	00.3		9 675
1990	SS2		1990	09	20.45156	01	03	38.19	+02	08	00.5	17.8	9 675
1990	SS2		1990	09	20.49010	01	03	36.05	+02	07	58.3		9 675
1990	ST2	*	1990	09	18.37517	01	07	06.31	+04	13	34.7	17.0	9 675
1990	ST2		1990	09	18.40694	01	07	05.03	+04	13	30.5		9 675
1990	ST2		1990	09	20.45156	01	05	48.19	+04	08	40.6	17.0	9 675
1990	ST2		1990	09	20.49010	01	05	46.57	+04	08	34.7		9 675
1990	SU2	*	1990	09	18.37517	01	07	41.58	+01	59	27.4	17.8	9 675
1990	SU2		1990	09	18.40694	01	07	40.39	+01	59	23.4		9 675
1990	SU2		1990	09	20.45156	01	06	23.93	+01	53	30.2	17.5	9 675
1990	SU2		1990	09	20.49010	01	06	22.31	+01	53	22.7		9 675
1990	SV2	*	1990	09	18.37517	01	07	52.24	+01	41	57.8	17.8	9 675
1990	SV2		1990	09	18.40694	01	07	50.83	+01	41	46.3		9 675
1990	SV2		1990	09	20.45156	01	06	20.97	+01	26	35.2	17.8	9 675
1990	SV2		1990	09	20.49010	01	06	19.23	+01	26	21.8		9 675
1990	SW2	*	1990	09	18.37517	01	11	22.99	+01	21	48.7	17.8	9 675
1990	SW2		1990	09	18.40694	01	11	21.73	+01	21	36.0		9 675

1990	SW2		1990	09	20.45156	01	10	02.90	+01	05	36.6	17.5	9 675
1990	SW2		1990	09	20.49010	01	10	01.37	+01	05	18.5		9 675
1990	SX2	*	1990	09	18.37517	01	11	55.14	+00	42	06.1	16.8	9 675
1990	SX2		1990	09	18.40694	01	11	53.99	+00	42	02.2		9 675
1990	SX2		1990	09	20.45156	01	10	36.42	+00	35	45.4	17.5	9 675
1990	SX2		1990	09	20.49010	01	10	34.87	+00	35	38.5		9 675
1990	SY2	*	1990	09	18.37517	01	12	32.25	+02	17	49.8	17.0	9 675
1990	SY2		1990	09	18.40694	01	12	31.10	+02	17	43.2		9 675
1990	SY2		1990	09	20.45156	01	11	14.60	+02	07	43.8	17.2	9 675
1990	SY2		1990	09	20.49010	01	11	13.02	+02	07	32.8		9 675
1990	SZ2	*	1990	09	18.37517	01	14	15.00	+01	45	48.4	16.5	9 675
1990	SZ2		1990	09	18.40694	01	14	13.32	+01	45	55.8		9 675
1990	SZ2		1990	09	20.45156	01	12	25.49	+01	52	28.4	17.0	9 675
1990	SZ2		1990	09	20.49010	01	12	23.33	+01	52	35.4		9 675
1990	SA3	*	1990	09	18.37517	01	14	23.80	-00	51	53.1	17.8	9 675
1990	SA3		1990	09	18.40694	01	14	22.35	-00	52	08.7		9 675
1990	SA3		1990	09	20.45156	01	12	48.42	-01	09	53.0	17.8	9 675
1990	SA3		1990	09	20.49010	01	12	46.40	-01	10	13.8		9 675
1990	SB3	*	1990	09	18.37517	01	14	30.66	+03	03	10.7	17.2	9 675
1990	SB3		1990	09	18.40694	01	14	29.63	+03	02	56.1		9 675
1990	SB3		1990	09	20.45156	01	13	23.72	+02	44	59.2	17.2	9 675
1990	SB3		1990	09	20.49010	01	13	22.38	+02	44	38.7		9 675
1990	SC3	*	1990	09	18.37517	01	14	52.67	-00	14	34.9	17.8	9 675
1990	SC3		1990	09	18.40694	01	14	51.41	-00	14	48.3		9 675
1990	SC3		1990	09	20.45156	01	13	26.39	-00	29	09.4	17.8	9 675
1990	SC3		1990	09	20.49010	01	13	24.70	-00	29	25.5		9 675
1990	SD3	*	1990	09	18.37517	01	16	31.37	-00	20	16.8	17.5	9 675
1990	SD3		1990	09	18.40694	01	16	30.24	-00	20	21.2		9 675
1990	SD3		1990	09	20.45156	01	15	15.31	-00	25	23.5	17.8	9 675
1990	SD3		1990	09	20.49010	01	15	13.76	-00	25	29.8		9 675
1990	SE3	*	1990	09	18.37517	01	17	08.46	-00	35	43.1	17.5	9 675
1990	SE3		1990	09	18.40694	01	17	07.09	-00	35	42.3		9 675
1990	SE3		1990	09	20.45156	01	15	41.59	-00	35	31.3	17.5	9 675
1990	SE3		1990	09	20.49010	01	15	39.82	-00	35	30.9		9 675
1990	SF3	*	1990	09	18.37517	01	17	17.49	+01	19	27.0	17.2	9 675
1990	SF3		1990	09	18.40694	01	17	16.22	+01	19	16.8		9 675
1990	SF3		1990	09	20.45156	01	15	55.37	+01	06	14.5	17.2	9 675
1990	SF3		1990	09	20.49010	01	15	53.71	+01	05	58.9		9 675
1990	SG3	*	1990	09	18.37517	01	17	21.23	+00	56	09.9	16.8	9 675
1990	SG3		1990	09	18.40694	01	17	20.02	+00	55	57.5		9 675
1990	SG3		1990	09	20.45156	01	16	02.74	+00	41	08.6	16.8	9 675
1990	SG3		1990	09	20.49010	01	16	01.14	+00	40	51.7		9 675
1990	SH3	*	1990	09	18.37517	01	17	30.69	-01	59	08.8	17.5	9 675
1990	SH3		1990	09	18.40694	01	17	29.54	-01	59	17.5		9 675
1990	SH3		1990	09	20.45156	01	16	17.18	-02	08	29.1	17.5	9 675
1990	SH3		1990	09	20.49010	01	16	15.70	-02	08	40.4		9 675
1990	SJ3	*	1990	09	18.37517	01	19	43.01	+05	07	20.8	17.5	9 675
1990	SJ3		1990	09	18.40694	01	19	41.79	+05	07	15.8		9 675
1990	SJ3		1990	09	20.45156	01	18	23.99	+05	00	39.9	17.8	9 675
1990	SJ3		1990	09	20.49010	01	18	22.31	+05	00	32.0		9 675
1990	SK3	*	1990	09	18.37517	01	20	29.58	+01	24	58.3	17.2	9 675
1990	SK3		1990	09	18.40694	01	20	28.06	+01	24	51.6		9 675
1990	SK3		1990	09	20.45156	01	18	53.28	+01	15	43.8	16.8	9 675
1990	SK3		1990	09	20.49010	01	18	51.35	+01	15	33.1		9 675
1990	SL3	*	1990	09	18.37517	01	20	36.57	-00	15	33.2	17.5	9 675
1990	SL3		1990	09	18.40694	01	20	35.29	-00	15	48.9		9 675
1990	SL3		1990	09	20.45156	01	19	15.12	-00	33	28.0	17.5	9 675
1990	SL3		1990	09	20.49010	01	19	13.49	-00	33	48.3		9 675
1990	SM3	*	1990	09	18.37517	01	22	22.46	+02	54	17.5	17.2	9 675

1990	SM3		1990	09	18.40694	01	22	21.17	+02	54	13.7		9 675
1990	SM3		1990	09	20.45156	01	20	58.85	+02	48	30.2	17.5	9 675
1990	SM3		1990	09	20.49010	01	20	57.10	+02	48	23.0		9 675
1990	SN3	*	1990	09	18.37517	01	22	32.90	+03	18	36.8	16.8	9 675
1990	SN3		1990	09	18.40694	01	22	31.33	+03	18	35.9		9 675
1990	SN3		1990	09	20.45156	01	20	50.58	+03	15	33.7	17.0	9 675
1990	SN3		1990	09	20.49010	01	20	48.52	+03	15	29.8		9 675
1990	SO3	*	1990	09	18.37517	01	24	19.00	+02	07	09.2	17.5	9 675
1990	SO3		1990	09	18.40694	01	24	17.70	+02	06	58.0		9 675
1990	SO3		1990	09	20.45156	01	22	53.51	+01	53	56.1	17.5	9 675
1990	SO3		1990	09	20.49010	01	22	51.76	+01	53	40.4		9 675
1990	SP3	*	1990	09	18.37517	01	25	40.46	+01	08	47.7	17.5	9 675
1990	SP3		1990	09	18.40694	01	25	39.37	+01	08	36.2		9 675
1990	SP3		1990	09	20.45156	01	24	29.48	+00	55	48.9	17.5	9 675
1990	SP3		1990	09	20.49010	01	24	27.98	+00	55	34.8		9 675
1990	SQ3	*	1990	09	18.37517	01	27	26.25	+00	31	37.3	17.5	9 675
1990	SQ3		1990	09	18.40694	01	27	25.56	+00	31	18.9		9 675
1990	SQ3		1990	09	20.45156	01	26	48.27	+00	11	45.7	17.5	9 675
1990	SQ3		1990	09	20.49010	01	26	47.39	+00	11	22.6		9 675
1990	SV3	*	1990	09	22.44549	02	14	31.06	+27	14	06.9	16.7	2 675
1990	SV3		1990	09	24.42882	02	13	37.11	+27	29	56.5		2 675
1990	SV3		1990	09	24.45833	02	13	36.17	+27	30	10.6		2 675
1990	SW3	*	1990	09	23.41163	02	27	09.18	-05	12	57.1	16.0	2 675
1990	SW3		1990	09	23.43594	02	27	08.57	-05	13	04.6		2 675
1990	SW3		1990	09	25.36372	02	26	18.34	-05	23	08.0		2 675
1990	SW3		1990	09	25.39253	02	26	17.40	-05	23	16.9		2 675
1990	SX3	*	1990	09	22.31233	00	34	50.69	+26	07	17.5	16.0	2 675
1990	SX3		1990	09	22.33681	00	34	49.30	+26	07	21.7		2 675
1990	SX3		1990	09	24.37587	00	32	55.89	+26	12	56.7		2 675
1990	SX3		1990	09	24.39965	00	32	54.51	+26	13	00.1		2 675
1990	SY3	*	1990	09	22.33681	00	42	48.18	+26	15	39.7	16.5	2 675
1990	SY3		1990	09	24.37587	00	41	13.32	+26	12	02.4		2 675
1990	SY3		1990	09	24.39965	00	41	12.16	+26	11	59.8		2 675
1990	SZ3	*	1990	09	22.39427	00	37	46.50	+24	44	59.7	16.5	2 675
1990	SZ3		1990	09	22.41997	00	37	45.15	+24	45	00.1		2 675
1990	SZ3		1990	09	24.36979	00	36	02.62	+24	46	32.7		2 675
1990	SZ3		1990	09	24.39375	00	36	01.26	+24	46	32.9		2 675
1990	SA4	*	1990	09	22.39427	00	39	37.90	+24	43	15.9	16.7	2 675
1990	SA4		1990	09	22.41997	00	39	36.89	+24	43	08.1		2 675
1990	SA4		1990	09	24.36979	00	38	13.75	+24	32	30.8		2 675
1990	SA4		1990	09	24.39375	00	38	12.68	+24	32	22.1		2 675
1990	SB4	*	1990	09	22.39427	00	43	07.53	+21	02	50.2	16.0	2 675
1990	SB4		1990	09	22.41997	00	43	05.93	+21	02	53.7		2 675
1990	SB4		1990	09	24.36979	00	41	06.37	+21	07	32.9		2 675
1990	SB4		1990	09	24.39375	00	41	04.82	+21	07	35.5		2 675
1990	SC4	*	1990	09	23.27066	23	35	43.37	+07	08	17.4	16.0	2 675
1990	SC4		1990	09	23.29531	23	35	42.08	+07	07	47.5		2 675
1990	SC4		1990	09	25.24826	23	34	14.47	+06	27	59.5		2 675
1990	SC4		1990	09	25.27188	23	34	13.32	+06	27	29.3		2 675
1990	SF4	*	1990	09	23.31944	23	30	03.45	+12	49	45.5	16.7	2 675
1990	SF4		1990	09	23.34323	23	30	02.34	+12	49	30.9		2 675
1990	SF4		1990	09	25.29722	23	28	33.24	+12	29	23.6		2 675
1990	SF4		1990	09	25.32240	23	28	32.07	+12	29	07.9		2 675
1990	SG4	*	1990	09	23.31944	23	31	37.73	+10	26	21.9	15.5	2 675
1990	SG4		1990	09	23.34323	23	31	36.33	+10	26	10.9		2 675
1990	SG4		1990	09	25.29722	23	29	52.75	+10	10	14.0		2 675
1990	SG4		1990	09	25.32240	23	29	51.34	+10	10	01.7		2 675
1990	TK		1990	10	14.31580	01	31	38.08	+07	14	23.1		2 675
1990	TK		1990	10	14.34028	01	31	35.28	+07	14	38.4		2 675

1990	TK		1990	10	16.28472	01	28	05.04	+07	34	00.7		2 675
1990	TK		1990	10	16.30868	01	28	02.27	+07	34	15.0		2 675
1990	TP		1990	10	15.29618	01	50	17.50	+03	01	16.6	15.5	2 675
1990	TP		1990	10	15.32222	01	50	16.01	+03	01	07.6		2 675
1990	TP		1990	10	17.37309	01	48	24.35	+02	48	22.5		2 675
1990	TP		1990	10	17.40399	01	48	22.56	+02	48	10.2		2 675
1990	TR		1990	10	15.39931	02	17	40.50	+21	01	55.5	15.0	2 675
1990	TR		1990	10	15.42708	02	17	38.81	+21	02	32.9		2 675
1990	TR		1990	10	16.40712	02	16	48.86	+21	23	53.3		2 675
1990	TX		1990	10	15.29618	01	54	22.63	+02	54	42.8	15.0	2 675
1990	TX		1990	10	15.32222	01	54	21.16	+02	54	40.9		2 675
1990	TX		1990	10	17.37309	01	52	38.95	+02	52	06.7		2 675
1990	TX		1990	10	17.40399	01	52	37.28	+02	52	03.6		2 675
1990	TZ	*	1990	10	14.30330	00	34	16.16	+31	33	51.6	14.7	2 675
1990	TZ		1990	10	14.32830	00	34	14.76	+31	33	30.6		2 675
1990	TZ		1990	10	16.27257	00	32	30.04	+31	06	02.8		2 675
1990	TZ		1990	10	16.29653	00	32	28.69	+31	05	42.2		2 675
1990	TN1	*	1990	10	14.24375	23	53	54.17	+29	23	01.6	16.3	2 675
1990	TN1		1990	10	14.26875	23	53	52.20	+29	22	54.6		2 675
1990	TN1		1990	10	17.22257	23	50	18.70	+29	06	38.2		2 675
1990	TN1		1990	10	17.24913	23	50	16.68	+29	06	30.1		2 675
1990	TO1	*	1990	10	14.24375	23	57	08.48	+27	05	27.6	16.5	2 675
1990	TO1		1990	10	14.26875	23	57	07.46	+27	04	52.0		2 675
1990	TO1		1990	10	17.22257	23	55	38.44	+25	54	08.6		2 675
1990	TO1		1990	10	17.24913	23	55	37.50	+25	53	28.7		2 675
1990	TP1	*	1990	10	15.29010	01	33	34.71	+12	53	07.9	16.8	2 675
1990	TP1		1990	10	15.31567	01	33	31.93	+12	53	36.9		2 675
1990	TP1		1990	10	17.36667	01	29	22.14	+13	30	32.2		2 675
1990	TP1		1990	10	17.39809	01	29	18.22	+13	31	05.2		2 675
1990	TR1	*	1990	10	14.38576	02	06	30.11	+07	57	53.6	16.5	2 675
1990	TR1		1990	10	14.40868	02	06	28.89	+07	57	40.7		2 675
1990	TR1		1990	10	16.33646	02	04	45.10	+07	40	44.1		2 675
1990	TR1		1990	10	16.36563	02	04	43.50	+07	40	28.5		2 675
1990	TV2	*	1990	10	14.38576	01	56	54.94	+06	51	37.1	16.3	2 675
1990	TV2		1990	10	14.40868	01	56	53.79	+06	51	24.9		2 675
1990	TV2		1990	10	16.33646	01	55	27.80	+06	33	52.3		2 675
1990	TV2		1990	10	16.36563	01	55	26.38	+06	33	37.3		2 675
1990	TW2	*	1990	10	14.38576	02	09	35.63	+08	43	48.0	16.5	2 675
1990	TW2		1990	10	14.40868	02	09	34.26	+08	43	47.9		2 675
1990	TW2		1990	10	16.33646	02	07	37.55	+08	42	52.3		2 675
1990	TW2		1990	10	16.36563	02	07	35.63	+08	42	51.6		2 675
1990	TX2	*	1990	10	14.39167	02	25	47.95	-03	19	46.3	16.5	2 675
1990	TX2		1990	10	14.41424	02	25	47.01	-03	19	59.1		2 675
1990	TX2		1990	10	16.34410	02	24	32.26	-03	37	48.2		2 675
1990	TX2		1990	10	16.37257	02	24	31.02	-03	38	03.2		2 675
1990	TY2	*	1990	10	15.30365	01	43	52.60	-08	34	51.8	16.3	2 675
1990	TY2		1990	10	15.32830	01	43	51.43	-08	35	01.0		2 675
1990	TY2		1990	10	17.37899	01	42	12.34	-08	48	00.7		2 675
1990	TY2		1990	10	17.41007	01	42	10.85	-08	48	11.6		2 675
1990	TZ2	*	1990	10	15.30365	01	58	37.26	-09	42	41.5	16.0	2 675
1990	TZ2		1990	10	15.32830	01	58	36.08	-09	42	54.3		2 675
1990	TZ2		1990	10	17.37899	01	57	00.54	-10	01	01.4		2 675
1990	TZ2		1990	10	17.41007	01	56	59.04	-10	01	17.4		2 675
1990	TA3	*	1990	10	14.32188	01	40	59.86	-01	01	28.8	16.0	2 675
1990	TA3		1990	10	14.34722	01	40	58.23	-01	01	33.3		2 675
1990	TA3		1990	10	16.29045	01	39	03.24	-01	06	25.0		2 675
1990	TA3		1990	10	16.31424	01	39	01.76	-01	06	27.9		2 675
1990	TB3	*	1990	10	14.32188	01	41	07.76	-04	50	14.4	16.0	2 675
1990	TB3		1990	10	14.34722	01	41	06.53	-04	50	31.0		2 675

1990	TB3		1990	10	16.29045	01	39	37.93	-05	10	44.5		2 675
1990	TB3		1990	10	16.31424	01	39	36.69	-05	10	59.5		2 675
1990	TC3	*	1990	10	15.29618	01	28	16.15	+02	17	03.7	16.3	2 675
1990	TC3		1990	10	15.32222	01	28	14.87	+02	16	45.2		2 675
1990	TC3		1990	10	17.37309	01	26	43.89	+01	53	55.2		2 675
1990	TC3		1990	10	17.40399	01	26	42.39	+01	53	35.6		2 675
1990	TD3	*	1990	10	15.29618	01	32	31.85	+02	27	07.9	16.0	2 675
1990	TD3		1990	10	15.32222	01	32	30.30	+02	26	54.8		2 675
1990	TD3		1990	10	17.37309	01	30	43.48	+02	11	14.7		2 675
1990	TD3		1990	10	17.40399	01	30	41.71	+02	10	59.3		2 675
1990	TE3	*	1990	10	15.29618	01	32	32.47	+03	08	30.6	16.5	2 675
1990	TE3		1990	10	15.32222	01	32	31.25	+03	08	08.5		2 675
1990	TE3		1990	10	17.37309	01	31	02.09	+02	41	14.9		2 675
1990	TE3		1990	10	17.40399	01	31	00.64	+02	40	51.8		2 675
1990	TF3	*	1990	10	15.45920	02	34	57.71	+21	38	17.6	16.5	2 675
1990	TF3		1990	10	15.48229	02	34	56.51	+21	38	29.1		2 675
1990	TF3		1990	10	17.43142	02	33	18.64	+21	54	02.9		2 675
1990	TF3		1990	10	17.45747	02	33	17.08	+21	54	14.4		2 675
1990	UA		1990	10	16.23490	01	24	57.28	-10	03	50.6		2 675
1990	UA	*	1990	10	16.26545	01	24	58.76	-09	58	33.9		2 675
1990	UA		1990	10	17.31979	01	26	28.86	-07	19	56.6		2 675
1990	UA		1990	10	17.34323	01	26	29.52	-07	16	50.3		2 675
1990	UA		1990	10	19.22083	01	28	27.60	-03	58	24.3	16.2	2 675
1990	UA		1990	10	21.34659	01	29	47.92	-01	28	09.9		3 675
1990	UA		1990	10	21.39167	01	29	48.05	-01	25	33.4		3 675
1990	UA		1990	10	23.29253	01	30	45.38	+00	09	37.4	16.0	3 675
1990	UA		1990	10	23.32431	01	30	45.34	+00	11	00.2		3 675
2017	P-L		1990	09	18.35972	00	20	36.74	+07	30	45.2	17.0	9 675
2017	P-L		1990	09	18.39149	00	20	35.04	+07	30	34.5		9 675
2017	P-L		1990	09	20.39878	00	18	50.57	+07	19	11.0	17.5	9 675
2017	P-L		1990	09	20.43299	00	18	48.70	+07	18	59.0		9 675
2018	P-L	*	1960	09	24.45000	00	59	19.91	+10	19	34.8	17.5	4 675
2018	P-L		1960	09	26.37010	00	57	24.30	+10	14	42.3		4 675
2018	P-L		1960	09	28.45140	00	55	15.78	+10	08	55.2		4 675
2018	P-L		1960	09	29.44510	00	54	13.85	+10	05	57.9		4 675
2018	P-L		1960	10	17.30420	00	35	45.47	+09	00	55.1		4 675
2018	P-L		1960	10	22.27920	00	31	15.80	+08	42	02.9		4 675
2018	P-L		1960	10	25.37570	00	28	44.23	+08	30	56.6		4 675
2018	P-L		1960	10	26.36840	00	27	58.64	+08	27	33.3		4 675
4537	P-L	*	1960	09	24.41183	00	21	54.77	+03	10	36.6	19.1	4 675
4537	P-L		1960	09	26.31530	00	19	52.35	+03	07	45.1		4 675
4537	P-L		1960	09	27.40836	00	18	40.98	+03	06	04.1		4 675
4537	P-L		1960	09	28.39725	00	17	36.65	+03	04	28.3		4 675
4537	P-L		1960	10	17.27085	23	58	42.14	+02	38	19.0		4 675
4537	P-L		1960	10	22.22293	23	54	58.58	+02	35	55.2		4 675
4537	P-L		1960	10	26.32573	23	52	28.93	+02	36	21.0		4 675
4577	P-L		1990	09	14.32222	23	05	51.15	-03	27	51.1	17.0	9 675
4577	P-L		1990	09	14.35938	23	05	49.39	-03	28	12.6		9 675
4577	P-L		1990	09	19.31962	23	02	07.14	-04	17	40.9	17.5	9 675
4577	P-L		1990	09	19.35000	23	02	05.84	-04	17	58.0		9 675
4580	P-L	*	1960	09	24.41183	00	28	16.45	+02	49	51.9	17.3	4 675
4580	P-L		1960	09	26.31530	00	27	00.61	+02	26	02.3		4 675
4580	P-L		1960	09	27.40836	00	26	16.43	+02	12	21.4		4 675
4580	P-L		1960	09	28.39725	00	25	36.57	+01	59	57.8		4 675
4580	P-L		1960	10	17.31529	00	14	14.54	-01	37	59.1		4 675
4580	P-L		1960	10	22.23406	00	12	12.07	-02	23	30.5		4 675
4580	P-L		1960	10	25.25350	00	11	13.24	-02	48	19.9		4 675
4580	P-L		1960	10	26.31531	00	10	55.70	-02	56	27.9		4 675
6581	P-L	*	1960	09	26.28543	23	50	47.38	-00	02	43.0	18.5	4 675

6581	P-L		1960	09	27.34237	23	50	16.56	-00	05	26.8		4 675
6581	P-L		1960	09	28.33822	23	49	47.60	-00	08	03.8		4 675
6581	P-L		1960	10	17.21390	23	41	30.02	-00	52	34.9		4 675
6581	P-L		1960	10	22.15559	23	39	44.18	-01	01	54.8		4 675
6581	P-L		1960	10	24.18787	23	39	04.60	-01	05	22.8		4 675
6581	P-L		1960	10	26.26113	23	38	26.61	-01	08	38.4		4 675
6726	P-L	*	1960	09	24.32431	23	58	29.64	-04	38	15.6	19.7	4 675
6726	P-L		1960	09	24.35002	23	58	28.56	-04	38	22.3		4 675
6726	P-L		1960	09	26.26528	23	57	01.09	-04	48	32.0		4 675
6726	P-L		1960	09	26.28543	23	57	00.19	-04	48	37.9		4 675
6726	P-L		1960	09	27.30972	23	56	13.61	-04	53	57.2		4 675
6726	P-L		1960	09	27.34237	23	56	12.12	-04	54	07.3		4 675
6726	P-L		1960	09	28.31736	23	55	28.16	-04	59	05.3		4 675
6726	P-L		1960	09	28.33822	23	55	27.25	-04	59	12.9		4 675
1218	T-2		1973	09	19.18611	00	19	56.70	+01	19	13.2		4 675
1218	T-2		1973	09	19.23785	00	19	53.92	+01	18	55.2		4 675
1218	T-2		1973	09	20.22847	00	19	02.79	+01	12	51.1		4 675
1218	T-2		1973	09	24.34688	00	15	24.77	+00	47	11.8		4 675
1218	T-2		1973	09	24.41597	00	15	20.96	+00	46	44.3		4 675
1218	T-2		1973	09	25.24375	00	14	36.64	+00	41	29.7		4 675
1218	T-2		1973	09	25.30729	00	14	33.19	+00	41	09.0		4 675
1218	T-2	*	1973	09	29.25330	00	11	00.36	+00	16	16.1	18.0	4 675
1218	T-2		1973	09	29.31806	00	10	56.78	+00	15	51.4		4 675
1218	T-2		1973	09	30.21007	00	10	09.03	+00	10	17.1		4 675
1218	T-2		1973	09	30.27431	00	10	05.44	+00	09	53.1		4 675
1218	T-2		1973	10	04.28958	00	06	32.14	-00	14	47.9		4 675
1218	T-2		1973	10	04.35208	00	06	28.70	-00	15	10.6		4 675
1218	T-2		1973	10	05.31684	00	05	38.65	-00	20	59.2		4 675
1218	T-2		1973	10	05.37917	00	05	35.43	-00	21	21.4		4 675
1344	T-2		1973	09	19.22500	00	27	35.58	+00	13	45.5		4 675
1344	T-2		1973	09	19.27865	00	27	33.07	+00	13	29.6		4 675
1344	T-2		1973	09	20.30278	00	26	47.59	+00	07	46.4		4 675
1344	T-2		1973	09	24.38750	00	23	41.56	-00	15	15.1		4 675
1344	T-2		1973	09	24.45434	00	23	38.28	-00	15	37.9		4 675
1344	T-2		1973	09	25.28125	00	23	00.21	-00	20	18.3		4 675
1344	T-2		1973	09	25.34601	00	22	57.12	-00	20	40.4		4 675
1344	T-2	*	1973	09	29.25330	00	19	54.45	-00	42	44.7	19.2	4 675
1344	T-2		1973	09	29.27986	00	19	53.22	-00	42	50.5		4 675
1344	T-2		1973	09	29.29219	00	19	52.57	-00	43	00.4		4 675
1344	T-2		1973	09	29.31806	00	19	51.27	-00	43	08.1		4 675
1344	T-2		1973	09	29.34375	00	19	50.00	-00	43	12.1		4 675
1344	T-2		1973	09	30.21007	00	19	09.63	-00	48	05.6		4 675
1344	T-2		1973	09	30.23524	00	19	08.41	-00	48	14.2		4 675
1344	T-2		1973	09	30.24826	00	19	07.82	-00	48	17.5		4 675
1344	T-2		1973	09	30.27431	00	19	06.44	-00	48	27.6		4 675
1344	T-2		1973	09	30.30174	00	19	05.18	-00	48	35.7		4 675
1344	T-2		1973	09	30.31476	00	19	04.55	-00	48	40.2		4 675
1344	T-2		1973	10	04.28958	00	15	59.00	-01	10	33.2		4 675
1344	T-2		1973	10	04.31493	00	15	57.90	-01	10	39.3		4 675
1344	T-2		1973	10	04.32708	00	15	57.10	-01	10	43.4		4 675
1344	T-2		1973	10	04.35208	00	15	56.09	-01	10	51.9		4 675
1344	T-2		1973	10	04.37674	00	15	54.86	-01	11	00.3		4 675
1344	T-2		1973	10	04.38889	00	15	54.23	-01	11	03.4		4 675
1344	T-2		1973	10	05.31684	00	15	11.82	-01	16	03.7		4 675
1344	T-2		1973	10	05.34167	00	15	10.64	-01	16	10.3		4 675
1344	T-2		1973	10	05.35382	00	15	09.87	-01	16	14.2		4 675
1344	T-2		1973	10	05.37917	00	15	08.86	-01	16	23.8		4 675
1344	T-2		1973	10	05.40347	00	15	07.64	-01	16	29.8		4 675
1344	T-2		1973	10	05.41597	00	15	06.91	-01	16	34.3		4 675

3099	T-2		1990	09	14.32222	23	14	29.07	-05	00	26.1	17.8	9 675
3099	T-2		1990	09	14.35938	23	14	27.65	-05	00	38.7		9 675
3099	T-2		1990	09	19.31962	23	11	07.45	-05	33	55.9	17.5	9 675
3099	T-2		1990	09	19.35000	23	11	06.06	-05	34	09.4		9 675
3233	T-2		1990	09	17.41736	01	36	51.97	+01	25	50.7		9 675
3233	T-2		1990	09	17.45139	01	36	51.02	+01	25	43.5		9 675
3233	T-2		1990	09	19.44965	01	35	55.67	+01	14	59.8		9 675
3233	T-2		1990	09	19.48385	01	35	54.70	+01	14	53.0	17.0	9 675
2610	T-3		1977	10	07.25868	01	15	37.75	+11	01	10.9		4 675
2610	T-3		1977	10	11.27743	01	11	47.82	+10	40	03.8		4 675
2610	T-3		1977	10	11.34375	01	11	43.75	+10	39	42.1		4 675
2610	T-3		1977	10	12.27587	01	10	50.06	+10	34	37.7		4 675
2610	T-3		1977	10	12.34271	01	10	46.18	+10	34	16.7		4 675
2610	T-3	*	1977	10	16.26233	01	06	59.63	+10	12	29.7	19.6	4 675
2610	T-3		1977	10	16.32795	01	06	55.71	+10	12	07.8		4 675
2610	T-3		1977	10	17.26458	01	06	02.03	+10	06	54.6		4 675
2610	T-3		1977	10	17.33177	01	05	58.03	+10	06	31.8		4 675
2610	T-3		1977	10	21.40868	01	02	07.57	+09	43	25.7		4 675
2610	T-3		1977	10	22.41528	01	01	11.81	+09	37	47.5		4 675
2610	T-3		1977	10	22.46962	01	01	08.81	+09	37	27.4		4 675
4008	T-3		1977	10	07.28125	01	20	52.30	-00	20	52.0		4 675
4008	T-3		1977	10	11.30000	01	16	48.65	-00	44	58.6		4 675
4008	T-3		1977	10	11.36771	01	16	44.43	-00	45	21.6		4 675
4008	T-3		1977	10	12.29826	01	15	47.60	-00	50	45.0		4 675
4008	T-3		1977	10	12.36441	01	15	43.34	-00	51	07.5		4 675
4008	T-3	*	1977	10	16.28368	01	11	43.91	-01	12	47.9	17.6	4 675
4008	T-3		1977	10	16.34931	01	11	39.83	-01	13	08.6		4 675
139			1990	09	18.38351	01	01	18.39	+09	13	49.0		9 675
139			1990	09	18.41493	01	01	16.86	+09	13	46.5		9 675
211			1990	09	16.39254	00	31	07.10	+09	38	00.4		9 675
211			1990	09	16.42795	00	31	05.57	+09	37	52.5		9 675
211			1990	09	17.40017	00	30	25.77	+09	34	12.5		9 675
211			1990	09	17.47899	00	30	22.39	+09	33	54.3		9 675
211			1990	09	18.35972	00	29	45.84	+09	30	27.7		9 675
211			1990	09	18.39149	00	29	44.44	+09	30	19.7		9 675
211			1990	09	20.39878	00	28	18.77	+09	22	07.2		9 675
211			1990	09	20.43299	00	28	17.26	+09	21	58.9		9 675
278			1990	09	17.41736	01	29	55.40	+00	20	08.5		9 675
278			1990	09	17.45139	01	29	54.05	+00	20	03.8	15.5	9 675
278			1990	09	18.37517	01	29	19.12	+00	16	27.4		9 675
278			1990	09	18.40694	01	29	17.91	+00	16	20.0		9 675
278			1990	09	19.44965	01	28	37.48	+00	12	09.7		9 675
278			1990	09	19.48385	01	28	36.05	+00	11	58.4		9 675
278			1990	09	20.45156	01	27	57.46	+00	08	10.6		9 675
278			1990	09	20.49010	01	27	55.90	+00	08	01.3		9 675
296			1990	09	18.37517	01	12	29.57	+04	09	47.3		9 675
296			1990	09	18.40694	01	12	28.42	+04	09	39.6		9 675
296			1990	09	20.45156	01	11	16.55	+03	59	08.8		9 675
296			1990	09	20.49010	01	11	14.98	+03	58	56.5		9 675
336			1990	09	16.39254	00	39	27.13	+12	27	03.3		9 675
336			1990	09	16.42795	00	39	25.30	+12	26	50.5		9 675
336			1990	09	17.40017	00	38	37.02	+12	21	03.1		9 675
336			1990	09	17.47899	00	38	32.89	+12	20	34.4		9 675
336			1990	09	18.35972	00	37	48.50	+12	15	08.8		9 675
336			1990	09	18.38351	00	37	47.20	+12	15	01.8		9 675
336			1990	09	18.39149	00	37	46.81	+12	14	56.5		9 675
336			1990	09	18.41493	00	37	45.60	+12	14	49.7		9 675
336			1990	09	20.39878	00	36	02.47	+12	01	57.6		9 675
336			1990	09	20.43299	00	36	00.59	+12	01	44.3		9 675

362		1990	09	18.37517	01	02	24.00	+01	48	18.8		9 675
362		1990	09	18.40694	01	02	22.41	+01	48	14.7		9 675
362		1990	09	20.45156	01	00	42.97	+01	43	32.0		9 675
362		1990	09	20.49010	01	00	41.00	+01	43	27.0		9 675
377		1990	09	18.35972	00	27	22.31	+08	11	35.4		9 675
377		1990	09	18.39149	00	27	20.86	+08	11	22.3		9 675
377		1990	09	20.39878	00	25	53.69	+07	57	37.0		9 675
377		1990	09	20.43299	00	25	52.14	+07	57	22.4		9 675
467		1990	09	16.39254	00	36	38.85	+11	25	23.2		9 675
467		1990	09	16.42795	00	36	37.25	+11	25	19.5		9 675
467		1990	09	17.40017	00	35	54.22	+11	23	42.3		9 675
467		1990	09	17.47899	00	35	50.65	+11	23	33.5		9 675
467		1990	09	18.35972	00	35	10.95	+11	21	56.3		9 675
467		1990	09	18.39149	00	35	09.47	+11	21	52.6		9 675
467		1990	09	20.39878	00	33	36.71	+11	17	49.8		9 675
467		1990	09	20.43299	00	33	35.01	+11	17	46.4		9 675
567		1990	09	17.41736	01	28	38.57	-00	27	02.6		9 675
567		1990	09	17.45139	01	28	37.34	-00	27	09.1		9 675
567		1990	09	18.37517	01	28	05.16	-00	30	18.1		9 675
567		1990	09	18.40694	01	28	04.03	-00	30	24.4		9 675
567		1990	09	19.44965	01	27	26.87	-00	34	04.9		9 675
567		1990	09	19.48385	01	27	25.59	-00	34	14.1		9 675
567		1990	09	20.45156	01	26	50.15	-00	37	32.8		9 675
567		1990	09	20.49010	01	26	48.70	-00	37	41.2		9 675
743		1990	09	16.39254	00	32	32.41	+09	16	53.9		9 675
743		1990	09	16.42795	00	32	30.83	+09	16	43.7		9 675
743		1990	09	17.40017	00	31	50.13	+09	11	48.3		9 675
743		1990	09	17.47899	00	31	46.76	+09	11	24.4		9 675
743		1990	09	18.35972	00	31	09.36	+09	06	47.3		9 675
743		1990	09	18.39149	00	31	08.00	+09	06	37.5		9 675
743		1990	09	20.39878	00	29	40.39	+08	55	46.4		9 675
743		1990	09	20.43299	00	29	38.81	+08	55	34.9		9 675
892		1990	09	17.41736	01	25	57.98	-00	27	04.2		9 675
892		1990	09	17.45139	01	25	57.04	-00	27	23.2		9 675
892		1990	09	18.37517	01	25	32.38	-00	36	16.0		9 675
892		1990	09	18.40694	01	25	31.50	-00	36	34.8		9 675
892		1990	09	19.44965	01	25	02.71	-00	46	44.0		9 675
892		1990	09	19.48385	01	25	01.75	-00	47	06.4		9 675
892		1990	09	20.45156	01	24	34.08	-00	56	30.0		9 675
892		1990	09	20.49010	01	24	32.93	-00	56	52.7		9 675
944		1990	09	17.41736	01	37	48.91	-04	17	55.7	16.2	9 675
944		1990	09	17.45139	01	37	46.84	-04	17	43.6		9 675
944		1990	09	19.44965	01	35	44.38	-04	05	50.3	15.8	9 675
944		1990	09	19.48385	01	35	42.16	-04	05	37.7	16.2	9 675
992		1990	09	18.35972	00	14	12.22	+09	42	50.0		9 675
992		1990	09	18.39149	00	14	10.84	+09	42	38.2		9 675
1003		1990	09	14.32222	23	22	17.47	-05	32	42.9		9 675
1003		1990	09	14.35938	23	22	15.80	-05	32	54.0		9 675
1003		1990	09	19.31962	23	18	39.82	-05	57	44.7		9 675
1003		1990	09	19.35000	23	18	38.48	-05	57	53.8		9 675
1074		1990	09	14.32222	23	03	23.79	-07	06	11.9		9 675
1074		1990	09	14.35938	23	03	22.04	-07	06	21.4		9 675
1074		1990	09	19.31962	22	59	42.93	-07	27	49.8		9 675
1074		1990	09	19.35000	22	59	41.56	-07	27	57.4		9 675
1087		1990	09	18.37517	00	58	45.29	-00	18	43.3		9 675
1087		1990	09	18.40694	00	58	43.82	-00	18	48.4		9 675
1125		1990	09	14.32222	23	11	49.44	-09	34	59.9		9 675
1125		1990	09	14.35938	23	11	47.66	-09	35	10.2		9 675
1125		1990	09	19.31962	23	08	09.70	-09	58	04.2	17.2	9 675

1125	1990	09	19.35000	23	08	08.30	-09	58	12.5		9	675
1186	1990	01	26.40694	10	17	01.36	+26	32	44.0		3	675
1186	1990	01	26.43941	10	16	59.97	+26	32	54.3		3	675
1327	1990	09	20.45156	01	31	13.53	+02	10	48.4		9	675
1327	1990	09	20.49010	01	31	12.05	+02	10	40.6		9	675
1330	1990	09	14.32222	23	17	50.74	-08	44	42.9		9	675
1330	1990	09	14.35938	23	17	49.22	-08	45	00.2		9	675
1330	1990	09	19.31962	23	14	35.08	-09	23	11.5		9	675
1330	1990	09	19.35000	23	14	33.85	-09	23	24.8		9	675
1488	1990	09	18.38351	01	09	31.58	+12	35	42.7		9	675
1488	1990	09	18.41493	01	09	30.25	+12	35	42.0		9	675
1514	1990	09	18.37517	01	19	57.80	+01	51	30.9		9	675
1514	1990	09	18.40694	01	19	56.59	+01	51	16.4		9	675
1514	1990	09	20.45156	01	18	42.33	+01	34	32.5	15.5	9	675
1514	1990	09	20.49010	01	18	40.70	+01	34	13.0		9	675
1590	1990	09	16.39254	00	43	43.98	+10	26	22.6	15.8	9	675
1590	1990	09	16.42795	00	43	42.12	+10	26	08.6		9	675
1590	1990	09	17.40017	00	42	53.30	+10	19	49.7	15.8	9	675
1590	1990	09	17.47899	00	42	49.08	+10	19	18.1		9	675
1590	1990	09	18.35972	00	42	04.11	+10	13	24.5	15.8	9	675
1590	1990	09	18.38351	00	42	02.91	+10	13	18.9		9	675
1590	1990	09	18.39149	00	42	02.38	+10	13	11.2		9	675
1590	1990	09	20.39878	00	40	16.54	+09	59	13.6	15.8	9	675
1590	1990	09	20.43299	00	40	14.60	+09	58	59.1		9	675
1739	1990	09	14.32222	23	03	12.18	-02	04	03.9		9	675
1739	1990	09	19.31962	22	59	00.15	-02	42	53.2		9	675
1739	1990	09	19.35000	22	58	58.61	-02	43	07.8		9	675
1755	1990	09	18.37517	01	09	56.60	-01	29	20.4		9	675
1755	1990	09	18.40694	01	09	55.52	-01	29	34.0		9	675
1755	1990	09	20.45156	01	08	46.15	-01	44	14.1		9	675
1755	1990	09	20.49010	01	08	44.80	-01	44	30.8		9	675
1786	1990	09	18.37517	01	07	27.48	+05	02	01.3		9	675
1786	1990	09	18.40694	01	07	26.09	+05	02	00.1		9	675
1786	1990	09	20.45156	01	05	54.96	+05	00	36.2	16.8	9	675
1786	1990	09	20.49010	01	05	53.17	+05	00	32.4		9	675
1818	1990	09	18.35972	00	16	15.89	+08	21	26.5	17.0	9	675
1818	1990	09	18.39149	00	16	14.17	+08	21	14.6		9	675
1858	1990	09	16.39254	00	49	51.08	+08	09	21.0		9	675
1858	1990	09	16.42795	00	49	49.53	+08	09	12.1		9	675
1858	1990	09	17.40017	00	49	07.63	+08	05	10.7		9	675
1858	1990	09	17.47899	00	49	04.05	+08	04	50.7		9	675
1858	1990	09	20.39878	00	46	53.16	+07	52	02.7		9	675
1858	1990	09	20.43299	00	46	51.47	+07	51	53.6		9	675
1927	1990	09	18.37517	01	16	59.58	+01	41	33.9	17.2	9	675
1927	1990	09	18.40694	01	16	58.06	+01	41	33.4		9	675
1927	1990	09	20.45156	01	15	20.96	+01	38	39.1	17.2	9	675
1927	1990	09	20.49010	01	15	19.06	+01	38	36.0		9	675
2015	1990	09	18.35972	00	16	26.67	+08	40	37.4	16.5	9	675
2015	1990	09	18.39149	00	16	24.52	+08	40	36.0		9	675
2015	1990	09	20.39878	00	14	11.36	+08	39	05.0		9	675
2015	1990	09	20.43299	00	14	08.99	+08	39	02.9		9	675
2051	1990	09	19.31962	23	17	29.62	-02	57	51.0		9	675
2051	1990	09	19.35000	23	17	28.18	-02	58	00.9		9	675
2058	1990	09	14.32222	23	00	22.38	-10	20	13.1		9	675
2058	1990	09	14.35938	23	00	20.81	-10	20	22.6		9	675
2091	1990	09	17.41736	01	37	01.59	-07	17	08.5		9	675
2091	1990	09	17.45139	01	37	00.45	-07	17	24.3		9	675
2200	1990	09	17.40017	00	58	39.32	+09	19	00.7		9	675
2200	1990	09	17.47899	00	58	35.35	+09	18	46.9		9	675

2200	1990	09	18.38351	00	57	51.30	+09	15	59.7		9	675
2200	1990	09	18.41493	00	57	49.56	+09	15	51.8		9	675
2250	1990	09	14.32222	22	58	47.26	-06	56	05.0		9	675
2250	1990	09	14.35938	22	58	45.63	-06	56	16.2		9	675
2250	1990	09	19.31962	22	55	25.83	-07	20	12.9		9	675
2250	1990	09	19.35000	22	55	24.61	-07	20	21.0		9	675
2350	1990	09	14.32222	23	18	16.99	-09	20	33.5		9	675
2350	1990	09	14.35938	23	18	14.83	-09	20	52.4		9	675
2350	1990	09	19.31962	23	13	46.64	-10	02	30.6		9	675
2350	1990	09	19.35000	23	13	44.93	-10	02	44.4		9	675
2395	1990	09	14.32222	22	56	00.12	-07	15	47.8	17.5	9	675
2395	1990	09	14.35938	22	55	58.46	-07	15	58.0		9	675
2395	1990	09	19.31962	22	52	27.12	-07	37	34.4	16.8	9	675
2395	1990	09	19.35000	22	52	25.88	-07	37	41.1		9	675
2416	1990	09	17.41736	01	37	10.49	-01	14	38.3		9	675
2416	1990	09	17.45139	01	37	09.49	-01	14	51.6		9	675
2416	1990	09	19.44965	01	36	10.71	-01	28	42.3	17.2	9	675
2416	1990	09	19.48385	01	36	09.69	-01	28	55.3		9	675
2460	1990	09	14.32222	23	04	32.20	-04	57	15.4	16.5	9	675
2460	1990	09	14.35938	23	04	29.99	-04	57	33.0		9	675
2460	1990	09	19.31962	23	00	00.27	-05	35	02.2	16.5	9	675
2460	1990	09	19.35000	22	59	58.58	-05	35	15.8		9	675
2619	1990	09	19.31962	23	18	50.83	-03	26	40.3		9	675
2619	1990	09	19.35000	23	18	49.44	-03	26	49.5		9	675
2646	1990	09	23.43021	02	33	09.43	+23	42	32.7	16.0	2	675
2646	1990	09	25.37066	02	32	23.22	+23	48	59.3		2	675
2646	1990	09	25.39948	02	32	22.49	+23	49	04.1		2	675
2654	1990	09	16.39254	00	49	44.48	+08	58	38.7	18.0	9	675
2654	1990	09	16.42795	00	49	43.14	+08	58	27.4		9	675
2654	1990	09	17.40017	00	49	06.86	+08	53	15.6	17.5	9	675
2654	1990	09	17.47899	00	49	03.76	+08	52	49.7		9	675
2654	1990	09	20.39878	00	47	10.88	+08	36	37.4		9	675
2654	1990	09	20.43299	00	47	09.40	+08	36	25.8		9	675
2706	1990	09	17.41736	01	23	25.63	-02	01	40.3		9	675
2706	1990	09	17.45139	01	23	24.29	-02	01	45.7		9	675
2706	1990	09	18.37517	01	22	49.27	-02	04	39.0		9	675
2706	1990	09	18.40694	01	22	48.08	-02	04	45.2		9	675
2706	1990	09	19.44965	01	22	07.63	-02	08	07.3		9	675
2706	1990	09	19.48385	01	22	06.23	-02	08	16.0		9	675
2706	1990	09	20.45156	01	21	27.67	-02	11	18.8		9	675
2706	1990	09	20.49010	01	21	26.05	-02	11	25.0		9	675
3047	1990	09	19.31962	23	16	16.06	-03	06	24.0	17.5	9	675
3047	1990	09	19.35000	23	16	14.50	-03	06	33.8		9	675
3052	1990	09	16.39254	00	47	31.10	+10	12	03.3		9	675
3052	1990	09	16.42795	00	47	29.36	+10	11	52.7		9	675
3052	1990	09	17.40017	00	46	44.09	+10	07	09.6		9	675
3052	1990	09	17.47899	00	46	40.20	+10	06	45.6		9	675
3052	1990	09	18.35972	00	45	58.47	+10	02	21.1		9	675
3052	1990	09	18.38351	00	45	57.33	+10	02	16.6		9	675
3052	1990	09	18.39149	00	45	56.88	+10	02	10.6		9	675
3052	1990	09	18.41493	00	45	55.72	+10	02	06.3		9	675
3052	1990	09	20.39878	00	44	18.69	+09	51	42.3		9	675
3052	1990	09	20.43299	00	44	16.93	+09	51	31.7		9	675
3122	1990	01	26.40694	10	13	58.28	+26	38	27.2		3	675
3122	1990	01	26.43941	10	13	54.19	+26	38	27.3		3	675
3256	1990	09	14.32222	23	07	15.27	-04	12	03.0		9	675
3256	1990	09	14.35938	23	07	13.53	-04	12	20.4		9	675
3256	1990	09	19.31962	23	03	33.48	-04	50	19.7		9	675
3256	1990	09	19.35000	23	03	32.08	-04	50	33.9		9	675

3284	1990	09	17.41736	01	36	07.61	-04	15	29.9		16.0	9 675
3284	1990	09	17.45139	01	36	06.58	-04	15	34.0			9 675
3284	1990	09	19.44965	01	35	09.99	-04	20	05.6			9 675
3284	1990	09	19.48385	01	35	08.79	-04	20	10.0			9 675
3380	1990	09	18.37517	01	20	29.98	+03	20	03.2			9 675
3380	1990	09	18.40694	01	20	28.81	+03	19	56.7			9 675
3380	1990	09	20.45156	01	19	13.13	+03	10	52.1			9 675
3380	1990	09	20.49010	01	19	11.67	+03	10	41.5			9 675
3418	1990	09	18.37517	01	12	43.88	+04	34	38.0			9 675
3418	1990	09	18.40694	01	12	42.68	+04	34	33.0			9 675
3418	1990	09	20.45156	01	11	32.09	+04	26	44.6			9 675
3418	1990	09	20.49010	01	11	30.66	+04	26	36.3			9 675
3539	1990	09	17.41736	01	45	54.78	-06	21	27.4		17.5	9 675
3539	1990	09	17.45139	01	45	53.67	-06	21	49.1			9 675
3539	1990	09	19.44965	01	44	51.06	-06	40	26.1		17.5	9 675
3539	1990	09	19.48385	01	44	49.90	-06	40	45.0			9 675
3587	1990	09	20.45156	01	26	54.81	+04	34	14.7			9 675
3587	1990	09	20.49010	01	26	53.15	+04	34	10.5			9 675
3600	1990	09	14.32222	23	18	20.83	-08	16	36.7			9 675
3600	1990	09	14.35938	23	18	18.71	-08	16	43.4			9 675
3600	1990	09	19.31962	23	13	43.24	-08	32	28.6			9 675
3600	1990	09	19.35000	23	13	41.56	-08	32	33.5			9 675
3764	1990	09	18.37517	01	23	26.76	+02	33	50.0		17.5	9 675
3764	1990	09	18.40694	01	23	25.54	+02	33	37.6			9 675
3764	1990	09	20.45156	01	22	07.74	+02	18	48.5			9 675
3764	1990	09	20.49010	01	22	06.15	+02	18	31.3			9 675
3773	1990	09	14.32222	23	08	34.21	-08	43	44.8			9 675
3773	1990	09	14.35938	23	08	32.16	-08	43	55.0			9 675
3773	1990	09	19.31962	23	04	30.80	-09	04	44.2			9 675
3773	1990	09	19.35000	23	04	29.27	-09	04	51.1			9 675
3846	1990	09	20.39878	00	18	18.68	+10	59	16.8			9 675
3846	1990	09	20.43299	00	18	17.16	+10	59	04.9			9 675
3865	1990	09	16.39254	00	37	48.17	+09	52	24.2		17.2	9 675
3865	1990	09	16.42795	00	37	46.45	+09	52	09.8			9 675
3865	1990	09	17.40017	00	37	01.22	+09	45	37.6			9 675
3865	1990	09	17.47899	00	36	57.34	+09	45	04.6			9 675
3865	1990	09	18.35972	00	36	15.74	+09	38	58.9		17.2	9 675
3865	1990	09	18.39149	00	36	14.18	+09	38	46.3		17.0	9 675
3865	1990	09	20.39878	00	34	36.72	+09	24	27.9			9 675
3865	1990	09	20.43299	00	34	34.93	+09	24	13.3			9 675
3886	1990	09	14.32222	22	52	38.04	-04	11	59.9			9 675
3886	1990	09	14.35938	22	52	36.42	-04	12	15.8			9 675
4072	1990	09	14.32222	23	07	17.50	-07	57	55.9		17.2	9 675
4072	1990	09	14.35938	23	07	15.12	-07	58	07.7			9 675
4072	1990	09	19.31962	23	02	15.03	-08	23	05.0		17.5	9 675
4072	1990	09	19.35000	23	02	13.19	-08	23	14.0			9 675
4148	1990	09	14.32222	23	01	28.21	-02	37	12.2		16.8	9 675
4148	1990	09	14.35938	23	01	25.86	-02	37	21.3			9 675
4148	1990	09	19.31962	22	56	32.03	-02	58	36.7			9 675
4148	1990	09	19.35000	22	56	30.25	-02	58	43.2			9 675
4149	1990	09	17.41736	01	39	45.32	-02	16	56.6			9 675
4149	1990	09	17.45139	01	39	44.21	-02	17	13.6			9 675
4149	1990	09	19.44965	01	38	40.45	-02	34	11.8			9 675
4149	1990	09	19.48385	01	38	39.29	-02	34	28.4			9 675
4592	1990	09	14.32222	23	03	42.30	-06	47	26.4		17.0	9 675
4592	1990	09	14.35938	23	03	40.59	-06	47	36.1			9 675
4592	1990	09	19.31962	23	00	08.53	-07	09	10.4		17.0	9 675
4592	1990	09	19.35000	23	00	07.18	-07	09	18.7			9 675
4607	1990	09	16.39254	00	38	04.63	+08	01	23.8		17.0	9 675

```
4607       1990 09 16.42795  00 38 02.87  +08 01 13.5                9 675
4607       1990 09 17.40017  00 37 14.85  +07 56 17.6          16.5  9 675
4607       1990 09 17.47899  00 37 10.61  +07 55 52.3                9 675
4607       1990 09 18.35972  00 36 26.35  +07 51 14.0          17.0  9 675
4607       1990 09 18.39149  00 36 24.68  +07 51 03.9                9 675
4607       1990 09 20.39878  00 34 40.43  +07 40 04.3          16.5  9 675
4607       1990 09 20.43299  00 34 38.53  +07 39 52.3                9 675
```

688 Lowell Observatory, Anderson Mesa Station
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road,
Flagstaff, AZ 86001, U.S.A.
Observers B. A. Skiff, T. A. Polaskis
Measurer B. A. Skiff
1.8-m reflector + CCD

```
1981 GP    1990 09 22.25557  23 28 54.03  -18 10 31.4          16.9R   688
1981 GP    1990 09 22.26322  23 28 53.39  -18 10 30.9                  688
1981 GP    1990 09 25.23434  23 25 01.65  -18 07 05.4                  688
1981 GP    1990 09 25.25773  23 24 59.80  -18 07 03.4          17.0R   688
1982 DB    1990 09 22.16444  22 41 46.92  -05 48 49.5                  688
1982 DB    1990 09 22.16850  22 41 46.45  -05 48 51.7                  688
1982 DB    1990 09 25.26635  22 36 15.58  -06 17 53.1          18.5R   688
1982 DB    1990 09 25.27062  22 36 15.12  -06 17 55.3                  688
1990 MB    1990 09 22.12720  17 54 58.20  +04 26 07.9          18.4R   688
1990 MB    1990 09 22.13845  17 54 59.62  +04 26 03.6                  688
1990 MB    1990 09 25.13333  18 01 27.19  +04 10 52.9          18.1R   688
1990 MB    1990 09 25.13848  18 01 27.79  +04 10 51.3                  688
1990 OA    1990 09 22.22119  21 43 19.35  -26 28 19.9          17.8R   688
1990 OA    1990 09 22.22844  21 43 19.83  -26 28 17.9                  688
1990 OA    1990 09 25.19710  21 46 50.19  -26 13 55.1          18.3R   688
1990 OA    1990 09 25.20413  21 46 50.67  -26 13 52.7                  688
1990 OL    1990 09 22.23530  22 01 04.29  -22 11 49.3          16.7R   688
1990 OL    1990 09 22.24767  22 01 04.88  -22 11 57.8          16.9R   688
1990 OL    1990 09 25.21097  22 03 47.21  -22 43 23.9                D 688
1990 OL    1990 09 25.22697  22 03 48.02  -22 43 33.3          16.8R D 688
```

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

```
1990 SN    1990 09 27.37936  00 46 52.32  +07 23 45.2          17.3V   691
1990 SN    1990 09 27.38916  00 46 51.85  +07 23 49.9                  691
1990 SN    1990 09 27.39494  00 46 51.55  +07 23 53.0                  691
1990 SN    1990 09 28.40998  00 46 05.67  +07 32 23.0          17.5V   691
1990 SN    1990 09 28.41978  00 46 05.11  +07 32 28.1                  691
1990 SN    1990 09 28.42597  00 46 04.86  +07 32 30.9                  691
1990 SN    1990 10 10.30795  00 36 37.80  +09 03 24.4          17.4V   691
1990 SN    1990 10 10.32574  00 36 36.68  +09 03 33.1                  691
1990 SN    1990 10 10.34719  00 36 35.55  +09 03 42.0                  691
1990 SN    1990 10 11.40943  00 35 46.03  +09 11 03.2          17.2V   691
1990 SN    1990 10 11.43043  00 35 45.04  +09 11 11.5                  691
1990 SO    1990 09 27.28179  23 20 07.18  +08 31 13.2                  691
1990 SO    1990 09 27.29273  23 20 05.47  +08 31 34.7          19.2V   691
1990 SO    1990 09 27.29843  23 20 04.57  +08 31 45.7                  691
1990 SO    1990 09 28.27266  23 17 35.11  +09 02 40.8          19.2V   691
1990 SO    1990 09 28.28294  23 17 33.47  +09 03 00.8                  691
1990 SS  * 1990 09 25.19848  00 04 36.41  +02 39 37.4                  691
```

1990	SS		1990	09	25.22102	00	04	32.95	+02	39	49.7	19.3V	691
1990	SS		1990	09	25.24355	00	04	29.43	+02	40	01.4		691
1990	SS		1990	09	26.35959	00	01	38.44	+02	49	49.5	18.9V	691
1990	SS		1990	09	26.37101	00	01	36.61	+02	49	55.8		691
1990	SS		1990	09	26.37760	00	01	35.67	+02	49	58.6		691
1990	SS		1990	09	27.31056	23	59	10.56	+02	58	17.1		691
1990	SS		1990	09	27.32177	23	59	08.74	+02	58	23.1	18.8V	691
1990	SS		1990	09	27.33043	23	59	07.35	+02	58	27.8		691
1990	SS		1990	09	27.33618	23	59	06.41	+02	58	30.7		691
1990	SS		1990	09	28.19435	23	56	51.41	+03	06	14.9		691
1990	SS		1990	09	28.21532	23	56	47.95	+03	06	26.9		691
1990	SS		1990	09	28.23589	23	56	44.61	+03	06	37.7	19.2V	691
1990	SS		1990	09	28.34560	23	56	26.56	+03	07	37.8		691
1990	SS		1990	09	28.36612	23	56	23.19	+03	07	48.8		691
1990	SS		1990	09	28.38670	23	56	19.88	+03	08	00.3		691
1990	SS		1990	10	09.11619	23	26	12.79	+04	51	25.1	19.0V	691
1990	SS		1990	10	09.12289	23	26	11.65	+04	51	29.6		691
1990	SS		1990	10	09.13639	23	26	09.28	+04	51	37.8		691
1990	SH4	*	1990	09	17.36247	23	47	42.78	+06	14	09.9		691
1990	SH4		1990	09	17.38600	23	47	41.04	+06	14	05.9	20.5V	691
1990	SH4		1990	09	17.40905	23	47	39.39	+06	14	01.3		691
1990	SH4		1990	09	25.25038	23	38	44.12	+05	46	51.3	19.8V	691
1990	SH4		1990	09	25.26322	23	38	43.26	+05	46	48.0		691
1990	SH4		1990	09	25.27098	23	38	42.73	+05	46	46.4		691
1990	SH4		1990	09	26.38223	23	37	29.99	+05	42	32.6		691
1990	SH4		1990	09	26.39267	23	37	29.19	+05	42	28.9	19.9V	691
1990	SH4		1990	09	26.39838	23	37	28.89	+05	42	27.6		691
1990	SH4		1990	09	28.29000	23	35	28.77	+05	35	09.1		691
1990	SH4		1990	09	28.30193	23	35	28.00	+05	35	05.8	20.2V	691
1990	SH4		1990	09	28.30727	23	35	27.67	+05	35	04.8		691
1990	SJ4	*	1990	09	25.19141	23	54	23.99	+02	36	33.3		691
1990	SJ4		1990	09	25.21398	23	54	23.47	+02	36	12.1		691
1990	SJ4		1990	09	25.23655	23	54	22.96	+02	35	51.3	19.5V	691
1990	SJ4		1990	09	26.21977	23	54	05.65	+02	20	32.0	19.4V	691
1990	SJ4		1990	09	26.24294	23	54	05.10	+02	20	11.1		691
1990	SJ4		1990	09	26.26559	23	54	04.58	+02	19	49.4		691
1990	SJ4		1990	09	27.34257	23	53	45.68	+02	03	06.5		691
1990	SJ4		1990	09	27.36001	23	53	45.29	+02	02	50.4		691
1990	SJ4		1990	09	27.36537	23	53	45.19	+02	02	45.5	19.3V	691
1990	SJ4		1990	09	28.31929	23	53	29.68	+01	48	05.1	19.4V	691
1990	SJ4		1990	09	28.32844	23	53	29.45	+01	47	57.0		691
1990	SJ4		1990	09	28.33432	23	53	29.32	+01	47	51.8		691
1990	TF1	*	1990	10	12.32622	01	08	11.16	+07	16	23.8		691
1990	TF1		1990	10	12.34753	01	08	10.71	+07	15	37.1	18.2V	691
1990	TF1		1990	10	13.31214	01	07	54.75	+06	40	30.4	18.3V	691
1990	TF1		1990	10	13.32339	01	07	54.53	+06	40	05.8		691
1990	TF1		1990	10	13.33294	01	07	54.30	+06	39	45.4		691
1990	TF1		1990	10	14.27285	01	07	39.13	+06	05	46.3		691
1990	TF1		1990	10	14.29203	01	07	38.71	+06	05	04.6		691
1990	TG1	*	1990	10	14.37895	01	18	35.12	+09	08	46.3		691
1990	TG1		1990	10	14.39994	01	18	33.66	+09	08	34.9	19.1V	691
1990	TG1		1990	10	14.42098	01	18	32.17	+09	08	23.4		691
1990	TG1		1990	10	15.39262	01	17	25.50	+08	59	41.7	18.7V	691
1990	TG1		1990	10	15.42810	01	17	23.01	+08	59	22.1		691
1990	TG1		1990	10	15.44558	01	17	21.79	+08	59	13.1		691
1990	TG1		1990	10	17.32714	01	15	14.20	+08	42	27.4	19.4V	691
1990	TG1		1990	10	17.34576	01	15	12.88	+08	42	18.4		691
1990	TG1		1990	10	17.35542	01	15	12.19	+08	42	13.4		691
1990	TG1		1990	10	22.32816	01	09	46.51	+07	59	05.2		691

```
1990 TG1    1990 10 22.34970  01 09 45.11  +07 58 53.9                    691
1990 TG1    1990 10 22.37066  01 09 43.73  +07 58 43.2          19.3V     691
1990 TH1  * 1990 10 14.43937  01 49 03.81  +12 26 02.5          18.3V     691
1990 TH1    1990 10 14.46053  01 49 02.64  +12 25 01.6                    691
1990 TH1    1990 10 14.48169  01 49 01.56  +12 24 01.1                    691
1990 TH1    1990 10 15.43909  01 48 14.38  +11 38 31.0          18.1V     691
1990 TH1    1990 10 15.45236  01 48 13.66  +11 37 53.0                    691
1990 TH1    1990 10 16.25251  01 47 34.99  +11 00 01.6          18.0V     691
1990 TH1    1990 10 18.36940  01 45 49.44  +09 20 46.1                    691
1990 TH1    1990 10 18.38578  01 45 48.55  +09 20 00.2          18.1V     691
1990 UN   * 1990 10 22.25583  00 42 57.01  +16 52 22.9                    691
1990 UN     1990 10 22.27721  00 42 50.72  +16 53 18.4          19.9V     691
1990 UN     1990 10 22.29845  00 42 44.47  +16 54 14.4                    691
1990 UN     1990 10 23.23648  00 38 20.92  +17 37 37.9          20.2V     691
1990 UN     1990 10 23.25891  00 38 13.57  +17 38 42.8                    691
1990 UN     1990 10 23.27998  00 38 06.66  +17 39 44.0                    691
1990 UN     1990 10 23.42139  00 37 20.65  +17 46 31.4          19.9V     691
1990 UN     1990 10 23.42809  00 37 18.39  +17 46 50.5                    691
1990 UN     1990 10 23.43965  00 37 14.83  +17 47 23.0                    691
1990 UN     1990 10 24.16292  00 33 30.31  +18 24 54.6                    691
1990 UN     1990 10 24.19120  00 33 20.04  +18 26 27.1          20.0V     691
1990 UN     1990 10 24.22324  00 33 08.28  +18 28 12.0                    691
1990 UN     1990 10 25.29675  00 26 37.57  +19 29 52.1          20.1V     691
1990 UN     1990 10 25.31289  00 26 30.84  +19 30 49.4                    691
1990 UO   * 1990 10 22.33575  01 20 43.61  +07 39 10.2          20.5V     691
1990 UO     1990 10 22.35726  01 20 39.18  +07 38 13.2                    691
1990 UO     1990 10 22.37818  01 20 34.88  +07 37 18.3                    691
1990 UO     1990 10 23.21019  01 17 48.02  +07 00 32.1                    691
1990 UO     1990 10 23.21591  01 17 46.86  +07 00 17.3          20.6V     691
1990 UO     1990 10 23.22679  01 17 44.53  +06 59 47.3                    691
1990 UO     1990 10 23.39727  01 17 09.12  +06 52 11.8                    691
1990 UO     1990 10 23.40823  01 17 06.77  +06 51 42.1          20.5V     691
1990 UO     1990 10 24.24635  01 14 15.97  +06 13 54.0                    691
1990 UO     1990 10 24.25106  01 14 15.03  +06 13 42.0          20.6V     691
1990 UO     1990 10 24.26193  01 14 12.74  +06 13 11.4                    691
1990 UO     1990 10 25.27291  01 10 43.33  +05 26 47.0                    691
1990 UO     1990 10 25.27810  01 10 42.22  +05 26 32.1                    691
1990 UO     1990 10 25.29010  01 10 39.65  +05 25 58.9          20.6V     691
```

696 F. L. Whipple Observatory, Mount Hopkins
E. H. Bus, Lunar and Planetary Laboratory, University of Arizona, Tucson, AZ 85721, U.S.A.
Observers E. H. Bus, R. Marcialis
Multi-Mirror Telescope encoders
FK4

```
1990 SA     1990 09 28.37014  23 08 54.5   -20 02 49                     696
1990 SB     1990 09 28.35417  01 25 30.2   +07 02 34                     696
```

760 Goethe Link
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff, AZ 86001, U.S.A.
Observers J. F. Heath, Jr., S. F. Strother
Measurer C. M. Olmstead
0.25-m refractor
PDS scanning microdensitometer
AGK3 and Perth 70 secondary nets, global solutions

```
1964 VU     1964 11 06.09672  01 48 40.61  +10 40 09.3                    760
1964 VU     1964 11 06.14013  01 48 37.44  +10 40 27.1                    760
  60        1964 11 06.09672  02 01 43.28  +09 21 21.1          11.0      760
```

60		1964	11	06.14013	02	01	40.83	+09	21	03.7		760
614		1963	08	27.30555	21	58	37.76	-01	27	22.2		760
614		1963	08	27.34930	21	58	35.63	-01	27	36.0		760
738		1964	11	06.09672	01	57	47.70	+06	40	42.9	15.5	760
738		1964	11	06.14013	01	57	45.67	+06	40	32.9		760
922		1963	08	27.30555	22	15	35.53	+00	28	28.2	14.8	760
922		1963	08	27.34930	22	15	33.57	+00	28	09.4		760
1071		1964	11	06.09672	01	55	25.96	+09	01	46.4	14.6	760
1071		1964	11	06.14013	01	55	23.62	+09	01	40.9		760
2706		1964	11	06.09672	02	01	28.47	+07	34	28.7		760
2706		1964	11	06.14013	02	01	26.21	+07	34	24.9		760

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

1927	TC	1990	09	21.18155	23	19	13.66	+09	54	00.3		801
1927	TC	1990	09	21.18652	23	19	13.54	+09	54	07.5		801
1928	RB	1990	09	18.36022	03	24	43.14	+05	06	17.2		801
1928	RB	1990	09	18.37736	03	24	43.49	+05	06	06.7		801
1928	RB	1990	09	19.34687	03	25	04.75	+04	56	11.2		801
1928	RB	1990	09	19.36293	03	25	05.04	+04	56	01.3		801
1931	UE	1990	09	18.16049	22	37	07.47	-00	18	25.4		801
1931	UE	1990	09	18.18571	22	37	05.91	-00	18	28.8		801
1931	UE	1990	09	19.16512	22	36	07.82	-00	20	47.2		801
1931	UE	1990	09	19.19138	22	36	06.22	-00	20	50.9		801
1950	TF	1990	09	16.14703	22	08	40.83	-05	44	17.0		801
1950	TF	1990	09	16.16929	22	08	39.66	-05	44	19.4		801
1950	TF	1990	09	19.12634	22	06	19.71	-05	52	21.5		801
1950	TF	1990	09	19.15013	22	06	18.58	-05	52	26.1		801
1971	TF	1990	09	19.27939	01	18	24.10	+09	48	01.2		801
1971	TF	1990	09	19.30183	01	18	23.26	+09	47	59.3		801
1971	TF	1990	09	21.30626	01	17	11.30	+09	44	45.2		801
1971	TF	1990	09	21.35615	01	17	09.31	+09	44	39.8		801
1975	BF	1990	09	18.24227	00	44	12.70	+04	22	55.9		801
1975	BF	1990	09	18.27771	00	44	11.30	+04	22	46.5		801
1976	DK	1990	09	16.07111	21	08	24.27	+09	47	20.2		801
1976	DK	1990	09	16.09858	21	08	23.59	+09	47	08.8		801
1976	DK	1990	09	18.04883	21	07	39.06	+09	33	33.9		801
1976	DK	1990	09	18.14478	21	07	36.87	+09	32	53.3		801
1976	GN2	1990	09	16.08153	21	12	59.30	-06	40	25.7		801
1976	GN2	1990	09	16.10752	21	12	58.87	-06	40	40.2		801
1976	GN2	1990	09	19.05862	21	12	23.37	-07	07	38.8		801
1976	GN2	1990	09	19.09692	21	12	22.92	-07	07	59.4		801
1977	QF1	1990	09	21.21049	23	23	05.11	-04	55	18.8		801
1977	QF1	1990	09	21.22475	23	23	04.18	-04	55	16.6		801
1977	QF1	1990	09	22.13288	23	22	07.29	-04	53	01.4		801
1977	RJ3	1990	09	18.35475	02	42	42.19	+28	55	44.9		801
1977	RJ3	1990	09	18.36903	02	42	42.40	+28	55	56.6		801
1977	RJ3	1990	09	19.33197	02	42	58.28	+29	09	11.9		801
1977	RJ3	1990	09	19.35076	02	42	58.48	+29	09	27.1		801
1977	RJ6	1990	09	18.22810	00	34	08.11	-00	28	34.8		801
1977	RJ6	1990	09	18.25193	00	34	06.57	-00	28	40.6		801
1977	RJ6	1990	09	21.25765	00	30	55.18	-00	39	56.1		801
1977	RJ6	1990	09	21.27176	00	30	54.23	-00	39	59.2		801
1977	RB7	1990	09	18.20425	23	33	37.58	+00	16	23.1		801
1977	RB7	1990	09	18.21964	23	33	36.79	+00	16	18.1		801

1979	SU9	1990	09	18.30102	01	30	08.29	+09	33	21.6	801
1979	SU9	1990	09	18.33903	01	30	07.15	+09	33	15.8	801
1979	SU9	1990	09	19.29117	01	29	39.78	+09	30	44.6	801
1979	SU9	1990	09	19.31757	01	29	38.96	+09	30	40.2	801
1979	SU11	1990	09	21.29852	01	09	38.48	+03	12	16.9	801
1979	SU11	1990	09	21.35259	01	09	36.38	+03	12	03.2	801
1979	WE2	1990	09	18.19167	22	57	24.68	-06	31	21.1	801
1979	WE2	1990	09	18.20890	22	57	23.96	-06	31	26.1	801
1979	WE2	1990	09	19.16925	22	56	44.96	-06	36	07.2	801
1979	WE2	1990	09	19.19479	22	56	43.90	-06	36	14.2	801
1981	VS	1990	09	18.15559	22	35	47.83	+01	56	14.1	801
1981	VS	1990	09	18.18291	22	35	46.70	+01	55	59.9	801
1981	VS	1990	09	19.16105	22	35	06.49	+01	46	53.1	801
1981	VS	1990	09	19.18771	22	35	05.34	+01	46	38.1	801
1982	UG6	1990	09	21.08169	22	10	37.06	-13	55	27.1	801
1982	UG6	1990	09	21.09751	22	10	36.37	-13	55	30.2	801
1982	WM	1990	09	18.38501	05	08	39.38	+18	16	38.4	801
1982	WM	1990	09	18.39809	05	08	40.38	+18	16	40.0	801
1984	HL	1990	09	16.15300	21	39	19.84	-13	06	38.1	801
1984	HL	1990	09	19.13853	21	37	48.11	-13	19	37.6	801
1984	YU1	1990	09	16.13000	21	45	36.50	-16	53	15.8	801
1984	YU1	1990	09	16.15659	21	45	35.34	-16	53	18.5	801
1984	YU1	1990	09	19.11190	21	43	41.81	-16	57	26.3	801
1984	YU1	1990	09	19.14289	21	43	40.62	-16	57	28.7	801
1985	FU1	1989	07	09.12008	16	37	50.21	-16	47	35.0	801
1985	RT2	1990	08	17.23652	22	28	21.95	-13	33	31.1	801
1985	RT2	1990	09	16.14260	22	06	13.61	-15	55	15.1	801
1985	RT2	1990	09	16.16620	22	06	12.70	-15	55	19.1	801
1985	RT2	1990	09	19.12954	22	04	29.40	-16	04	23.3	801
1985	RT2	1990	09	19.15282	22	04	28.60	-16	04	27.1	801
1986	AG1	1990	09	16.24431	23	32	34.04	+36	43	41.8	801
1986	AG1	1990	09	16.26369	23	32	32.25	+36	43	47.5	801
1986	AG1	1990	09	18.19866	23	29	38.07	+36	52	25.5	801
1986	AG1	1990	09	18.21479	23	29	36.56	+36	52	29.2	801
1986	AG1	1990	09	21.22800	23	25	03.56	+37	01	27.2	801
1986	AG1	1990	09	21.24112	23	25	02.33	+37	01	28.8	801
1986	JA1	1990	09	21.23156	00	03	24.17	+33	07	42.7	801
1986	JA1	1990	09	21.24368	00	03	23.48	+33	07	33.7	801
1986	PQ	1990	09	21.07008	21	18	44.07	-18	40	01.1	801
1986	PQ	1990	09	21.09041	21	18	43.61	-18	40	04.8	801
1986	QO	1990	09	21.23822	00	13	30.81	+05	02	14.4	801
1986	QO	1990	09	21.25131	00	13	30.10	+05	02	09.8	801
1986	RU4	1990	09	18.20122	23	32	53.64	+16	16	23.8	801
1986	RU4	1990	09	18.21713	23	32	52.80	+16	16	19.3	801
1986	RH12	1990	09	16.23510	23	45	40.47	+13	15	17.1	801
1986	RH12	1990	09	16.25006	23	45	39.85	+13	15	05.8	801
1986	VC	1990	09	22.14699	23	13	48.49	-10	18	40.6	801
1986	VC	1990	09	22.16171	23	13	47.63	-10	18	40.7	801
1986	VW6	1990	09	19.17572	22	57	10.66	-12	38	37.6	801
1986	VW6	1990	09	19.19889	22	57	09.45	-12	38	41.4	801
1986	VW6	1990	09	21.11416	22	55	43.12	-12	47	39.0	801
1986	VW6	1990	09	21.13472	22	55	42.16	-12	47	44.5	801
1987	DX5	1990	09	19.32256	01	53	05.05	+25	24	00.6	801
1987	DX5	1990	09	19.35428	01	53	04.16	+25	24	04.1	801
1987	RM1	1990	08	16.12422	19	49	11.06	-19	02	02.9	801
1987	RM1	1990	08	17.08366	19	48	34.94	-19	06	02.3	801
1987	RB6	1990	09	19.04698	20	45	30.64	-23	35	47.4	801
1987	RB6	1990	09	19.10347	20	45	31.02	-23	35	37.0	801

1987	RB6	1990	09	21.05602	20	45	54.41	-23	29	23.5	801
1987	RB6	1990	09	21.07775	20	45	54.71	-23	29	18.9	801
1987	WE1	1990	09	19.15693	22	28	47.59	-19	07	10.8	801
1987	WE1	1990	09	19.18432	22	28	45.99	-19	07	10.8	801
1987	WE1	1990	09	21.10162	22	27	00.75	-19	07	04.0	801
1987	WE1	1990	09	21.11105	22	27	00.20	-19	07	03.8	801
1987	YB	1990	09	21.12213	23	04	07.04	-20	05	34.0	801
1987	YB	1990	09	21.14204	23	04	05.92	-20	05	38.5	801
1987	YB	1990	09	22.15115	23	03	12.82	-20	09	09.8	801
1987	YB	1990	09	22.16542	23	03	12.04	-20	09	12.5	801
1988	AF	1990	09	16.07646	21	12	16.84	-04	33	57.5	801
1988	AF	1990	09	16.10328	21	12	15.87	-04	34	00.7	801
1988	AF	1990	09	19.10005	21	10	38.00	-04	39	53.5	801
1988	AW1	1990	09	16.06721	20	47	07.25	-11	32	31.5	801
1988	AW1	1990	09	16.09462	20	47	06.68	-11	32	26.1	801
1988	AW1	1990	09	18.04322	20	46	34.03	-11	26	02.2	801
1988	AW1	1990	09	18.13955	20	46	32.41	-11	25	42.8	801
1988	BA	1990	09	19.32681	01	58	52.39	+12	03	14.5	801
1988	BA	1990	09	19.35862	01	58	51.36	+12	03	14.5	801
1988	BJ1	1990	09	18.23858	00	38	17.52	+01	01	33.3	801
1988	BJ1	1990	09	18.27458	00	38	15.61	+01	01	24.4	801
1988	BJ1	1990	09	21.28588	00	35	37.53	+00	48	48.7	801
1988	BJ1	1990	09	21.33939	00	35	34.62	+00	48	34.8	801
1988	ED	1990	09	18.19525	23	24	27.10	+02	25	53.7	801
1988	ED	1990	09	18.21215	23	24	26.07	+02	25	52.2	801
1988	ED	1990	09	21.20495	23	21	27.24	+02	20	40.3	801
1988	ED	1990	09	21.22164	23	21	26.19	+02	20	38.9	801
1988	LF	1990	09	18.36527	04	50	40.99	+05	47	22.6	801
1988	LF	1990	09	18.38109	04	50	41.65	+05	47	21.1	801
1988	LF	1990	09	21.36913	04	52	44.08	+05	42	17.4	801
1988	LF	1990	09	21.39078	04	52	45.02	+05	42	15.9	801
1989	CB1	1990	09	21.11837	23	02	28.37	-12	13	00.5	801
1989	CB1	1990	09	21.13912	23	02	27.31	-12	13	08.9	801
1989	CB1	1990	09	22.14333	23	01	38.97	-12	19	33.9	801
1989	CB1	1990	09	22.15434	23	01	38.42	-12	19	38.1	801
1989	EG	1990	09	16.13434	21	54	23.11	-07	16	19.2	801
1989	EG	1990	09	16.15964	21	54	21.90	-07	16	25.1	801
1989	EG	1990	09	19.11760	21	52	16.86	-07	29	15.8	801
1989	EG	1990	09	19.14679	21	52	15.65	-07	29	23.8	801
1989	JC	1990	09	21.36516	03	55	50.35	+31	02	43.7	801
1989	JC	1990	09	21.38722	03	55	51.43	+31	02	37.7	801
1989	TO11	1990	09	18.34550	03	14	55.97	+11	45	18.4	801
1989	TO11	1990	09	18.39360	03	14	55.67	+11	45	10.8	801
1990	KL	1990	09	19.02256	17	40	10.44	-11	14	19.6	801
1990	KL	1990	09	19.03490	17	40	12.08	-11	14	24.4	801
1990	KL	1990	09	20.99903	17	44	39.88	-11	28	04.1	801
1990	KL	1990	09	21.01648	17	44	42.33	-11	28	10.5	801
1990	KO	1990	09	18.00167	17	36	38.53	+03	11	03.1	801
1990	KO	1990	09	18.01041	17	36	39.44	+03	11	00.1	801
1990	KO	1990	09	19.01808	17	38	29.55	+03	06	10.7	801
1990	KO	1990	09	19.02757	17	38	30.59	+03	06	08.1	801
1990	MJ	1990	09	19.04216	19	29	25.83	+29	37	15.3	801
1990	MJ	1990	09	19.09036	19	29	27.69	+29	37	03.0	801
1990	MJ	1990	09	21.06041	19	31	02.03	+29	28	20.0	801
1990	MJ	1990	09	21.07360	19	31	02.65	+29	28	16.4	801
1990	QO3	1990	09	16.19622	23	00	33.43	-08	46	46.7	801
1990	QO3	1990	09	16.21914	23	00	32.27	-08	46	48.7	801
1990	QO3	1990	09	19.23203	22	58	04.48	-08	50	58.1	801

1990	QO3	1990	09	19.25856	22	58	03.15	-08	51	00.2	801
1990	QP3	1990	09	16.20167	23	03	59.23	-10	11	33.7	801
1990	QP3	1990	09	16.22358	23	03	58.25	-10	11	39.5	801
1990	QP3	1990	09	19.23542	23	01	52.75	-10	24	31.7	801
1990	QP3	1990	09	19.26181	23	01	51.64	-10	24	38.2	801
1990	SA	1990	09	22.10920	23	06	40.67	-12	34	29.8	801
1990	SA	1990	09	22.11346	23	06	40.78	-12	34	50.8	801
3233	T-2	1990	09	16.30867	01	37	20.71	+01	31	41.6	801
3233	T-2	1990	09	16.32749	01	37	20.19	+01	31	35.3	801
3233	T-2	1990	09	18.30565	01	36	27.92	+01	21	12.0	801
3233	T-2	1990	09	18.33521	01	36	27.08	+01	21	02.4	801
4170	T-2	1990	09	18.22512	00	30	16.87	-03	18	46.8	801
4170	T-2	1990	09	18.24907	00	30	15.66	-03	19	00.1	801
4170	T-2	1990	09	21.25447	00	27	45.59	-03	46	57.4	801
4170	T-2	1990	09	21.26897	00	27	44.81	-03	47	05.8	801
5066	T-2	1990	09	21.17488	23	19	38.45	+13	20	08.4	801
5066	T-2	1990	09	21.19035	23	19	37.69	+13	20	00.2	801
5066	T-2	1990	09	22.11720	23	18	54.59	+13	11	51.9	801
5066	T-2	1990	09	22.12966	23	18	53.99	+13	11	45.6	801
4092	T-3	1990	09	16.28183	00	49	02.75	+03	05	17.1	801
4092	T-3	1990	09	16.30023	00	49	02.07	+03	05	08.0	801
243		1990	09	16.19081	22	45	40.05	-07	12	36.7	801
243		1990	09	16.21521	22	45	38.91	-07	12	43.0	801
243		1990	09	18.16499	22	44	11.53	-07	20	57.2	801
243		1990	09	18.18814	22	44	10.42	-07	21	02.6	801
944		1990	09	16.31259	01	38	53.36	-04	24	20.5	801
944		1990	09	16.33091	01	38	52.29	-04	24	14.1	801
1244		1990	09	16.07646	21	12	25.68	-04	34	29.6	801
1244		1990	09	16.10328	21	12	24.81	-04	34	35.5	801
1244		1990	09	19.05191	21	11	00.75	-04	45	08.2	801
1244		1990	09	19.10005	21	10	59.42	-04	45	18.4	801
1446		1990	09	19.28273	01	19	36.57	+07	24	21.1	801
1446		1990	09	19.30985	01	19	35.19	+07	24	16.6	801
1637		1990	09	19.32681	01	58	27.04	+12	00	25.7	801
1637		1990	09	19.35862	01	58	25.84	+12	00	26.3	801
2100		1990	09	19.00841	17	12	23.53	-09	22	27.3	801
2100		1990	09	19.01369	17	12	24.66	-09	22	37.7	801
4572		1990	08	20.17115	21	30	41.74	+01	28	45.7	801
4590		1990	08	20.13128	21	03	00.67	-06	34	02.2	801
4607		1990	09	18.23145	00	36	32.91	+07	51	54.4	801
4607		1990	09	18.25470	00	36	31.66	+07	51	46.8	801
4607		1990	09	21.26109	00	33	54.67	+07	35	09.4	801
4607		1990	09	21.27451	00	33	53.92	+07	35	04.6	801
4610		1990	08	16.22687	21	22	24.94	-18	02	32.5	801

809 European Southern Observatory
H. Debehogne, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180 Brussels, Belgium
E. W. Elst, Observatoire Royal de Belgique, Avenue Circulaire 3, B-1180 Brussels, Belgium (4)
Observers H. Debehogne, E. W. Elst, G. Pizarro, O. Pizarro
Measurers H. Debehogne, J. Dumoulin, E. W. Elst
GPO 0.4-m astrograph, 1-m Schmidt
SAOC

1955	SF	1990	02	25.17014	09	56	26.18	+13	10	23.2	17.3	809
1955	SF	1990	02	25.18264	09	56	25.40	+13	10	26.1		809
1955	SF	1990	02	25.19514	09	56	24.62	+13	10	29.0		809
1955	SF	1990	02	26.13541	09	55	24.70	+13	14	09.6		809

1955	SF	1990	02	26.14514	09	55	24.10	+13	14	12.2	809
1955	SF	1990	02	26.15486	09	55	23.46	+13	14	14.2	809
1955	SF	1990	02	27.12847	09	54	22.06	+13	17	58.0	809
1955	SF	1990	02	27.14097	09	54	21.28	+13	18	00.7	809
1955	SF	1990	02	27.15347	09	54	20.47	+13	18	03.4	809
1955	SF	1990	03	02.07813	09	51	19.84	+13	28	49.3	809
1955	SF	1990	03	02.08854	09	51	19.22	+13	28	51.7	809
1955	SF	1990	03	02.09896	09	51	18.57	+13	28	53.9	809
1964	TU2	1990	02	27.12847	09	59	32.09	+12	49	59.9	17.6 809
1964	TU2	1990	02	27.14097	09	59	31.32	+12	50	02.2	809
1964	TU2	1990	02	27.15347	09	59	30.54	+12	50	04.9	809
1964	TU2	1990	03	02.07813	09	56	30.61	+12	59	20.6	809
1964	TU2	1990	03	02.08854	09	56	29.97	+12	59	22.3	809
1964	TU2	1990	03	02.09896	09	56	29.33	+12	59	24.1	809
1974	SR1	1990	03	02.11285	10	26	08.53	+11	44	14.9	17.6 809
1974	SR1	1990	03	02.12326	10	26	07.88	+11	44	17.7	809
1974	SR1	1990	03	02.13368	10	26	07.22	+11	44	20.4	809
1974	SR1	1990	03	03.18229	10	25	01.20	+11	48	54.1	809
1974	SR1	1990	03	03.19271	10	25	00.54	+11	48	56.9	809
1974	SR1	1990	03	03.20312	10	24	59.89	+11	48	59.5	809
1975	QO	1990	02	28.09167	09	44	29.06	+13	12	56.8	17.5 809
1975	QO	1990	02	28.10452	09	44	28.35	+13	12	58.2	809
1975	QO	1990	02	28.11736	09	44	27.63	+13	12	59.4	809
1975	QO	1990	03	01.07396	09	43	34.33	+13	14	40.4	809
1975	QO	1990	03	01.08437	09	43	33.72	+13	14	41.4	809
1975	QO	1990	03	01.09479	09	43	33.15	+13	14	42.4	809
1975	QO	1990	03	02.04479	09	42	41.06	+13	16	16.5	809
1975	QO	1990	03	02.05521	09	42	40.50	+13	16	17.5	809
1975	QO	1990	03	02.06562	09	42	39.94	+13	16	18.5	809
1975	QO	1990	03	04.15451	09	40	47.96	+13	19	36.7	809
1975	QO	1990	03	04.16493	09	40	47.41	+13	19	37.7	809
1975	QO	1990	03	04.17535	09	40	46.83	+13	19	38.7	809
1978	RS	1990	02	28.09167	09	44	57.95	+12	39	05.3	17.1 809
1978	RS	1990	02	28.10452	09	44	57.21	+12	39	08.4	809
1978	RS	1990	02	28.11736	09	44	56.46	+12	39	11.9	809
1978	RS	1990	03	01.07396	09	44	01.01	+12	43	25.4	809
1978	RS	1990	03	01.08437	09	44	00.41	+12	43	27.9	809
1978	RS	1990	03	01.09479	09	43	59.79	+12	43	30.3	809
1978	RS	1990	03	02.04479	09	43	05.68	+12	47	32.9	809
1978	RS	1990	03	02.05521	09	43	05.07	+12	47	35.7	809
1978	RS	1990	03	02.06562	09	43	04.48	+12	47	38.3	809
1978	RS	1990	03	04.15451	09	41	08.19	+12	56	19.2	809
1978	RS	1990	03	04.16493	09	41	07.59	+12	56	21.8	809
1978	RS	1990	03	04.17535	09	41	07.00	+12	56	24.4	809
1978	RH1	1990	02	24.34444	12	22	10.91	-03	30	57.7	17.2 809
1978	RH1	1990	02	24.35416	12	22	10.62	-03	30	54.8	809
1978	RH1	1990	02	24.36389	12	22	10.33	-03	30	51.9	809
1978	RH1	1990	02	26.26875	12	21	13.03	-03	21	28.2	809
1978	RH1	1990	02	26.27847	12	21	12.74	-03	21	25.3	809
1978	RH1	1990	02	26.28819	12	21	12.43	-03	21	22.5	809
1978	RH1	1990	02	27.35347	12	20	37.38	-03	15	46.6	809
1978	RH1	1990	02	27.36597	12	20	36.98	-03	15	42.7	809
1978	RH1	1990	02	27.37847	12	20	36.57	-03	15	38.7	809
1978	RH1	1990	03	01.36285	12	19	26.40	-03	04	31.8	809
1978	RH1	1990	03	01.37326	12	19	26.04	-03	04	28.3	809
1978	RH1	1990	03	01.38368	12	19	25.67	-03	04	24.7	809
1980	FH1	1990	03	05.25417	11	19	13.07	+03	52	34.0	17.0 809
1980	FH1	1990	03	05.26250	11	19	12.60	+03	52	34.4	809

1980	FH1	1990	03	05.27084	11	19	12.12	+03	52	34.8	809
1980	FH1	1990	03	07.35486	11	17	13.11	+03	54	09.0	809
1980	FH1	1990	03	07.36181	11	17	12.71	+03	54	09.3	809
1980	FH1	1990	03	07.36875	11	17	12.31	+03	54	09.5	809
1980	FH1	1990	03	08.37257	11	16	14.96	+03	54	57.5	809
1980	FH1	1990	03	08.37917	11	16	14.58	+03	54	57.9	809
1980	FH1	1990	03	08.38576	11	16	14.20	+03	54	58.2	809
1980	FN1	1990	02	24.07986	09	43	52.04	+14	34	12.7	17.3 809
1980	FN1	1990	02	24.09236	09	43	51.30	+14	34	16.4	809
1980	FN1	1990	02	24.10764	09	43	50.40	+14	34	21.1	809
1980	FN1	1990	02	25.08750	09	42	52.38	+14	39	15.1	809
1980	FN1	1990	02	25.10000	09	42	51.63	+14	39	18.8	809
1980	FN1	1990	02	25.11250	09	42	50.89	+14	39	22.6	809
1983	TW1	1990	03	03.36493	11	34	03.92	+07	15	12.2	17.7 809
1983	TW1	1990	03	03.37535	11	34	03.40	+07	15	16.2	809
1983	TW1	1990	03	03.38576	11	34	02.88	+07	15	20.2	809
1983	TW1	1990	03	08.35035	11	29	53.60	+07	47	44.4	809
1983	TW1	1990	03	08.35660	11	29	53.27	+07	47	46.7	809
1983	TW1	1990	03	08.36285	11	29	52.95	+07	47	49.2	809
1984	YH1	1990	02	26.11701	10	01	24.25	+09	48	31.2	17.0 809
1984	YH1	1990	02	26.12188	10	01	24.01	+09	48	32.4	809
1984	YH1	1990	02	26.12674	10	01	23.75	+09	48	34.0	809
1984	YH1	1990	02	27.22500	10	00	25.13	+09	53	01.2	809
1984	YH1	1990	02	27.23750	10	00	24.46	+09	53	04.5	809
1984	YH1	1990	02	27.25000	10	00	23.80	+09	53	07.5	809
1984	YH1	1990	03	01.20937	09	58	41.39	+10	00	57.2	809
1984	YH1	1990	03	01.21979	09	58	40.83	+10	00	59.8	809
1984	YH1	1990	03	01.23021	09	58	40.27	+10	01	02.3	809
1985	TW1	1990	02	25.04445	09	36	26.56	+10	20	53.1	17.5 809
1985	TW1	1990	02	25.05695	09	36	25.75	+10	20	54.9	809
1985	TW1	1990	02	25.07014	09	36	24.90	+10	20	56.7	809
1985	TW1	1990	02	26.08333	09	35	21.43	+10	23	27.9	809
1985	TW1	1990	02	26.09306	09	35	20.79	+10	23	29.4	809
1985	TW1	1990	02	26.10278	09	35	20.15	+10	23	31.2	809
1985	TW1	1990	02	28.05209	09	33	20.84	+10	28	14.9	809
1985	TW1	1990	02	28.06458	09	33	20.09	+10	28	16.6	809
1985	TW1	1990	02	28.07708	09	33	19.34	+10	28	18.4	809
1985	TW1	1990	02	28.17431	09	33	13.27	+10	28	32.5	809
1985	TW1	1990	02	28.18681	09	33	12.51	+10	28	34.3	809
1985	TW1	1990	02	28.19931	09	33	11.76	+10	28	36.1	809
1985	UA	1990	02	24.37431	12	21	38.97	-04	46	51.7	17.3 809
1985	UA	1990	02	24.38403	12	21	38.59	-04	46	50.9	809
1985	UA	1990	02	24.39375	12	21	38.19	-04	46	49.8	809
1985	UA	1990	02	26.30069	12	20	20.11	-04	43	30.8	809
1985	UA	1990	02	26.31042	12	20	19.71	-04	43	30.1	809
1985	UA	1990	02	26.32014	12	20	19.31	-04	43	29.0	809
1985	UA	1990	03	01.36285	12	18	01.63	-04	36	44.3	809
1985	UA	1990	03	01.37326	12	18	01.15	-04	36	43.2	809
1985	UA	1990	03	01.38368	12	18	00.68	-04	36	42.2	809
1985	UY4	1990	03	02.22257	10	47	23.02	+08	43	10.1	16.5 809
1985	UY4	1990	03	02.23299	10	47	22.44	+08	43	15.8	809
1985	UY4	1990	03	02.24340	10	47	21.86	+08	43	21.6	809
1985	UY4	1990	03	03.32882	10	46	21.25	+08	53	23.3	809
1985	UY4	1990	03	03.33924	10	46	20.67	+08	53	28.9	809
1985	UY4	1990	03	03.34965	10	46	20.11	+08	53	34.5	809
1985	UY4	1990	03	04.28785	10	45	28.26	+09	02	11.1	809
1985	UY4	1990	03	04.29826	10	45	27.68	+09	02	16.8	809
1985	UY4	1990	03	04.30868	10	45	27.10	+09	02	22.1	809
1986	TS6	1990	03	02.22257	10	48	23.34	+09	26	25.3	17.2 809

1986	TS6	1990	03	02.23299	10	48	23.00	+09	26	26.4	809
1986	TS6	1990	03	02.24340	10	48	22.66	+09	26	27.5	809
1986	TS6	1990	03	03.32882	10	47	47.67	+09	28	36.6	809
1986	TS6	1990	03	03.33924	10	47	47.34	+09	28	37.8	809
1986	TS6	1990	03	03.34965	10	47	47.01	+09	28	39.1	809
1986	TS6	1990	03	16.02743	10	41	11.12	+09	52	06.5	809
1986	TS6	1990	03	16.03368	10	41	10.91	+09	52	07.2	809
1986	TS6	1990	03	16.03993	10	41	10.72	+09	52	07.9	809
1986	TS6	1990	03	17.02622	10	40	41.35	+09	53	44.8	809
1986	TS6	1990	03	17.03281	10	40	41.16	+09	53	45.2	809
1986	TS6	1990	03	17.03941	10	40	40.96	+09	53	45.9	809
1987	HE1	1990	03	16.02743	10	44	36.47	+09	22	03.4	17.0 809
1987	HE1	1990	03	16.03368	10	44	36.13	+09	22	06.7	809
1987	HE1	1990	03	16.03993	10	44	35.79	+09	22	09.7	809
1987	HE1	1990	03	17.02622	10	43	42.07	+09	30	33.2	809
1987	HE1	1990	03	17.03281	10	43	41.70	+09	30	36.6	809
1987	HE1	1990	03	17.03941	10	43	41.35	+09	30	40.0	809
1987	HE1	1990	03	19.12952	10	41	50.19	+09	48	00.8	809
1987	HE1	1990	03	19.13646	10	41	49.82	+09	48	04.1	809
1987	HE1	1990	03	19.14340	10	41	49.46	+09	48	07.4	809
1987	QW1	1990	02	27.12847	09	53	38.19	+12	14	28.1	17.5 809
1987	QW1	1990	02	27.14097	09	53	37.62	+12	14	31.5	809
1987	QW1	1990	02	27.15347	09	53	37.06	+12	14	34.9	809
1987	QW1	1990	03	02.07813	09	51	24.41	+12	27	47.6	809
1987	QW1	1990	03	02.08854	09	51	23.94	+12	27	50.2	809
1987	QW1	1990	03	02.09896	09	51	23.47	+12	27	52.8	809
1988	RR	1990	02	24.07986	09	41	17.22	+15	58	01.0	17.4 809
1988	RR	1990	02	24.09236	09	41	16.47	+15	58	04.3	809
1988	RR	1990	02	24.10764	09	41	15.55	+15	58	08.3	809
1988	RR	1990	02	25.08750	09	40	16.71	+16	02	23.6	809
1988	RR	1990	02	25.10000	09	40	15.97	+16	02	26.9	809
1988	RR	1990	02	25.11250	09	40	15.22	+16	02	30.2	809
1988	RR	1990	02	28.13264	09	37	18.70	+16	14	57.3	809
1988	RR	1990	02	28.14514	09	37	17.96	+16	15	00.2	809
1988	RR	1990	02	28.15764	09	37	17.23	+16	15	03.1	809
1988	RR	1990	03	01.03993	09	36	27.56	+16	18	29.7	809
1988	RR	1990	03	01.05035	09	36	26.96	+16	18	32.4	809
1988	RR	1990	03	01.06076	09	36	26.37	+16	18	36.2	809
1989	AN2	1990	03	03.11493	10	35	46.94	+06	33	21.4	16.7 809
1989	AN2	1990	03	03.12396	10	35	46.68	+06	33	23.7	809
1989	AN2	1990	03	03.13299	10	35	46.43	+06	33	25.8	809
1989	AN2	1990	03	03.14861	10	35	46.01	+06	33	29.3	809
1989	AN2	1990	03	03.15833	10	35	45.71	+06	33	31.5	809
1989	AN2	1990	03	03.16806	10	35	45.43	+06	33	33.6	809
1989	AN2	1990	03	05.19861	10	34	47.18	+06	41	34.2	809
1989	AN2	1990	03	05.20695	10	34	46.94	+06	41	36.1	809
1989	AN2	1990	03	05.21528	10	34	46.70	+06	41	38.0	809
1990	DD	1990	02	25.25069	10	19	11.06	+09	29	30.0	16.4 809
1990	DD	1990	02	25.26320	10	19	10.19	+09	29	29.7	809
1990	DD	1990	02	25.27570	10	19	09.31	+09	29	29.5	809
1990	DD	1990	02	26.19931	10	18	04.31	+09	29	19.7	809
1990	DD	1990	02	26.20903	10	18	03.61	+09	29	19.6	809
1990	DD	1990	02	26.21875	10	18	02.92	+09	29	19.5	809
1990	DD	1990	02	27.31181	10	16	46.21	+09	29	04.4	809
1990	DD	1990	02	27.32431	10	16	45.34	+09	29	04.3	809
1990	DD	1990	02	27.33681	10	16	44.46	+09	29	04.1	809
1990	DA1	1990	03	05.22778	11	08	00.24	+03	12	38.9	17.2 809
1990	DA1	1990	03	05.23611	11	07	59.64	+03	12	40.6	809
1990	DA1	1990	03	05.24445	11	07	59.09	+03	12	42.3	809

1990	DA1		1990	03	07.33125	11	05	35.99	+03	19	36.3	809
1990	DA1		1990	03	07.33820	11	05	35.53	+03	19	37.5	809
1990	DA1		1990	03	07.34514	11	05	35.05	+03	19	38.7	809
1990	DM1		1990	02	27.04688	09	42	06.95	+12	42	26.7	16.8 809
1990	DM1		1990	02	27.05938	09	42	06.25	+12	42	29.6	809
1990	DM1		1990	02	27.07153	09	42	05.58	+12	42	32.1	809
1990	DM1		1990	02	28.09167	09	41	08.63	+12	46	04.8	809
1990	DM1		1990	02	28.10452	09	41	07.91	+12	46	07.3	809
1990	DM1		1990	02	28.11736	09	41	07.19	+12	46	10.1	809
1990	DM1		1990	03	01.07396	09	40	15.24	+12	49	24.2	809
1990	DM1		1990	03	01.08437	09	40	14.69	+12	49	26.4	809
1990	DM1		1990	03	01.09479	09	40	14.13	+12	49	28.4	809
1990	DY1	*	1990	02	27.08681	09	35	38.45	+17	10	26.2	17.4 809
1990	DY1		1990	02	27.09930	09	35	38.10	+17	10	27.5	809
1990	DY1		1990	02	27.11250	09	35	37.72	+17	10	28.8	809
1990	DY1		1990	02	28.13264	09	35	07.49	+17	12	18.0	809
1990	DY1		1990	02	28.14514	09	35	07.13	+17	12	19.3	809
1990	DY1		1990	02	28.15764	09	35	06.78	+17	12	20.6	809
1990	DY1		1990	03	01.03993	09	34	41.34	+17	13	48.1	809
1990	DY1		1990	03	01.05035	09	34	41.03	+17	13	49.0	809
1990	DY1		1990	03	01.06076	09	34	40.74	+17	13	49.7	809
1990	DZ1	*	1990	02	24.03958	09	38	05.58	+11	41	34.8	16.9 809
1990	DZ1		1990	02	24.05209	09	38	04.86	+11	41	35.9	809
1990	DZ1		1990	02	24.06458	09	38	04.14	+11	41	36.9	809
1990	DZ1		1990	02	25.04445	09	37	07.29	+11	43	14.5	809
1990	DZ1		1990	02	25.05695	09	37	06.57	+11	43	16.0	809
1990	DZ1		1990	02	25.07014	09	37	05.81	+11	43	17.2	809
1990	DZ1		1990	02	26.08333	09	36	08.01	+11	44	57.1	809
1990	DZ1		1990	02	26.09306	09	36	07.44	+11	44	58.0	809
1990	DZ1		1990	02	26.10278	09	36	06.87	+11	44	58.9	809
1990	DZ1		1990	02	28.05209	09	34	18.88	+11	47	59.3	809
1990	DZ1		1990	02	28.06458	09	34	18.19	+11	48	00.3	809
1990	DZ1		1990	02	28.07708	09	34	17.50	+11	48	01.3	809
1990	DZ1		1990	02	28.17431	09	34	11.85	+11	48	11.8	809
1990	DZ1		1990	02	28.18681	09	34	11.18	+11	48	12.7	809
1990	DZ1		1990	02	28.19931	09	34	10.50	+11	48	13.7	809
1990	DA2	*	1990	02	24.03958	09	38	56.42	+11	05	02.2	17.1 809
1990	DA2		1990	02	24.05209	09	38	55.83	+11	05	07.2	809
1990	DA2		1990	02	24.06458	09	38	55.25	+11	05	12.0	809
1990	DA2		1990	02	25.04445	09	38	08.92	+11	11	23.6	809
1990	DA2		1990	02	25.05695	09	38	08.32	+11	11	28.2	809
1990	DA2		1990	02	25.07014	09	38	07.70	+11	11	32.9	809
1990	DA2		1990	02	28.05209	09	35	50.74	+11	30	05.7	809
1990	DA2		1990	02	28.06458	09	35	50.13	+11	30	10.3	809
1990	DA2		1990	02	28.07708	09	35	49.55	+11	30	15.0	809
1990	DA2		1990	02	28.17431	09	35	45.02	+11	30	51.7	809
1990	DA2		1990	02	28.18681	09	35	44.44	+11	30	56.4	809
1990	DA2		1990	02	28.19931	09	35	43.87	+11	31	00.9	809
1990	DB2	*	1990	02	24.03958	09	39	05.87	+10	49	50.3	17.3 809
1990	DB2		1990	02	24.05209	09	39	05.16	+10	49	55.6	809
1990	DB2		1990	02	24.06458	09	39	04.44	+10	50	00.9	809
1990	DB2		1990	02	25.04445	09	38	07.47	+10	56	41.0	809
1990	DB2		1990	02	25.05695	09	38	06.76	+10	56	46.1	809
1990	DB2		1990	02	25.07014	09	38	06.02	+10	56	51.6	809
1990	DB2		1990	02	28.05209	09	35	17.54	+11	16	48.0	809
1990	DB2		1990	02	28.06458	09	35	16.85	+11	16	53.0	809
1990	DB2		1990	02	28.07708	09	35	16.14	+11	16	58.1	809
1990	DB2		1990	02	28.17431	09	35	10.63	+11	17	36.6	809
1990	DB2		1990	02	28.18681	09	35	09.92	+11	17	41.7	809

1990	DB2		1990	02	28.19931	09	35	09.21	+11	17	46.4	809
1990	DC2	*	1990	02	24.03958	09	39	58.94	+11	05	23.3	16.7 809
1990	DC2		1990	02	24.05209	09	39	58.16	+11	05	23.9	809
1990	DC2		1990	02	24.06458	09	39	57.38	+11	05	24.6	809
1990	DC2		1990	02	25.04445	09	38	55.63	+11	06	10.4	809
1990	DC2		1990	02	25.05695	09	38	54.85	+11	06	11.0	809
1990	DC2		1990	02	25.07014	09	38	54.03	+11	06	11.6	809
1990	DC2		1990	02	26.08333	09	37	51.22	+11	06	56.9	809
1990	DC2		1990	02	26.09306	09	37	50.60	+11	06	57.5	809
1990	DC2		1990	02	26.10278	09	37	49.99	+11	06	58.0	809
1990	DC2		1990	02	28.05209	09	35	52.60	+11	08	17.4	809
1990	DC2		1990	02	28.06458	09	35	51.87	+11	08	18.2	809
1990	DC2		1990	02	28.07708	09	35	51.14	+11	08	18.7	809
1990	DC2		1990	02	28.17431	09	35	44.99	+11	08	24.0	809
1990	DC2		1990	02	28.18681	09	35	44.26	+11	08	24.3	809
1990	DC2		1990	02	28.19931	09	35	43.52	+11	08	24.5	809
1990	DD2	*	1990	02	24.03958	09	40	48.17	+10	47	54.2	17.2 809
1990	DD2		1990	02	24.05209	09	40	47.46	+10	47	59.2	809
1990	DD2		1990	02	24.06458	09	40	46.75	+10	48	04.1	809
1990	DD2		1990	02	25.04445	09	39	50.55	+10	54	36.8	809
1990	DD2		1990	02	25.05695	09	39	49.85	+10	54	41.9	809
1990	DD2		1990	02	25.07014	09	39	49.10	+10	54	47.2	809
1990	DD2		1990	02	28.17431	09	36	55.30	+11	15	17.4	809
1990	DD2		1990	02	28.18681	09	36	54.59	+11	15	22.5	809
1990	DD2		1990	02	28.19931	09	36	53.90	+11	15	27.5	809
1990	DE2	*	1990	02	24.03958	09	41	02.55	+11	19	54.1	17.4 809
1990	DE2		1990	02	24.05209	09	41	01.95	+11	19	57.9	809
1990	DE2		1990	02	24.06458	09	41	01.36	+11	20	01.4	809
1990	DE2		1990	02	28.17431	09	37	47.45	+11	39	42.5	809
1990	DE2		1990	02	28.18681	09	37	46.86	+11	39	45.9	809
1990	DE2		1990	02	28.19931	09	37	46.28	+11	39	49.2	809
1990	DF2	*	1990	02	24.07986	09	40	15.83	+15	05	22.4	17.6 809
1990	DF2		1990	02	24.09236	09	40	15.22	+15	05	25.2	809
1990	DF2		1990	02	24.10764	09	40	14.48	+15	05	28.3	809
1990	DF2		1990	02	25.08750	09	39	26.96	+15	08	52.2	809
1990	DF2		1990	02	25.10000	09	39	26.35	+15	08	54.9	809
1990	DF2		1990	02	25.11250	09	39	25.74	+15	08	57.5	809
1990	DG2	*	1990	02	24.07986	09	40	30.69	+14	47	37.4	17.3 809
1990	DG2		1990	02	24.09236	09	40	29.86	+14	47	35.4	809
1990	DG2		1990	02	24.10764	09	40	28.84	+14	47	32.9	809
1990	DG2		1990	02	25.08750	09	39	23.84	+14	44	55.2	809
1990	DG2		1990	02	25.10000	09	39	22.99	+14	44	53.1	809
1990	DG2		1990	02	25.11250	09	39	22.15	+14	44	51.0	809
1990	DH2	*	1990	02	24.07986	09	41	27.69	+15	33	44.9	16.9 809
1990	DH2		1990	02	24.09236	09	41	27.04	+15	33	47.2	809
1990	DH2		1990	02	24.10764	09	41	26.24	+15	33	50.6	809
1990	DH2		1990	02	25.08750	09	40	35.56	+15	36	59.0	809
1990	DH2		1990	02	25.10000	09	40	34.88	+15	37	01.5	809
1990	DH2		1990	02	25.11250	09	40	34.21	+15	37	04.0	809
1990	DH2		1990	02	28.21389	09	37	58.24	+15	46	25.2	809
1990	DH2		1990	02	28.22639	09	37	57.60	+15	46	27.5	809
1990	DH2		1990	02	28.23889	09	37	56.97	+15	46	29.7	809
1990	DH2		1990	03	01.03993	09	37	18.81	+15	48	45.8	809
1990	DH2		1990	03	01.05035	09	37	18.30	+15	48	47.5	809
1990	DH2		1990	03	01.06076	09	37	17.80	+15	48	49.3	809
1990	DJ2	*	1990	02	24.07986	09	45	19.12	+15	02	34.2	17.3 809
1990	DJ2		1990	02	24.09236	09	45	18.50	+15	02	38.7	809
1990	DJ2		1990	02	24.10764	09	45	17.74	+15	02	44.3	809
1990	DJ2		1990	02	25.08750	09	44	28.72	+15	08	58.6	809

1990	DJ2		1990	02	25.10000	09	44	28.09	+15	09	03.4		809
1990	DJ2		1990	02	25.11250	09	44	27.47	+15	09	08.3		809
1990	DJ2		1990	02	28.21389	09	41	56.26	+15	28	14.4		809
1990	DJ2		1990	02	28.22639	09	41	55.64	+15	28	19.1		809
1990	DJ2		1990	02	28.23889	09	41	55.02	+15	28	23.6		809
1990	DK2	*	1990	02	24.07986	09	45	35.19	+14	48	21.0	17.1	809
1990	DK2		1990	02	24.09236	09	45	34.59	+14	48	30.9		809
1990	DK2		1990	02	24.10764	09	45	33.89	+14	48	42.6		809
1990	DK2		1990	02	25.08750	09	44	47.76	+15	01	16.2		809
1990	DK2		1990	02	25.10000	09	44	47.17	+15	01	25.9		809
1990	DK2		1990	02	25.11250	09	44	46.59	+15	01	35.6		809
1990	DK2		1990	02	28.21389	09	42	25.18	+15	40	19.0		809
1990	DK2		1990	02	28.22639	09	42	24.61	+15	40	28.4		809
1990	DK2		1990	02	28.23889	09	42	24.03	+15	40	37.7		809
1990	DL2	*	1990	02	24.12778	09	54	18.14	+09	31	15.1	17.0	809
1990	DL2		1990	02	24.14028	09	54	17.58	+09	31	21.6		809
1990	DL2		1990	02	24.15278	09	54	17.02	+09	31	28.1		809
1990	DL2		1990	02	25.13125	09	53	33.10	+09	39	57.5		809
1990	DL2		1990	02	25.14375	09	53	32.54	+09	40	04.0		809
1990	DL2		1990	02	25.15625	09	53	31.96	+09	40	10.6		809
1990	DM2	*	1990	02	24.12778	09	54	18.27	+10	00	14.7	16.8	809
1990	DM2		1990	02	24.14028	09	54	17.62	+10	00	17.8		809
1990	DM2		1990	02	24.15278	09	54	16.97	+10	00	20.8		809
1990	DM2		1990	02	25.13125	09	53	25.98	+10	04	17.7		809
1990	DM2		1990	02	25.14375	09	53	25.33	+10	04	20.7		809
1990	DM2		1990	02	25.15625	09	53	24.69	+10	04	23.6		809
1990	DM2		1990	03	01.10799	09	50	03.97	+10	19	50.0		809
1990	DM2		1990	03	01.11840	09	50	03.45	+10	19	52.2		809
1990	DM2		1990	03	01.12882	09	50	02.92	+10	19	54.7		809
1990	DN2	*	1990	02	24.12778	09	54	38.11	+09	50	06.4	17.3	809
1990	DN2		1990	02	24.14028	09	54	37.40	+09	50	11.6		809
1990	DN2		1990	02	24.15278	09	54	36.69	+09	50	16.8		809
1990	DN2		1990	02	25.13125	09	53	40.77	+09	57	01.1		809
1990	DN2		1990	02	25.14375	09	53	40.06	+09	57	06.3		809
1990	DN2		1990	02	25.15625	09	53	39.33	+09	57	11.6		809
1990	DN2		1990	03	01.10799	09	50	02.26	+10	23	33.0		809
1990	DN2		1990	03	01.11840	09	50	01.69	+10	23	37.0		809
1990	DN2		1990	03	01.12882	09	50	01.13	+10	23	41.3		809
1990	DO2	*	1990	02	24.12778	09	54	44.35	+10	38	17.9	17.4	809
1990	DO2		1990	02	24.14028	09	54	43.71	+10	38	21.2		809
1990	DO2		1990	02	24.15278	09	54	43.05	+10	38	24.5		809
1990	DO2		1990	02	25.13125	09	53	52.84	+10	42	46.0		809
1990	DO2		1990	02	25.14375	09	53	52.22	+10	42	49.2		809
1990	DO2		1990	02	25.15625	09	53	51.58	+10	42	52.6		809
1990	DO2		1990	03	01.14201	09	50	33.08	+11	00	04.6		809
1990	DO2		1990	03	01.15243	09	50	32.57	+11	00	07.4		809
1990	DO2		1990	03	01.16285	09	50	32.05	+11	00	10.3		809
1990	DP2	*	1990	02	24.12778	09	54	56.14	+10	25	14.8	17.6	809
1990	DP2		1990	02	24.14028	09	54	55.37	+10	25	16.8		809
1990	DP2		1990	02	24.15278	09	54	54.60	+10	25	18.5		809
1990	DP2		1990	02	25.13125	09	53	54.01	+10	27	40.6		809
1990	DP2		1990	02	25.14375	09	53	53.23	+10	27	42.4		809
1990	DP2		1990	02	25.15625	09	53	52.48	+10	27	44.2		809
1990	DQ2	*	1990	02	24.12778	09	56	21.81	+10	08	45.4	16.9	809
1990	DQ2		1990	02	24.14028	09	56	21.21	+10	08	51.1		809
1990	DQ2		1990	02	24.15278	09	56	20.61	+10	08	56.6		809
1990	DQ2		1990	02	25.13125	09	55	32.94	+10	16	04.7		809
1990	DQ2		1990	02	25.14375	09	55	32.32	+10	16	10.1		809
1990	DQ2		1990	02	25.15625	09	55	31.73	+10	16	15.7		809

1990	DQ2		1990	03	01.14201	09	52	22.54	+10	44	43.8		809
1990	DQ2		1990	03	01.15243	09	52	22.05	+10	44	48.1		809
1990	DQ2		1990	03	01.16285	09	52	21.55	+10	44	52.5		809
1990	DR2	*	1990	02	24.12778	09	57	04.56	+10	33	56.3	17.4	809
1990	DR2		1990	02	24.14028	09	57	03.92	+10	34	01.1		809
1990	DR2		1990	02	24.15278	09	57	03.28	+10	34	05.7		809
1990	DR2		1990	02	25.13125	09	56	13.12	+10	39	50.4		809
1990	DR2		1990	02	25.14375	09	56	12.49	+10	39	54.9		809
1990	DR2		1990	02	25.15625	09	56	11.85	+10	39	59.5		809
1990	DS2	*	1990	02	24.12778	09	57	58.77	+09	31	25.3	17.6	809
1990	DS2		1990	02	24.14028	09	57	58.21	+09	31	30.9		809
1990	DS2		1990	02	24.15278	09	57	57.64	+09	31	36.5		809
1990	DS2		1990	02	25.13125	09	57	13.57	+09	38	51.6		809
1990	DS2		1990	02	25.14375	09	57	13.04	+09	38	56.9		809
1990	DS2		1990	02	25.15625	09	57	12.47	+09	39	02.1		809
1990	DT2	*	1990	02	24.12778	09	58	16.69	+09	19	50.5	17.3	809
1990	DT2		1990	02	24.14028	09	58	16.01	+09	19	54.3		809
1990	DT2		1990	02	24.15278	09	58	15.32	+09	19	58.5		809
1990	DT2		1990	02	25.13125	09	57	21.29	+09	24	51.9		809
1990	DT2		1990	02	25.14375	09	57	20.60	+09	24	55.7		809
1990	DT2		1990	02	25.15625	09	57	19.91	+09	24	59.4		809
1990	DU2	*	1990	02	24.12778	09	58	32.69	+11	00	18.1	17.4	809
1990	DU2		1990	02	24.14028	09	58	32.01	+11	00	22.8		809
1990	DU2		1990	02	24.15278	09	58	31.33	+11	00	27.6		809
1990	DU2		1990	02	25.13125	09	57	38.11	+11	06	39.2		809
1990	DU2		1990	02	25.14375	09	57	37.43	+11	06	43.9		809
1990	DU2		1990	02	25.15625	09	57	36.75	+11	06	48.8		809
1990	DU2		1990	03	02.07813	09	53	22.33	+11	36	41.1		809
1990	DU2		1990	03	02.08854	09	53	21.81	+11	36	45.2		809
1990	DU2		1990	03	02.09896	09	53	21.28	+11	36	49.3		809
1990	DV2	*	1990	02	24.12778	10	01	58.80	+10	45	09.5	16.9	809
1990	DV2		1990	02	24.14028	10	01	58.19	+10	45	12.7		809
1990	DV2		1990	02	24.15278	10	01	57.57	+10	45	16.0		809
1990	DV2		1990	02	26.11701	10	00	20.75	+10	53	52.6		809
1990	DV2		1990	02	26.12188	10	00	20.51	+10	53	53.9		809
1990	DV2		1990	02	26.12674	10	00	20.27	+10	53	54.8		809
1990	DV2		1990	03	01.20937	09	57	51.08	+11	07	08.5		809
1990	DV2		1990	03	01.21979	09	57	50.57	+11	07	11.4		809
1990	DV2		1990	03	01.23021	09	57	50.07	+11	07	14.1		809
1990	DW2	*	1990	02	24.16666	09	54	26.32	+13	10	03.8	17.2	809
1990	DW2		1990	02	24.17917	09	54	25.77	+13	10	06.3		809
1990	DW2		1990	02	24.19167	09	54	25.22	+13	10	08.6		809
1990	DW2		1990	02	25.17014	09	53	41.74	+13	13	27.8		809
1990	DW2		1990	02	25.18264	09	53	41.19	+13	13	30.3		809
1990	DW2		1990	02	25.19514	09	53	40.63	+13	13	32.7		809
1990	DW2		1990	02	26.13541	09	52	59.17	+13	16	41.1		809
1990	DW2		1990	02	26.14514	09	52	58.75	+13	16	43.1		809
1990	DW2		1990	02	26.15486	09	52	58.33	+13	16	45.2		809
1990	DW2		1990	02	27.12847	09	52	15.83	+13	19	58.7		809
1990	DW2		1990	02	27.14097	09	52	15.26	+13	20	01.2		809
1990	DW2		1990	02	27.15347	09	52	14.72	+13	20	03.7		809
1990	DW2		1990	03	02.07813	09	50	09.54	+13	29	25.8		809
1990	DW2		1990	03	02.08854	09	50	09.09	+13	29	27.8		809
1990	DW2		1990	03	02.09896	09	50	08.65	+13	29	29.9		809
1990	DX2	*	1990	02	24.16666	09	55	23.58	+13	41	28.8	17.0	809
1990	DX2		1990	02	24.17917	09	55	22.92	+13	41	36.4		809
1990	DX2		1990	02	24.19167	09	55	22.26	+13	41	43.8		809
1990	DX2		1990	02	25.17014	09	54	31.66	+13	51	21.4		809
1990	DX2		1990	02	25.18264	09	54	31.01	+13	51	28.9		809

1990	DX2		1990	02	25.19514	09	54	30.36	+13	51	36.4		809
1990	DX2		1990	02	26.13541	09	53	41.96	+14	00	49.3		809
1990	DX2		1990	02	26.14514	09	53	41.47	+14	00	55.0		809
1990	DX2		1990	02	26.15486	09	53	40.99	+14	01	00.4		809
1990	DY2	*	1990	02	24.16666	09	59	00.74	+14	04	27.1	17.0	809
1990	DY2		1990	02	24.17917	09	59	00.10	+14	04	34.4		809
1990	DY2		1990	02	24.19167	09	58	59.46	+14	04	41.6		809
1990	DY2		1990	02	25.17014	09	58	09.12	+14	14	12.0		809
1990	DY2		1990	02	25.18264	09	58	08.46	+14	14	19.3		809
1990	DY2		1990	02	25.19514	09	58	07.81	+14	14	26.4		809
1990	DY2		1990	02	26.13541	09	57	19.82	+14	23	29.3		809
1990	DY2		1990	02	26.14514	09	57	19.34	+14	23	35.1		809
1990	DY2		1990	02	26.15486	09	57	18.83	+14	23	40.9		809
1990	DZ2	*	1990	02	24.16666	10	01	01.33	+14	38	49.4	17.3	809
1990	DZ2		1990	02	24.17917	10	01	00.76	+14	38	52.9		809
1990	DZ2		1990	02	24.19167	10	01	00.17	+14	38	56.2		809
1990	DZ2		1990	02	25.17014	10	00	15.14	+14	43	24.9		809
1990	DZ2		1990	02	25.18264	10	00	14.58	+14	43	28.1		809
1990	DZ2		1990	02	25.19514	10	00	14.01	+14	43	31.5		809
1990	DA3	*	1990	02	24.16666	10	01	28.42	+14	57	18.8	17.0	809
1990	DA3		1990	02	24.17917	10	01	27.81	+14	57	22.7		809
1990	DA3		1990	02	24.19167	10	01	27.20	+14	57	26.6		809
1990	DA3		1990	02	25.17014	10	00	38.60	+15	02	30.2		809
1990	DA3		1990	02	25.18264	10	00	37.97	+15	02	34.1		809
1990	DA3		1990	02	25.19514	10	00	37.35	+15	02	38.0		809
1990	DB3	*	1990	02	24.20903	10	10	34.20	+14	02	35.2	17.3	809
1990	DB3		1990	02	24.22153	10	10	33.32	+14	02	34.0		809
1990	DB3		1990	02	24.23403	10	10	32.45	+14	02	32.8		809
1990	DB3		1990	02	25.21111	10	09	24.55	+14	01	07.9		809
1990	DB3		1990	02	25.22361	10	09	23.66	+14	01	06.7		809
1990	DB3		1990	02	25.23611	10	09	22.78	+14	01	05.5		809
1990	DC3	*	1990	02	24.20903	10	10	44.04	+13	01	17.3	17.3	809
1990	DC3		1990	02	24.22153	10	10	43.30	+13	01	23.3		809
1990	DC3		1990	02	24.23403	10	10	42.52	+13	01	29.3		809
1990	DC3		1990	02	25.21111	10	09	43.73	+13	08	59.2		809
1990	DC3		1990	02	25.22361	10	09	42.98	+13	09	05.1		809
1990	DC3		1990	02	25.23611	10	09	42.21	+13	09	10.8		809
1990	DD3	*	1990	02	24.20903	10	13	07.80	+12	36	59.8	16.7	809
1990	DD3		1990	02	24.22153	10	13	07.16	+12	37	06.4		809
1990	DD3		1990	02	24.23403	10	13	06.51	+12	37	12.9		809
1990	DD3		1990	02	25.21111	10	12	15.50	+12	45	26.7		809
1990	DD3		1990	02	25.22361	10	12	14.77	+12	45	32.2		809
1990	DD3		1990	02	25.23611	10	12	14.02	+12	45	37.5		809
1990	DD3		1990	02	26.16806	10	11	25.62	+12	53	23.2		809
1990	DD3		1990	02	26.17778	10	11	25.09	+12	53	28.0		809
1990	DD3		1990	02	26.18750	10	11	24.58	+12	53	32.9		809
1990	DD3		1990	02	27.27153	10	10	28.31	+13	02	26.8		809
1990	DD3		1990	02	27.28403	10	10	27.66	+13	02	32.8		809
1990	DD3		1990	02	27.29653	10	10	27.02	+13	02	38.8		809
1990	DE3	*	1990	02	24.20903	10	14	05.43	+12	08	41.9	17.3	809
1990	DE3		1990	02	24.22153	10	14	04.69	+12	08	45.5		809
1990	DE3		1990	02	24.23403	10	14	03.94	+12	08	49.1		809
1990	DE3		1990	02	25.21111	10	13	06.01	+12	13	20.3		809
1990	DE3		1990	02	25.22361	10	13	05.27	+12	13	23.9		809
1990	DE3		1990	02	25.23611	10	13	04.53	+12	13	27.3		809
1990	DF3	*	1990	02	24.20903	10	15	45.92	+12	28	56.6	17.0	809
1990	DF3		1990	02	24.22153	10	15	45.34	+12	29	05.6		809
1990	DF3		1990	02	24.23403	10	15	44.77	+12	29	14.5		809
1990	DF3		1990	02	25.21111	10	14	59.36	+12	40	49.3		809

1990	DF3		1990	02	25.22361	10	14	58.77	+12	40	58.2	809
1990	DF3		1990	02	25.23611	10	14	58.19	+12	41	07.1	809
1990	DF3		1990	02	26.16806	10	14	14.64	+12	52	02.9	809
1990	DF3		1990	02	26.17778	10	14	14.19	+12	52	09.7	809
1990	DF3		1990	02	26.18750	10	14	13.73	+12	52	16.6	809
1990	DF3		1990	02	27.27153	10	13	23.35	+13	04	54.6	809
1990	DF3		1990	02	27.28403	10	13	22.75	+13	05	03.3	809
1990	DF3		1990	02	27.29653	10	13	22.17	+13	05	12.0	809
1990	DG3	*	1990	02	24.20903	10	17	55.41	+13	42	37.7	17.3 809
1990	DG3		1990	02	24.22153	10	17	55.03	+13	42	40.0	809
1990	DG3		1990	02	24.23403	10	17	54.65	+13	42	42.2	809
1990	DG3		1990	02	26.16806	10	16	55.83	+13	48	44.8	809
1990	DG3		1990	02	26.17778	10	16	55.53	+13	48	46.6	809
1990	DG3		1990	02	26.18750	10	16	55.23	+13	48	48.3	809
1990	DG3		1990	02	27.27153	10	16	22.35	+13	52	09.0	809
1990	DG3		1990	02	27.28403	10	16	21.98	+13	52	11.3	809
1990	DG3		1990	02	27.29653	10	16	21.62	+13	52	13.3	809
1990	DH3	*	1990	02	24.20903	10	17	58.11	+13	35	48.3	17.5 809
1990	DH3		1990	02	24.22153	10	17	57.47	+13	35	52.5	809
1990	DH3		1990	02	24.23403	10	17	56.83	+13	35	56.5	809
1990	DH3		1990	02	26.16806	10	16	15.64	+13	45	43.6	809
1990	DH3		1990	02	26.17778	10	16	15.13	+13	45	46.5	809
1990	DH3		1990	02	26.18750	10	16	14.61	+13	45	49.5	809
1990	DJ3	*	1990	02	24.24931	10	16	45.56	+09	12	15.7	17.5 809
1990	DJ3		1990	02	24.26181	10	16	44.92	+09	12	19.3	809
1990	DJ3		1990	02	24.27431	10	16	44.29	+09	12	22.6	809
1990	DJ3		1990	02	25.25069	10	15	56.13	+09	16	54.9	809
1990	DJ3		1990	02	25.26320	10	15	55.52	+09	16	58.3	809
1990	DJ3		1990	02	25.27570	10	15	54.89	+09	17	01.7	809
1990	DK3	*	1990	02	24.24931	10	18	11.05	+09	39	37.4	17.0 809
1990	DK3		1990	02	24.26181	10	18	10.37	+09	39	42.6	809
1990	DK3		1990	02	24.27431	10	18	09.71	+09	39	47.8	809
1990	DK3		1990	02	25.25069	10	17	16.96	+09	46	31.1	809
1990	DK3		1990	02	25.26320	10	17	16.29	+09	46	36.0	809
1990	DK3		1990	02	25.27570	10	17	15.62	+09	46	41.0	809
1990	DK3		1990	02	27.31181	10	15	25.70	+10	00	42.2	809
1990	DK3		1990	02	27.32431	10	15	25.03	+10	00	47.4	809
1990	DK3		1990	02	27.33681	10	15	24.36	+10	00	52.5	809
1990	DL3	*	1990	02	24.30069	11	00	41.10	+08	52	45.6	16.9 809
1990	DL3		1990	02	24.31319	11	00	40.35	+08	52	48.3	809
1990	DL3		1990	02	25.29583	10	59	39.33	+08	56	22.3	809
1990	DL3		1990	02	25.30833	10	59	38.53	+08	56	25.1	809
1990	DL3		1990	02	25.32083	10	59	37.73	+08	56	27.7	809
1990	DL3		1990	02	26.23333	10	58	40.53	+08	59	49.3	809
1990	DL3		1990	02	26.24306	10	58	39.93	+08	59	51.1	809
1990	DL3		1990	02	26.25278	10	58	39.32	+08	59	52.9	809
1990	DL3		1990	03	16.02743	10	39	42.78	+09	59	45.5	17.1 809
1990	DL3		1990	03	16.03368	10	39	42.38	+09	59	46.6	809
1990	DL3		1990	03	16.03993	10	39	41.99	+09	59	47.8	809
1990	DL3		1990	03	17.02622	10	38	42.17	+10	02	28.0	809
1990	DL3		1990	03	17.03281	10	38	41.79	+10	02	29.1	809
1990	DL3		1990	03	17.03941	10	38	41.39	+10	02	30.1	809
1990	DL3		1990	03	19.12952	10	36	37.47	+10	07	49.1	809
1990	DL3		1990	03	19.13646	10	36	37.07	+10	07	50.1	809
1990	DL3		1990	03	19.14340	10	36	36.66	+10	07	51.3	809
1990	DM3	*	1990	02	24.30069	11	01	01.22	+08	53	09.6	17.5 809
1990	DM3		1990	02	24.31319	11	01	00.44	+08	53	13.0	809
1990	DM3		1990	02	25.29583	10	59	59.15	+08	57	41.6	809
1990	DM3		1990	02	25.30833	10	59	58.36	+08	57	45.1	809

1990	DM3		1990	02	25.32083	10	59	57.58	+08	57	48.5	809
1990	DM3		1990	02	26.23333	10	59	00.23	+09	01	57.8	809
1990	DM3		1990	02	26.24306	10	58	59.62	+09	02	00.8	809
1990	DM3		1990	02	26.25278	10	58	59.02	+09	02	03.5	809
1990	DM3		1990	03	16.02743	10	39	59.82	+10	17	38.0	17.3 809
1990	DM3		1990	03	16.03368	10	39	59.43	+10	17	39.3	809
1990	DM3		1990	03	16.03993	10	39	59.06	+10	17	40.8	809
1990	DM3		1990	03	17.02622	10	38	59.50	+10	21	09.1	809
1990	DM3		1990	03	17.03281	10	38	59.11	+10	21	10.4	809
1990	DM3		1990	03	17.03941	10	38	58.71	+10	21	11.8	809
1990	DN3	*	1990	02	24.34444	12	19	16.46	-03	22	55.6	17.3 809
1990	DN3		1990	02	24.35416	12	19	16.14	-03	22	53.9	809
1990	DN3		1990	02	24.36389	12	19	15.82	-03	22	52.2	809
1990	DN3		1990	02	26.26875	12	18	11.77	-03	16	59.2	809
1990	DN3		1990	02	26.27847	12	18	11.45	-03	16	57.4	809
1990	DN3		1990	02	26.28819	12	18	11.12	-03	16	55.6	809
1990	DN3		1990	02	27.35347	12	17	33.57	-03	13	24.3	809
1990	DN3		1990	02	27.36597	12	17	33.13	-03	13	21.9	809
1990	DN3		1990	02	27.37847	12	17	32.69	-03	13	19.4	809
1990	DO3	*	1990	02	24.34444	12	26	02.66	-03	23	05.0	17.3 809
1990	DO3		1990	02	24.35416	12	26	02.28	-03	23	06.0	809
1990	DO3		1990	02	24.36389	12	26	01.90	-03	23	07.0	809
1990	DO3		1990	02	27.35347	12	24	03.93	-03	28	37.5	809
1990	DO3		1990	02	27.36597	12	24	03.44	-03	28	39.0	809
1990	DO3		1990	02	27.37847	12	24	02.94	-03	28	40.4	809
1990	DO3		1990	03	01.36285	12	22	37.28	-03	31	46.4	809
1990	DO3		1990	03	01.37326	12	22	36.80	-03	31	47.4	809
1990	DO3		1990	03	01.38368	12	22	36.36	-03	31	48.3	809
1990	DP3	*	1990	02	24.37431	12	23	56.78	-04	40	04.8	17.5 809
1990	DP3		1990	02	24.38403	12	23	56.46	-04	40	03.1	809
1990	DP3		1990	02	24.39375	12	23	56.12	-04	40	01.8	809
1990	DP3		1990	02	26.30069	12	22	49.65	-04	35	03.6	809
1990	DP3		1990	02	26.31042	12	22	49.31	-04	35	02.0	809
1990	DP3		1990	02	26.32014	12	22	48.98	-04	35	00.4	809
1990	DP3		1990	02	27.35347	12	22	11.19	-04	32	07.0	809
1990	DP3		1990	02	27.36597	12	22	10.73	-04	32	05.0	809
1990	DP3		1990	02	27.37847	12	22	10.28	-04	32	03.1	809
1990	DP3		1990	03	01.36285	12	20	54.52	-04	26	07.4	809
1990	DP3		1990	03	01.37326	12	20	54.12	-04	26	05.5	809
1990	DP3		1990	03	01.38368	12	20	53.72	-04	26	03.6	809
1990	DQ3	*	1990	02	25.04445	09	33	34.52	+11	03	55.2	17.3 809
1990	DQ3		1990	02	25.05695	09	33	33.94	+11	04	00.5	809
1990	DQ3		1990	02	25.07014	09	33	33.37	+11	04	06.1	809
1990	DQ3		1990	02	26.08333	09	32	49.27	+11	10	55.8	809
1990	DQ3		1990	02	26.09306	09	32	48.83	+11	10	59.9	809
1990	DQ3		1990	02	26.10278	09	32	48.39	+11	11	03.9	809
1990	DR3	*	1990	02	25.17014	09	52	05.89	+13	43	10.2	17.4 809
1990	DR3		1990	02	25.18264	09	52	05.28	+13	43	13.8	809
1990	DR3		1990	02	25.19514	09	52	04.65	+13	43	17.3	809
1990	DR3		1990	02	26.13541	09	51	17.81	+13	47	40.9	809
1990	DR3		1990	02	26.14514	09	51	17.34	+13	47	43.9	809
1990	DR3		1990	02	26.15486	09	51	16.87	+13	47	47.0	809
1990	DS3	*	1990	02	25.36528	12	03	50.02	-04	12	50.8	17.1 809
1990	DS3		1990	02	25.37500	12	03	49.67	-04	12	47.2	809
1990	DS3		1990	02	25.38472	12	03	49.32	-04	12	43.7	809
1990	DS3		1990	02	26.33611	12	03	15.09	-04	06	58.7	809
1990	DS3		1990	02	26.34583	12	03	14.75	-04	06	55.4	809
1990	DS3		1990	02	26.35556	12	03	14.39	-04	06	52.2	809
1990	DT3	*	1990	02	26.08333	09	31	54.76	+11	04	45.3	17.2 809

1990	DT3		1990	02	26.09306	09	31	54.40	+11	04	52.1		809
1990	DT3		1990	02	26.10278	09	31	54.05	+11	04	59.0		809
1990	DT3		1990	02	28.05209	09	30	42.22	+11	28	28.4		809
1990	DT3		1990	02	28.06458	09	30	41.77	+11	28	37.3		809
1990	DT3		1990	02	28.07708	09	30	41.31	+11	28	46.4		809
1990	DU3	*	1990	02	26.11701	10	01	25.73	+09	31	19.0	16.8	809
1990	DU3		1990	02	26.12188	10	01	25.44	+09	31	19.9		809
1990	DU3		1990	02	26.12674	10	01	25.12	+09	31	20.8		809
1990	DU3		1990	02	27.22500	10	00	14.97	+09	34	49.6		809
1990	DU3		1990	02	27.23750	10	00	14.18	+09	34	51.9		809
1990	DU3		1990	02	27.25000	10	00	13.40	+09	34	54.3		809
1990	DU3		1990	03	01.20937	09	58	10.15	+09	40	59.7		809
1990	DU3		1990	03	01.21979	09	58	09.49	+09	41	01.7		809
1990	DU3		1990	03	01.23021	09	58	08.83	+09	41	03.9		809
1990	DV3	*	1990	02	26.11701	10	05	05.03	+10	02	44.9	16.6	809
1990	DV3		1990	02	26.12188	10	05	04.86	+10	02	52.9		809
1990	DV3		1990	02	26.12674	10	05	04.66	+10	03	00.9		809
1990	DV3		1990	02	27.22500	10	04	20.19	+10	32	58.7		809
1990	DV3		1990	02	27.23750	10	04	19.67	+10	33	19.3		809
1990	DV3		1990	02	27.25000	10	04	19.18	+10	33	39.7		809
1990	DV3		1990	03	01.20937	10	03	02.98	+11	26	32.3		809
1990	DV3		1990	03	01.21979	10	03	02.59	+11	26	49.2		809
1990	DV3		1990	03	01.23021	10	03	02.20	+11	27	05.9		809
1990	DV3		1990	03	05.12326	10	00	41.46	+13	09	29.9		809
1990	DV3		1990	03	05.12674	10	00	41.32	+13	09	35.5		809
1990	DV3		1990	03	05.13021	10	00	41.20	+13	09	40.9		809
1990	DV3		1990	03	07.12240	09	59	35.67	+14	00	16.6		809
1990	DV3		1990	03	07.12934	09	59	35.43	+14	00	27.1		809
1990	DV3		1990	03	07.13628	09	59	35.21	+14	00	37.4		809
1990	DV3		1990	03	07.18889	09	59	33.42	+14	01	55.1		809
1990	DV3		1990	03	07.19583	09	59	33.17	+14	02	05.6		809
1990	DV3		1990	03	07.20277	09	59	32.95	+14	02	16.2		809
1990	DV3		1990	03	15.01077	09	56	12.82	+17	05	07.1		809
1990	DV3		1990	03	15.01424	09	56	12.75	+17	05	11.2		809
1990	DV3		1990	03	15.01771	09	56	12.69	+17	05	15.3		809
1990	DV3		1990	03	16.00591	09	55	54.67	+17	26	22.6		809
1990	DV3		1990	03	16.01077	09	55	54.58	+17	26	28.9		809
1990	DV3		1990	03	16.01563	09	55	54.50	+17	26	35.1		809
1990	DV3		1990	03	17.00555	09	55	38.05	+17	47	19.6		809
1990	DV3		1990	03	17.01111	09	55	37.95	+17	47	26.6		809
1990	DV3		1990	03	17.01666	09	55	37.86	+17	47	33.6		809
1990	DW3	*	1990	02	26.19931	10	22	27.34	+08	47	00.5	17.3	809
1990	DW3		1990	02	26.20903	10	22	26.84	+08	47	03.1		809
1990	DW3		1990	02	26.21875	10	22	26.34	+08	47	05.9		809
1990	DW3		1990	02	27.31181	10	21	31.89	+08	51	57.6		809
1990	DW3		1990	02	27.32431	10	21	31.28	+08	52	01.1		809
1990	DW3		1990	02	27.33681	10	21	30.66	+08	52	04.4		809
1990	DX3	*	1990	02	27.04688	09	40	42.24	+13	51	26.4	17.7	809
1990	DX3		1990	02	27.05938	09	40	41.88	+13	51	29.7		809
1990	DX3		1990	02	27.07153	09	40	41.55	+13	51	32.9		809
1990	DX3		1990	02	28.09167	09	40	11.78	+13	55	58.4		809
1990	DX3		1990	02	28.10452	09	40	11.40	+13	56	01.6		809
1990	DX3		1990	02	28.11736	09	40	11.00	+13	56	04.9		809
1990	DY3	*	1990	02	27.04688	09	41	06.67	+12	52	15.5	17.8	809
1990	DY3		1990	02	27.05938	09	41	05.90	+12	52	17.2		809
1990	DY3		1990	02	27.07153	09	41	05.16	+12	52	18.7		809
1990	DY3		1990	02	28.09167	09	40	02.74	+12	54	37.6		809
1990	DY3		1990	02	28.10452	09	40	01.96	+12	54	39.0		809
1990	DY3		1990	02	28.11736	09	40	01.17	+12	54	40.7		809

1990	DY3		1990	03	01.07396	09	39	03.35	+12	56	42.7		809
1990	DY3		1990	03	01.08437	09	39	02.71	+12	56	44.1		809
1990	DY3		1990	03	01.09479	09	39	02.07	+12	56	45.5		809
1990	DZ3	*	1990	02	27.04688	09	42	30.22	+13	39	01.2	17.7	809
1990	DZ3		1990	02	27.05938	09	42	29.58	+13	39	06.5		809
1990	DZ3		1990	02	27.07153	09	42	28.96	+13	39	11.3		809
1990	DZ3		1990	02	28.09167	09	41	36.94	+13	46	00.6		809
1990	DZ3		1990	02	28.10452	09	41	36.28	+13	46	05.8		809
1990	DZ3		1990	02	28.11736	09	41	35.63	+13	46	10.9		809
1990	DA4	*	1990	02	27.08681	09	36	35.17	+16	36	32.2	17.3	809
1990	DA4		1990	02	27.09930	09	36	34.59	+16	36	35.2		809
1990	DA4		1990	02	27.11250	09	36	34.00	+16	36	38.4		809
1990	DA4		1990	02	28.13264	09	35	48.35	+16	40	46.9		809
1990	DA4		1990	02	28.14514	09	35	47.77	+16	40	49.9		809
1990	DA4		1990	02	28.15764	09	35	47.18	+16	40	53.0		809
1990	DA4		1990	02	28.21389	09	35	44.56	+16	41	06.8		809
1990	DA4		1990	02	28.22639	09	35	44.00	+16	41	09.9		809
1990	DA4		1990	02	28.23889	09	35	43.43	+16	41	12.7		809
1990	DA4		1990	03	01.03993	09	35	08.47	+16	44	21.9		809
1990	DA4		1990	03	01.05035	09	35	08.03	+16	44	24.4		809
1990	DA4		1990	03	01.06076	09	35	07.57	+16	44	26.8		809
1990	DB4	*	1990	02	27.08681	09	36	48.30	+17	32	51.3	17.3	809
1990	DB4		1990	02	27.09930	09	36	47.79	+17	32	54.2		809
1990	DB4		1990	02	27.11250	09	36	47.24	+17	32	57.4		809
1990	DB4		1990	02	28.13264	09	36	04.14	+17	37	05.7		809
1990	DB4		1990	02	28.14514	09	36	03.62	+17	37	08.4		809
1990	DB4		1990	02	28.15764	09	36	03.11	+17	37	11.2		809
1990	DB4		1990	03	01.03993	09	35	27.13	+17	40	39.6		809
1990	DB4		1990	03	01.05035	09	35	26.73	+17	40	42.2		809
1990	DB4		1990	03	01.06076	09	35	26.33	+17	40	44.6		809
1990	DC4	*	1990	02	27.08681	09	40	14.05	+17	11	14.2	17.0	809
1990	DC4		1990	02	27.09930	09	40	13.35	+17	11	16.1		809
1990	DC4		1990	02	27.11250	09	40	12.60	+17	11	18.0		809
1990	DC4		1990	02	28.13264	09	39	14.76	+17	13	40.1		809
1990	DC4		1990	02	28.14514	09	39	14.05	+17	13	41.9		809
1990	DC4		1990	02	28.15764	09	39	13.33	+17	13	43.7		809
1990	DC4		1990	03	01.03993	09	38	24.87	+17	15	39.0		809
1990	DC4		1990	03	01.05035	09	38	24.30	+17	15	40.4		809
1990	DC4		1990	03	01.06076	09	38	23.74	+17	15	41.8		809
1990	DD4	*	1990	02	27.08681	09	40	49.17	+17	43	02.5	17.0	809
1990	DD4		1990	02	27.09930	09	40	48.53	+17	43	02.8		809
1990	DD4		1990	02	27.11250	09	40	47.83	+17	43	03.1		809
1990	DD4		1990	02	28.13264	09	39	55.02	+17	43	27.6		809
1990	DD4		1990	02	28.14514	09	39	54.38	+17	43	27.8		809
1990	DD4		1990	02	28.15764	09	39	53.73	+17	43	28.0		809
1990	DD4		1990	03	01.03993	09	39	08.70	+17	43	49.9		809
1990	DD4		1990	03	01.05035	09	39	08.18	+17	43	50.2		809
1990	DD4		1990	03	01.06076	09	39	07.65	+17	43	50.4		809
1990	DE4	*	1990	02	27.12847	09	55	48.85	+12	06	58.7	17.3	809
1990	DE4		1990	02	27.14097	09	55	48.12	+12	07	02.7		809
1990	DE4		1990	02	27.15347	09	55	47.38	+12	07	07.1		809
1990	DE4		1990	03	01.14201	09	53	50.15	+12	18	02.6		809
1990	DE4		1990	03	01.15243	09	53	49.54	+12	18	05.8		809
1990	DE4		1990	03	01.16285	09	53	48.94	+12	18	09.2		809
1990	DE4		1990	03	02.07813	09	52	56.09	+12	23	06.8		809
1990	DE4		1990	03	02.08854	09	52	55.48	+12	23	10.2		809
1990	DE4		1990	03	02.09896	09	52	54.86	+12	23	13.6		809
1990	DF4	*	1990	02	27.17431	09	55	14.60	+16	38	52.2	17.4	809
1990	DF4		1990	02	27.19305	09	55	13.73	+16	38	56.0		809

1990	DF4		1990	02	27.20556	09	55	13.16	+16	38	58.6	809
1990	DF4		1990	03	01.17465	09	53	42.20	+16	45	47.0	809
1990	DF4		1990	03	01.18507	09	53	41.72	+16	45	49.4	809
1990	DF4		1990	03	01.19549	09	53	41.25	+16	45	51.7	809
1990	DG4	*	1990	02	27.17431	09	56	45.14	+16	34	32.0	17.3 809
1990	DG4		1990	02	27.19305	09	56	44.20	+16	34	36.1	809
1990	DG4		1990	02	27.20556	09	56	43.59	+16	34	38.8	809
1990	DG4		1990	03	01.17465	09	55	07.79	+16	41	45.1	809
1990	DG4		1990	03	01.18507	09	55	07.29	+16	41	47.4	809
1990	DG4		1990	03	01.19549	09	55	06.80	+16	41	49.7	809
1990	DH4	*	1990	02	27.35347	12	20	35.07	-04	31	08.8	17.5 809
1990	DH4		1990	02	27.36597	12	20	34.55	-04	31	08.3	809
1990	DH4		1990	02	27.37847	12	20	34.00	-04	31	07.8	809
1990	DH4		1990	03	01.36285	12	19	11.20	-04	29	58.3	809
1990	DH4		1990	03	01.37326	12	19	10.76	-04	29	57.9	809
1990	DH4		1990	03	01.38368	12	19	10.33	-04	29	57.7	809
1990	DJ4	*	1990	02	27.35347	12	24	15.57	-04	21	07.0	17.3 809
1990	DJ4		1990	02	27.36597	12	24	15.12	-04	21	05.4	809
1990	DJ4		1990	02	27.37847	12	24	14.69	-04	21	03.9	809
1990	DJ4		1990	03	01.36285	12	23	04.61	-04	17	01.7	809
1990	DJ4		1990	03	01.37326	12	23	04.25	-04	17	00.4	809
1990	DJ4		1990	03	01.38368	12	23	03.87	-04	16	59.1	809
1990	DK4	*	1990	02	28.09167	09	44	29.25	+13	14	08.3	17.7 809
1990	DK4		1990	02	28.10452	09	44	28.62	+13	14	12.3	809
1990	DK4		1990	02	28.11736	09	44	28.00	+13	14	16.3	809
1990	DK4		1990	03	01.07396	09	43	42.65	+13	19	19.8	809
1990	DK4		1990	03	01.08437	09	43	42.15	+13	19	23.1	809
1990	DK4		1990	03	01.09479	09	43	41.65	+13	19	26.4	809
1990	DL4	*	1990	02	28.09167	09	45	14.74	+12	55	24.9	17.4 809
1990	DL4		1990	02	28.10452	09	45	14.04	+12	55	28.0	809
1990	DL4		1990	02	28.11736	09	45	13.34	+12	55	30.7	809
1990	DL4		1990	03	01.07396	09	44	20.50	+12	59	19.9	809
1990	DL4		1990	03	01.08437	09	44	19.94	+12	59	22.1	809
1990	DL4		1990	03	01.09479	09	44	19.37	+12	59	24.5	809
1990	DL4		1990	03	02.04479	09	43	27.83	+13	03	04.9	809
1990	DL4		1990	03	02.05521	09	43	27.26	+13	03	07.2	809
1990	DL4		1990	03	02.06562	09	43	26.70	+13	03	09.6	809
1990	DL4		1990	03	04.15451	09	41	36.33	+13	11	00.2	809
1990	DL4		1990	03	04.16493	09	41	35.77	+13	11	02.5	809
1990	DL4		1990	03	04.17535	09	41	35.22	+13	11	04.8	809
1990	DM4	*	1990	02	28.09167	09	45	38.26	+12	29	09.6	17.6 809
1990	DM4		1990	02	28.10452	09	45	37.60	+12	29	13.1	809
1990	DM4		1990	02	28.11736	09	45	36.96	+12	29	16.3	809
1990	DM4		1990	03	01.07396	09	44	48.69	+12	33	47.0	809
1990	DM4		1990	03	01.08437	09	44	48.16	+12	33	49.8	809
1990	DM4		1990	03	01.09479	09	44	47.62	+12	33	52.8	809
1990	DM4		1990	03	02.04479	09	44	00.38	+12	38	13.2	809
1990	DM4		1990	03	02.05521	09	43	59.85	+12	38	16.3	809
1990	DM4		1990	03	02.06562	09	43	59.33	+12	38	19.4	809
1990	DN4	*	1990	02	28.13264	09	32	04.21	+16	33	18.6	17.4 809
1990	DN4		1990	02	28.14514	09	32	03.59	+16	33	18.5	809
1990	DN4		1990	02	28.15764	09	32	02.97	+16	33	18.4	809
1990	DN4		1990	03	01.03993	09	31	18.48	+16	33	11.0	809
1990	DN4		1990	03	01.05035	09	31	17.95	+16	33	10.9	809
1990	DN4		1990	03	01.06076	09	31	17.43	+16	33	10.8	809
1990	DO4	*	1990	02	28.13264	09	33	04.08	+16	08	13.7	17.5 809
1990	DO4		1990	02	28.14514	09	33	03.28	+16	08	12.8	809
1990	DO4		1990	02	28.15764	09	33	02.49	+16	08	11.8	809
1990	DO4		1990	03	01.03993	09	32	07.93	+16	07	03.1	809

1990	DO4		1990	03	01.05035	09	32	07.30	+16	07	02.3		809
1990	DO4		1990	03	01.06076	09	32	06.67	+16	07	01.6		809
1990	DP4	*	1990	02	28.25972	09	45	25.98	+11	20	56.4	17.7	809
1990	DP4		1990	02	28.27222	09	45	25.39	+11	21	01.9		809
1990	DP4		1990	02	28.28472	09	45	24.82	+11	21	07.2		809
1990	DP4		1990	03	01.10799	09	44	45.73	+11	26	59.8		809
1990	DP4		1990	03	01.11840	09	44	45.24	+11	27	04.3		809
1990	DP4		1990	03	01.12882	09	44	44.74	+11	27	08.8		809
1990	DQ4	*	1990	02	28.25972	09	46	11.76	+09	51	29.5	17.0	809
1990	DQ4		1990	02	28.27222	09	46	11.08	+09	51	31.2		809
1990	DQ4		1990	02	28.28472	09	46	10.41	+09	51	33.0		809
1990	DQ4		1990	03	01.10799	09	45	25.91	+09	53	29.5		809
1990	DQ4		1990	03	01.11840	09	45	25.35	+09	53	31.0		809
1990	DQ4		1990	03	01.12882	09	45	24.78	+09	53	32.2		809
1990	DR4	*	1990	02	28.25972	09	46	29.07	+09	43	36.3	16.8	809
1990	DR4		1990	02	28.27222	09	46	28.54	+09	43	41.1		809
1990	DR4		1990	02	28.28472	09	46	28.02	+09	43	46.1		809
1990	DR4		1990	03	01.10799	09	45	54.43	+09	49	13.4		809
1990	DR4		1990	03	01.11840	09	45	53.98	+09	49	17.6		809
1990	DR4		1990	03	01.12882	09	45	53.57	+09	49	21.7		809
1990	DR4		1990	03	17.07396	09	36	41.08	+11	26	28.6		809
1990	DR4		1990	03	17.08021	09	36	40.86	+11	26	30.9		809
1990	DR4		1990	03	17.08646	09	36	40.65	+11	26	32.9		809
1990	DR4		1990	03	19.04826	09	35	49.37	+11	37	00.5		809
1990	DR4		1990	03	19.05972	09	35	49.06	+11	37	04.2		809
1990	DR4		1990	03	19.07118	09	35	48.77	+11	37	07.8		809
1990	DS4	*	1990	02	28.25972	09	47	53.83	+11	28	27.9	17.1	809
1990	DS4		1990	02	28.27222	09	47	53.25	+11	28	31.4		809
1990	DS4		1990	02	28.28472	09	47	52.67	+11	28	34.6		809
1990	DS4		1990	03	01.10799	09	47	14.62	+11	32	18.2		809
1990	DS4		1990	03	01.11840	09	47	14.15	+11	32	21.0		809
1990	DS4		1990	03	01.12882	09	47	13.66	+11	32	24.0		809
1990	DS4		1990	03	01.14201	09	47	12.98	+11	32	28.1		809
1990	DS4		1990	03	01.15243	09	47	12.47	+11	32	30.9		809
1990	DS4		1990	03	01.16285	09	47	11.95	+11	32	33.8		809
1990	DT4	*	1990	02	28.25972	09	48	19.22	+10	32	37.0	17.7	809
1990	DT4		1990	02	28.27222	09	48	18.66	+10	32	42.7		809
1990	DT4		1990	02	28.28472	09	48	18.11	+10	32	48.5		809
1990	DT4		1990	03	01.10799	09	47	41.51	+10	39	19.8		809
1990	DT4		1990	03	01.11840	09	47	41.05	+10	39	24.8		809
1990	DT4		1990	03	01.12882	09	47	40.59	+10	39	29.7		809
1990	DT4		1990	03	01.14201	09	47	40.03	+10	39	35.5		809
1990	DT4		1990	03	01.15243	09	47	39.56	+10	39	40.3		809
1990	DT4		1990	03	01.16285	09	47	39.10	+10	39	45.2		809
1990	DU4	*	1990	02	28.30278	11	35	02.44	+01	00	55.9	17.0	809
1990	DU4		1990	02	28.31528	11	35	01.80	+01	01	00.9		809
1990	DU4		1990	02	28.32778	11	35	01.16	+01	01	06.0		809
1990	DU4		1990	03	01.25660	11	34	13.49	+01	07	30.6		809
1990	DU4		1990	03	01.26701	11	34	12.95	+01	07	34.8		809
1990	DU4		1990	03	01.27743	11	34	12.41	+01	07	38.9		809
1990	DV4	*	1990	02	28.34236	11	31	12.42	+04	24	21.2	17.8	809
1990	DV4		1990	02	28.35486	11	31	11.77	+04	24	25.7		809
1990	DV4		1990	02	28.36736	11	31	11.12	+04	24	30.2		809
1990	DV4		1990	03	01.29340	11	30	23.32	+04	30	10.0		809
1990	DV4		1990	03	01.30382	11	30	22.78	+04	30	13.7		809
1990	DV4		1990	03	01.31424	11	30	22.24	+04	30	17.6		809
1990	DW4	*	1990	02	28.34236	11	32	35.89	+04	50	48.1	17.7	809
1990	DW4		1990	02	28.35486	11	32	35.31	+04	50	52.6		809
1990	DW4		1990	02	28.36736	11	32	34.76	+04	50	56.6		809

1990	DW4		1990	03	01.29340	11	31	53.76	+04	56	02.3	809
1990	DW4		1990	03	01.30382	11	31	53.32	+04	56	05.7	809
1990	DW4		1990	03	01.31424	11	31	52.85	+04	56	09.1	809
1990	DW4		1990	03	02.32743	11	31	07.45	+05	01	43.7	809
1990	DW4		1990	03	02.33785	11	31	07.00	+05	01	47.1	809
1990	DW4		1990	03	02.34826	11	31	06.54	+05	01	50.5	809
1990	DX4	*	1990	02	28.34236	11	32	37.17	+03	58	51.9	17.5 809
1990	DX4		1990	02	28.35486	11	32	36.41	+03	58	54.7	809
1990	DX4		1990	02	28.36736	11	32	35.67	+03	58	57.4	809
1990	DX4		1990	03	01.29340	11	31	39.21	+04	02	24.8	809
1990	DX4		1990	03	01.30382	11	31	38.58	+04	02	27.2	809
1990	DX4		1990	03	01.31424	11	31	37.95	+04	02	29.5	809
1990	DY4	*	1990	02	28.34236	11	37	21.14	+03	50	42.5	17.5 809
1990	DY4		1990	02	28.35486	11	37	20.47	+03	50	45.3	809
1990	DY4		1990	02	28.36736	11	37	19.80	+03	50	48.2	809
1990	DY4		1990	03	01.29340	11	36	29.07	+03	54	18.4	809
1990	DY4		1990	03	01.30382	11	36	28.49	+03	54	20.9	809
1990	DY4		1990	03	01.31424	11	36	27.92	+03	54	23.3	809
1990	DY4		1990	03	02.36076	11	35	29.60	+03	58	25.5	809
1990	DY4		1990	03	02.37118	11	35	29.02	+03	58	28.1	809
1990	DY4		1990	03	02.38160	11	35	28.43	+03	58	30.6	809
1990	EF3		1990	02	28.30278	11	30	22.42	-00	10	02.3	17.2 809
1990	EF3		1990	02	28.31528	11	30	21.68	-00	09	58.3	809
1990	EF3		1990	02	28.32778	11	30	20.94	-00	09	54.8	809
1990	EF3		1990	03	01.25660	11	29	26.38	-00	05	10.9	809
1990	EF3		1990	03	01.26701	11	29	25.77	-00	05	07.7	809
1990	EF3		1990	03	01.27743	11	29	25.16	-00	05	04.7	809
1990	EP3		1990	02	28.30278	11	32	44.28	+00	15	49.6	17.6 809
1990	EP3		1990	02	28.31528	11	32	43.74	+00	15	51.6	809
1990	EP3		1990	02	28.32778	11	32	43.20	+00	15	53.6	809
1990	EP3		1990	03	01.25660	11	32	02.43	+00	18	24.8	809
1990	EP3		1990	03	01.26701	11	32	01.98	+00	18	26.2	809
1990	EP3		1990	03	01.27743	11	32	01.52	+00	18	27.7	809
1990	EQ3		1990	02	28.30278	11	32	54.24	+00	10	12.2	17.4 809
1990	EQ3		1990	02	28.31528	11	32	53.64	+00	10	18.0	809
1990	EQ3		1990	02	28.32778	11	32	53.04	+00	10	23.9	809
1990	EQ3		1990	03	01.25660	11	32	07.75	+00	17	35.5	809
1990	EQ3		1990	03	01.26701	11	32	07.24	+00	17	40.4	809
1990	EQ3		1990	03	01.27743	11	32	06.72	+00	17	45.1	809
1990	EL5	*	1990	03	02.11285	10	28	04.12	+12	02	42.1	17.1 809
1990	EL5		1990	03	02.12326	10	28	03.46	+12	02	44.4	809
1990	EL5		1990	03	02.13368	10	28	02.79	+12	02	46.9	809
1990	EL5		1990	03	03.18229	10	26	56.35	+12	06	29.9	809
1990	EL5		1990	03	03.19271	10	26	55.69	+12	06	32.1	809
1990	EL5		1990	03	03.20312	10	26	55.03	+12	06	34.4	809
1990	EM5	*	1990	03	02.11285	10	30	17.82	+10	27	29.5	17.5 809
1990	EM5		1990	03	02.12326	10	30	17.28	+10	27	31.2	809
1990	EM5		1990	03	02.13368	10	30	16.73	+10	27	33.3	809
1990	EM5		1990	03	03.18229	10	29	21.28	+10	30	42.6	809
1990	EM5		1990	03	03.19271	10	29	20.73	+10	30	44.3	809
1990	EM5		1990	03	03.20312	10	29	20.18	+10	30	46.1	809
1990	EN5	*	1990	03	02.11285	10	30	49.69	+11	38	31.7	17.2 809
1990	EN5		1990	03	02.12326	10	30	49.13	+11	38	35.6	809
1990	EN5		1990	03	02.13368	10	30	48.58	+11	38	39.8	809
1990	EN5		1990	03	03.18229	10	29	51.68	+11	45	22.3	809
1990	EN5		1990	03	03.19271	10	29	51.12	+11	45	26.1	809
1990	EN5		1990	03	03.20312	10	29	50.58	+11	45	30.3	809
1990	EO5	*	1990	03	02.22257	10	42	31.59	+09	38	56.7	17.4 809
1990	EO5		1990	03	02.23299	10	42	31.10	+09	39	00.1	809

1990	EO5		1990	03	02.24340	10	42	30.61	+09	39	03.6	809
1990	EO5		1990	03	04.25590	10	40	52.49	+09	50	23.2	809
1990	EO5		1990	03	04.26632	10	40	51.99	+09	50	27.0	809
1990	EO5		1990	03	04.27674	10	40	51.50	+09	50	30.3	809
1990	EP5	*	1990	03	02.22257	10	43	36.14	+09	55	36.0	17.3 809
1990	EP5		1990	03	02.23299	10	43	35.46	+09	55	38.0	809
1990	EP5		1990	03	02.24340	10	43	34.79	+09	55	40.1	809
1990	EP5		1990	03	04.25590	10	41	24.15	+10	02	59.0	809
1990	EP5		1990	03	04.26632	10	41	23.47	+10	03	01.1	809
1990	EP5		1990	03	04.27674	10	41	22.80	+10	03	02.9	809
1990	EQ5	*	1990	03	02.25521	10	42	32.96	+08	10	51.0	17.7 809
1990	EQ5		1990	03	02.26562	10	42	32.59	+08	10	54.5	809
1990	EQ5		1990	03	02.27604	10	42	32.21	+08	10	57.7	809
1990	EQ5		1990	03	03.32882	10	41	54.03	+08	16	23.4	809
1990	EQ5		1990	03	03.33924	10	41	53.65	+08	16	26.8	809
1990	EQ5		1990	03	03.34965	10	41	53.27	+08	16	30.2	809
1990	EQ5		1990	03	04.28785	10	41	19.38	+08	21	18.3	809
1990	EQ5		1990	03	04.29826	10	41	19.00	+08	21	21.6	809
1990	EQ5		1990	03	04.30868	10	41	18.62	+08	21	24.8	809
1990	ER5	*	1990	03	02.28854	10	44	21.83	+12	25	05.9	17.5 809
1990	ER5		1990	03	02.29896	10	44	21.25	+12	25	10.5	809
1990	ER5		1990	03	02.30938	10	44	20.65	+12	25	15.2	809
1990	ER5		1990	03	03.29618	10	43	24.67	+12	32	53.2	809
1990	ER5		1990	03	03.30660	10	43	24.08	+12	32	58.0	809
1990	ER5		1990	03	03.31701	10	43	23.49	+12	33	02.8	809
1990	ES5	*	1990	03	03.14861	10	38	07.31	+06	49	53.4	17.5 809
1990	ES5		1990	03	03.15833	10	38	06.76	+06	49	56.0	809
1990	ES5		1990	03	03.16806	10	38	06.20	+06	49	58.5	809
1990	ES5		1990	03	05.19861	10	36	11.39	+06	58	55.9	809
1990	ES5		1990	03	05.20695	10	36	10.93	+06	58	58.2	809
1990	ES5		1990	03	05.21528	10	36	10.47	+06	59	00.5	809
1990	ET5	*	1990	03	04.32222	11	06	55.61	+06	01	04.5	17.2 809
1990	ET5		1990	03	04.33055	11	06	55.16	+06	01	07.6	809
1990	ET5		1990	03	04.33889	11	06	54.70	+06	01	10.5	809
1990	ET5		1990	03	06.30903	11	05	04.56	+06	13	37.8	809
1990	ET5		1990	03	06.31736	11	05	04.08	+06	13	40.9	809
1990	ET5		1990	03	06.32569	11	05	03.60	+06	13	44.1	809
1990	EU5	*	1990	03	07.35486	11	23	15.85	+04	30	40.2	17.5 809
1990	EU5		1990	03	07.36181	11	23	15.56	+04	30	42.4	809
1990	EU5		1990	03	07.36875	11	23	15.25	+04	30	44.2	809
1990	EU5		1990	03	08.37257	11	22	30.86	+04	35	53.8	809
1990	EU5		1990	03	08.37917	11	22	30.57	+04	35	55.7	809
1990	EU5		1990	03	08.38576	11	22	30.28	+04	35	57.9	809
1990	EV5	*	1990	03	01.07396	09	46	11.64	+13	24	40.2	17.5 809
1990	EV5		1990	03	01.08437	09	46	11.14	+13	24	45.2	809
1990	EV5		1990	03	01.09479	09	46	10.60	+13	24	50.1	809
1990	EV5		1990	03	02.04479	09	45	23.39	+13	32	25.0	809
1990	EV5		1990	03	02.05521	09	45	22.90	+13	32	29.9	809
1990	EV5		1990	03	02.06562	09	45	22.39	+13	32	34.7	809
1990	EV5		1990	03	04.15451	09	43	41.63	+13	48	54.9	809
1990	EV5		1990	03	04.16493	09	43	41.13	+13	49	00.0	809
1990	EV5		1990	03	04.17535	09	43	40.63	+13	49	05.1	809
1990	EW5	*	1990	03	01.14201	09	48	51.85	+12	35	23.9	16.6 809
1990	EW5		1990	03	01.15243	09	48	51.21	+12	35	25.3	809
1990	EW5		1990	03	01.16285	09	48	50.57	+12	35	26.8	809
1990	EW5		1990	03	02.04479	09	47	57.21	+12	37	50.4	809
1990	EW5		1990	03	02.05521	09	47	56.57	+12	37	52.1	809
1990	EW5		1990	03	02.06562	09	47	55.92	+12	37	53.7	809
1990	EW5		1990	03	03.02847	09	46	58.43	+12	40	25.3	809

1990	EW5		1990	03	03.03680	09	46	57.92	+12	40	26.6		809
1990	EW5		1990	03	03.04514	09	46	57.43	+12	40	28.1		809
1990	EW5		1990	03	04.15451	09	45	52.30	+12	43	17.4		809
1990	EW5		1990	03	04.16493	09	45	51.69	+12	43	18.9		809
1990	EW5		1990	03	04.17535	09	45	51.07	+12	43	20.4		809
1990	EX5	*	1990	03	01.14201	09	49	36.90	+12	30	15.8	16.2	809
1990	EX5		1990	03	01.15243	09	49	36.50	+12	30	20.7		809
1990	EX5		1990	03	01.16285	09	49	36.09	+12	30	25.6		809
1990	EX5		1990	03	02.04479	09	49	01.13	+12	37	11.6		809
1990	EX5		1990	03	02.05521	09	49	00.72	+12	37	16.5		809
1990	EX5		1990	03	02.06562	09	49	00.32	+12	37	21.2		809
1990	EX5		1990	03	03.02847	09	48	22.80	+12	44	40.7		809
1990	EX5		1990	03	03.03680	09	48	22.45	+12	44	44.4		809
1990	EX5		1990	03	03.04514	09	48	22.12	+12	44	48.1		809
1990	EX5		1990	03	04.15451	09	47	39.29	+12	53	09.5		809
1990	EX5		1990	03	04.16493	09	47	38.90	+12	53	14.3		809
1990	EX5		1990	03	04.17535	09	47	38.52	+12	53	19.1		809
1990	EY5	*	1990	03	01.29340	11	34	10.32	+05	23	38.4	17.7	809
1990	EY5		1990	03	01.30382	11	34	09.86	+05	23	41.4		809
1990	EY5		1990	03	01.31424	11	34	09.40	+05	23	44.4		809
1990	EY5		1990	03	02.32743	11	33	25.08	+05	28	31.3		809
1990	EY5		1990	03	02.33785	11	33	24.62	+05	28	34.2		809
1990	EY5		1990	03	02.34826	11	33	24.16	+05	28	37.2		809
1990	EZ5	*	1990	03	01.32743	11	34	58.56	+02	28	04.4	17.2	809
1990	EZ5		1990	03	01.33785	11	34	58.12	+02	28	07.1		809
1990	EZ5		1990	03	01.34826	11	34	57.68	+02	28	10.0		809
1990	EZ5		1990	03	02.36076	11	34	14.52	+02	32	47.1		809
1990	EZ5		1990	03	02.37118	11	34	14.08	+02	32	49.8		809
1990	EZ5		1990	03	02.38160	11	34	13.63	+02	32	52.5		809
1990	EZ5		1990	03	09.36701	11	29	02.65	+03	06	05.8		809
1990	EZ5		1990	03	09.37187	11	29	02.43	+03	06	07.1		809
1990	EZ5		1990	03	09.37674	11	29	02.21	+03	06	08.6		809
1990	EZ5		1990	04	04.24792	11	10	29.67	+05	04	36.9	18.6 4	809
1990	EZ5		1990	04	04.26111	11	10	29.13	+05	04	41.1	4	809
1990	EZ5		1990	04	04.27431	11	10	28.65	+05	04	44.1	4	809
1990	EA6	*	1990	03	01.32743	11	35	31.81	+03	08	28.8	17.7	809
1990	EA6		1990	03	01.33785	11	35	31.35	+03	08	33.5		809
1990	EA6		1990	03	01.34826	11	35	30.90	+03	08	38.1		809
1990	EA6		1990	03	02.36076	11	34	46.66	+03	16	10.2		809
1990	EA6		1990	03	02.37118	11	34	46.19	+03	16	14.9		809
1990	EA6		1990	03	02.38160	11	34	45.74	+03	16	19.4		809
1990	EB6	*	1990	03	02.11285	10	27	07.96	+11	44	49.2	17.5	809
1990	EB6		1990	03	02.12326	10	27	07.50	+11	44	54.9		809
1990	EB6		1990	03	02.13368	10	27	07.02	+11	45	00.5		809
1990	EB6		1990	03	03.18229	10	26	19.71	+11	54	51.3		809
1990	EB6		1990	03	03.19271	10	26	19.24	+11	54	57.1		809
1990	EB6		1990	03	03.20312	10	26	18.77	+11	55	02.9		809
1990	EC6	*	1990	03	02.11285	10	30	21.94	+11	56	04.5	17.0	809
1990	EC6		1990	03	02.12326	10	30	21.39	+11	56	06.2		809
1990	EC6		1990	03	02.13368	10	30	20.84	+11	56	07.8		809
1990	EC6		1990	03	03.18229	10	29	25.51	+11	58	40.9		809
1990	EC6		1990	03	03.19271	10	29	24.98	+11	58	42.3		809
1990	EC6		1990	03	03.20312	10	29	24.45	+11	58	43.8		809
1990	ED6	*	1990	03	02.11285	10	32	27.85	+10	55	58.4	17.3	809
1990	ED6		1990	03	02.12326	10	32	27.32	+10	56	04.4		809
1990	ED6		1990	03	02.13368	10	32	26.81	+10	56	10.5		809
1990	ED6		1990	03	03.18229	10	31	35.65	+11	06	23.8		809
1990	ED6		1990	03	03.19271	10	31	35.16	+11	06	29.5		809
1990	ED6		1990	03	03.20312	10	31	34.66	+11	06	35.4		809

1990	EE6	*	1990	03	02.11285	10	33	00.01	+11	44	36.0	17.6	809
1990	EE6		1990	03	02.12326	10	32	59.41	+11	44	38.5		809
1990	EE6		1990	03	02.13368	10	32	58.79	+11	44	41.4		809
1990	EE6		1990	03	03.18229	10	31	56.94	+11	49	24.0		809
1990	EE6		1990	03	03.19271	10	31	56.33	+11	49	26.8		809
1990	EE6		1990	03	03.20312	10	31	55.72	+11	49	29.5		809
1990	EF6	*	1990	03	02.14548	10	25	08.16	+13	19	23.3	16.6	809
1990	EF6		1990	03	02.15590	10	25	07.46	+13	19	23.6		809
1990	EF6		1990	03	02.16632	10	25	06.75	+13	19	24.2		809
1990	EF6		1990	03	03.08333	10	24	04.48	+13	20	24.5		809
1990	EF6		1990	03	03.09167	10	24	03.92	+13	20	25.1		809
1990	EF6		1990	03	03.10000	10	24	03.35	+13	20	25.6		809
1990	EF6		1990	03	03.22674	10	23	54.50	+13	20	33.1		809
1990	EF6		1990	03	03.23715	10	23	53.79	+13	20	33.9		809
1990	EF6		1990	03	03.24757	10	23	53.10	+13	20	34.7		809
1990	EF6		1990	03	04.18993	10	22	49.87	+13	21	29.8		809
1990	EF6		1990	03	04.20035	10	22	49.16	+13	21	30.4		809
1990	EF6		1990	03	04.21076	10	22	48.46	+13	21	31.0		809
1990	EG6	*	1990	03	02.14548	10	25	53.37	+12	51	17.2	17.4	809
1990	EG6		1990	03	02.15590	10	25	52.90	+12	51	20.1		809
1990	EG6		1990	03	02.16632	10	25	52.42	+12	51	22.9		809
1990	EG6		1990	03	03.22674	10	25	03.89	+12	56	10.1		809
1990	EG6		1990	03	03.23715	10	25	03.42	+12	56	12.9		809
1990	EG6		1990	03	03.24757	10	25	02.95	+12	56	15.8		809
1990	EH6	*	1990	03	02.14548	10	26	12.51	+13	19	41.2	17.5	809
1990	EH6		1990	03	02.15590	10	26	11.83	+13	19	44.0		809
1990	EH6		1990	03	02.16632	10	26	11.16	+13	19	46.6		809
1990	EH6		1990	03	03.22674	10	25	04.15	+13	24	28.4		809
1990	EH6		1990	03	03.23715	10	25	03.48	+13	24	31.3		809
1990	EH6		1990	03	03.24757	10	25	02.83	+13	24	34.0		809
1990	EH6		1990	03	04.18993	10	24	03.66	+13	28	38.4		809
1990	EH6		1990	03	04.20035	10	24	03.00	+13	28	41.0		809
1990	EH6		1990	03	04.21076	10	24	02.34	+13	28	43.6		809
1990	EJ6	*	1990	03	02.14548	10	28	02.25	+12	41	35.4	17.1	809
1990	EJ6		1990	03	02.15590	10	28	01.69	+12	41	38.2		809
1990	EJ6		1990	03	02.16632	10	28	01.14	+12	41	40.9		809
1990	EJ6		1990	03	03.22674	10	27	04.73	+12	46	34.4		809
1990	EJ6		1990	03	03.23715	10	27	04.19	+12	46	37.5		809
1990	EJ6		1990	03	03.24757	10	27	03.63	+12	46	40.5		809
1990	EJ6		1990	03	04.18993	10	26	13.97	+12	50	55.1		809
1990	EJ6		1990	03	04.20035	10	26	13.41	+12	50	57.7		809
1990	EJ6		1990	03	04.21076	10	26	12.86	+12	51	00.6		809
1990	EK6	*	1990	03	02.14548	10	28	08.19	+13	01	49.1	17.0	809
1990	EK6		1990	03	02.15590	10	28	07.63	+13	01	51.6		809
1990	EK6		1990	03	02.16632	10	28	07.09	+13	01	53.9		809
1990	EK6		1990	03	04.18993	10	26	18.12	+13	10	17.4		809
1990	EK6		1990	03	04.20035	10	26	17.55	+13	10	19.8		809
1990	EK6		1990	03	04.21076	10	26	16.98	+13	10	22.6		809
1990	EL6	*	1990	03	02.14548	10	28	54.95	+14	23	11.4	17.3	809
1990	EL6		1990	03	02.15590	10	28	54.32	+14	23	16.1		809
1990	EL6		1990	03	02.16632	10	28	53.69	+14	23	20.4		809
1990	EL6		1990	03	03.22674	10	27	50.61	+14	31	15.4		809
1990	EL6		1990	03	03.23715	10	27	49.98	+14	31	20.1		809
1990	EL6		1990	03	03.24757	10	27	49.36	+14	31	24.9		809
1990	EL6		1990	03	04.18993	10	26	53.64	+14	38	20.4		809
1990	EL6		1990	03	04.20035	10	26	53.05	+14	38	25.0		809
1990	EL6		1990	03	04.21076	10	26	52.44	+14	38	29.6		809
1990	EM6	*	1990	03	02.14548	10	29	10.05	+13	28	43.1	17.2	809
1990	EM6		1990	03	02.15590	10	29	09.49	+13	28	48.3		809

1990	EM6		1990	03	02.16632	10	29	08.92	+13	28	53.5	809
1990	EM6		1990	03	03.22674	10	28	11.10	+13	37	47.8	809
1990	EM6		1990	03	03.23715	10	28	10.52	+13	37	53.2	809
1990	EM6		1990	03	03.24757	10	28	09.95	+13	37	58.4	809
1990	EM6		1990	03	04.18993	10	27	18.95	+13	45	45.3	809
1990	EM6		1990	03	04.20035	10	27	18.40	+13	45	50.5	809
1990	EM6		1990	03	04.21076	10	27	17.85	+13	45	55.6	809
1990	EN6	*	1990	03	02.14548	10	29	11.35	+12	52	43.4	17.5 809
1990	EN6		1990	03	02.15590	10	29	10.84	+12	52	47.8	809
1990	EN6		1990	03	02.16632	10	29	10.34	+12	52	51.8	809
1990	EN6		1990	03	03.22674	10	28	18.65	+13	00	11.6	809
1990	EN6		1990	03	03.23715	10	28	18.16	+13	00	15.9	809
1990	EN6		1990	03	03.24757	10	28	17.65	+13	00	20.2	809
1990	EO6	*	1990	03	02.14548	10	29	26.00	+13	22	58.8	17.3 809
1990	EO6		1990	03	02.15590	10	29	25.38	+13	23	00.1	809
1990	EO6		1990	03	02.16632	10	29	24.76	+13	23	01.3	809
1990	EO6		1990	03	03.22674	10	28	21.98	+13	25	08.5	809
1990	EO6		1990	03	03.23715	10	28	21.38	+13	25	09.8	809
1990	EO6		1990	03	03.24757	10	28	20.78	+13	25	11.0	809
1990	EP6	*	1990	03	02.14548	10	30	31.17	+14	00	14.9	17.2 809
1990	EP6		1990	03	02.15590	10	30	30.56	+14	00	15.2	809
1990	EP6		1990	03	02.16632	10	30	29.93	+14	00	15.5	809
1990	EP6		1990	03	03.22674	10	29	26.93	+14	00	49.4	809
1990	EP6		1990	03	03.23715	10	29	26.30	+14	00	49.7	809
1990	EP6		1990	03	03.24757	10	29	25.69	+14	00	50.1	809
1990	EP6		1990	03	04.18993	10	28	29.99	+14	01	15.6	809
1990	EP6		1990	03	04.20035	10	28	29.40	+14	01	16.0	809
1990	EP6		1990	03	04.21076	10	28	28.79	+14	01	16.3	809
1990	EQ6	*	1990	03	02.14548	10	32	05.92	+13	15	08.2	17.4 809
1990	EQ6		1990	03	02.15590	10	32	05.32	+13	15	12.4	809
1990	EQ6		1990	03	02.16632	10	32	04.71	+13	15	16.7	809
1990	EQ6		1990	03	03.22674	10	31	03.22	+13	22	31.0	809
1990	EQ6		1990	03	03.23715	10	31	02.61	+13	22	35.0	809
1990	EQ6		1990	03	03.24757	10	31	02.01	+13	22	39.1	809
1990	EQ6		1990	03	04.18993	10	30	07.60	+13	28	58.6	809
1990	EQ6		1990	03	04.20035	10	30	06.99	+13	29	02.9	809
1990	EQ6		1990	03	04.21076	10	30	06.38	+13	29	07.1	809
1990	ER6	*	1990	03	02.18160	10	42	21.35	+05	47	57.8	17.1 809
1990	ER6		1990	03	02.19201	10	42	20.68	+05	47	57.5	809
1990	ER6		1990	03	02.20243	10	42	19.98	+05	47	57.2	809
1990	ER6		1990	03	03.11493	10	41	20.73	+05	47	24.6	809
1990	ER6		1990	03	03.12396	10	41	20.12	+05	47	24.3	809
1990	ER6		1990	03	03.13299	10	41	19.54	+05	47	24.1	809
1990	ER6		1990	03	03.26285	10	41	10.73	+05	47	18.8	809
1990	ER6		1990	03	03.27326	10	41	10.05	+05	47	18.4	809
1990	ER6		1990	03	03.28368	10	41	09.38	+05	47	18.1	809
1990	ES6	*	1990	03	02.18160	10	44	45.89	+06	22	19.5	17.4 809
1990	ES6		1990	03	02.19201	10	44	45.39	+06	22	22.7	809
1990	ES6		1990	03	02.20243	10	44	44.88	+06	22	26.0	809
1990	ES6		1990	03	03.26285	10	43	53.79	+06	27	58.0	809
1990	ES6		1990	03	03.27326	10	43	53.29	+06	28	00.9	809
1990	ES6		1990	03	03.28368	10	43	52.80	+06	28	04.2	809
1990	ES6		1990	03	06.27465	10	41	29.72	+06	43	34.8	809
1990	ES6		1990	03	06.28507	10	41	29.22	+06	43	38.2	809
1990	ES6		1990	03	06.29549	10	41	28.71	+06	43	41.4	809
1990	ET6	*	1990	03	02.18160	10	45	01.65	+04	51	28.4	17.5 809
1990	ET6		1990	03	02.19201	10	45	01.06	+04	51	33.0	809
1990	ET6		1990	03	02.20243	10	45	00.48	+04	51	37.5	809
1990	ET6		1990	03	06.27465	10	41	11.68	+05	20	57.6	809

1990	ET6		1990	03	06.28507	10	41	11.09	+05	21	02.1	809
1990	ET6		1990	03	06.29549	10	41	10.51	+05	21	06.5	809
1990	EU6	*	1990	03	02.18160	10	48	15.15	+05	03	05.6	17.7 809
1990	EU6		1990	03	02.19201	10	48	14.52	+05	03	09.3	809
1990	EU6		1990	03	02.20243	10	48	13.89	+05	03	12.8	809
1990	EU6		1990	03	06.27465	10	44	06.31	+05	25	59.7	809
1990	EU6		1990	03	06.28507	10	44	05.67	+05	26	03.5	809
1990	EU6		1990	03	06.29549	10	44	05.04	+05	26	07.2	809
1990	EV6	*	1990	03	02.22257	10	42	36.55	+09	01	57.2	17.2 809
1990	EV6		1990	03	02.23299	10	42	36.07	+09	02	03.0	809
1990	EV6		1990	03	02.24340	10	42	35.55	+09	02	08.5	809
1990	EV6		1990	03	03.32882	10	41	44.43	+09	11	59.3	809
1990	EV6		1990	03	03.33924	10	41	43.93	+09	12	05.3	809
1990	EV6		1990	03	03.34965	10	41	43.43	+09	12	10.9	809
1990	EV6		1990	03	04.28785	10	40	59.63	+09	20	40.6	809
1990	EV6		1990	03	04.29826	10	40	59.14	+09	20	46.4	809
1990	EV6		1990	03	04.30868	10	40	58.66	+09	20	52.2	809
1990	EW6	*	1990	03	02.22257	10	46	26.99	+08	43	11.5	17.0 809
1990	EW6		1990	03	02.23299	10	46	26.33	+08	43	13.1	809
1990	EW6		1990	03	02.24340	10	46	25.68	+08	43	14.7	809
1990	EW6		1990	03	03.32882	10	45	18.36	+08	46	20.2	809
1990	EW6		1990	03	03.33924	10	45	17.71	+08	46	21.8	809
1990	EW6		1990	03	03.34965	10	45	17.06	+08	46	23.4	809
1990	EW6		1990	03	04.28785	10	44	19.61	+08	49	01.0	809
1990	EW6		1990	03	04.29826	10	44	18.99	+08	49	02.3	809
1990	EW6		1990	03	04.30868	10	44	18.35	+08	49	04.1	809
1990	EX6	*	1990	03	02.22257	10	46	34.77	+08	40	34.1	17.3 809
1990	EX6		1990	03	02.23299	10	46	34.14	+08	40	36.1	809
1990	EX6		1990	03	02.24340	10	46	33.51	+08	40	38.1	809
1990	EX6		1990	03	04.28785	10	44	29.57	+08	47	54.1	809
1990	EX6		1990	03	04.29826	10	44	28.94	+08	47	56.7	809
1990	EX6		1990	03	04.30868	10	44	28.31	+08	47	58.9	809
1990	EY6	*	1990	03	02.25521	10	46	02.91	+07	33	56.7	17.2 809
1990	EY6		1990	03	02.26562	10	46	02.34	+07	33	59.3	809
1990	EY6		1990	03	02.27604	10	46	01.77	+07	34	01.9	809
1990	EY6		1990	03	03.32882	10	45	04.85	+07	38	28.6	809
1990	EY6		1990	03	03.33924	10	45	04.28	+07	38	31.2	809
1990	EY6		1990	03	03.34965	10	45	03.73	+07	38	33.9	809
1990	EZ6	*	1990	03	02.28854	10	45	27.40	+11	30	20.4	17.4 809
1990	EZ6		1990	03	02.29896	10	45	26.78	+11	30	23.9	809
1990	EZ6		1990	03	02.30938	10	45	26.17	+11	30	27.3	809
1990	EZ6		1990	03	03.29618	10	44	27.58	+11	35	50.1	809
1990	EZ6		1990	03	03.30660	10	44	26.97	+11	35	53.6	809
1990	EZ6		1990	03	03.31701	10	44	26.35	+11	35	57.0	809
1990	EA7	*	1990	03	02.28854	10	46	50.04	+10	55	50.0	17.0 809
1990	EA7		1990	03	02.29896	10	46	49.40	+10	55	51.3	809
1990	EA7		1990	03	02.30938	10	46	48.76	+10	55	52.8	809
1990	EA7		1990	03	03.29618	10	45	48.08	+10	58	07.4	809
1990	EA7		1990	03	03.30660	10	45	47.41	+10	58	08.6	809
1990	EA7		1990	03	03.31701	10	45	46.77	+10	58	10.0	809
1990	EA7		1990	03	04.25590	10	44	49.26	+11	00	15.5	809
1990	EA7		1990	03	04.26632	10	44	48.63	+11	00	16.9	809
1990	EA7		1990	03	04.27674	10	44	48.00	+11	00	18.2	809
1990	EB7	*	1990	03	02.28854	10	47	22.87	+11	07	29.6	17.2 809
1990	EB7		1990	03	02.29896	10	47	22.21	+11	07	31.0	809
1990	EB7		1990	03	02.30938	10	47	21.55	+11	07	32.6	809
1990	EB7		1990	03	03.29618	10	46	19.88	+11	09	57.9	809
1990	EB7		1990	03	03.30660	10	46	19.23	+11	09	59.0	809
1990	EB7		1990	03	03.31701	10	46	18.58	+11	10	00.5	809

1990	EB7		1990	03	04.25590	10	45	20.29	+11	12	15.4		809
1990	EB7		1990	03	04.26632	10	45	19.63	+11	12	16.9		809
1990	EB7		1990	03	04.27674	10	45	19.00	+11	12	18.3		809
1990	EC7	*	1990	03	02.28854	10	47	31.52	+12	20	38.1	16.9	809
1990	EC7		1990	03	02.29896	10	47	30.84	+12	20	40.3		809
1990	EC7		1990	03	02.30938	10	47	30.16	+12	20	42.3		809
1990	EC7		1990	03	03.29618	10	46	25.32	+12	24	14.5		809
1990	EC7		1990	03	03.30660	10	46	24.65	+12	24	16.8		809
1990	EC7		1990	03	03.31701	10	46	23.96	+12	24	19.0		809
1990	ED7	*	1990	03	02.28854	10	48	08.67	+12	34	15.5	17.6	809
1990	ED7		1990	03	02.29896	10	48	08.06	+12	34	18.7		809
1990	ED7		1990	03	02.30938	10	48	07.45	+12	34	22.0		809
1990	ED7		1990	03	03.29618	10	47	08.99	+12	39	32.8		809
1990	ED7		1990	03	03.30660	10	47	08.35	+12	39	36.1		809
1990	ED7		1990	03	03.31701	10	47	07.71	+12	39	39.5		809
1990	EE7	*	1990	03	03.05695	10	17	15.55	+12	05	40.6	17.6	809
1990	EE7		1990	03	03.06528	10	17	15.24	+12	05	42.2		809
1990	EE7		1990	03	03.07361	10	17	14.93	+12	05	43.8		809
1990	EE7		1990	03	06.24132	10	15	12.28	+12	15	41.4		809
1990	EE7		1990	03	06.25174	10	15	11.86	+12	15	43.4		809
1990	EE7		1990	03	06.26215	10	15	11.45	+12	15	45.3		809
1990	EF7	*	1990	03	03.05695	10	17	51.15	+11	47	18.4	17.4	809
1990	EF7		1990	03	03.06528	10	17	50.79	+11	47	20.6		809
1990	EF7		1990	03	03.07361	10	17	50.41	+11	47	23.0		809
1990	EF7		1990	03	06.24132	10	15	30.92	+12	01	51.0		809
1990	EF7		1990	03	06.25174	10	15	30.47	+12	01	53.7		809
1990	EF7		1990	03	06.26215	10	15	30.00	+12	01	56.6		809
1990	EF7		1990	03	07.28333	10	14	45.91	+12	06	28.8		809
1990	EF7		1990	03	07.29028	10	14	45.64	+12	06	30.6		809
1990	EF7		1990	03	07.29723	10	14	45.33	+12	06	32.4		809
1990	EG7	*	1990	03	03.05695	10	20	24.61	+11	40	23.8	17.3	809
1990	EG7		1990	03	03.06528	10	20	24.22	+11	40	26.0		809
1990	EG7		1990	03	03.07361	10	20	23.82	+11	40	28.2		809
1990	EG7		1990	03	06.24132	10	17	53.99	+11	54	13.2		809
1990	EG7		1990	03	06.25174	10	17	53.48	+11	54	16.0		809
1990	EG7		1990	03	06.26215	10	17	52.98	+11	54	18.7		809
1990	EG7		1990	03	07.28333	10	17	05.80	+11	58	34.3		809
1990	EG7		1990	03	07.29028	10	17	05.46	+11	58	36.0		809
1990	EG7		1990	03	07.29723	10	17	05.14	+11	58	37.7		809
1990	EH7	*	1990	03	03.05695	10	24	01.41	+11	16	51.9	17.5	809
1990	EH7		1990	03	03.06528	10	24	01.04	+11	16	54.3		809
1990	EH7		1990	03	03.07361	10	24	00.65	+11	16	56.9		809
1990	EH7		1990	03	03.18229	10	23	55.31	+11	17	33.0		809
1990	EH7		1990	03	03.19271	10	23	54.83	+11	17	36.2		809
1990	EH7		1990	03	03.20312	10	23	54.33	+11	17	39.6		809
1990	EH7		1990	03	06.24132	10	21	33.65	+11	33	33.9		809
1990	EH7		1990	03	06.25174	10	21	33.16	+11	33	37.1		809
1990	EH7		1990	03	06.26215	10	21	32.68	+11	33	40.3		809
1990	EJ7	*	1990	03	03.08333	10	23	12.74	+13	55	00.6	16.8	809
1990	EJ7		1990	03	03.09167	10	23	12.34	+13	55	02.7		809
1990	EJ7		1990	03	03.10000	10	23	11.94	+13	55	04.9		809
1990	EJ7		1990	03	04.18993	10	22	20.49	+13	59	36.6		809
1990	EJ7		1990	03	04.20035	10	22	19.99	+13	59	39.1		809
1990	EJ7		1990	03	04.21076	10	22	19.49	+13	59	41.8		809
1990	EK7	*	1990	03	03.11493	10	35	52.59	+05	15	23.5	17.6	809
1990	EK7		1990	03	03.12396	10	35	52.32	+05	15	23.3		809
1990	EK7		1990	03	03.13299	10	35	52.04	+05	15	23.2		809
1990	EK7		1990	03	04.22326	10	35	18.29	+05	15	07.3		809
1990	EK7		1990	03	04.23368	10	35	17.99	+05	15	07.2		809

1990	EK7		1990	03	04.24410	10	35	17.67	+05	15	07.1	809
1990	EL7	*	1990	03	03.11493	10	37	44.69	+05	59	55.4	16.0 809
1990	EL7		1990	03	03.12396	10	37	44.09	+05	59	57.2	809
1990	EL7		1990	03	03.13299	10	37	43.49	+05	59	59.1	809
1990	EL7		1990	03	04.22326	10	36	31.83	+06	03	44.0	809
1990	EL7		1990	03	04.23368	10	36	31.14	+06	03	46.1	809
1990	EL7		1990	03	04.24410	10	36	30.45	+06	03	48.3	809
1990	EL7		1990	03	16.05243	10	24	33.63	+06	42	02.8	809
1990	EL7		1990	03	16.05833	10	24	33.28	+06	42	04.3	809
1990	EL7		1990	03	16.06354	10	24	32.97	+06	42	05.7	809
1990	EL7		1990	03	18.13646	10	22	43.63	+06	47	51.3	809
1990	EL7		1990	03	18.14340	10	22	43.24	+06	47	52.7	809
1990	EL7		1990	03	18.15034	10	22	42.85	+06	47	54.1	809
1990	EM7	*	1990	03	03.11493	10	38	04.57	+05	59	24.8	17.2 809
1990	EM7		1990	03	03.12396	10	38	04.09	+05	59	27.4	809
1990	EM7		1990	03	03.13299	10	38	03.62	+05	59	30.1	809
1990	EM7		1990	03	04.22326	10	37	07.30	+06	05	05.8	809
1990	EM7		1990	03	04.23368	10	37	06.79	+06	05	09.1	809
1990	EM7		1990	03	04.24410	10	37	06.27	+06	05	12.3	809
1990	EN7	*	1990	03	03.11493	10	39	40.88	+06	23	05.7	17.3 809
1990	EN7		1990	03	03.12396	10	39	40.44	+06	23	08.5	809
1990	EN7		1990	03	03.13299	10	39	40.01	+06	23	11.3	809
1990	EN7		1990	03	04.22326	10	38	47.48	+06	28	47.7	809
1990	EN7		1990	03	04.23368	10	38	46.97	+06	28	50.6	809
1990	EN7		1990	03	04.24410	10	38	46.46	+06	28	53.7	809
1990	EO7	*	1990	03	03.11493	10	40	06.17	+04	42	48.1	17.4 809
1990	EO7		1990	03	03.12396	10	40	05.70	+04	42	51.9	809
1990	EO7		1990	03	03.13299	10	40	05.24	+04	42	55.8	809
1990	EO7		1990	03	04.22326	10	39	09.16	+04	50	34.4	809
1990	EO7		1990	03	04.23368	10	39	08.62	+04	50	38.6	809
1990	EO7		1990	03	04.24410	10	39	08.11	+04	50	43.0	809
1990	EP7	*	1990	03	03.14861	10	33	35.30	+07	17	18.7	16.8 809
1990	EP7		1990	03	03.15833	10	33	34.73	+07	17	21.8	809
1990	EP7		1990	03	03.16806	10	33	34.16	+07	17	25.0	809
1990	EP7		1990	03	05.19861	10	31	37.68	+07	28	40.0	809
1990	EP7		1990	03	05.20695	10	31	37.21	+07	28	42.6	809
1990	EP7		1990	03	05.21528	10	31	36.75	+07	28	45.2	809
1990	EQ7	*	1990	03	03.14861	10	37	23.25	+07	57	00.9	17.6 809
1990	EQ7		1990	03	03.15833	10	37	22.63	+07	57	03.2	809
1990	EQ7		1990	03	03.16806	10	37	22.01	+07	57	05.6	809
1990	EQ7		1990	03	05.19861	10	35	10.25	+08	04	54.7	809
1990	EQ7		1990	03	05.20695	10	35	09.71	+08	04	56.8	809
1990	EQ7		1990	03	05.21528	10	35	09.18	+08	04	58.7	809
1990	ER7	*	1990	03	03.14861	10	38	14.69	+07	14	42.1	809
1990	ER7		1990	03	03.15833	10	38	14.12	+07	14	46.8	809
1990	ER7		1990	03	03.16806	10	38	13.52	+07	14	51.6	809
1990	ER7		1990	03	05.19861	10	36	11.36	+07	30	52.4	809
1990	ER7		1990	03	05.20695	10	36	10.87	+07	30	56.2	809
1990	ER7		1990	03	05.21528	10	36	10.36	+07	31	00.2	809
1990	ES7	*	1990	03	03.14861	10	38	19.51	+06	57	20.2	17.8 809
1990	ES7		1990	03	03.15833	10	38	19.22	+06	57	21.7	809
1990	ES7		1990	03	03.16806	10	38	18.91	+06	57	23.2	809
1990	ES7		1990	03	05.19861	10	37	13.76	+07	02	32.3	809
1990	ES7		1990	03	05.20695	10	37	13.50	+07	02	33.6	809
1990	ES7		1990	03	05.21528	10	37	13.24	+07	02	34.9	809
1990	ET7	*	1990	03	03.14861	10	38	52.43	+07	31	35.6	17.7 809
1990	ET7		1990	03	03.15833	10	38	51.95	+07	31	41.1	809
1990	ET7		1990	03	03.16806	10	38	51.48	+07	31	46.9	809
1990	ET7		1990	03	05.19861	10	37	11.62	+07	51	26.0	809

1990	ET7		1990	03	05.20695	10	37	11.22	+07	51	30.6		809
1990	ET7		1990	03	05.21528	10	37	10.82	+07	51	35.2		809
1990	EU7	*	1990	03	03.14861	10	39	12.41	+07	06	04.4	17.3	809
1990	EU7		1990	03	03.15833	10	39	11.84	+07	06	07.1		809
1990	EU7		1990	03	03.16806	10	39	11.25	+07	06	09.8		809
1990	EU7		1990	03	05.19861	10	37	14.87	+07	16	32.0		809
1990	EU7		1990	03	05.20695	10	37	14.39	+07	16	34.5		809
1990	EU7		1990	03	05.21528	10	37	13.91	+07	16	37.1		809
1990	EV7	*	1990	03	03.14861	10	40	11.30	+08	09	47.7	17.8	809
1990	EV7		1990	03	03.15833	10	40	10.81	+08	09	52.0		809
1990	EV7		1990	03	03.16806	10	40	10.32	+08	09	56.2		809
1990	EV7		1990	03	05.19861	10	38	29.58	+08	24	31.8		809
1990	EV7		1990	03	05.20695	10	38	29.17	+08	24	35.5		809
1990	EV7		1990	03	05.21528	10	38	28.74	+08	24	39.2		809
1990	EW7	*	1990	03	03.26285	10	48	47.90	+05	45	30.2	17.1	809
1990	EW7		1990	03	03.27326	10	48	47.29	+05	45	32.9		809
1990	EW7		1990	03	03.28368	10	48	46.68	+05	45	35.5		809
1990	EW7		1990	03	06.27465	10	45	49.14	+05	58	48.1		809
1990	EW7		1990	03	06.28507	10	45	48.52	+05	58	51.2		809
1990	EW7		1990	03	06.29549	10	45	47.90	+05	58	54.0		809
1990	EW7		1990	03	06.30695	10	44	47.90	+06	03	20.2		809
1990	EW7		1990	03	06.31389	10	44	47.49	+06	03	22.0		809
1990	EW7		1990	03	06.32083	10	44	47.07	+06	03	23.8		809
1990	EX7	*	1990	03	03.36493	11	36	55.17	+07	32	50.6	17.7	809
1990	EX7		1990	03	03.37535	11	36	54.66	+07	32	53.6		809
1990	EX7		1990	03	03.38576	11	36	54.14	+07	32	56.7		809
1990	EX7		1990	03	08.35035	11	32	47.74	+07	58	19.9		809
1990	EX7		1990	03	08.35660	11	32	47.45	+07	58	21.8		809
1990	EX7		1990	03	08.36285	11	32	47.15	+07	58	23.7		809
1990	EY7	*	1990	03	04.32222	11	05	47.27	+05	55	02.2	17.0	809
1990	EY7		1990	03	04.33055	11	05	46.88	+05	55	03.9		809
1990	EY7		1990	03	04.33889	11	05	46.47	+05	55	05.5		809
1990	EY7		1990	03	06.30903	11	04	10.97	+06	01	42.6		809
1990	EY7		1990	03	06.31736	11	04	10.57	+06	01	44.1		809
1990	EY7		1990	03	06.32569	11	04	10.15	+06	01	45.8		809
1990	EZ7	*	1990	03	04.32222	11	08	28.84	+05	24	21.9	17.7	809
1990	EZ7		1990	03	04.33055	11	08	28.39	+05	24	25.7		809
1990	EZ7		1990	03	04.33889	11	08	27.94	+05	24	29.7		809
1990	EZ7		1990	03	06.30903	11	06	41.50	+05	39	33.0		809
1990	EZ7		1990	03	06.31736	11	06	41.03	+05	39	36.4		809
1990	EZ7		1990	03	06.32569	11	06	40.60	+05	39	40.3		809
1990	EA8	*	1990	03	04.32222	11	09	36.41	+05	55	52.5	17.2	809
1990	EA8		1990	03	04.33055	11	09	35.91	+05	55	53.7		809
1990	EA8		1990	03	04.33889	11	09	35.44	+05	55	54.8		809
1990	EA8		1990	03	06.30903	11	07	37.90	+06	00	28.8		809
1990	EA8		1990	03	06.31736	11	07	37.41	+06	00	29.9		809
1990	EA8		1990	03	06.32569	11	07	36.92	+06	00	31.0		809
1990	EB8	*	1990	03	04.32222	11	10	39.30	+06	15	44.5	17.5	809
1990	EB8		1990	03	04.33055	11	10	38.80	+06	15	48.2		809
1990	EB8		1990	03	04.33889	11	10	38.28	+06	15	51.9		809
1990	EB8		1990	03	06.30903	11	08	39.64	+06	30	15.8		809
1990	EB8		1990	03	06.31736	11	08	39.14	+06	30	19.2		809
1990	EB8		1990	03	06.32569	11	08	38.62	+06	30	22.8		809
1990	EC8	*	1990	03	04.32222	11	11	29.40	+05	47	03.5	17.3	809
1990	EC8		1990	03	04.33055	11	11	29.00	+05	47	05.8		809
1990	EC8		1990	03	04.33889	11	11	28.59	+05	47	08.2		809
1990	EC8		1990	03	06.30903	11	09	56.99	+05	56	20.9		809
1990	EC8		1990	03	06.31736	11	09	56.60	+05	56	23.0		809
1990	EC8		1990	03	06.32569	11	09	56.22	+05	56	25.0		809

1990	ED8	*	1990	03	04.32222	11	13	11.55	+06	26	58.7	16.5	809
1990	ED8		1990	03	04.33055	11	13	11.02	+06	27	00.7		809
1990	ED8		1990	03	04.33889	11	13	10.53	+06	27	02.7		809
1990	ED8		1990	03	06.30903	11	11	11.69	+06	34	48.7		809
1990	ED8		1990	03	06.31736	11	11	11.19	+06	34	50.7		809
1990	ED8		1990	03	06.32569	11	11	10.67	+06	34	52.7		809
1990	ED8		1990	03	08.18906	11	09	17.35	+06	42	12.7		809
1990	ED8		1990	03	08.19757	11	09	16.84	+06	42	14.8		809
1990	ED8		1990	03	08.20608	11	09	16.33	+06	42	16.9		809
1990	ED8		1990	03	09.11459	11	08	20.87	+06	45	50.1		809
1990	ED8		1990	03	09.12361	11	08	20.32	+06	45	52.2		809
1990	ED8		1990	03	09.13264	11	08	19.78	+06	45	54.3		809
1990	EE8	*	1990	03	04.35382	11	41	52.18	-01	40	30.8	17.3	809
1990	EE8		1990	03	04.36424	11	41	51.56	-01	40	29.1		809
1990	EE8		1990	03	04.37465	11	41	50.94	-01	40	27.3		809
1990	EE8		1990	03	06.33715	11	39	54.92	-01	35	01.3		809
1990	EE8		1990	03	06.34757	11	39	54.29	-01	34	59.7		809
1990	EE8		1990	03	06.35799	11	39	53.67	-01	34	58.0		809
1990	EF8	*	1990	03	04.35382	11	44	20.09	-01	11	54.4	17.7	809
1990	EF8		1990	03	04.36424	11	44	19.69	-01	11	52.2		809
1990	EF8		1990	03	04.37465	11	44	19.28	-01	11	50.2		809
1990	EF8		1990	03	06.33715	11	43	04.75	-01	05	18.8		809
1990	EF8		1990	03	06.34757	11	43	04.35	-01	05	16.8		809
1990	EF8		1990	03	06.35799	11	43	03.96	-01	05	14.5		809
1990	EG8	*	1990	03	05.22778	11	08	48.46	+03	55	12.6	17.6	809
1990	EG8		1990	03	05.23611	11	08	47.91	+03	55	13.7		809
1990	EG8		1990	03	05.24445	11	08	47.36	+03	55	14.8		809
1990	EG8		1990	03	07.33125	11	06	31.72	+03	59	06.1		809
1990	EG8		1990	03	07.33820	11	06	31.27	+03	59	06.8		809
1990	EG8		1990	03	07.34514	11	06	30.82	+03	59	07.3		809
1990	EH8	*	1990	03	05.22778	11	11	37.72	+04	23	30.7	17.8	809
1990	EH8		1990	03	05.23611	11	11	37.13	+04	23	32.8		809
1990	EH8		1990	03	05.24445	11	11	36.54	+04	23	34.8		809
1990	EH8		1990	03	07.33125	11	09	09.50	+04	31	47.7		809
1990	EH8		1990	03	07.33820	11	09	09.01	+04	31	49.1		809
1990	EH8		1990	03	07.34514	11	09	08.51	+04	31	50.6		809
1990	EJ8	*	1990	03	05.25417	11	22	16.28	+04	12	42.8	17.4	809
1990	EJ8		1990	03	05.26250	11	22	15.79	+04	12	45.2		809
1990	EJ8		1990	03	05.27084	11	22	15.30	+04	12	47.6		809
1990	EJ8		1990	03	07.35486	11	20	17.56	+04	22	35.8		809
1990	EJ8		1990	03	07.36181	11	20	17.17	+04	22	37.8		809
1990	EJ8		1990	03	07.36875	11	20	16.78	+04	22	39.8		809
1990	EJ8		1990	03	08.37257	11	19	19.90	+04	27	23.5		809
1990	EJ8		1990	03	08.37917	11	19	19.52	+04	27	25.2		809
1990	EJ8		1990	03	08.38576	11	19	19.17	+04	27	27.0		809
1990	EK8	*	1990	03	05.28611	11	53	25.23	+00	33	51.2	17.3	809
1990	EK8		1990	03	05.29444	11	53	24.82	+00	33	52.2		809
1990	EK8		1990	03	05.30278	11	53	24.42	+00	33	53.4		809
1990	EK8		1990	03	06.37083	11	52	32.15	+00	36	06.7		809
1990	EK8		1990	03	06.37917	11	52	31.75	+00	36	07.7		809
1990	EK8		1990	03	06.38750	11	52	31.33	+00	36	09.1		809
1990	EL8	*	1990	03	05.28611	11	54	27.90	+00	30	08.3	17.1	809
1990	EL8		1990	03	05.29444	11	54	27.45	+00	30	10.2		809
1990	EL8		1990	03	05.30278	11	54	27.00	+00	30	12.4		809
1990	EL8		1990	03	06.37083	11	53	29.05	+00	34	12.2		809
1990	EL8		1990	03	06.37917	11	53	28.59	+00	34	13.9		809
1990	EL8		1990	03	06.38750	11	53	28.14	+00	34	15.6		809
1990	EM8	*	1990	03	05.28611	11	56	29.47	-00	34	40.4	17.4	809
1990	EM8		1990	03	05.29444	11	56	29.02	-00	34	38.3		809

1990	EM8		1990	03	05.30278	11	56	28.57	-00	34	35.8		809
1990	EM8		1990	03	06.37083	11	55	30.72	-00	29	30.6		809
1990	EM8		1990	03	06.37917	11	55	30.27	-00	29	28.4		809
1990	EM8		1990	03	06.38750	11	55	29.82	-00	29	25.9		809
1990	EN8	*	1990	03	05.28611	11	57	43.25	-00	25	40.6	17.6	809
1990	EN8		1990	03	05.29444	11	57	42.90	-00	25	37.9		809
1990	EN8		1990	03	05.30278	11	57	42.54	-00	25	35.6		809
1990	EN8		1990	03	06.37083	11	56	56.51	-00	20	01.4		809
1990	EN8		1990	03	06.37917	11	56	56.14	-00	19	58.8		809
1990	EN8		1990	03	06.38750	11	56	55.76	-00	19	56.2		809
1990	EO8	*	1990	03	07.35486	11	21	59.67	+04	19	32.5	16.5	809
1990	EO8		1990	03	07.36181	11	21	59.26	+04	19	33.2		809
1990	EO8		1990	03	07.36875	11	21	58.87	+04	19	34.0		809
1990	EO8		1990	03	08.37257	11	21	00.02	+04	21	03.9		809
1990	EO8		1990	03	08.37917	11	20	59.62	+04	21	04.0		809
1990	EO8		1990	03	08.38576	11	20	59.24	+04	21	04.2		809
1990	EO8		1990	03	09.14792	11	20	14.83	+04	22	14.1		809
1990	EO8		1990	03	09.15625	11	20	14.34	+04	22	14.9		809
1990	EO8		1990	03	09.16458	11	20	13.85	+04	22	15.6		809
1990	EO8		1990	03	16.08125	11	13	29.00	+04	32	16.1		809
1990	EO8		1990	03	16.08542	11	13	28.75	+04	32	16.5		809
1990	EO8		1990	03	16.09583	11	13	28.12	+04	32	17.2		809
1990	EO8		1990	03	18.20416	11	11	27.03	+04	35	06.5		809
1990	EO8		1990	03	18.21111	11	11	26.64	+04	35	07.1		809
1990	EO8		1990	03	18.21806	11	11	26.25	+04	35	07.6		809
1990	EO8		1990	03	19.25381	11	10	27.40	+04	36	26.4		809
1990	EO8		1990	03	19.26041	11	10	27.03	+04	36	26.9		809
1990	EO8		1990	03	19.26701	11	10	26.64	+04	36	27.2		809
1990	EP8	*	1990	03	07.35486	11	22	59.78	+04	42	26.1	17.3	809
1990	EP8		1990	03	07.36181	11	22	59.41	+04	42	28.1		809
1990	EP8		1990	03	07.36875	11	22	59.05	+04	42	30.3		809
1990	EP8		1990	03	08.37257	11	22	06.34	+04	47	33.7		809
1990	EP8		1990	03	08.37917	11	22	06.02	+04	47	35.8		809
1990	EP8		1990	03	08.38576	11	22	05.66	+04	47	37.8		809
1990	FS		1990	02	24.30069	10	57	49.81	+07	15	20.2	16.6	809
1990	FS		1990	02	24.31319	10	57	49.12	+07	15	27.0		809
1990	FS		1990	02	25.29583	10	56	54.94	+07	24	21.2		809
1990	FS		1990	02	25.30833	10	56	54.23	+07	24	28.1		809
1990	FS		1990	02	25.32083	10	56	53.55	+07	24	35.2		809
1990	FS		1990	02	26.23333	10	56	02.81	+07	32	56.1		809
1990	FS		1990	02	26.24306	10	56	02.27	+07	33	01.4		809
1990	FS		1990	02	26.25278	10	56	01.73	+07	33	06.8		809
1990	FS		1990	03	15.02639	10	40	02.83	+10	06	16.9	16.0	809
1990	FS		1990	03	15.03194	10	40	02.54	+10	06	19.8		809
1990	FS		1990	03	15.03750	10	40	02.23	+10	06	22.8		809
1990	FS		1990	03	16.02743	10	39	08.46	+10	14	52.6		809
1990	FS		1990	03	16.03368	10	39	08.12	+10	14	56.0		809
1990	FS		1990	03	16.03993	10	39	07.77	+10	14	59.0		809
1990	FS		1990	03	17.02622	10	38	15.03	+10	23	18.8		809
1990	FS		1990	03	17.03281	10	38	14.68	+10	23	22.4		809
1990	FS		1990	03	17.03941	10	38	14.33	+10	23	26.2		809
1990	FS		1990	03	19.12952	10	36	25.49	+10	40	39.6		809
1990	FS		1990	03	19.13646	10	36	25.13	+10	40	43.3		809
1990	FS		1990	03	19.14340	10	36	24.76	+10	40	47.0		809
1990	FT		1990	02	24.37431	12	24	41.12	-05	29	12.0	17.1	809
1990	FT		1990	02	24.38403	12	24	40.72	-05	29	12.9		809
1990	FT		1990	02	24.39375	12	24	40.35	-05	29	13.8		809
1990	FT		1990	02	26.30069	12	23	27.29	-05	32	14.3		809
1990	FT		1990	02	26.31042	12	23	26.92	-05	32	15.3		809

1990	FT		1990	02	26.32014	12	23	26.53	-05	32	16.2		809
1990	FD3	*	1990	03	16.02743	10	40	48.78	+10	34	19.7	17.4	809
1990	FD3		1990	03	16.03368	10	40	48.56	+10	34	22.8		809
1990	FD3		1990	03	16.03993	10	40	48.31	+10	34	25.9		809
1990	FD3		1990	03	17.02622	10	40	11.22	+10	42	14.0		809
1990	FD3		1990	03	17.03281	10	40	10.99	+10	42	16.8		809
1990	FD3		1990	03	17.03941	10	40	10.76	+10	42	19.6		809
1990	FE3	*	1990	03	18.11215	10	10	06.47	+14	32	35.3	16.4	809
1990	FE3		1990	03	18.11840	10	10	06.19	+14	32	34.4		809
1990	FE3		1990	03	18.12465	10	10	05.91	+14	32	33.5		809
1990	FE3		1990	03	19.18715	10	09	19.26	+14	30	25.4		809
1990	FE3		1990	03	19.19341	10	09	18.99	+14	30	24.6		809
1990	FE3		1990	03	19.19965	10	09	18.71	+14	30	23.9		809
1990	FF3	*	1990	03	18.11215	10	12	36.61	+14	46	44.4	16.7	809
1990	FF3		1990	03	18.11840	10	12	36.29	+14	46	45.6		809
1990	FF3		1990	03	18.12465	10	12	35.97	+14	46	46.9		809
1990	FF3		1990	03	19.18715	10	11	41.15	+14	50	14.1		809
1990	FF3		1990	03	19.19341	10	11	40.81	+14	50	15.4		809
1990	FF3		1990	03	19.19965	10	11	40.48	+14	50	16.6		809
1990	GE		1990	02	28.34236	11	35	27.58	+05	12	07.8	17.2	809
1990	GE		1990	02	28.35486	11	35	26.88	+05	12	08.0		809
1990	GE		1990	02	28.36736	11	35	26.17	+05	12	08.6		809
1990	GE		1990	03	01.29340	11	34	34.32	+05	12	56.2		809
1990	GE		1990	03	01.30382	11	34	33.74	+05	12	56.9		809
1990	GE		1990	03	01.31424	11	34	33.16	+05	12	57.2		809
1990	GE		1990	03	02.32743	11	33	35.16	+05	13	50.7		809
1990	GE		1990	03	02.33785	11	33	34.56	+05	13	51.2		809
1990	GE		1990	03	02.34826	11	33	33.96	+05	13	51.4		809
1990	GN		1990	03	02.36076	11	38	32.68	+02	56	37.0	17.4	809
1990	GN		1990	03	02.37118	11	38	32.14	+02	56	38.8		809
1990	GN		1990	03	02.38160	11	38	31.59	+02	56	40.4		809
76			1990	02	25.33403	12	02	41.97	-01	56	27.8		809
76			1990	02	25.34375	12	02	41.67	-01	56	26.2		809
76			1990	02	25.35347	12	02	41.37	-01	56	24.7		809
124			1990	02	24.24931	10	11	33.92	+08	17	48.0		809
124			1990	02	24.26181	10	11	33.27	+08	17	52.3		809
124			1990	02	24.27431	10	11	32.62	+08	17	56.8		809
134			1990	03	02.11285	10	32	06.30	+12	16	37.1		809
134			1990	03	02.12326	10	32	05.67	+12	16	37.7		809
134			1990	03	02.13368	10	32	05.00	+12	16	38.3		809
134			1990	03	03.18229	10	30	57.89	+12	17	28.0		809
134			1990	03	03.19271	10	30	57.20	+12	17	28.5		809
134			1990	03	03.20312	10	30	56.56	+12	17	29.0		809
167			1990	03	02.25521	10	48	43.98	+07	14	14.9		809
167			1990	03	02.26562	10	48	43.46	+07	14	18.5		809
167			1990	03	02.27604	10	48	42.96	+07	14	21.8		809
167			1990	03	04.28785	10	47	05.87	+07	25	40.3		809
167			1990	03	04.29826	10	47	05.37	+07	25	43.8		809
167			1990	03	04.30868	10	47	04.89	+07	25	47.3		809
177			1990	02	24.34444	12	25	01.48	-03	04	57.1		809
177			1990	02	24.35416	12	25	01.16	-03	04	55.1		809
177			1990	02	24.36389	12	25	00.84	-03	04	53.2		809
177			1990	02	26.26875	12	23	53.35	-02	58	20.7		809
177			1990	02	26.27847	12	23	53.01	-02	58	19.0		809
177			1990	02	26.28819	12	23	52.67	-02	58	17.0		809
177			1990	02	27.35347	12	23	13.20	-02	54	28.4		809
177			1990	02	27.36597	12	23	12.79	-02	54	25.6		809
177			1990	02	27.37847	12	23	12.38	-02	54	22.8		809
177			1990	03	01.36285	12	21	56.40	-02	46	57.4		809

177	1990	03	01.37326	12	21	55.96	-02	46	55.1	809
177	1990	03	01.38368	12	21	55.53	-02	46	52.5	809
215	1990	03	04.32222	11	13	52.50	+06	43	37.7	809
215	1990	03	04.33055	11	13	52.06	+06	43	40.1	809
215	1990	03	04.33889	11	13	51.64	+06	43	42.5	809
215	1990	03	08.18906	11	10	37.06	+07	02	32.3	809
215	1990	03	08.19757	11	10	36.61	+07	02	34.9	809
215	1990	03	08.20608	11	10	36.17	+07	02	37.5	809
215	1990	03	09.11459	11	09	50.18	+07	07	01.1	809
215	1990	03	09.12361	11	09	49.73	+07	07	03.4	809
215	1990	03	09.13264	11	09	49.27	+07	07	06.2	809
217	1990	02	25.04445	09	33	44.90	+10	10	08.9	809
217	1990	02	25.05695	09	33	44.36	+10	10	13.0	809
217	1990	02	25.07014	09	33	43.79	+10	10	17.5	809
217	1990	02	28.05209	09	31	34.59	+10	27	03.7	809
217	1990	02	28.06458	09	31	34.10	+10	27	08.0	809
217	1990	02	28.07708	09	31	33.62	+10	27	11.9	809
231	1990	02	27.08681	09	43	07.98	+16	48	27.9	809
231	1990	02	27.09930	09	43	07.31	+16	48	30.1	809
231	1990	02	27.11250	09	43	06.65	+16	48	32.1	809
231	1990	02	28.21389	09	42	10.14	+16	51	19.3	809
231	1990	02	28.22639	09	42	09.56	+16	51	21.2	809
231	1990	02	28.23889	09	42	08.97	+16	51	23.2	809
257	1990	03	09.38438	12	16	51.99	+01	29	00.6	809
257	1990	03	09.38924	12	16	51.80	+01	29	01.8	809
257	1990	03	09.39410	12	16	51.60	+01	29	02.9	809
340	1990	03	09.38438	12	15	27.61	+02	08	03.7	809
340	1990	03	09.38924	12	15	27.37	+02	08	04.5	809
340	1990	03	09.39410	12	15	27.14	+02	08	05.3	809
375	1990	02	24.20903	10	12	19.08	+13	01	30.1	809
375	1990	02	24.22153	10	12	18.40	+13	01	31.1	809
375	1990	02	24.23403	10	12	17.76	+13	01	31.7	809
375	1990	02	25.21111	10	11	26.32	+13	02	44.4	809
375	1990	02	25.22361	10	11	25.68	+13	02	45.5	809
375	1990	02	25.23611	10	11	24.99	+13	02	46.2	809
375	1990	02	26.16806	10	10	36.03	+13	03	52.8	809
375	1990	02	26.17778	10	10	35.52	+13	03	53.4	809
375	1990	02	26.18750	10	10	35.01	+13	03	54.2	809
375	1990	02	27.27153	10	09	38.14	+13	05	08.7	809
375	1990	02	27.28403	10	09	37.47	+13	05	09.5	809
375	1990	02	27.29653	10	09	36.81	+13	05	10.4	809
385	1990	03	02.22257	10	42	39.40	+10	32	44.2	809
385	1990	03	02.23299	10	42	38.77	+10	32	43.8	809
385	1990	03	02.24340	10	42	38.14	+10	32	43.8	809
385	1990	03	02.28854	10	42	35.18	+10	32	42.2	809
385	1990	03	02.29896	10	42	34.55	+10	32	41.7	809
385	1990	03	02.30938	10	42	33.91	+10	32	41.4	809
385	1990	03	04.25590	10	40	33.45	+10	31	53.7	809
385	1990	03	04.26632	10	40	32.81	+10	31	53.5	809
385	1990	03	04.27674	10	40	32.15	+10	31	53.3	809
462	1990	02	27.17431	09	54	46.16	+16	09	57.2	809
462	1990	02	27.19305	09	54	45.24	+16	10	02.4	809
462	1990	02	27.20556	09	54	44.63	+16	10	05.7	809
462	1990	03	01.17465	09	53	11.20	+16	18	49.6	809
462	1990	03	01.18507	09	53	10.75	+16	18	52.3	809
462	1990	03	01.19549	09	53	10.27	+16	18	55.1	809
495	1990	02	24.03958	09	38	45.23	+11	39	09.8	809
495	1990	02	24.05209	09	38	44.58	+11	39	14.0	809
495	1990	02	24.06458	09	38	43.91	+11	39	18.3	809

495	1990	02	25.04445	09	37	51.97	+11	44	39.0	809
495	1990	02	25.05695	09	37	51.29	+11	44	42.7	809
495	1990	02	25.07014	09	37	50.59	+11	44	47.1	809
495	1990	02	26.08333	09	36	57.75	+11	50	15.2	809
495	1990	02	26.09306	09	36	57.23	+11	50	18.5	809
495	1990	02	26.10278	09	36	56.70	+11	50	21.6	809
495	1990	02	28.05209	09	35	17.41	+12	00	38.8	809
495	1990	02	28.06458	09	35	16.86	+12	00	42.7	809
495	1990	02	28.07708	09	35	16.32	+12	00	46.1	809
495	1990	02	28.17431	09	35	11.07	+12	01	18.9	809
495	1990	02	28.18681	09	35	10.52	+12	01	22.5	809
495	1990	02	28.19931	09	35	09.97	+12	01	26.3	809
592	1990	03	07.33125	11	03	54.84	+05	15	34.4	809
592	1990	03	07.33820	11	03	54.55	+05	15	37.7	809
592	1990	03	07.34514	11	03	54.25	+05	15	41.2	809
659	1990	02	24.16666	09	59	56.53	+14	24	56.2	809
659	1990	02	24.17917	09	59	56.16	+14	24	57.5	809
659	1990	02	24.19167	09	59	55.78	+14	24	58.9	809
659	1990	02	25.17014	09	59	26.87	+14	27	07.8	809
659	1990	02	25.18264	09	59	26.51	+14	27	09.5	809
659	1990	02	25.19514	09	59	26.16	+14	27	11.3	809
669	1990	03	05.28611	11	58	32.73	+01	19	57.6	809
669	1990	03	05.29444	11	58	32.42	+01	20	01.1	809
669	1990	03	05.30278	11	58	32.13	+01	20	04.9	809
908	1990	03	14.17535	15	12	34.44	-01	04	30.1	809
908	1990	03	14.25868	15	12	34.28	-01	04	14.1	809
908	1990	03	14.34201	15	12	34.12	-01	03	58.3	809
908	1990	03	15.17535	15	12	32.47	-01	01	18.3	809
908	1990	03	15.25868	15	12	32.34	-01	01	02.5	809
908	1990	03	15.34201	15	12	32.21	-01	00	46.8	809
908	1990	03	16.25833	15	12	28.44	-00	57	50.1	809
908	1990	03	16.30000	15	12	28.29	-00	57	42.0	809
908	1990	03	16.34167	15	12	28.13	-00	57	33.9	809
908	1990	03	17.25868	15	12	22.87	-00	54	33.9	809
908	1990	03	17.30035	15	12	22.64	-00	54	25.6	809
908	1990	03	17.34201	15	12	22.41	-00	54	17.7	809
908	1990	03	18.24479	15	12	15.54	-00	51	16.3	809
908	1990	03	18.28646	15	12	15.24	-00	51	08.0	809
908	1990	03	18.32812	15	12	14.93	-00	50	59.6	809
908	1990	03	19.28021	15	12	05.92	-00	47	46.1	809
908	1990	03	19.32188	15	12	05.54	-00	47	37.8	809
908	1990	03	19.36354	15	12	05.16	-00	47	29.4	809
936	1990	02	27.27153	10	12	41.87	+14	32	20.7	809
936	1990	02	27.28403	10	12	41.29	+14	32	23.6	809
936	1990	02	27.29653	10	12	40.71	+14	32	26.4	809
1000	1990	03	19.01250	09	34	03.16	+08	37	58.2	809
1000	1990	03	19.02361	09	34	02.66	+08	37	57.6	809
1000	1990	03	19.03472	09	34	02.16	+08	37	56.9	809
1065	1990	02	24.07986	09	40	10.76	+14	45	35.4	809
1065	1990	02	24.09236	09	40	09.99	+14	45	37.6	809
1065	1990	02	24.10764	09	40	09.08	+14	45	40.3	809
1065	1990	02	25.08750	09	39	10.35	+14	48	27.7	809
1065	1990	02	25.10000	09	39	09.59	+14	48	30.3	809
1065	1990	02	25.11250	09	39	08.85	+14	48	32.2	809
1100	1990	03	05.22778	11	10	42.07	+04	11	03.4	809
1100	1990	03	05.23611	11	10	41.68	+04	11	05.5	809
1100	1990	03	05.24445	11	10	41.26	+04	11	07.8	809
1100	1990	03	07.33125	11	09	00.97	+04	21	08.0	809
1100	1990	03	07.33820	11	09	00.62	+04	21	10.1	809

1100	1990	03	07.34514	11	09	00.28	+04	21	11.9	809
1143	1990	02	28.30278	11	31	45.26	-00	10	21.1	809
1143	1990	02	28.31528	11	31	44.89	-00	10	19.1	809
1143	1990	02	28.32778	11	31	44.53	-00	10	17.1	809
1143	1990	03	01.25660	11	31	18.73	-00	07	25.9	809
1143	1990	03	01.26701	11	31	18.44	-00	07	24.2	809
1143	1990	03	01.27743	11	31	18.13	-00	07	22.2	809
1245	1990	03	08.37257	11	17	02.83	+05	53	48.0	809
1245	1990	03	08.37917	11	17	02.54	+05	53	50.1	809
1245	1990	03	08.38576	11	17	02.24	+05	53	52.1	809
1245	1990	03	09.14792	11	16	26.98	+05	58	14.8	809
1245	1990	03	09.15625	11	16	26.57	+05	58	17.2	809
1245	1990	03	09.16458	11	16	26.17	+05	58	19.7	809
1253	1990	02	28.34236	11	32	28.62	+04	33	34.2	809
1253	1990	02	28.35486	11	32	28.09	+04	33	37.7	809
1253	1990	02	28.36736	11	32	27.54	+04	33	41.1	809
1253	1990	03	01.29340	11	31	47.99	+04	37	51.8	809
1253	1990	03	01.30382	11	31	47.54	+04	37	54.6	809
1253	1990	03	01.31424	11	31	47.07	+04	37	57.6	809
1253	1990	03	02.32743	11	31	03.31	+04	42	31.8	809
1253	1990	03	02.33785	11	31	02.85	+04	42	34.7	809
1253	1990	03	02.34826	11	31	02.41	+04	42	37.6	809
1318	1990	03	09.38438	12	15	55.87	+01	05	38.3	809
1318	1990	03	09.38924	12	15	55.46	+01	05	34.4	809
1318	1990	03	09.39410	12	15	55.04	+01	05	30.5	809
1409	1990	02	24.34444	12	23	10.80	-02	46	42.4	809
1409	1990	02	24.35416	12	23	10.52	-02	46	39.4	809
1409	1990	02	24.36389	12	23	10.23	-02	46	36.0	809
1409	1990	02	26.26875	12	22	11.49	-02	36	01.9	809
1409	1990	02	26.27847	12	22	11.22	-02	35	59.0	809
1409	1990	02	26.28819	12	22	10.94	-02	35	56.0	809
1409	1990	02	27.35347	12	21	35.90	-02	29	46.5	809
1409	1990	02	27.36597	12	21	35.55	-02	29	42.4	809
1409	1990	02	27.37847	12	21	35.20	-02	29	38.3	809
1497	1990	03	02.25521	10	41	34.77	+07	12	47.9	809
1497	1990	03	02.26562	10	41	34.25	+07	12	50.7	809
1497	1990	03	02.27604	10	41	33.75	+07	12	53.4	809
1497	1990	03	03.14861	10	40	51.51	+07	16	57.4	809
1497	1990	03	03.15833	10	40	51.05	+07	17	00.2	809
1497	1990	03	03.16806	10	40	50.58	+07	17	02.6	809
1497	1990	03	04.28785	10	39	56.08	+07	22	12.9	809
1497	1990	03	04.29826	10	39	55.60	+07	22	15.8	809
1497	1990	03	04.30868	10	39	55.09	+07	22	18.7	809
1497	1990	03	05.19861	10	39	12.09	+07	26	26.6	809
1497	1990	03	05.20695	10	39	11.69	+07	26	28.9	809
1497	1990	03	05.21528	10	39	11.28	+07	26	31.2	809
1526	1990	03	02.25521	10	45	30.24	+07	07	39.1	809
1526	1990	03	02.26562	10	45	29.58	+07	07	41.3	809
1526	1990	03	02.27604	10	45	28.92	+07	07	43.4	809
1536	1990	03	05.22778	11	07	52.00	+04	15	09.8	809
1536	1990	03	05.23611	11	07	51.51	+04	15	13.2	809
1536	1990	03	05.24445	11	07	51.01	+04	15	16.3	809
1536	1990	03	07.33125	11	05	45.20	+04	29	29.6	809
1536	1990	03	07.33820	11	05	44.78	+04	29	32.0	809
1536	1990	03	07.34514	11	05	44.34	+04	29	35.0	809
1611	1990	03	19.01250	09	34	55.45	+08	30	18.4	809
1611	1990	03	19.02361	09	34	55.09	+08	30	20.8	809
1611	1990	03	19.03472	09	34	54.75	+08	30	23.3	809
1639	1990	02	24.24931	10	11	18.48	+08	51	38.6	809

1639	1990	02	24.26181	10	11	17.69	+08	51	39.7	809
1639	1990	02	24.27431	10	11	16.92	+08	51	41.2	809
1642	1990	02	25.21111	10	08	57.25	+13	44	49.6	809
1642	1990	02	25.22361	10	08	56.50	+13	44	49.7	809
1642	1990	02	25.23611	10	08	55.77	+13	44	49.9	809
1642	1990	03	05.12326	10	01	18.04	+13	47	54.6	809
1642	1990	03	05.12674	10	01	17.85	+13	47	54.7	809
1642	1990	03	05.13021	10	01	17.65	+13	47	54.7	809
1642	1990	03	07.12240	09	59	29.51	+13	47	52.5	809
1642	1990	03	07.12934	09	59	29.14	+13	47	52.5	809
1642	1990	03	07.13628	09	59	28.76	+13	47	52.4	809
1642	1990	03	07.18889	09	59	25.91	+13	47	51.2	809
1642	1990	03	07.19583	09	59	25.51	+13	47	51.2	809
1642	1990	03	07.20277	09	59	25.15	+13	47	51.2	809
1645	1990	02	24.37431	12	22	44.90	-03	57	24.2	809
1645	1990	02	24.38403	12	22	44.59	-03	57	22.8	809
1645	1990	02	24.39375	12	22	44.31	-03	57	20.9	809
1645	1990	02	26.30069	12	21	44.43	-03	51	23.5	809
1645	1990	02	26.31042	12	21	44.12	-03	51	21.8	809
1645	1990	02	26.32014	12	21	43.82	-03	51	20.1	809
1645	1990	02	27.35347	12	21	09.72	-03	47	56.4	809
1645	1990	02	27.36597	12	21	09.35	-03	47	54.2	809
1645	1990	02	27.37847	12	21	08.99	-03	47	52.1	809
1645	1990	03	01.36285	12	20	01.14	-03	41	01.7	809
1645	1990	03	01.37326	12	20	00.74	-03	40	59.5	809
1645	1990	03	01.38368	12	20	00.35	-03	40	57.4	809
1671	1990	03	05.31667	12	11	40.05	-01	24	19.8	809
1671	1990	03	05.32500	12	11	39.63	-01	24	16.8	809
1671	1990	03	05.33334	12	11	39.22	-01	24	13.5	809
1749	1990	03	03.05695	10	22	00.88	+10	58	38.5	809
1749	1990	03	03.06528	10	22	00.62	+10	58	39.4	809
1749	1990	03	03.07361	10	22	00.37	+10	58	40.4	809
1749	1990	03	06.24132	10	20	20.08	+11	05	35.6	809
1749	1990	03	06.25174	10	20	19.75	+11	05	36.6	809
1749	1990	03	06.26215	10	20	19.40	+11	05	37.7	809
1749	1990	03	07.28333	10	19	47.68	+11	07	50.3	809
1749	1990	03	07.29028	10	19	47.46	+11	07	51.0	809
1749	1990	03	07.29723	10	19	47.25	+11	07	51.6	809
1784	1990	02	24.07986	09	39	26.59	+15	58	46.8	809
1784	1990	02	24.09236	09	39	25.84	+15	58	50.6	809
1784	1990	02	24.10764	09	39	24.97	+15	58	55.3	809
1784	1990	02	25.08750	09	38	28.77	+16	03	44.6	809
1784	1990	02	25.10000	09	38	28.04	+16	03	48.2	809
1784	1990	02	25.11250	09	38	27.28	+16	03	51.9	809
1784	1990	02	28.13264	09	35	38.08	+16	18	06.8	809
1784	1990	02	28.14514	09	35	37.46	+16	18	09.7	809
1784	1990	02	28.15764	09	35	36.84	+16	18	13.0	809
1784	1990	02	28.21389	09	35	33.44	+16	18	29.1	809
1784	1990	02	28.22639	09	35	32.81	+16	18	32.4	809
1784	1990	02	28.23889	09	35	32.19	+16	18	35.4	809
1784	1990	03	01.03993	09	34	48.89	+16	22	12.6	809
1784	1990	03	01.05035	09	34	48.37	+16	22	15.1	809
1784	1990	03	01.06076	09	34	47.85	+16	22	17.7	809
1823	1990	03	01.25660	11	27	47.52	-00	01	32.5	809
1823	1990	03	01.26701	11	27	46.91	-00	01	29.8	809
1823	1990	03	01.27743	11	27	46.30	-00	01	27.1	809
1854	1990	03	04.35382	11	43	53.24	-01	03	16.3	809
1854	1990	03	04.36424	11	43	52.74	-01	03	11.7	809
1854	1990	03	04.37465	11	43	52.26	-01	03	07.5	809

1854	1990	03	06.33715	11	42	18.48	-00	48	37.4	809
1854	1990	03	06.34757	11	42	17.99	-00	48	32.9	809
1854	1990	03	06.35799	11	42	17.49	-00	48	28.3	809
1958	1990	03	03.08333	10	19	29.53	+13	08	54.9	809
1958	1990	03	03.09167	10	19	29.11	+13	08	55.9	809
1958	1990	03	03.10000	10	19	28.68	+13	08	56.8	809
2130	1990	03	06.37083	11	52	00.50	+00	16	44.5	809
2130	1990	03	06.37917	11	52	00.03	+00	16	46.2	809
2130	1990	03	06.38750	11	51	59.55	+00	16	47.8	809
2153	1990	03	02.11285	10	29	26.18	+11	18	10.2	809
2153	1990	03	02.12326	10	29	25.67	+11	18	12.8	809
2153	1990	03	02.13368	10	29	25.17	+11	18	15.7	809
2153	1990	03	03.18229	10	28	35.33	+11	22	49.3	809
2153	1990	03	03.19271	10	28	34.83	+11	22	51.9	809
2153	1990	03	03.20312	10	28	34.35	+11	22	54.5	809
2222	1990	02	24.20903	10	18	55.01	+14	02	23.8	809
2222	1990	02	24.22153	10	18	54.38	+14	02	27.5	809
2222	1990	02	24.23403	10	18	53.75	+14	02	30.8	809
2222	1990	02	26.16806	10	17	20.89	+14	11	48.6	809
2222	1990	02	26.17778	10	17	20.43	+14	11	51.4	809
2222	1990	02	26.18750	10	17	19.95	+14	11	54.6	809
2222	1990	02	27.27153	10	16	28.13	+14	16	58.8	809
2222	1990	02	27.28403	10	16	27.53	+14	17	02.5	809
2222	1990	02	27.29653	10	16	26.94	+14	17	06.2	809
2230	1990	03	09.38438	12	10	09.40	+00	35	03.2	809
2230	1990	03	09.38924	12	10	09.18	+00	35	04.5	809
2230	1990	03	09.39410	12	10	08.99	+00	35	05.9	809
2254	1990	02	25.33403	12	00	27.28	-02	07	23.0	809
2254	1990	02	25.34375	12	00	26.85	-02	07	21.4	809
2254	1990	02	25.35347	12	00	26.42	-02	07	19.9	809
2351	1990	02	26.19931	10	21	48.78	+09	59	32.7	809
2351	1990	02	26.20903	10	21	48.21	+09	59	35.4	809
2351	1990	02	26.21875	10	21	47.63	+09	59	37.9	809
2351	1990	02	27.31181	10	20	44.06	+10	04	09.9	809
2351	1990	02	27.32431	10	20	43.33	+10	04	13.0	809
2351	1990	02	27.33681	10	20	42.61	+10	04	16.2	809
2354	1990	02	24.34444	12	22	33.31	-02	22	57.0	809
2354	1990	02	24.35416	12	22	33.01	-02	22	54.5	809
2354	1990	02	24.36389	12	22	32.71	-02	22	52.3	809
2354	1990	02	26.26875	12	21	30.43	-02	14	19.0	809
2354	1990	02	26.27847	12	21	30.12	-02	14	16.5	809
2354	1990	02	26.28819	12	21	29.83	-02	14	14.1	809
2354	1990	03	05.31667	12	17	07.68	-01	39	06.4	809
2354	1990	03	05.32500	12	17	07.37	-01	39	04.0	809
2354	1990	03	05.33334	12	17	07.05	-01	39	01.6	809
2379	1990	02	27.04688	09	40	24.63	+13	53	13.6	809
2379	1990	02	27.05938	09	40	24.09	+13	53	16.3	809
2379	1990	02	27.07153	09	40	23.59	+13	53	19.0	809
2379	1990	02	28.09167	09	39	41.30	+13	56	56.6	809
2379	1990	02	28.10452	09	39	40.78	+13	56	59.3	809
2379	1990	02	28.11736	09	39	40.26	+13	57	02.1	809
2379	1990	03	01.07396	09	39	01.07	+14	00	20.5	809
2379	1990	03	01.08437	09	39	00.68	+14	00	22.9	809
2379	1990	03	01.09479	09	39	00.29	+14	00	25.2	809
2431	1990	02	24.37431	12	20	53.20	-04	24	43.4	809
2431	1990	02	24.38403	12	20	52.90	-04	24	42.1	809
2431	1990	02	24.39375	12	20	52.60	-04	24	40.8	809
2431	1990	02	26.30069	12	19	44.49	-04	19	42.6	809
2431	1990	02	26.31042	12	19	44.15	-04	19	41.3	809

2431	1990	02	26.32014	12	19	43.84	-04	19	40.1	809
2431	1990	02	27.35347	12	19	04.88	-04	16	47.2	809
2431	1990	02	27.36597	12	19	04.49	-04	16	45.2	809
2431	1990	02	27.37847	12	19	04.09	-04	16	43.1	809
2431	1990	03	01.36285	12	17	46.02	-04	10	45.7	809
2431	1990	03	01.37326	12	17	45.56	-04	10	43.4	809
2431	1990	03	01.38368	12	17	45.13	-04	10	41.6	809
2456	1990	02	27.12847	09	54	43.01	+12	04	52.6	809
2456	1990	02	27.14097	09	54	42.57	+12	04	53.7	809
2456	1990	02	27.15347	09	54	42.15	+12	04	54.5	809
2456	1990	03	01.14201	09	53	37.19	+12	07	31.5	809
2456	1990	03	01.15243	09	53	36.87	+12	07	32.5	809
2456	1990	03	01.16285	09	53	36.55	+12	07	33.4	809
2456	1990	03	02.07813	09	53	07.11	+12	08	42.6	809
2456	1990	03	02.08854	09	53	06.79	+12	08	43.3	809
2456	1990	03	02.09896	09	53	06.46	+12	08	44.2	809
2464	1990	03	05.28611	11	56	49.18	+00	40	52.2	809
2464	1990	03	05.29444	11	56	48.81	+00	40	54.1	809
2464	1990	03	05.30278	11	56	48.42	+00	40	56.4	809
2464	1990	03	06.37083	11	56	01.35	+00	45	47.0	809
2464	1990	03	06.37917	11	56	00.99	+00	45	49.2	809
2464	1990	03	06.38750	11	56	00.62	+00	45	51.4	809
2496	1990	03	03.14861	10	38	13.65	+08	31	04.9	809
2496	1990	03	03.15833	10	38	13.05	+08	31	08.4	809
2496	1990	03	03.16806	10	38	12.48	+08	31	11.7	809
2624	1990	03	02.25521	10	42	22.21	+08	03	32.7	809
2624	1990	03	02.26562	10	42	21.82	+08	03	35.3	809
2624	1990	03	02.27604	10	42	21.44	+08	03	37.5	809
2624	1990	03	03.32882	10	41	43.28	+08	07	53.8	809
2624	1990	03	03.33924	10	41	42.90	+08	07	56.6	809
2624	1990	03	03.34965	10	41	42.53	+08	07	59.3	809
2624	1990	03	04.28785	10	41	08.81	+08	11	45.1	809
2624	1990	03	04.29826	10	41	08.44	+08	11	47.4	809
2624	1990	03	04.30868	10	41	08.05	+08	11	50.0	809
2732	1990	03	01.07396	09	47	22.59	+14	16	25.2	809
2732	1990	03	01.08437	09	47	22.13	+14	16	29.1	809
2732	1990	03	01.09479	09	47	21.68	+14	16	32.7	809
2732	1990	03	02.04479	09	46	38.40	+14	22	23.3	809
2732	1990	03	02.05521	09	46	37.94	+14	22	26.9	809
2732	1990	03	02.06562	09	46	37.50	+14	22	30.6	809
2732	1990	03	03.02847	09	45	54.51	+14	28	20.5	809
2732	1990	03	03.03680	09	45	54.14	+14	28	23.5	809
2732	1990	03	03.04514	09	45	53.75	+14	28	26.4	809
2732	1990	03	04.15451	09	45	04.79	+14	35	02.1	809
2732	1990	03	04.16493	09	45	04.32	+14	35	05.8	809
2732	1990	03	04.17535	09	45	03.88	+14	35	09.4	809
2742	1990	02	24.20903	10	12	00.88	+13	37	26.6	809
2742	1990	02	24.22153	10	12	00.29	+13	37	30.3	809
2742	1990	02	24.23403	10	11	59.69	+13	37	34.1	809
2742	1990	02	25.21111	10	11	11.99	+13	42	44.6	809
2742	1990	02	25.22361	10	11	11.39	+13	42	48.4	809
2742	1990	02	25.23611	10	11	10.79	+13	42	52.4	809
2742	1990	02	26.16806	10	10	25.46	+13	47	45.7	809
2742	1990	02	26.17778	10	10	25.01	+13	47	48.3	809
2742	1990	02	26.18750	10	10	24.56	+13	47	51.0	809
2742	1990	02	27.27153	10	09	32.12	+13	53	28.1	809
2742	1990	02	27.28403	10	09	31.51	+13	53	31.6	809
2742	1990	02	27.29653	10	09	30.89	+13	53	35.6	809
2859	1990	03	05.25417	11	22	10.09	+04	20	01.9	809

2859	1990	03	05.26250	11	22	09.62	+04	20	06.1	809
2859	1990	03	05.27084	11	22	09.19	+04	20	10.3	809
2859	1990	03	07.35486	11	20	19.71	+04	38	00.9	809
2859	1990	03	07.36181	11	20	19.36	+04	38	04.3	809
2859	1990	03	07.36875	11	20	18.99	+04	38	07.7	809
2859	1990	03	08.37257	11	19	25.91	+04	46	45.6	809
2859	1990	03	08.37917	11	19	25.55	+04	46	48.9	809
2859	1990	03	08.38576	11	19	25.19	+04	46	52.2	809
2859	1990	03	09.14792	11	18	45.40	+04	53	25.8	809
2859	1990	03	09.15625	11	18	44.96	+04	53	30.0	809
2859	1990	03	09.16458	11	18	44.50	+04	53	34.3	809
2883	1990	03	03.08333	10	17	31.54	+13	18	50.4	809
2883	1990	03	03.09167	10	17	31.06	+13	18	52.9	809
2883	1990	03	03.10000	10	17	30.58	+13	18	55.1	809
2926	1990	02	25.36528	11	59	34.32	-04	57	30.2	809
2926	1990	02	25.37500	11	59	33.97	-04	57	28.3	809
2926	1990	02	25.38472	11	59	33.60	-04	57	26.3	809
3061	1990	02	27.27153	10	15	41.33	+14	41	44.5	809
3061	1990	02	27.28403	10	15	40.75	+14	41	48.0	809
3061	1990	02	27.29653	10	15	40.19	+14	41	51.4	809
3071	1990	03	04.32222	11	12	00.80	+07	01	11.1	809
3071	1990	03	04.33055	11	12	00.43	+07	01	13.9	809
3071	1990	03	04.33889	11	12	00.06	+07	01	16.4	809
3071	1990	03	06.30903	11	10	33.21	+07	11	44.7	809
3071	1990	03	06.31736	11	10	32.82	+07	11	47.2	809
3071	1990	03	06.32569	11	10	32.45	+07	11	49.7	809
3071	1990	03	08.18906	11	09	10.12	+07	21	41.2	809
3071	1990	03	08.19757	11	09	09.72	+07	21	44.1	809
3071	1990	03	08.20608	11	09	09.33	+07	21	47.1	809
3095	1990	02	25.36528	12	03	00.63	-04	10	43.4	809
3095	1990	02	25.37500	12	03	00.33	-04	10	41.9	809
3095	1990	02	25.38472	12	03	00.01	-04	10	40.2	809
3095	1990	02	26.33611	12	02	28.66	-04	08	05.7	809
3095	1990	02	26.34583	12	02	28.36	-04	08	04.1	809
3095	1990	02	26.35556	12	02	28.03	-04	08	02.6	809
3211	1990	02	25.36528	12	04	26.91	-05	25	59.9	809
3211	1990	02	25.37500	12	04	26.47	-05	25	56.3	809
3211	1990	02	25.38472	12	04	26.04	-05	25	52.8	809
3251	1990	02	27.04688	09	40	37.93	+14	00	54.5	809
3251	1990	02	27.05938	09	40	37.39	+14	00	57.6	809
3251	1990	02	27.07153	09	40	36.87	+14	01	00.7	809
3251	1990	02	28.09167	09	39	52.28	+14	04	55.4	809
3251	1990	02	28.10452	09	39	51.76	+14	04	58.4	809
3251	1990	02	28.11736	09	39	51.25	+14	05	01.3	809
3251	1990	03	01.07396	09	39	10.16	+14	08	35.4	809
3251	1990	03	01.08437	09	39	09.75	+14	08	37.8	809
3251	1990	03	01.09479	09	39	09.34	+14	08	40.3	809
3291	1990	03	01.07396	09	47	15.82	+13	15	03.3	809
3291	1990	03	01.08437	09	47	15.37	+13	15	05.5	809
3291	1990	03	01.09479	09	47	14.96	+13	15	07.9	809
3291	1990	03	02.04479	09	46	34.66	+13	19	00.2	809
3291	1990	03	02.05521	09	46	34.24	+13	19	02.8	809
3291	1990	03	02.06562	09	46	33.80	+13	19	05.1	809
3291	1990	03	04.15451	09	45	06.97	+13	27	28.2	809
3291	1990	03	04.16493	09	45	06.56	+13	27	30.6	809
3291	1990	03	04.17535	09	45	06.13	+13	27	33.0	809
3295	1990	03	02.18160	10	43	58.19	+06	09	40.7	809
3295	1990	03	02.19201	10	43	57.68	+06	09	45.1	809
3295	1990	03	02.20243	10	43	57.16	+06	09	49.8	809

3295	1990	03	03.26285	10	43	04.90	+06	17	42.9		809
3295	1990	03	03.27326	10	43	04.37	+06	17	47.5		809
3295	1990	03	03.28368	10	43	03.85	+06	17	52.1		809
3295	1990	03	06.27465	10	40	37.66	+06	39	56.2		809
3295	1990	03	06.28507	10	40	37.15	+06	40	00.8		809
3295	1990	03	06.29549	10	40	36.65	+06	40	05.5		809
3373	1990	03	05.25417	11	16	44.51	+03	32	52.2		809
3373	1990	03	05.26250	11	16	44.05	+03	32	56.0		809
3373	1990	03	05.27084	11	16	43.58	+03	33	00.1		809
3410	1990	03	02.25521	10	43	35.66	+07	55	59.6		809
3410	1990	03	02.26562	10	43	35.00	+07	56	00.8		809
3410	1990	03	02.27604	10	43	34.35	+07	56	02.6		809
3410	1990	03	03.32882	10	42	26.86	+07	59	01.6		809
3410	1990	03	03.33924	10	42	26.19	+07	59	03.2		809
3410	1990	03	03.34965	10	42	25.53	+07	59	04.9		809
3464	1990	03	03.11493	10	40	32.11	+04	33	48.4		809
3464	1990	03	03.12396	10	40	31.52	+04	33	49.7		809
3464	1990	03	03.13299	10	40	30.93	+04	33	51.2		809
3464	1990	03	04.22326	10	39	18.44	+04	36	37.5		809
3464	1990	03	04.23368	10	39	17.76	+04	36	39.0		809
3464	1990	03	04.24410	10	39	17.07	+04	36	40.6		809
3464	1990	03	19.09028	10	24	10.96	+05	13	17.4	16.7	809
3464	1990	03	19.10278	10	24	10.21	+05	13	18.9		809
3464	1990	03	19.11528	10	24	09.43	+05	13	20.4		809
3546	1990	02	26.19931	10	19	28.56	+10	32	15.3		809
3546	1990	02	26.20903	10	19	28.01	+10	32	16.7		809
3546	1990	02	26.21875	10	19	27.46	+10	32	18.3		809
3546	1990	02	27.31181	10	18	24.92	+10	35	05.4		809
3546	1990	02	27.32431	10	18	24.18	+10	35	07.4		809
3546	1990	02	27.33681	10	18	23.48	+10	35	09.4		809
3557	1990	02	28.30278	11	36	43.76	+00	23	07.8		809
3557	1990	02	28.31528	11	36	43.33	+00	23	10.7		809
3557	1990	02	28.32778	11	36	42.88	+00	23	13.8		809
3634	1990	03	02.25521	10	48	58.42	+07	35	43.6		809
3634	1990	03	02.26562	10	48	57.76	+07	35	46.3		809
3634	1990	03	02.27604	10	48	57.12	+07	35	49.1		809
3634	1990	03	04.28785	10	46	48.31	+07	44	33.8		809
3634	1990	03	04.29826	10	46	47.66	+07	44	36.5		809
3634	1990	03	04.30868	10	46	47.01	+07	44	39.2		809
3734	1990	02	24.34444	12	18	41.94	-02	35	12.4		809
3734	1990	02	24.35416	12	18	41.65	-02	35	09.8		809
3734	1990	02	24.36389	12	18	41.37	-02	35	07.3		809
3734	1990	02	26.26875	12	17	41.22	-02	26	14.9		809
3734	1990	02	26.27847	12	17	40.90	-02	26	12.1		809
3734	1990	02	26.28819	12	17	40.59	-02	26	09.5		809
3734	1990	03	05.31667	12	13	22.40	-01	49	11.7		809
3734	1990	03	05.32500	12	13	22.06	-01	49	09.2		809
3734	1990	03	05.33334	12	13	21.73	-01	49	06.4		809
3807	1990	02	26.11701	10	02	24.40	+10	53	30.3		809
3807	1990	02	26.12188	10	02	24.10	+10	53	32.4		809
3807	1990	02	26.12674	10	02	23.81	+10	53	34.3		809
3903	1990	03	05.22778	11	12	55.28	+04	53	57.2		809
3903	1990	03	05.23611	11	12	54.86	+04	53	59.8		809
3903	1990	03	05.24445	11	12	54.43	+04	54	02.2		809
3903	1990	03	07.33125	11	11	13.82	+05	03	44.0		809
3903	1990	03	07.33820	11	11	13.49	+05	03	46.2		809
3903	1990	03	07.34514	11	11	13.16	+05	03	48.2		809
3905	1990	03	05.25417	11	14	31.85	+03	28	32.6		809
3905	1990	03	05.26250	11	14	31.25	+03	28	32.9		809

3905	1990	03	05.27084	11	14	30.65	+03	28	33.1		809
3914	1990	02	24.12778	09	55	26.73	+10	30	33.2		809
3914	1990	02	24.14028	09	55	26.07	+10	30	34.8		809
3914	1990	02	24.15278	09	55	25.43	+10	30	36.9		809
3914	1990	02	25.13125	09	54	35.11	+10	32	44.0		809
3914	1990	02	25.14375	09	54	34.49	+10	32	45.3		809
3914	1990	02	25.15625	09	54	33.86	+10	32	47.0		809
3914	1990	03	01.14201	09	51	12.92	+10	41	03.1		809
3914	1990	03	01.15243	09	51	12.43	+10	41	04.4		809
3914	1990	03	01.16285	09	51	11.92	+10	41	05.8		809
3914	1990	03	17.07396	09	39	42.58	+11	07	10.0		809
3914	1990	03	17.08021	09	39	42.31	+11	07	10.7		809
3914	1990	03	17.08646	09	39	42.01	+11	07	11.3		809
3914	1990	03	19.04826	09	38	34.49	+11	09	22.3		809
3914	1990	03	19.05972	09	38	33.94	+11	09	23.3		809
3914	1990	03	19.07118	09	38	33.40	+11	09	24.2		809
3918	1990	03	16.02743	10	44	05.05	+09	02	47.2		809
3918	1990	03	16.03368	10	44	04.73	+09	02	50.0		809
3918	1990	03	16.03993	10	44	04.40	+09	02	52.9		809
3918	1990	03	17.02622	10	43	13.40	+09	10	28.9		809
3918	1990	03	17.03281	10	43	13.05	+09	10	32.3		809
3918	1990	03	17.03941	10	43	12.73	+09	10	35.6		809
3918	1990	03	19.12952	10	41	27.13	+09	26	17.3		809
3918	1990	03	19.13646	10	41	26.79	+09	26	20.3		809
3918	1990	03	19.14340	10	41	26.46	+09	26	23.3		809
3928	1990	02	24.03958	09	40	07.19	+10	26	55.5		809
3928	1990	02	24.05209	09	40	06.45	+10	26	58.8		809
3928	1990	02	24.06458	09	40	05.70	+10	27	02.4		809
3928	1990	02	25.04445	09	39	07.11	+10	31	52.5		809
3928	1990	02	25.05695	09	39	06.37	+10	31	55.7		809
3928	1990	02	25.07014	09	39	05.59	+10	31	59.6		809
3928	1990	02	26.08333	09	38	05.60	+10	36	57.0		809
3928	1990	02	26.09306	09	38	05.00	+10	37	00.0		809
3928	1990	02	26.10278	09	38	04.40	+10	37	02.9		809
3928	1990	02	28.17431	09	36	03.91	+10	47	04.9		809
3928	1990	02	28.18681	09	36	03.27	+10	47	08.3		809
3928	1990	02	28.19931	09	36	02.61	+10	47	11.6		809
3992	1990	03	07.35486	11	21	25.40	+04	08	12.5	16.0	809
3992	1990	03	07.36181	11	21	25.10	+04	08	15.5		809
3992	1990	03	07.36875	11	21	24.81	+04	08	18.2		809
3992	1990	03	08.37257	11	20	42.12	+04	15	35.9		809
3992	1990	03	08.37917	11	20	41.83	+04	15	38.7		809
3992	1990	03	08.38576	11	20	41.55	+04	15	41.6		809
3992	1990	03	09.14792	11	20	09.26	+04	21	13.8		809
3992	1990	03	09.15625	11	20	08.91	+04	21	17.4		809
3992	1990	03	09.16458	11	20	08.56	+04	21	21.1		809
3992	1990	03	16.08125	11	15	13.70	+05	11	27.2		809
3992	1990	03	16.08542	11	15	13.53	+05	11	28.9		809
3992	1990	03	16.09583	11	15	13.08	+05	11	33.6		809
3992	1990	03	17.22916	11	14	25.14	+05	19	39.6		809
3992	1990	03	17.23750	11	14	24.78	+05	19	43.1		809
3992	1990	03	17.24583	11	14	24.42	+05	19	46.6		809
3992	1990	03	18.20416	11	13	44.49	+05	26	35.6		809
3992	1990	03	18.21111	11	13	44.20	+05	26	38.6		809
3992	1990	03	18.21806	11	13	43.91	+05	26	41.6		809
3992	1990	03	19.25381	11	13	00.87	+05	34	00.8		809
3992	1990	03	19.26041	11	13	00.57	+05	34	03.5		809
3992	1990	03	19.26701	11	13	00.30	+05	34	06.3		809
4053	1990	02	26.19931	10	19	18.93	+10	20	16.0	17.0	809

4053	1990	02	26.20903	10	19	18.33	+10	20	18.2		809
4053	1990	02	26.21875	10	19	17.73	+10	20	20.5		809
4053	1990	02	27.31181	10	18	09.63	+10	24	35.1		809
4053	1990	02	27.32431	10	18	08.86	+10	24	37.8		809
4053	1990	02	27.33681	10	18	08.09	+10	24	40.6		809
4137	1990	03	02.22257	10	48	11.44	+09	06	58.9		809
4137	1990	03	02.23299	10	48	10.80	+09	07	01.5		809
4137	1990	03	02.24340	10	48	10.16	+09	07	04.0		809
4137	1990	03	03.32882	10	47	03.69	+09	11	31.1		809
4137	1990	03	03.33924	10	47	03.06	+09	11	33.6		809
4137	1990	03	03.34965	10	47	02.42	+09	11	36.2		809
4137	1990	03	04.25590	10	46	07.28	+09	15	18.8		809
4137	1990	03	04.26632	10	46	06.66	+09	15	21.2		809
4137	1990	03	04.27674	10	46	06.01	+09	15	23.7		809
4137	1990	03	04.28785	10	46	05.35	+09	15	24.7		809
4137	1990	03	04.29826	10	46	04.72	+09	15	27.3		809
4137	1990	03	04.30868	10	46	04.08	+09	15	29.9		809
4138	1990	02	24.24931	10	15	08.04	+08	36	07.1	16.8	809
4138	1990	02	24.26181	10	15	07.65	+08	36	09.0		809
4138	1990	02	24.27431	10	15	07.26	+08	36	11.4		809
4138	1990	02	25.25069	10	14	38.08	+08	39	06.8		809
4138	1990	02	25.26320	10	14	37.71	+08	39	08.8		809
4138	1990	02	25.27570	10	14	37.36	+08	39	10.8		809
4245	1990	03	02.11285	10	29	49.74	+10	40	27.7		809
4245	1990	03	02.12326	10	29	49.12	+10	40	30.9		809
4245	1990	03	02.13368	10	29	48.50	+10	40	34.1		809
4245	1990	03	03.18229	10	28	46.37	+10	45	44.4		809
4245	1990	03	03.19271	10	28	45.76	+10	45	47.4		809
4245	1990	03	03.20312	10	28	45.15	+10	45	50.4		809
4426	1990	02	25.33403	11	59	56.80	-03	02	08.2	16.6	809
4426	1990	02	25.34375	11	59	56.44	-03	02	06.0		809
4426	1990	02	25.35347	11	59	56.07	-03	02	03.7		809
4426	1990	02	26.33611	11	59	18.80	-02	58	16.7		809
4426	1990	02	26.34583	11	59	18.44	-02	58	14.4		809
4426	1990	02	26.35556	11	59	18.07	-02	58	12.1		809
4453	1990	02	26.13541	09	50	58.60	+14	46	51.3	16.9	809
4453	1990	02	26.14514	09	50	58.14	+14	46	52.2		809
4453	1990	02	26.15486	09	50	57.64	+14	46	53.1		809
4491	1990	03	02.18160	10	44	29.46	+04	39	42.1	16.7	809
4491	1990	03	02.19201	10	44	28.78	+04	39	45.1		809
4491	1990	03	02.20243	10	44	28.13	+04	39	47.6		809
4491	1990	03	03.26285	10	43	19.43	+04	44	39.0		809
4491	1990	03	03.27326	10	43	18.74	+04	44	41.8		809
4491	1990	03	03.28368	10	43	18.07	+04	44	44.5		809
4491	1990	03	06.27465	10	40	06.05	+04	58	35.7		809
4491	1990	03	06.28507	10	40	05.38	+04	58	38.3		809
4491	1990	03	06.29549	10	40	04.71	+04	58	41.4		809
4496	1990	03	05.31667	12	17	04.15	+00	05	44.3	17.5	809
4496	1990	03	05.32500	12	17	03.82	+00	05	47.4		809
4496	1990	03	05.33334	12	17	03.50	+00	05	50.5		809
4496	1990	03	09.38438	12	14	21.51	+00	31	57.5		809
4496	1990	03	09.38924	12	14	21.32	+00	31	59.1		809
4496	1990	03	09.39410	12	14	21.12	+00	32	01.0		809
4510	1990	03	02.32743	11	34	58.96	+05	51	46.4	17.3	809
4510	1990	03	02.33785	11	34	58.35	+05	51	48.9		809
4510	1990	03	02.34826	11	34	57.74	+05	51	51.5		809
4510	1990	03	03.36493	11	33	58.65	+05	55	53.8		809
4510	1990	03	03.37535	11	33	58.04	+05	55	56.3		809
4510	1990	03	03.38576	11	33	57.43	+05	55	58.8		809

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

1990 TR	1990 10 18.63333	02 14 51.64	+22 09 33.3		14.0		871
1990 TR	1990 10 18.64722	02 14 50.78	+22 09 50.2		14.0		871
1990 TX	1990 10 18.59931	01 51 37.01	+02 50 49.0		15.5		871
1990 TX	1990 10 18.61806	01 51 35.93	+02 50 46.6		15.5		871
864	1990 10 18.59931	01 51 10.67	+02 44 47.6		15.0		871
864	1990 10 18.61806	01 51 09.90	+02 44 36.6		15.0		871

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

1990 TW	1990 10 20.57743	02 51 22.7	+11 02 03		15	N	885
1990 TW	1990 10 20.62326	02 51 19.7	+11 02 06			N	885
1990 TW	1990 10 21.66042	02 50 15.35	+11 05 06.6		15		885
1990 TW	1990 10 21.68125	02 50 14.08	+11 05 11.9				885

886 Susono
T. Furuta, 17-2 Mitsuike, Kagiya, Tokai 477, Japan
Observers M. Akiyama, T. Furuta
Measurer T. Furuta

1990 UH	*	1990 10 18.55625	01 56 01.34	+11 43 08.7		15.5		886
1990 UH		1990 10 18.56944	01 56 00.59	+11 43 02.2				886
1990 UH		1990 10 20.66701	01 54 06.0	+11 22 53				886
1990 UH		1990 10 20.68229	01 54 05.0	+11 22 46				886
6647 P-L		1990 10 18.55625	01 59 26.8	+11 29 14		15.5		886
6647 P-L		1990 10 18.56944	01 59 26.1	+11 29 14				886
6647 P-L		1990 10 20.66701	01 57 20.0	+11 23 07				886
6647 P-L		1990 10 20.68229	01 57 19.1	+11 23 02				886

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

1988 BA	1990 09 22.74300	01 56 57.39	+12 02 35.9		17.5		896
1988 BA	1990 10 10.49757	01 42 30.32	+11 36 51.0		17	w	896
1988 BA	1990 10 10.52917	01 42 28.19	+11 36 46.7			w	896
1989 GA	1990 07 19.62847	22 49 54.7	-10 13 25			i	896
1989 GA	1990 07 19.69236	22 49 53.3	-10 13 27			i	896

* * * * *

ORBITAL ELEMENTS.

Orbital elements have been computed by the following contributors:

C. M. Bardwell, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A. (B)
E. Bowell, Lowell Observatory, 1400 West Mars Hill Road, Flagstaff, AZ 86001, U.S.A. (E)

D. W. E. Green, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A.
K. Ichikawa, 45 Shiromae Kamiwada-cho, Okazaki-shi, Aichi, 444-02 Japan
H. Kaneda, 2-15-2H, Kawazoe 8 Jo 2 Chome, Minami-ku, Sapporo 005, Japan
B. G. Marsden, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A. (M)
R. Nagata, 1-8-6 Nishi-Koizumi, Oizumi-machi, Ora-gun, Gunma-ken, 370-05 Japan
S. Nakano, 3-19, 1 chome, Takenokuchi, Sumoto, Hyogo-ken 656, Japan (N)
H. Oishi, 5-3-14 Ikeda, Niiza, Saitama 352, Japan (I)
L. D. Schmadel, Astronomisches Rechen-Institut, Monchhofstrasse 12-14, W-6900 Heidelberg, Federal Republic of Germany (s)
J. V. Scotti, Lunar and Planetary Laboratory, University of Arizona, Tucson, AZ 85721, U.S.A. (S)
T. Urata, 6-1, Muramatsuhara 1 Chome, Shimizu, Shizuoka-Ken 424, Japan
G. V. Williams, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, U.S.A. (W)

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.

Comet Aarseth-Brewington (1989a1)
Epoch 1989 Dec. 20.0 ET = JDE 2447880.5 Nagata
T 1989 Dec. 27.88855 ET

		(1950.0)	P	Q
q	0.3006878			
z	-0.0002713	Peri.	205.26032	-0.87751821	+0.40608576
	+/-0.0000357	Node	345.21676	+0.37073629	+0.23712784
e	1.0000816	Incl.	88.38089	-0.30416507	-0.88253314

From 44 observations 1989 Nov. 19-1990 Jan. 30, mean residual 1".2.

Periodic Comet Mueller 3 (1990l)
T 1990 July 30.66232 ET Nakano

		(1950.0)	P	Q
q	3.0007164			
n	0.11388266	Peri.	225.45106	+0.99218871	-0.05677224
a	4.2153242	Node	137.43389	+0.08620049	+0.95567428
e	0.2881410	Incl.	9.45138	-0.09017223	+0.28890063
P	8.65				

From 10 observations 1990 Sept.17-Oct. 20.

Comet Tsuchiya-Kiuchi (1990i)
Epoch 1990 Sept. 26.0 ET = JDE 2448160.5
T 1990 Sept. 28.74876 ET Nakano

q	1.0921591	(1950.0)	P	Q
z	0.0047564	Peri. 180.93024	-0.85968874	+0.41695293
+/-	0.0006722	Node 330.03660	+0.47237758	+0.86877518
e	0.9948052	Incl. 143.78201	+0.19440855	-0.26717023

From 37 observations 1990 July 17-Oct. 17, mean residual 1".0.

Periodic Comet Holt-Olmstead (1990k)
T 1990 Oct. 4.38529 ET Nakano

q	2.0419196	(1950.0)	P	Q
n	0.16018292	Peri. 2.53627	+0.95585099	-0.28662604
a	3.3578291	Node 14.62517	+0.26487317	+0.74496530
e	0.3918929	Incl. 14.86232	+0.12724418	+0.60238875
P	6.15			

From 27 observations 1990 Sept. 14-Oct. 23.

Periodic Comet Mueller 2 (1990j)
T 1990 Nov. 8.77862 ET Green

q	2.0777520	(1950.0)	P	Q
n	0.15363747	Peri. 166.29159	+0.90545235	-0.41777727
a	3.4525339	Node 218.67944	+0.37722153	+0.87301420
e	0.3981950	Incl. 6.88833	+0.19457636	+0.25161152
P	6.42			

From 30 observations 1990 Sept. 15-30.

One-opposition minor planets

Planet	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	O	N	C
1986 SL2	13.9	860927	3.98	233.39	116.39	2.57	0.2061	2.4286	56	3	D	I
1986 SQ2	14.7	860927	351.02	305.21	67.61	2.32	0.2471	2.2878	50	3	D	I
1986 ST2	15.3	860927	342.41	260.65	129.58	1.17	0.2675	2.1829	17	3	D	I
1986 SU2	13.7	860927	14.05	222.58	113.63	3.76	0.1958	2.4759	56	3	D	I
1986 TW9	13.6	861017	8.20	69.86	300.14	5.83	0.2303	2.5705	56	5	D	I
1989 WY1	12.5	891130	41.48	296.74	74.86	16.35	0.1965	2.8271	20	8		N
1989 WZ1	13.7	891130	13.62	352.87	57.40	3.26	0.1927	2.3829	33	0		N
1990 DW	12.7	900310	140.01	52.05	331.04	6.34	0.0082	2.3638	12	6		N
1990 DZ1	13.0	900218	70.23	91.48	317.76	8.37	0.2314	2.5976	4	0		M
1990 DA2	12.5	900218	86.77	250.44	165.18	5.92	0.0312	2.7624	4	0		W
1990 DB2	13.0	900218	134.82	184.21	170.88	4.86	0.2495	2.2130	4	0	E	M
1990 DC2	13.0	900218	73.55	91.51	319.17	10.28	0.1950	2.4274	4	0	E	M
1990 DD2	13.5	900218	289.35	58.44	178.28	3.38	0.1696	2.3706	4	9		W
1990 DH2	12.5	900218	62.71	68.14	351.93	2.42	0.2033	2.7791	5	0	E	M
1990 DJ2	13.0	900218	53.97	313.10	138.53	5.69	0.0075	2.6554	4	9	E	M
1990 DK2	13.0	900218	61.54	272.20	145.93	21.41	0.2380	2.7164	4	9	E	M
1990 DM2	12.0	900218	104.66	99.28	294.61	2.91	0.0943	2.7364	5	9	E	M
1990 DN2	14.0	900218	65.52	233.52	182.00	2.93	0.2423	2.3566	5	9	E	M
1990 DO2	13.0	900218	72.22	142.84	272.00	1.47	0.1874	2.8031	5	9	E	M
1990 DQ2	12.5	900218	95.00	236.97	160.57	8.11	0.1467	2.7213	5	9	E	M
1990 DU2	14.0	900218	48.50	260.12	169.20	2.28	0.2916	2.5588	6	9		W
1990 DV2	12.5	900218	314.53	296.40	265.65	0.87	0.0802	2.9488	5	9	E	M
1990 DW2	11.0	900218	128.88	28.48	335.22	2.58	0.1981	3.2415	6	0	E	M
1990 DX2	14.0	900218	299.70	85.14	146.66	10.83	0.2102	2.6093	2	9	E	M
1990 DY2	13.0	900218	274.09	100.81	145.24	11.98	0.1008	2.5364	2	9	E	M
1990 DD3	14.0	900218	6.19	358.84	143.66	4.99	0.1245	2.3827	3	0		W
1990 DF3	14.0	900218	9.10	349.98	148.44	10.70	0.1519	2.5001	3	0		M
1990 DK3	15.0	900218	332.89	27.70	166.86	1.70	0.2344	2.2497	3	9		M
1990 DL3	13.0	900218	253.08	293.32	351.27	7.18	0.1934	2.3414	23	0		W
1990 DM3	13.5	900218	242.86	294.13	356.73	4.88	0.1695	2.2449	21	0		W

1990	DN3	12.0	900218	61.42	147.93	308.37	1.11	0.1510	2.9968	3	9	E	M
1990	DO3	14.0	900218	322.60	225.97	353.66	12.98	0.1115	2.7474	5	9		M
1990	DP3	12.0	900218	225.69	355.30	330.38	3.00	0.2172	2.6766	5	0		M
1990	DU3	12.0	900218	179.46	7.92	322.84	10.49	0.3132	2.2528	13	0		W
1990	DV3	14.0	900218	12.22	336.56	155.04	25.07	0.1916	2.3065	19	0		W
1990	DY3	14.0	900218	300.00	272.42	323.78	5.89	0.2599	2.5729	2	9	E	M
1990	DA4	12.0	900218	96.06	278.08	114.55	2.91	0.1453	2.9659	2	0	E	M
1990	DB4	13.5	900218	0.38	39.96	104.62	2.61	0.2247	2.9127	2	9	E	M
1990	DC4	14.0	900218	3.98	137.02	4.23	2.78	0.0999	2.2359	2	9	E	M
1990	DD4	11.5	900218	91.91	47.81	336.34	14.45	0.2633	3.0451	2	9	E	M
1990	DE4	14.0	900218	300.39	50.61	181.91	0.52	0.2158	2.4088	3	9	E	M
1990	DL4	13.0	900218	124.67	55.52	319.48	1.95	0.0877	2.3850	4	0	E	M
1990	DM4	12.5	900218	116.81	183.72	189.63	0.97	0.1892	2.5830	2	9	E	M
1990	DW4	12.5	900218	87.95	277.16	138.37	2.43	0.2000	3.0153	2	9	E	M
1990	DY4	14.0	900218	37.64	104.52	358.84	3.34	0.2477	2.5477	2	9		M
1990	EF3	14.5	900218	63.34	137.73	297.85	2.31	0.2206	2.3275	4	0		W
1990	EP3	12.5	900218	258.85	313.29	335.62	7.37	0.1882	3.1823	4	0	E	W
1990	EQ3	14.5	900218	55.64	276.04	183.76	5.07	0.0868	2.3507	4	0	E	W
1990	EV5	15.0	900218	327.82	52.44	152.62	3.83	0.2948	2.4073	3	9		W
1990	EW5	12.5	900218	116.63	47.34	327.57	6.33	0.1827	2.2574	4	0		W
1990	EX5	11.5	900218	335.19	28.67	152.41	11.12	0.1464	3.2273	16	0	D	W
1990	EF6	13.0	900218	74.16	70.21	347.49	9.43	0.1827	2.3219	2	0		M
1990	EH6	13.5	900218	258.12	275.06	4.80	4.25	0.2391	2.3811	2	9	E	M
1990	EJ6	12.5	900218	214.40	264.69	38.43	2.10	0.0591	2.6714	2	9	E	M
1990	EL6	13.0	900218	239.63	165.97	127.36	5.80	0.2246	2.3029	2	9	E	M
1990	EM6	13.5	900218	287.51	102.57	137.80	6.53	0.1255	2.4191	2	9	E	M
1990	EP6	12.0	900218	287.24	267.53	346.01	16.69	0.2352	3.0828	2	9		M
1990	EQ6	14.0	900218	292.63	129.38	114.09	3.13	0.1945	2.4303	2	9	E	M
1990	ES6	12.5	900218	201.23	113.79	203.47	1.43	0.0110	2.9075	4	9	E	M
1990	EV6	14.5	900218	333.32	42.90	155.51	5.56	0.2380	2.5890	2	9	E	M
1990	EW6	14.5	900218	38.85	105.39	345.91	4.58	0.2745	2.4972	2	9		M
1990	EA7	13.0	900218	89.08	65.51	351.23	9.00	0.0951	2.5476	2	9	E	M
1990	EB7	13.5	900218	63.17	72.76	353.58	7.93	0.2378	2.5929	2	9	E	M
1990	EF7	12.0	900218	262.49	131.83	133.73	2.17	0.1383	3.2085	4	9	E	M
1990	EG7	12.5	900218	330.30	122.76	61.54	0.82	0.0257	2.9645	4	9	E	M
1990	EL7	13.0	900310	76.59	112.26	325.06	5.14	0.0740	2.1917	15	0		W
1990	ED8	13.0	900218	275.81	269.86	353.94	5.07	0.1584	2.4308	5	0		M
1990	EJ8	13.5	900218	66.03	92.67	349.06	2.62	0.1399	2.5248	3	9	E	M
1990	EO8	13.0	900310	347.69	195.76	348.88	8.46	0.1229	2.6828	12	0		M
1990	FD3	11.5	900310	157.22	200.44	158.61	21.52	0.1480	3.1148	2	7	E	W
1990	GE	15.0	900310	346.99	191.82	355.91	6.53	0.1686	2.3337	48	0		W
1990	GN	15.5	900310	359.34	174.33	356.95	1.71	0.1633	2.3327	46	0		W
1990	QB	13.5	900817	321.93	56.85	331.77	21.67	0.2509	2.3215	38	8		W
1990	QE	13.0	900906	349.50	49.56	307.48	16.68	0.2427	2.5621	37	8		W
1990	QG	14.0	900906	342.95	49.22	328.97	6.04	0.3752	3.0338	31	0		N
1990	QM	13.9	900906	37.92	125.45	159.93	2.84	0.1809	2.4271	31	0		N
1990	QO	13.0	900906	316.97	254.12	160.22	21.88	0.3498	2.3448	36	8		W
1990	QR	12.0	900906	32.75	123.05	168.55	13.59	0.1731	2.6207	37	8		W
1990	QT	13.5	900906	353.85	352.69	351.19	6.16	0.1665	2.2825	36	8		W
1990	QW	13.5	900906	5.72	340.85	347.39	7.52	0.1500	2.2891	36	7		W
1990	QG1	14.1	900906	6.93	351.13	343.74	6.62	0.1360	2.3623	28	0		E
1990	QL1	12.9	900906	322.88	238.83	161.88	10.11	0.2120	3.1441	28	0		E
1990	QM1	12.9	900906	329.01	241.91	147.13	2.54	0.1782	3.1771	28	0		E
1990	QO1	12.4	900906	107.76	255.93	337.13	10.16	0.0539	3.0002	28	8		E
1990	QQ1	12.4	900906	297.11	94.98	340.63	15.56	0.2291	3.1507	28	8		E
1990	QR1	13.5	900906	22.24	191.28	128.87	1.13	0.0711	2.7829	28	9		E
1990	QS1	13.2	900906	130.40	213.08	1.60	3.46	0.0071	2.6702	28	9		E
1990	QW1	13.7	900906	294.72	79.79	343.49	5.71	0.1050	2.4787	28	8		E
1990	QX1	14.5	900906	312.20	5.79	49.52	0.88	0.2140	2.3286	28	8		E

1990	QZ1	13.5	900906	251.30	118.69	345.35	7.15	0.0819	2.4005	28	8		E
1990	QA2	13.4	900906	280.55	114.15	319.75	1.58	0.0608	2.6310	28	0		E
1990	QB2	14.3	900906	15.92	150.12	171.23	2.08	0.2175	2.3823	28	6		E
1990	QE2	14.0	900906	46.23	310.69	334.75	5.01	0.1606	2.2290	28	6		E
1990	QF2	12.8	900906	33.32	179.72	131.14	3.11	0.0484	2.8791	28	8		E
1990	QG2	11.9	900906	292.74	260.68	165.68	14.22	0.0958	3.1298	28	8		E
1990	QH2	14.5	900906	342.13	15.78	356.00	4.53	0.1720	2.3168	29	0		W
1990	QJ2	15.2	900906	324.71	0.33	33.80	1.54	0.1590	2.1907	28	8		E
1990	QY2	13.8	900906	313.54	39.19	0.01	2.22	0.0930	2.4624	28	0		E
1990	QZ2	15.4	900906	348.15	11.67	352.52	2.14	0.2394	2.3493	28	0		E
1990	QA3	13.6	900906	294.35	262.43	175.92	8.31	0.2358	2.4938	23	6		E
1990	QB3	15.0	900906	320.00	240.08	159.14	3.85	0.1655	2.1920	28	0		E
1990	QD3	15.3	900906	1.33	6.14	337.20	6.22	0.1839	2.1622	28	8		E
1990	QG3	16.2	900906	353.44	325.37	31.96	1.65	0.3011	2.2367	28	9		E
1990	QJ3	13.0	900906	302.45	71.67	348.72	12.64	0.1502	2.9059	28	7		E
1990	QK3	14.2	900906	325.79	239.23	150.62	6.25	0.1238	2.3070	28	8		E
1990	QM3	14.9	900906	349.85	8.60	352.16	7.15	0.1463	2.3236	28	8		E
1990	QO3	12.0	900817	306.28	46.88	354.16	10.61	0.0736	3.1285	34	0		B
1990	QP3	13.0	900817	357.91	244.69	97.39	2.54	0.1817	3.1565	31	0		B
1990	QX3	15.3	900906	1.18	3.92	337.71	5.50	0.2968	2.5733	28	8		E
1990	QZ3	14.8	900906	3.95	184.19	154.37	5.86	0.1482	2.3246	28	0		E
1990	QP4	15.0	900906	19.32	328.68	347.23	2.46	0.1795	2.3760	27	9		W
1990	QJ5	14.5	900906	337.39	359.30	19.33	2.73	0.2093	2.3779	27	0	D	E
1990	QL5	15.6	900817	349.21	204.76	141.50	2.21	0.2165	2.2070	7	6		E
1990	QM5	14.7	900817	355.22	215.92	123.19	2.32	0.2575	2.8008	7	6		E
1990	QN5	14.7	900817	352.41	354.07	348.17	5.53	0.1856	2.4948	7	6		E
1990	QO5	15.3	900817	28.65	216.21	74.89	1.55	0.1767	2.2357	7	6		E
1990	QB6	13.6	900926	30.91	318.32	358.37	12.37	0.2338	2.4026	48	9		N
1990	QE6	14.0	900906	21.65	318.99	352.27	19.20	0.2244	2.6805	25	6		E
1990	RC	13.5	900926	320.55	271.66	104.33	29.27	0.0364	2.5375	33	9		W
1990	SC	14.0	900906	323.34	86.33	334.40	7.03	0.2570	2.5509	5	0		W
1990	SF	13.0	900906	6.51	264.30	76.73	16.51	0.2925	3.0861	11	9		W
1990	SG	12.0	900906	357.72	288.10	70.58	20.13	0.1109	3.1875	11	9		W
1990	SH	14.5	900906	356.78	263.37	95.17	14.44	0.2579	2.7119	5	6		W
1990	SK	14.0	900926	344.57	326.44	46.61	26.03	0.2685	2.2887	23	5		W
1990	SL	13.5	900926	28.10	222.17	76.63	24.83	0.2838	2.3594	23	5		W
1990	SN	18.0	900926	357.82	10.31	0.13	6.21	0.3153	2.1901	24	0		W
1990	SO	19.6	900926	17.39	343.12	352.61	25.03	0.1736	1.7269	7	0		S
1990	SU	12.3	900926	160.05	352.53	211.77	10.53	0.0700	2.9902	4	8	E	E
1990	SV	15.0	900926	12.16	21.97	320.24	4.50	0.3046	2.5425	25	0		N
1990	SX	12.6	900926	13.16	12.81	336.71	11.51	0.1766	3.1412	4	8		E
1990	SY	13.3	900926	46.21	335.16	331.54	8.78	0.1575	2.5803	4	8		E
1990	SZ	13.2	900926	313.89	87.90	347.61	11.45	0.2205	2.6167	4	0		N
1990	SB1	12.5	900926	190.20	193.97	347.97	13.95	0.1518	2.5780	4	0		E
1990	SC1	14.0	900926	349.79	43.57	342.15	10.37	0.2400	3.0419	4	0	E	E
1990	SD1	13.6	900926	9.86	16.64	335.48	9.49	0.2296	2.4878	2	6		E
1990	SE1	13.5	900926	69.21	295.63	347.46	14.12	0.1508	2.5522	4	0		E
1990	SF1	13.4	900926	320.35	162.87	263.96	3.67	0.2019	2.8827	4	0		E
1990	SH1	13.7	900926	355.54	169.61	206.99	8.64	0.2800	2.6957	2	6	E	E
1990	SK1	15.1	900926	357.13	156.72	215.65	6.67	0.2000	2.1941	2	6	E	E
1990	SM1	13.5	900926	21.38	341.95	357.69	13.84	0.1587	2.5547	2	6		E
1990	SN1	13.4	900926	332.11	182.01	224.59	4.55	0.1500	2.2913	2	6	E	E
1990	SW1	14.0	900926	345.31	194.33	193.75	25.46	0.2955	2.3569	25	0		W
1990	SX1	14.0	900926	339.16	45.71	342.99	20.07	0.1048	1.9257	25	0		W
1990	SB2	13.5	900926	330.11	267.83	153.80	20.25	0.3490	2.4064	25	7		W
1990	SD2	14.6	900926	7.82	209.28	150.27	7.89	0.1459	2.2632	3	7		E
1990	SE2	13.7	900926	12.86	317.74	35.37	12.38	0.1500	2.6746	3	7	E	E
1990	SJ2	14.1	900926	340.26	318.75	79.49	4.75	0.1638	2.2153	24	7		N
1990	SS3	13.9	900926	344.77	35.02	1.86	11.22	0.3065	2.6631	18	8		N

1990 SH4	18.0	900926	63.40	303.38	326.91	7.04	0.2304	2.1653	11	0			S
1990 SJ4	19.5	900926	11.64	150.12	189.07	7.13	0.2920	2.1487	3	0			M
1990 SO4	12.9	901016	26.96	47.98	300.05	8.02	0.1926	2.3240	16	5			N
1990 TF	13.0	900926	30.10	335.23	334.95	14.89	0.1797	2.6760	3	5			W
1990 TK	16.0	900926	42.60	300.01	24.52	19.14	0.0791	1.8614	4	7			W
1990 TO	13.9	901016	18.14	287.32	69.17	5.69	0.1888	2.2867	8	7			N
1990 TP	15.0	900926	13.49	226.93	130.40	3.90	0.1580	2.2328	5	7			W
1990 TW	11.4	901016	26.46	307.94	48.02	13.63	0.1844	2.6098	6	6			N
1990 TX	14.0	901016	359.12	310.53	74.95	4.24	0.2454	2.1939	3	8			W
1990 TY	13.4	901105	4.98	194.85	186.85	29.03	0.0575	2.3653	2	6	E		N
1990 TE1	13.2	901105	5.48	21.08	17.78	12.88	0.1289	2.2087	2	3	E		N
1990 TF1	18.5	900926	9.37	154.75	198.30	19.40	0.2441	2.0009	2	7			W
1990 TG1	16.0	901016	84.35	41.39	206.15	5.28	0.4659	2.1698	8	0	E		M
1990 TH1	18.0	901016	46.06	111.62	204.41	26.11	0.2237	1.7561	4	8			W
1990 TS1	13.5	901105	344.96	55.74	348.73	6.40	0.1481	3.0780	4	6			s
1990 TT1	16.0	901105	346.94	157.56	250.56	4.16	0.2365	2.7612	4	6			s
1990 TU1	14.5	901105	15.14	101.18	262.56	4.35	0.1524	3.0856	3	5			s
1990 TV1	15.5	901105	312.76	184.57	270.23	3.61	0.2202	2.5870	4	6			s
1990 TX1	15.5	901105	63.53	49.16	258.97	2.33	0.1260	2.3217	4	6			s
1990 TY1	14.0	901105	253.63	183.12	314.18	4.51	0.0655	2.7263	4	6			s
1990 TZ1	14.0	901105	350.17	118.01	277.34	2.33	0.0656	2.7304	4	6			s
1990 TA2	15.5	901105	284.36	221.39	248.66	5.00	0.0918	2.7477	3	4			s
1990 TB2	15.5	901105	353.70	32.57	2.96	7.51	0.2120	2.9637	4	6			s
1990 TC2	16.5	901105	329.72	202.72	229.99	3.90	0.2029	2.3013	4	6			s
1990 TD2	16.0	901105	24.64	96.71	257.45	2.70	0.1420	2.4514	4	6			s
1990 TE2	16.0	901105	277.52	231.75	245.84	3.45	0.0847	2.3506	4	6			s
1990 TF2	16.5	901105	353.08	85.05	313.00	3.16	0.1591	2.3201	4	6			s
1990 TG2	14.5	901105	351.42	27.98	10.30	15.14	0.1667	2.8580	4	6			s
1990 TH2	15.5	901105	16.39	98.16	266.48	2.40	0.1216	2.7269	4	6			s
1990 TJ2	13.5	901105	357.05	166.89	221.69	7.44	0.1133	3.0296	4	6			s
1990 TK2	12.5	901105	81.48	283.11	9.10	17.06	0.0913	3.2110	4	6			s
1990 TL2	15.5	901105	79.71	283.56	350.99	6.69	0.2733	2.4680	4	6			s
1990 TM2	14.0	901105	112.78	18.51	242.81	3.87	0.0931	3.0811	4	6			s
1990 TN2	15.5	901105	355.42	185.27	209.00	11.62	0.1692	2.4424	4	6			s
1990 TO2	14.0	901105	87.56	10.13	254.72	4.05	0.2910	2.6064	4	6			s
1990 TP2	16.0	901105	5.68	41.35	335.83	2.31	0.2581	3.0553	4	6			s
1990 TQ2	14.5	900926	57.71	288.87	11.02	17.43	0.1728	2.6516	4	6			M
1990 TR2	13.5	901105	266.54	251.50	236.30	5.22	0.0898	3.1762	4	6			s
1990 TS2	14.5	901105	298.01	88.76	9.30	15.17	0.0916	2.6161	4	6			s
1990 TT2	15.5	901105	356.99	161.70	229.81	6.36	0.1599	2.4086	3	5			s
1990 TU2	15.5	900926	70.00	320.04	322.00	1.76	0.1945	2.1599	3	5	E		M
1990 UC	13.1	901016	18.72	172.23	184.68	9.44	0.2504	2.5376	3	6			N

1986 SL2 = 1986 PV5 (H. Oishi)
1986 SQ2 = 1986 QL4 (H. Oishi)
1986 ST2 = 1986 RW16 (H. Oishi)
1986 SU2 = 1986 PA6 (H. Oishi)
1986 TW9 = 1986 WP3 (H. Oishi)
1990 EX5 = 1990 DB1 (G. V. Williams)
1990 QJ5 = 1990 SM4 (S. Nakano)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
(237) Coelestina Obs. 61 M 35.88378 Peri. 198.93347
H 9.43 G 0.25 Opp. 28 n 0.21466101 Node 83.93883
rms res. 1".17 (M-P) 1884-1990 e 0.0739568 Incl. 9.75490

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(278) Paulina Obs. 75 M 179.36538 Peri. 139.03724
H 9.38 G 0.15 Opp. 20 n 0.21578938 Node 61.64792
rms res. 0".92 (M-P) 1913-1990 e 0.1358758 Incl. 7.81706

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(467) Laura Obs. 44 M 329.00765 Peri. 92.99137
H 10.86 G 0.15 Opp. 16 n 0.19506930 Node 322.22417
rms res. 1".07 (M-P) 1901-1990 e 0.1064060 Incl. 6.45246

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(743) Eugenisis Obs. 67 M 325.58164 Peri. 185.15298
H 10.22 G 0.15 Opp. 21 n 0.21116271 Node 228.77374
rms res. 0".94 (M-P) 1929-1990 e 0.0565636 Incl. 4.82719

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(779) Nina Obs. 87 M 16.08430 Peri. 48.60497
H 8.6 G 0.25 Opp. 23 n 0.22650016 Node 283.49232
rms res. 0".85 (M-P) 1916-1988 e 0.2258123 Incl. 14.57060

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(992) Swasey Obs. 40 M 171.70769 Peri. 345.26598
H 10.88 G 0.15 Opp. 12 n 0.18757712 Node 211.97731
rms res. 1".18 (M-P) 1962-1990 e 0.0944765 Incl. 10.86660

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1227) Geranium Obs. 27 M 163.59513 Peri. 293.58528
H 10.28 G 0.15 Opp. 13 n 0.17034654 Node 2.07441
rms res. 1".07 (M-P) 1931-1988 e 0.1945596 Incl. 16.24607

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1240) Centenaria Obs. 32 M 173.59341 Peri. 23.34046
H 9.80 G 0.15 Opp. 15 n 0.20299708 Node 323.45817
rms res. 0".99 (M-P) 1932-1989 e 0.1736770 Incl. 10.16666

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1247) Memoria Obs. 80 M 196.98647 Peri. 138.10942
H 10.64 G 0.15 Opp. 19 n 0.17573255 Node 161.56433
rms res. 0".95 (M-P) 1932-1990 e 0.1562926 Incl. 1.76664

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1260) Walhalla Obs. 25 M 44.96255 Peri. 18.80234
H 11.8 G 0.25 Opp. 13 n 0.23325417 Node 304.44317
rms res. 1".06 (M-P) 1933-1986 e 0.0370292 Incl. 8.01508

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1275) Cimbria Obs. 38 M 102.16729 Peri. 197.16101
H 10.72 G 0.15 Opp. 14 n 0.22450669 Node 188.07429
rms res. 1".02 (M-P) 1932-1989 e 0.1677252 Incl. 12.85367

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1421) Esperanto Obs. 40 M 356.72481 Peri. 159.73657
H 10.36 G 0.15 Opp. 13 n 0.18096860 Node 42.64820
rms res. 0".89 (M-P) 1906-1982 e 0.0706083 Incl. 9.78083

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1431) Luanda Obs. 35 M 175.73423 Peri. 222.98854
H 11.4 G 0.25 Opp. 9 n 0.23254893 Node 117.37331
rms res. 0".94 (M-P) 1937-1986 e 0.1833324 Incl. 14.03284

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1436) Salonta Obs. 47 M 33.58584 Peri. 32.13139
H 10.70 G 0.15 Opp. 14 n 0.17682309 Node 260.29671
rms res. 0".72 (M-P) 1940-1983 e 0.0745063 Incl. 13.86599

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1484) Postrema Obs. 48 M 223.35706 Peri. 125.38318
H 11.1 G 0.25 Opp. 11 n 0.21763205 Node 72.65745
rms res. 0".87 (M-P) 1933-1988 e 0.2057182 Incl. 17.25894

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1514) Ricouxa Obs. 39 M 42.61282 Peri. 178.50996
H 12.4 G 0.25 Opp. 13 n 0.29398687 Node 145.38192
rms res. 0".89 (M-P) 1906-1990 e 0.1999197 Incl. 4.53532

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1547) Nele Obs. 39 M 160.79867 Peri. 153.27962
H 10.75 G 0.15 Opp. 14 n 0.22907171 Node 291.03626
rms res. 0".84 (M-P) 1940-1990 e 0.2540261 Incl. 11.70337

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1554) Yugoslavia Obs. 48 M 304.41281 Peri. 131.25881
H 11.57 G 0.15 Opp. 17 n 0.23250852 Node 216.75787
rms res. 1".14 (M-P) 1932-1982 e 0.2023215 Incl. 12.16196

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1558) Jarnefelt Obs. 31 M 244.10656 Peri. 283.64499
H 10.29 G 0.15 Opp. 15 n 0.17036738 Node 110.57804
rms res. 1".02 (M-P) 1913-1984 e 0.0486907 Incl. 10.48569

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1560) Strattonia Obs. 51 M 350.48633 Peri. 93.24929
H 11.82 G 0.15 Opp. 14 n 0.22399582 Node 289.16275
rms res. 0".93 (M-P) 1942-1986 e 0.2122560 Incl. 6.27572

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1562) Gondolatsch Obs. 55 M 87.69838 Peri. 82.85258
H 11.80 G 0.25 Opp. 18 n 0.29664082 Node 129.03117
rms res. 0".96 (M-P) 1926-1987 e 0.0778084 Incl. 4.88763

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1594) Danjon Obs. 62 M 93.76896 Peri. 221.50763
H 12.3 G 0.25 Opp. 14 n 0.28848832 Node 69.05545
rms res. 0".73 (M-P) 1931-1982 e 0.1957336 Incl. 8.95387

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1595) Tanga Obs. 24 M 352.40083 Peri. 188.31074
H 11.94 G 0.15 Opp. 12 n 0.22911364 Node 111.82469
rms res. 1".00 (M-P) 1930-1987 e 0.1108100 Incl. 4.15965

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1644) Rafita Obs. 44 M 159.93964 Peri. 197.43550
H 12.01 G 0.25 Opp. 16 n 0.24204911 Node 270.43071
rms res. 0".87 (M-P) 1906-1989 e 0.1525197 Incl. 6.99594

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1725) CrAO Obs. 33 M 67.53076 Peri. 227.78637
H 11.1 G 0.25 Opp. 13 n 0.19927110 Node 118.91302
rms res. 0".90 (M-P) 1930-1988 e 0.0885413 Incl. 3.17259

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1818) Brahms Obs. 15 M 40.91606 Peri. 73.85074
H 14.1 G 0.25 Opp. 7 n 0.30966283 Node 249.06958
rms res. 1".35 (M-P) 1904-1990 e 0.1783528 Incl. 2.97926

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1845) Helewalda Obs. 35 M 128.45010 Peri. 320.22287
H 11.8 G 0.25 Opp. 13 n 0.19250873 Node 142.31948
rms res. 0".87 (M-P) 1931-1990 e 0.0521637 Incl. 10.69884

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(1927) Suvanto Obs. 21 M 273.47887 Peri. 96.63569
H 11.8 G 0.25 Opp. 8 n 0.22859733 Node 26.67347
rms res. 0".94 (M-P) 1930-1990 e 0.1498712 Incl. 13.36975

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2051) Chang Obs. 71 M 338.47415 Peri. 172.51066
H 11.7 G 0.25 Opp. 9 n 0.20578335 Node 214.95553
rms res. 0".97 (M-P) 1935-1990 e 0.0750673 Incl. 1.34500

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2160) Spitzer Obs. 26 M 328.62004 Peri. 207.13241
H 11.96 G 0.25 Opp. 10 n 0.19973016 Node 134.02399
rms res. 1".21 (M-P) 1956-1989 e 0.0998006 Incl. 2.85811

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2287) Kalmykia Obs. 33 M 0.35329 Peri. 214.01752
H 13.1 G 0.25 Opp. 11 n 0.29399099 Node 92.87330
rms res. 1".03 (M-P) 1930-1990 e 0.1709020 Incl. 5.29090

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2331) Parvulesco Obs. 36 M 186.97608 Peri. 222.57876
H 12.37 G 0.25 Opp. 10 n 0.26107576 Node 255.17923
rms res. 0".98 (M-P) 1936-1989 e 0.2244526 Incl. 3.71537

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2332) Kalm Obs. 28 M 47.59761 Peri. 235.75592
H 10.64 G 0.15 Opp. 7 n 0.18311176 Node 61.11109
rms res. 1".01 (M-P) 1935-1983 e 0.0672511 Incl. 14.57145

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2356) Hirons Obs. 51 M 166.44719 Peri. 18.89671
H 10.67 G 0.15 Opp. 11 n 0.16950249 Node 188.64122
rms res. 1".00 (M-P) 1970-1989 e 0.0389503 Incl. 15.61551

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2438) Oleshko Obs. 23 M 322.34946 Peri. 170.44031
H 13.69 G 0.25 Opp. 8 n 0.29322913 Node 51.84515
rms res. 0".88 (M-P) 1954-1985 e 0.1077340 Incl. 4.90120

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2446) Lunacharsky Obs. 20 M 180.47412 Peri. 250.10985
H 12.99 G 0.25 Opp. 7 n 0.27271243 Node 21.84413
rms res. 0".74 (M-P) 1971-1989 e 0.1608828 Incl. 3.31708

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2453) A921 SA Obs. 16 M 69.41265 Peri. 339.82302
H 11.09 G 0.25 Opp. 5 n 0.18774298 Node 11.67426
rms res. 0".91 (M-P) 1921-1982 e 0.1067717 Incl. 10.30159

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2467) Kollontai Obs. 22 M 134.45017 Peri. 17.51260
H 12.65 G 0.25 Opp. 8 n 0.29910967 Node 308.76276
rms res. 1".08 (M-P) 1933-1989 e 0.1598803 Incl. 5.79826

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2483) Guinevere Obs. 38 M 224.02949 Peri. 184.19897
H 11.18 G 0.15 Opp. 8 n 0.12406543 Node 251.62865
rms res. 0".85 (M-P) 1928-1987 e 0.2743484 Incl. 4.49722

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2515) Gansu Obs. 17 M 206.78600 Peri. 351.93726
H 12.34 G 0.15 Opp. 6 n 0.17468490 Node 55.63886
rms res. 0".97 (M-P) 1953-1987 e 0.2074127 Incl. 4.07076

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2592) Hunan Obs. 49 M 101.61409 Peri. 11.47464
H 11.7 G 0.25 Opp. 10 n 0.17889021 Node 204.04219
rms res. 0".85 (M-P) 1966-1986 e 0.1246604 Incl. 1.33421

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2595) Gudiachvili Obs. 34 M 10.18585 Peri. 277.79282
H 12.37 G 0.15 Opp. 6 n 0.21200087 Node 148.18459
rms res. 0".72 (M-P) 1952-1989 e 0.1439956 Incl. 9.87291

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2627) Churyumov Obs. 22 M 9.56793 Peri. 317.48248
H 11.93 G 0.15 Opp. 9 n 0.17952476 Node 109.18912
rms res. 0".83 (M-P) 1951-1989 e 0.1703446 Incl. 2.50143

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2633) Bishop Obs. 24 M 346.12929 Peri. 265.73977
H 13.02 G 0.25 Opp. 8 n 0.29700110 Node 62.03787
rms res. 1".04 (M-P) 1951-1990 e 0.1393303 Incl. 3.12752

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2634) James Bradley Obs. 67 M 150.19609 Peri. 339.78638
H 10.36 G 0.15 Opp. 8 n 0.15412064 Node 133.81919
rms res. 0".70 (M-P) 1931-1989 e 0.0713766 Incl. 6.44311

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2654) Ristenpart Obs. 22 M 125.74553 Peri. 35.15151
H 12.6 G 0.25 Opp. 5 n 0.18564664 Node 206.45369
rms res. 0".69 (M-P) 1968-1990 e 0.1017734 Incl. 7.45527

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2706) Borovsky Obs. 26 M 229.39433 Peri. 102.41933
H 11.9 G 0.25 Opp. 7 n 0.18806708 Node 50.57813
rms res. 0".93 (M-P) 1964-1990 e 0.0435429 Incl. 10.85193

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2741) Valdivia Obs. 23 M 8.40498 Peri. 90.54091
H 11.6 G 0.25 Opp. 11 n 0.23434773 Node 150.91608
rms res. 1".05 (M-P) 1935-1990 e 0.1866276 Incl. 10.27036

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2743) 1965 WR Obs. 17 M 304.96233 Peri. 136.18512
H 12.35 G 0.15 Opp. 6 n 0.22783168 Node 251.93811
rms res. 1".05 (M-P) 1965-1986 e 0.1747966 Incl. 12.26495

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2756) Dzhangar Obs. 52 M 336.15753 Peri. 18.70082
H 13.19 G 0.15 Opp. 8 n 0.24177450 Node 350.15095
rms res. 0".83 (M-P) 1956-1988 e 0.1137507 Incl. 5.75694

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2762) Fowler Obs. 34 M 259.65307 Peri. 186.03350
H 13.69 G 0.25 Opp. 7 n 0.27696239 Node 303.63172
rms res. 0".92 (M-P) 1942-1988 e 0.1512802 Incl. 4.69985

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2777) Shukshin Obs. 21 M 278.05128 Peri. 95.22871
H 13.40 G 0.25 Opp. 6 n 0.27008813 Node 36.53102
rms res. 0".84 (M-P) 1961-1986 e 0.0896368 Incl. 4.91369

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2790) Needham Obs. 18 M 280.80608 Peri. 357.89287
H 12.85 G 0.15 Opp. 5 n 0.22796619 Node 50.37681
rms res. 1".13 (M-P) 1965-1985 e 0.1791693 Incl. 14.63969

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2795) Lepage Obs. 70 M 359.94283 Peri. 284.68837
H 13.19 G 0.25 Opp. 5 n 0.28325961 Node 212.93584
rms res. 0".77 (M-P) 1974-1989 e 0.0291971 Incl. 6.03873

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2817) Perec Obs. 21 M 101.82272 Peri. 96.91088
H 13.91 G 0.25 Opp. 7 n 0.27201111 Node 254.39300
rms res. 0".82 (M-P) 1953-1989 e 0.1781056 Incl. 2.26874

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2870) Haupt Obs. 26 M 132.90445 Peri. 279.57241
H 12.92 G 0.25 Opp. 6 n 0.26637701 Node 85.56861
rms res. 0".82 (M-P) 1959-1989 e 0.2117765 Incl. 4.15657

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2873) Binzel Obs. 15 M 133.88012 Peri. 167.67400
H 13.13 G 0.39 Opp. 7 n 0.29194585 Node 100.55043
rms res. 0".70 (M-P) 1935-1988 e 0.1590295 Incl. 5.90412

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(2878) Panacea Obs. 27 M 335.69162 Peri. 14.49274
H 11.57 G 0.15 Opp. 6 n 0.18552284 Node 318.03334
rms res. 1".06 (M-P) 1938-1990 e 0.0880819 Incl. 10.25984

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3052) Herzen Obs. 21 M 234.66223 Peri. 278.98022
H 13.2 G 0.25 Opp. 5 n 0.26932164 Node 238.15389
rms res. 0".73 (M-P) 1952-1990 e 0.1811131 Incl. 3.90511

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3058) Delmary Obs. 30 M 54.65176 Peri. 210.24751
H 14.4 G 0.25 Opp. 7 n 0.29210886 Node 207.38612
rms res. 0".79 (M-P) 1905-1986 e 0.1570886 Incl. 3.55117

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3188) 1978 OM Obs. 28 M 153.13886 Peri. 22.47180
H 13.4 G 0.25 Opp. 7 n 0.28450020 Node 336.03900
rms res. 0".89 (M-P) 1954-1987 e 0.1340047 Incl. 4.69658

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3224) Irkutsk Obs. 30 M 62.65148 Peri. 4.43434
H 11.35 G 0.15 Opp. 8 n 0.21233198 Node 227.61997
rms res. 0".78 (M-P) 1953-1989 e 0.1678622 Incl. 4.31679

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3236) Strand Obs. 17 M 298.62719 Peri. 213.95719
H 13.81 G 0.25 Opp. 5 n 0.30167574 Node 216.81205
rms res. 0".98 (M-P) 1971-1987 e 0.1445006 Incl. 1.10855

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3251) Eratosthenes Obs. 28 M 154.30604 Peri. 239.76920
H 12.2 G 0.25 Opp. 8 n 0.17988716 Node 141.88505
rms res. 0".87 (M-P) 1916-1990 e 0.1630869 Incl. 0.72118

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3333) Schaber Obs. 24 M 348.24647 Peri. 67.51389
H 11.7 G 0.25 Opp. 5 n 0.17855044 Node 230.79936
rms res. 0".76 (M-P) 1964-1988 e 0.2300364 Incl. 11.96823

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3355) Onizuka Obs. 15 M 98.99322 Peri. 299.38685
H 13.8 G 0.25 Opp. 6 n 0.30494739 Node 140.40778
rms res. 0".90 (M-P) 1945-1989 e 0.0666376 Incl. 4.06875

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3380) 1940 EF Obs. 13 M 269.74810 Peri. 21.46780
H 12.1 G 0.25 Opp. 8 n 0.20571695 Node 92.61379
rms res. 0".90 (M-P) 1940-1990 e 0.0252554 Incl. 3.24073

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3418) Izvekov Obs. 18 M 13.87153 Peri. 277.07919
H 12.2 G 0.25 Opp. 6 n 0.17553147 Node 84.26651
rms res. 1".10 (M-P) 1934-1990 e 0.1827324 Incl. 1.89760

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3533) Toyota Obs. 25 M 48.50860 Peri. 237.24354
H 12.8 G 0.25 Opp. 7 n 0.29789584 Node 196.72765
rms res. 0".89 (M-P) 1953-1989 e 0.1171855 Incl. 4.87096

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3539) Weimar Obs. 19 M 97.59664 Peri. 127.24749
H 13.1 G 0.25 Opp. 7 n 0.22744587 Node 141.05250
rms res. 0".97 (M-P) 1950-1990 e 0.1555140 Incl. 13.66115

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
(3600) 1978 SL7 Obs. 19 M 216.04662 Peri. 145.01085
H 13.0 G 0.25 Opp. 8 n 0.24007716 Node 5.02503
rms res. 1".30 (M-P) 1951-1987 e 0.1368296 Incl. 7.91757

(4615)* A923 RH = 1940 TE = 1982 UK11 = 1983 AK2 = 1986 TG2
Discovered 1923 Sept. 13 by K. Reinmuth at Heidelberg.
Id. H. Kaneda (MPC 16692)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 17.63311 (1950.0) P Q
n 0.23535550 Peri. 341.96457 +0.95712366 +0.28962724
a 2.5980838 Node 1.24038 -0.22437510 +0.75325098
e 0.1656514 Incl. 14.74876 -0.18322151 +0.59053283
P 4.19 H 12.5 G 0.25
Residuals in seconds of arc

230913	024	2.0+	2.0-	810423	413	0.1+	0.2-	861007 688	1.8+ 0.9+
230914	024	0.7+	0.7-	821016	095	1.1-	2.7+	861007 688	0.4+ 1.2+
401007	690	0.3-	1.1-	830107	033	0.3-	0.5-	900816 801	0.7- 0.8+
401008	690	0.7+	1.8-	830107	033	0.6-	0.1-	900816 801	0.6- 0.9+

900818 400 1.7+ 0.4- 900820 801 2.7- 1.0+ 900918 801 0.5- 0.8+
900818 400 1.4+ 1.4+ 900830 400 2.2- 2.0- 900921 392 0.3+ 0.5-
900818 400 0.3+ 1.3+ 900830 400 0.1- 2.3- 900921 392 0.6+ 0.8-
900820 801 1.1- 1.2+ 900918 801 0.6- 0.9+

(4616)* 1975 BF = 1973 SA6 = 1979 UR4 = 1979 WV5

Discovered 1975 Jan. 17 by L. I. Chernykh at the Crimean Astrophysical Observatory.

Id. S. Nakano (MPC 10756)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M 317.46330		(1950.0)	P	Q
n 0.17563302	Peri.	258.46460	+0.28624094	-0.95815592
a 3.1579016	Node	174.90126	+0.88689396	+0.26422711
e 0.1641366	Incl.	1.18176	+0.36260892	+0.11009662
P 5.61	H	12.4	G 0.25	

Residuals in seconds of arc

730919 675 1.0+ 0.6- 730925 675 0.9- 2.1+ 780709 675 1.4- 0.4-
730919 675 0.1+ 0.8- 730928 095 (4.2+ 2.1-) 780709 675 1.5+ 0.2+
730920 675 0.0 0.7- 731004 675 1.4+ 1.5- 791017 095 0.6- 2.2-
730924 675 0.9+ 0.6- 731004 675 1.5- 2.3+ 791117 095 1.2+ 0.8+
730924 675 1.3+ 0.2+ 731004 675 0.2+ 1.2- 900824 675 1.0+ 1.0-
730925 675 0.7- 1.4- 731004 675 1.8- 1.7+ 900824 675 0.1+ 1.1-
730925 675 1.4- 1.5+ 750116 330 0.6+ 0.8- 900918 801 0.5- 0.6+
730925 675 0.5+ 0.9+ 750117 095 0.6- 1.2+ 900918 801 0.3- 0.8+

(4617)* 1976 DK = 1951 WM2 = 1978 NG3 = 1980 XA1

Discovered 1976 Feb. 22 at El Leoncito.

Id. A. Lowe (MPC 13453), B. G. Marsden (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden

M 189.66698		(1950.0)	P	Q
n 0.17086947	Peri.	276.15053	-0.82605507	-0.50056702
a 3.2163235	Node	234.11289	+0.55345840	-0.80722781
e 0.0560871	Incl.	18.64164	-0.10638054	-0.31275536
P 5.77	H	11.3	G 0.25	

Residuals in seconds of arc

511129 711 0.1- 1.0+ Y 801210 330 0.6- 0.3+ 900916 801 0.1+ 0.1+
760222 808 0.0 0.1- 890630 801 1.0+ 0.0 900916 801 0.2+ 0.1+
760227 808 2.8- 1.7- 900819 801 0.2- 0.9- 900918 801 0.3- 0.2-
780710 095 0.3+ 1.4+ 900819 801 0.4- 1.1- 900918 801 0.3- 0.5-
780712 095 0.1- 2.3+ 900820 801 0.4+ 2.0-
801207 330 3.2+ 0.1+ 900820 801 0.4- 1.2-

(4618)* 1977 RJ3 = 1977 TE3 = 1943 SF = 1983 AL6 = 1983 CJ1

Discovered 1977 Sept. 12 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. B. G. Marsden (d, MPC 9153), T. Kobayashi (MPC 15699), H. Oishi (ibid.) C. M. Bardwell (ibid.), W. Landgraf (ibid.), L. D. Schmadel (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M 359.92809		(1950.0)	P	Q
n 0.23149593	Peri.	60.54246	+0.72082344	-0.69061880
a 2.6268815	Node	342.90551	+0.54615837	+0.61818702
e 0.2892228	Incl.	11.54204	+0.42676059	+0.37535380
P 4.26	H	12.9	G 0.25	

Residuals in seconds of arc

430923 020 0.3- 3.3- 830115 095 0.0 3.1+ 900918 801 0.0 0.1-
430923 020 4.0+ 1.7- 830211 688 0.1+ 0.9- 900918 801 0.0 0.2-
770912 095 1.2- 1.6+ 830211 688 0.4+ 1.4- 900919 801 0.1+ 0.2-
770918 095 0.8- 1.6+ 900820 801 0.7+ 1.5+ 900919 801 0.4- 0.4-
771009 095 1.9- 1.6+ 900820 801 0.4- 0.6+

(4619)* 1977 RB7 = 1966 CW = 1988 DH

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

Id. S. Nakano (MPC 12941)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	260.86843	(1950.0)	P	Q	
n	0.22352842	Peri.	200.58753	-0.29492162	-0.95500064
a	2.6889386	Node	266.57582	+0.88099260	-0.25898826
e	0.0294951	Incl.	1.81086	+0.36996388	-0.14456436
P	4.41	H	12.5	G 0.25	

Residuals in seconds of arc

660214	330	1.3-	0.9-	771016	675	0.1-	1.3-	880219	897	0.3+	1.3-
770911	095	0.7+	1.2+	771017	675	0.1+	0.8-	880219	897	0.0	0.5-
771007	675	0.3+	0.7-	771017	675	0.1+	0.1+	900824	675	0.6+	1.8-
771011	675	0.9+	2.6+	771021	675	1.3+	1.2-	900824	675	0.3-	2.0-
771011	675	0.9-	0.9+	771021	675	1.5+	0.7-	900829	675	0.4+	1.4-
771012	675	0.8-	0.4+	771022	675	0.2-	0.9+	900829	675	(3.6+	0.2+)
771012	675	1.5-	0.2-	771022	675	0.2+	1.3+	900918	801	0.2+	0.7+
771016	675	0.2+	1.7-	861012	095	1.7-	1.0+	900918	801	0.1+	0.6+

(4620)* 1978 OK = 1975 XA2 = 1980 DO3 = 1987 DD5

Discovered 1978 July 28 at Perth.

Id. C. M. Bardwell (MPC 11995), W. Landgraf (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	134.28564	(1950.0)	P	Q	
n	0.28300368	Peri.	287.06748	+0.92945237	-0.36056278
a	2.2976012	Node	94.12262	+0.36124118	+0.84631134
e	0.2201715	Incl.	4.49586	+0.07498738	+0.39211171
P	3.48	H	13.6	G 0.25	

Residuals in seconds of arc

751201	095	(1.6+	9.2-)	780809	323	0.1-	0.0	891125	095	1.8-	0.5+
780710	675	2.6+	1.9- Y	780809	323	(7.1-	3.4-)	891229	801	1.1+	0.1+
780711	675	(5.8+	0.9-)Y	800220	095	0.0	0.0	891229	801	0.1-	0.1+
780713	675	(6.8+	5.1+)Y	870223	010	0.6-	0.7-	900124	071	1.1-	0.3-
780728	323	(4.7-	2.1+)	870223	010	0.5+	0.4+	900124	071	0.0	0.9-
780731	323	(1.2-	3.7+)	870223	010	0.2-	0.4-	900125	071	0.4+	0.6-
780806	323	1.2-	0.5-	890930	801	0.0	0.1-	900125	071	2.0+	0.6-
780806	323	0.7-	0.2+	890930	801	(3.5+	1.3+)				

(4621)* 1979 QE10 = 1953 QJ = 1964 PD = 1971 KY = 1985 CJ2

Discovered 1979 Aug. 27 by N. S. Chernykh at the Crimean Astrophysical Observatory.

Id. B. G. Marsden (MPC 11739)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden

M	52.21497	(1950.0)	P	Q	
n	0.26749791	Peri.	104.63988	+0.46629340	+0.88454753
a	2.3855533	Node	193.17418	-0.83064398	+0.43309553
e	0.2135554	Incl.	3.04038	-0.30430418	+0.17321642
P	3.68	H	13.5	G 0.25	

Residuals in seconds of arc

530816	024	1.8-	3.1-	850214	809	0.9+	0.3-	850217	809	1.1+	0.2-
640812	760	1.2+	1.2-	850214	809	0.7+	0.3-	850217	809	1.1+	0.3-
640812	760	1.8+	0.3-	850215	809	1.7-	0.5+	850218	809	1.3-	0.0
710525	095	0.4-	0.4-	850215	809	1.4-	0.4+	850218	809	1.3-	0.4+
790827	095	(3.2-	4.0-)	850215	809	1.3-	0.4+	850218	809	1.0-	0.7+
790902	095	2.1+	0.8+	850216	809	0.4+	0.4-	850219	809	1.3-	0.5-
790924	095	1.5+	1.5+	850216	809	0.5+	0.7-	850219	809	0.8-	0.6-
791014	095	(4.4-	1.5-)	850216	809	0.3+	0.3-	850219	809	0.7-	0.7-
850214	809	0.8+	0.3-	850217	809	1.2+	0.1-	850221	809	0.8-	0.7-

850221 809 0.5- 0.7- 850222 809 1.1+ 0.9- 900828 657 1.2- 3.3-
850221 809 0.0 0.4- 900816 801 1.1- 0.4+ 900918 877 0.8+ 2.0+
850222 809 0.9+ 1.1- 900816 801 1.0- 0.4+ 900918 877 (5.0+ 1.7+)
850222 809 1.0+ 0.9- 900828 657 (3.8- 4.4-) 900922 657 0.3- 2.4-

(4622)* 1979 WE2 = 1973 SO6 = 1985 VJ3
Discovered 1979 Nov. 16 by L. I. Chernykh at the Crimean Astrophysical Observatory.
Id. A. Lowe (k, MPC 12438), C. M. Bardwell (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Bardwell
M 346.93136		(1950.0)	P	Q
n 0.17214322	Peri.	205.44302	+0.96329291	-0.26840292
a 3.2004381	Node	170.12206	+0.25114631	+0.89423330
e 0.1429190	Incl.	1.72440	+0.09482777	+0.35819922
P 5.73	H	12.3	G 0.25	

Residuals in seconds of arc
730919 675 0.2+ 0.3- 731004 675 0.5- 1.5+ 900827 675 0.1+ 2.0-
730919 675 0.1+ 0.8- 731004 675 1.5- 1.3+ 900827 675 0.1+ 0.5-
730920 675 0.7- 1.6+ 731005 675 1.5+ 0.4- 900914 675 0.8+ 0.9-
730924 675 0.3+ 0.1+ 731005 675 1.9+ 0.0 900914 675 0.4+ 0.7-
730924 675 0.1- 0.9+ 791116 095 1.8- 0.3- 900918 801 0.2- 0.6+
730925 675 2.3- 2.1- 791117 095 2.6+ 0.5- 900918 801 0.1- 0.7+
730925 675 0.6+ 0.9+ 851110 095 0.3+ 0.9- 900919 801 0.0 0.8+
730928 095 (6.6+ 2.1+) 851120 095 0.1- 0.9- 900919 801 0.2+ 1.2+
730929 675 0.8+ 0.9+ 900822 675 0.4+ 1.8+ 900919 675 0.7+ 1.2-
730929 675 0.4- 1.3+ 900822 675 0.8+ 0.1- 900919 675 1.2+ 2.0-
730930 675 1.2- 0.4+ 900823 675 0.1- 0.1+
730930 675 0.7- 0.2+ 900823 675 0.7- 1.1-

(4623)* 1981 UT15 = 1981 UV5 = 1976 UD2
Discovered 1981 Oct. 24 by L. I. Chernykh at the Crimean Astrophysical Observatory.
Id. S. Nakano (MPC 10757)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Nakano
M 355.27469		(1950.0)	P	Q
n 0.20515293	Peri.	359.06868	+0.99876531	-0.04963690
a 2.8471973	Node	3.77823	+0.04577097	+0.90374690
e 0.0786340	Incl.	1.74754	+0.01931003	+0.42517962
P 4.80	H	13.0	G 0.25	

Residuals in seconds of arc
761024 381 0.1- 2.0+ 861129 046 1.3+ 1.1- 861203 046 1.3- 0.2+
761024 381 1.5- 1.9+ 861129 046 (3.0+ 1.0-) 861204 010(13.7- 4.9-)
761026 095 0.2- 0.8+ 861130 046 0.0 0.3+ 900823 675 0.3+ 0.0
811024 095 0.1+ 0.8+ 861130 046 0.6+ 0.8+ 900823 675 0.2- 1.2-
811024 095 0.2+ 1.0- 861201 046 0.2- 0.7- 900827 675 0.2+ 1.8-
811024 095 (0.2+ 5.5+) 861201 046 2.1+ 0.8- 900827 675 0.0 0.6+
811030 381 (5.9+ 0.6-) 861202 688 1.5- 0.4- 900914 675 0.4- 0.1-
811030 381 0.5- 0.5- 861202 688 1.0+ 1.0- 900914 675 1.5+ 0.3-
861128 801 0.9- 0.1+ 861203 046 0.4- 0.7-

(4624)* 1982 FV2 = 1969 UC2 = 1987 CL
Discovered 1982 Mar. 23 by C. S. Shoemaker at Palomar.
Id. C. M. Bardwell (MPC 11736)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Bardwell
M 271.79297		(1950.0)	P	Q
n 0.18456539	Peri.	11.35076	-0.26475861	-0.96322293
a 3.0551735	Node	94.01419	+0.88105778	-0.26096286
e 0.2063386	Incl.	2.63581	+0.39196947	-0.06403103
P 5.34	H	12.6	G 0.25	

Residuals in seconds of arc

691017 095	0.6+	1.4-	870201 046	0.3-	1.2+	900825 675	0.8+	0.4+
820323 675	0.1-	0.4+	870202 046	0.9+	0.5-	900827 675	0.8-	0.1-
820324 675	1.9-	1.1-	870202 046	0.9+	0.5-	900827 675	0.5+	1.2+
820331 675	1.2+	1.4-	900823 675	0.8-	1.3+	900914 675	0.2-	0.6-
820331 675	0.1-	0.1+	900823 675	0.2+	0.3+	900914 675	0.1-	1.1-
870201 046	1.3-	0.6+	900825 675	0.5+	1.6-			

(4625)* 1982 UG6 = 1982 XR4 = 1975 BO = 1986 RC17

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

Id. Purple Mountain Observatory (d, MPC 10376), I. A. Filippova (k, MPC 14784), C. M. Bardwell (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M 310.64937		(1950.0)	P	Q
n 0.23434403	Peri.	13.58423	+0.39747920	-0.91733920
a 2.6055542	Node	52.99967	+0.83921471	+0.35356621
e 0.2322982	Incl.	1.60294	+0.37111853	+0.18297467
P 4.21	H	13.5	G 0.25	

Residuals in seconds of arc

750117 095	0.3+	0.9+	860914 095	0.4-	0.9+	900827 675	0.3+	0.7-
821020 095	2.3-	0.3-	861006 095	1.2+	0.1-	900827 675	1.1+	1.3-
821025 095	0.4+	0.5+	861010 095	0.7+	2.0-	900829 675	0.6+	1.4+
821109 095	0.5+	1.0+	861010 095	0.9+	2.8-	900829 675	0.4-	1.9+
821110 330	1.1-	1.3+	900816 801	0.8-	0.0	900921 801	0.8-	0.4+
821114 095	0.0	0.8-	900816 801	1.0-	0.0	900921 801	0.7-	0.2+
821117 330	2.1+	0.5+	900822 675	0.1-	0.8+			
821206 330	0.7-	0.1-	900822 675	0.2-	0.9+			

(4626)* 1984 YU1 = 1987 TB1 = 1989 EA1

Discovered 1984 Dec. 23 by L. G. Karachkina at the Crimean Astrophysical Observatory.

Id. S. Nakano (MPC 14474, unpublished)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M 160.25255		(1950.0)	P	Q
n 0.28775257	Peri.	164.67224	-0.99751395	+0.06856945
a 2.2722524	Node	19.28175	-0.06871638	-0.89535419
e 0.0816353	Incl.	2.82119	-0.01561998	-0.44004443
P 3.43	H	12.8	G 0.25	

Residuals in seconds of arc

841119 675	0.4+	0.1+	890307 046	2.2-	0.7+	890312 399	1.5+	0.0
841121 675	0.5-	0.5+	890308 399	0.9+	1.7+	890404 399	0.1+	1.6-
841223 095	0.1+	1.9-	890308 399	0.7+	0.0	890404 399	1.9+	1.8-
870918 095	1.0-	2.0+	890308 399	0.5+	0.2-	890404 399	1.2+	1.1-
871002 095	0.9+	0.1-	890309 391	(2.7-	3.0+)	900820 801	0.1-	0.1+
890305 046	0.7-	0.1-	890309 391	0.8-	2.2+	900820 801	0.3-	0.0
890305 046	2.1-	0.9-	890311 391	(1.4+	4.0-)	900916 801	0.2+	0.2-
890306 046	(2.9-	1.1+)	890311 391	(6.3+	2.9-)	900916 801	0.1-	0.3-
890306 046	1.1-	0.9+	890312 399	0.9+	0.2+	900919 801	0.2+	0.2-
890307 046	(2.9-	0.5+)	890312 399	0.2-	0.1+	900919 801	0.0	0.5-

(4627)* 1985 RT2 = 1981 WQ8 = 1983 CM2 = 1988 BX2

Discovered 1985 Sept. 5 by H. Debehogne at the European Southern Observatory.

Id. S. Nakano (MPC 13159)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	15.66745	(1950.0)	P	Q
n	0.19782389	Peri. 224.81480	+0.86658526	+0.49586234
a	2.9170927	Node 105.38200	-0.43995209	+0.81223323
e	0.0602709	Incl. 3.33736	-0.23552527	+0.30724213
P	4.98	H 12.2	G 0.25	

Residuals in seconds of arc

811125 095	0.4-	0.4+	850912 809	0.5-	0.9-	850920 809	1.5+	0.5-
830215 688	0.8+	1.5-	850912 809	0.5-	0.9-	850921 809	1.4+	0.2-
830215 688	0.4-	2.5-	850914 809	0.2-	0.5+	850921 809	1.3+	0.4-
850905 809	1.9-	0.2+	850914 809	0.3-	0.3+	850921 809	1.2+	0.1-
850905 809	1.8-	0.4+	850914 809	0.2-	0.1+	880119 033	0.2+	0.5+
850905 809	1.6-	0.5+	850915 809	0.0	0.0	880120 033	0.5-	0.8+
850907 809	1.0-	0.3-	850915 809	0.0	0.1+	880120 033	1.2-	0.8+
850907 809	1.0-	0.1-	850915 809	0.1+	0.2-	880121 033	0.5+	0.5-
850907 809	1.1-	0.2-	850917 809	1.0+	0.0	900816 801	0.1+	0.0
850910 809	0.8-	0.2+	850917 809	0.8+	0.1-	900816 801	0.1+	0.1-
850910 809	0.6-	0.3+	850917 809	0.6+	0.2+	900817 801	0.5-	0.3+
850910 809	0.4-	0.2+	850919 809	1.1+	0.3-	900817 801	0.2+	0.6-
850911 809	0.4-	0.5+	850919 809	1.1+	0.3-	900916 801	0.3+	0.1+
850911 809	0.5-	0.4+	850919 809	1.2+	0.4-	900916 801	0.1+	0.7+
850911 809	0.4-	0.5+	850920 809	1.3+	0.4-	900919 801	0.4+	0.3-
850912 809	0.7-	0.8-	850920 809	1.4+	0.5-	900919 801	0.5+	0.2-

(4628)* 1986 RU4 = 1986 VC1 = 1986 WK3 = 1937 JN = 1956 UH = 1976 ME
= 1977 TY7 = 1982 UN11

Discovered 1986 Sept. 7 by E. W. Elst at the Bulgarian National Observatory.

Id. S. Nakano (MPC 14789)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	209.75486	(1950.0)	P	Q
n	0.22939776	Peri. 248.20436	-0.93986227	-0.27449908
a	2.6428749	Node 275.39906	+0.33608773	-0.84929065
e	0.1200258	Incl. 11.77988	-0.06086009	-0.45094972
P	4.30	H 11.1	G 0.25	

Residuals in seconds of arc

370504 078(33.0-	20.4-)X	861106 054	0.3+	0.5-	900819 801	0.1-	0.2+	
370506 078(31.8+	10.8+)X	861106 054	0.2-	0.2+	900819 801	0.4-	0.2+	
561028 760	1.2+	1.7+	861125 010	1.1-	1.2-	900822 511	0.1+	1.8+
561028 760	2.1-	0.1-	861125 010	0.1-	0.7+	900822 511	(1.9+	3.6+)
760620 095	1.3+	0.2-	861125 010	1.6-	1.5-	900822 511	0.7+	2.0+
771012 095	0.1+	1.3-	890902 511	1.0-	0.5-	900913 657	0.5-	0.2-
821016 095	0.0	2.9-	890903 511	1.0-	0.7-	900913 657	1.1-	1.6-
860907 071 (2.8+	6.7-)	900817 511	1.0+	0.5+	900914 657	0.1+	1.7-	
860907 071	2.2+	0.7+	900817 511 (0.5+	3.2+)	900914 657	0.3+	1.0-	
861002 095	2.0+	1.7+	900817 801	0.2-	0.4+	900918 801	0.3+	0.4+
861008 095	1.4-	0.8+	900817 801	0.1-	0.3+	900918 801	0.5+	0.2+

(4629)* 1986 TD7 = 1986 UK = 1973 UF1 = 1976 GC7 = 1976 JH

Discovered 1986 Oct. 7 by E. F. Helin at Palomar.

Id. T. Furuta (d, JAM 2061), F. N. Bowman (d, MPC 11733), S. Nakano (ibid.) H. Oishi (JAM 2065)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	24.31816	(1950.0)	P	Q
n	0.22712208	Peri. 290.90981	+0.78570800	+0.60892609
a	2.6604993	Node 31.87070	-0.46256571	+0.69528853
e	0.2049639	Incl. 11.90908	-0.41072607	+0.38181523
P	4.34	H 12.9	G 0.25	

Residuals in seconds of arc

731026 095	1.3-	2.3+	861008 675	(9.8-	0.2+)	900829 675	0.6+	0.6+
760404 095	0.2+	0.1-	861028 046	0.1+	1.8-	900922 675	0.9+	0.6-
760502 095	0.4+	1.0+	861028 046	2.5-	2.0-	900922 675	0.3-	0.4+
861005 095	0.9+	0.5+	861109 046	2.5+	1.9+	900924 675	0.1+	0.0
861007 675	(6.5-	0.3-)	861109 046	(4.6+	1.4+)	900924 675	0.2-	0.0
861007 675	(6.5-	0.1+)	900827 675	(0.8-	3.2-)			
861008 675	(10.6-	0.6-)	900827 675	1.3-	0.2-			

(4630)* 1987 WA = 1974 VJ1

Discovered 1987 Nov. 18 by J. M. Baur at Chions.

Id. C. M. Bardwell (MPC 12961)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden

M 283.11577	(1950.0)	P	Q
n 0.22591438	Peri. 303.57361	+0.99049024	-0.10281202
a 2.6699725	Node 62.47805	+0.13277877	+0.88839146
e 0.1287110	Incl. 5.91730	-0.03603996	+0.44742632
P 4.36	H 13.5	G 0.25	

Residuals in seconds of arc

741112 095	0.1-	0.5+	871211 567	0.4+	1.4+	890114 567	1.0-	0.2+
871115 046	1.6+	0.7-	871211 567	0.0	0.4+	890114 567	0.9-	0.2+
871115 046	0.4+	0.2-	871211 567	0.9-	0.4-	890201 567	0.9-	0.4-
871118 567	0.4-	1.8+	871212 567	0.6+	1.0+	890201 567	0.8-	0.2-
871118 567	0.1+	1.5+	871212 567	0.8+	0.1-	890227 567	0.6+	0.6+
871120 567	2.2-	0.0	871215 567	0.1-	0.1-	890227 567	0.8+	0.3+
871120 567	0.1+	0.7-	871215 567	1.4+	0.5+	890227 567	0.6+	0.4+
871120 567	(2.8+	1.5-)	871217 567	2.0-	0.4+	890227 567	0.8+	0.2+
871121 567	1.1-	0.7+	871217 567	(5.7-	0.5+)	890302 567	0.2-	0.6-
871121 567	0.6+	0.2+	880108 567	0.3+	0.0	890302 567	0.1+	0.2-
871123 046	1.2+	0.5-	880108 567	0.5-	0.2+	890305 567	0.5+	0.0
871123 046	1.4-	0.2-	880109 567	0.6+	0.2-	890305 567	0.5+	0.4+
871126 046	1.7+	0.2-	880109 567	0.6+	0.4+	890307 567	0.0	0.4-
871126 046	(3.4+	0.2-)	880210 567	0.6-	1.7-	890307 567	0.4+	0.2-
871126 567	0.2-	0.7-	880210 567	(0.2-	2.7-)	900619 493	0.5-	0.1+
871126 567	0.3-	1.0-	880214 567	2.4-	0.4-	900619 493	0.2-	0.1-
871126 567	0.5+	1.4-	880214 567	1.3+	0.3-	900619 493	0.1-	0.3-
871126 046	(4.9-	2.7-)	880214 567	2.2+	0.2-	900628 493	0.4+	0.1+
871127 046	1.8-	0.4-	890114 567	0.7-	0.3+	900628 493	0.5+	0.1+

(4631)* 1987 WE1 = A899 NA = 1957 WG = 1977 TO7 = 1977 VJ2

Discovered 1987 Nov. 22 by S. Ueda and H. Kaneda at Kushiro.

Id. T. Kobayashi (MPC 12688)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M 293.99231	(1950.0)	P	Q
n 0.29513091	Peri. 50.74591	+0.24303541	-0.96844365
a 2.2342216	Node 25.35189	+0.84545544	+0.18356870
e 0.1237349	Incl. 7.41158	+0.47554063	+0.16858065
P 3.34	H 13.0	G 0.25	

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

990702 800	(0.04-	0.02-)X	871114 399	0.3+	0.9- Y	871128 399	(2.5-	2.0+)Y
571117 760	0.1-	1.0-	871115 392	(3.0-	1.6+)	871212 399	0.7+	0.2+
771010 095	1.6+	0.4-	871115 392	0.9-	0.1- Y	871212 399	(2.5+	1.3+)
771106 095	0.1+	0.8+	871117 399	(0.2-	2.7-)	900820 801	0.7-	0.3-
871022 095	1.2-	2.0-	871117 399	(0.0	2.7-)	900820 801	0.5-	0.1+
871027 095	0.9-	0.4+	871121 095	0.2+	0.9+	900919 801	0.1+	0.1-
871114 392	0.2-	0.2- Y	871122 399	0.8+	2.1+ Y	900919 801	0.2+	0.2+
871114 392	0.3+	1.3+	871122 399	1.7+	1.3+ Y	900921 801	0.6+	0.1+
871114 399	1.1-	1.5- Y	871128 399	1.2-	0.7- Y	900921 801	0.3+	0.2+

(4632)* 1987 YB = 1951 WG2 = 1977 TH3 = 1977 TG6 = 1985 BD2

Discovered 1987 Dec. 17 by T. Kojima at the YGCO Chiyoda Station.

Id. T. Kobayashi (MPC 12801)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	336.15359		(1950.0)	P	Q
n	0.30085297	Peri.	315.36915	+0.75865103	-0.64169407
a	2.2058020	Node	84.88938	+0.62484870	+0.66774837
e	0.1723123	Incl.	6.49077	+0.18442539	+0.37728083
P	3.28	H	13.7	G 0.25	

Residuals in seconds of arc

511129	711	0.1+	0.9-	Y	871220	897	0.7-	0.9-	900826	675	0.1+ 0.0
771004	330	(2.9+	4.5+)		871225	897	0.3-	0.4-	900829	675	0.5+ 0.1-
771008	095	0.9+	0.8-		871225	897	0.4+	0.7+	900921	801	0.3- 0.4+
850119	688	1.0+	0.3+		871226	897	0.3+	0.5+	900921	801	0.4- 0.3+
850119	688	0.9-	0.6+		871226	897	1.2+	1.9+	900922	801	0.4- 0.4+
871217	897	0.1+	0.2-		900824	675	0.3+	0.6-	900922	801	0.3- 0.5+
871217	897	0.2-	0.5-		900824	675	0.2+	0.4+			
871220	897	0.8-	0.4-		900826	675	0.1+	0.4-			

(4633)* 1988 AJ5 = 1977 EA7 = 1982 BZ11

Discovered 1988 Jan. 14 by H. Debehogne at the European Southern Observatory.

Id. S. Nakano (MPC 13450)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	102.00791		(1950.0)	P	Q
n	0.17366736	Peri.	65.11444	-0.60527938	+0.79600150
a	3.1816855	Node	167.63379	-0.73734616	-0.55862660
e	0.1643877	Incl.	1.15023	-0.29992918	-0.23306208
P	5.68	H	12.7	G 0.25	

Residuals in seconds of arc

770312	381	1.1-	0.3+		880116	809	0.6-	0.1-	880125	809	0.2+ 0.3+
770312	381	0.5+	0.5-		880116	809	0.2-	0.4-	880127	809	0.8- 0.2-
770314	381	0.4-	0.0		880116	809	0.3+	0.8-	880127	809	0.3+ 0.4-
770314	381	1.4+	1.2-		880119	809	0.0	0.3+	880129	809	0.8- 0.5-
770315	381	0.8-	0.1-		880119	809	0.4-	0.3+	880129	809	0.1+ 0.8-
770315	381	0.7-	0.9-		880119	809	0.1-	0.2+	900823	675	1.3+ 2.8-
820120	095	0.0	0.5+		880121	809	0.6-	0.5-	900827	675	(0.9+ 4.2-)
851018	095	0.5-	1.7+		880121	809	0.4-	0.5-	900827	675	0.2+ 1.9-
880114	809	0.4+	0.7-		880123	809	0.1+	0.5-	900914	675	0.3- 1.6-
880114	809	0.4+	0.5-		880123	809	0.5+	0.4-	900914	675	1.9+ 1.9-
880114	809	0.5+	0.3-		880125	809	0.5-	0.3+			

(4634)* 1988 BA = 1979 VZ1 = 1979 YD1 = 1985 JD1 = 1986 TH18

Discovered 1988 Jan. 16 by M. Inoue and O. Muramatsu at Kobuchizawa.

Id. S. Nakano (MPC 12944, unpublished)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	323.45186		(1950.0)	P	Q
n	0.26175015	Peri.	50.92308	+0.36396335	-0.93089349
a	2.4203495	Node	17.80886	+0.82001512	+0.30441303
e	0.0295829	Incl.	5.83862	+0.44170792	+0.20191584
P	3.77	H	13.2	G 0.25	

Residuals in seconds of arc

791114	095	2.5-	2.1-		861002	095	1.4-	0.4+	880120	386	0.3- 0.1-
791217	095	3.4+	0.1-		880116	386	0.1-	0.4+	880123	386	(3.2- 0.6-)
850511	675	2.3+	0.5+		880116	386	(8.3-	3.7+)	880123	386	1.0- 1.4-
850514	675	2.2-	1.2-		880116	386	0.3+	0.4+	880212	386	(0.3+ 3.4+)
860929	095	0.6-	0.8+		880120	386	1.2-	1.6+	880212	386	1.8+ 2.0+

880224 386 0.3+ 0.3- 900919 801 0.5+ 0.2+ 901010 896 1.1+ 0.3+
880224 386 0.6+ 0.1+ 900922 896 1.2+ 0.3+ 901016 372 0.8- 1.2-
900919 801 0.4+ 0.2+ 901010 896 (4.5+ 0.2+) 901017 372 1.5- 0.9+

(4635)* 1988 BJ1 = 1984 BF1 = 1986 RK13
Discovered 1988 Jan. 21 by E. W. Elst at Haute Provence.
Id. S. Nakano (MPC 14792)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 224.66336 (1950.0) P Q
n 0.25370148 Peri. 134.95239 -0.93327717 -0.35714058
a 2.4712730 Node 24.19941 +0.29785291 -0.82876021
e 0.1471194 Incl. 5.31970 +0.20069220 -0.43082145
P 3.88 H 12.6 G 0.25
Residuals in seconds of arc
840124 381 0.3- 0.2- 880121 511 (6.1- 1.1+) 900824 675 0.3+ 1.4-
840124 381 0.2+ 0.9+ 880121 511 (3.6- 1.3+) 900824 675 1.1- 2.4-
860909 095 0.8- 0.8+ 880121 511 0.8- 2.2+ 900918 801 0.7+ 0.1-
860929 095 2.6- 2.1+ 880210 877 0.7+ 0.6+ Y 900918 801 0.6+ 0.1-
861002 095 1.5+ 1.0+ 880210 877 1.1- 1.3- Y 900921 801 0.6+ 0.1-
880112 033 0.9+ 0.0 880213 877 1.0+ 1.7- Y 900921 801 1.0+ 0.4-
880112 033 0.2+ 0.1+ 880213 877 0.9- 0.8- Y

(4636)* 1988 CJ5 = 1931 TJ4 = 1952 SQ = 1986 TO2
Discovered 1988 Feb. 13 by E. W. Elst at the European Southern Observatory.
Id. S. Nakano (MPC 13160)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 349.97348 (1950.0) P Q
n 0.23325483 Peri. 201.83092 +0.94846070 -0.31656511
a 2.6136591 Node 176.52639 +0.31440101 +0.93430849
e 0.1589942 Incl. 13.79835 +0.03967738 +0.16387247
P 4.23 H 12.8 G 0.25
Residuals in seconds of arc
311006 690 (1.1+ 7.6-) 880221 809 0.4- 0.0 900821 511 1.6+ 1.9+
311007 690 2.4+ 2.9- 880221 809 0.2- 0.2+ 900828 511 0.5+ 1.2+
311009 690 (5.2+ 0.2-) 880221 809 0.0 0.0 900828 657 0.0 0.3-
520924 760 2.0- 0.9+ 880223 809 1.4- 1.2+ 900828 657 0.6- 1.4-
520924 760 1.4- 1.8+ 880223 809 1.4- 1.2+ 900911 657 0.4+ 2.3-
861007 688 0.0 0.2- 880223 809 1.2- 0.4+ 900911 657 1.4- 1.1-
861007 688 0.5- 0.0 900816 511 1.4+ 1.5+ 900914 657 1.6+ 1.1-
861105 688 1.0- 1.4+ 900817 511 0.8+ 2.3+ 900914 657 0.8- 2.2-
861105 688 0.3- 2.1+ 900817 511 (2.1+ 3.3+) 900914 675 (0.9+ 3.7-)
880213 809 1.1+ 0.0 900817 801 0.0 1.0+ 900914 675 (1.6- 4.9-)
880215 809 1.7+ 1.4- 900817 801 1.3- 0.1+ 900919 675 0.5+ 2.0-
880216 809 0.5+ 0.6- 900819 801 0.2- 1.1+ 900919 675 0.4+ 2.0-
880216 809 0.9+ 0.0 900819 801 0.4- 1.2+
880216 809 0.6+ 0.3- 900821 511 0.2+ 1.2+

(4637)* 1989 CT = 1978 EV2 = 1984 YP4
Discovered 1989 Feb. 8 by J. M. Baur at Chions.
Id. B. G. Marsden (MPC 14359)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Marsden
M 90.02072 (1950.0) P Q
n 0.25988799 Peri. 309.82135 -0.75361238 +0.65663843
a 2.4318974 Node 271.24442 -0.59353934 -0.69933458
e 0.1472438 Incl. 1.71412 -0.28245252 -0.28241301
P 3.79 H 13.1 G 0.25

Residuals in seconds of arc

780305	095	0.7+	1.5+	890209	567	0.2-	0.1-	890307	567	1.5+	0.2-
841228	095	0.1+	1.3+	890209	567	0.8+	0.6+	890308	675	1.8-	2.2-
881229	413	0.2+	0.8+	890227	567	0.2-	0.0	900427	413	(7.2+	0.6-)
890104	413	1.4+	1.0+	890227	567	1.6-	0.0	900722	801	0.2-	0.3-
890104	413	0.4-	0.4+	890302	567	0.6+	0.1-	900722	801	0.4-	0.3-
890106	413	1.3+	1.2+	890302	567	0.6-	0.1-	900727	675	1.4-	1.2+
890106	413	0.5+	0.7+	890302	567	0.1+	0.5-	900727	675	1.2-	0.6+
890110	413	0.3+	1.2+	890303	567	0.4-	0.3-	900815	493	1.0+	1.0+
890110	413	0.3+	0.1+	890303	567	0.5-	0.6+	900815	493	1.1+	0.9+
890112	413	(4.0-	3.2+)	890305	567	0.0	0.4-	900815	493	0.1+	0.0
890112	413	0.3+	2.5-	890305	567	0.7+	0.1-	900816	493	0.2-	0.3-
890208	567	1.7-	0.8-	890307	675	0.9-	0.5+	900816	493	0.4+	0.5-
890208	567	0.6-	0.2+	890307	567	1.3+	0.5-	900816	493	0.6+	0.6-

(4638)* 1989 EG = 1983 LK = 1986 JW1

Discovered 1989 Mar. 2 by R. H. McNaught at Siding Spring.

Id. S. Nakano (MPC 14479)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	173.34657	(1950.0)	P	Q	
n	0.30341580	Peri.	259.82516	-0.99639966	-0.05913754
a	2.1933634	Node	276.76568	+0.07871336	-0.91147781
e	0.0899564	Incl.	3.50728	-0.03149498	-0.40707609
P	3.25	H	13.6	G 0.25	

Residuals in seconds of arc

830613	675	1.9-	0.4+	890306	372	1.1-	0.2-	900819	801	0.6+	0.2+
830614	675	0.3-	0.8+	890308	897	0.6+	0.6-	900820	801	0.4+	0.2-
830614	675	0.8+	0.8+	890308	897	0.3-	0.8-	900820	801	0.2+	0.3-
860511	413	1.6+	0.3+	890326	046	0.8-	0.1-	900824	046	(2.7-	1.1-)
860511	413	2.0+	0.2-	890326	046	1.3-	0.4-	900824	046	1.8-	2.0-
860511	413	0.7-	1.4-	890327	046	(4.6+	0.5-)	900907	413	1.4+	0.5-
860511	413	1.3-	0.4-	890327	046	1.0+	1.3-	900907	413	0.7-	0.9-
870917	095	1.7+	0.8-	890328	046	0.9+	0.4-	900908	413	1.0+	0.5-
890302	413	0.8-	0.1-	890328	046	0.2+	0.6-	900916	801	0.1+	1.0-
890302	413	0.7+	0.5+	890429	413	1.7-	0.1+	900916	801	0.4-	0.2-
890304	413	0.8-	1.0-	900817	801	1.0+	0.0	900919	801	0.7-	0.1-
890305	413	0.4-	0.3-	900817	801	0.6+	0.3-	900919	801	0.5-	0.7-
890305	372	(0.3+	3.7-)	900819	801	0.4+	0.1+				

(4639)* 1989 EK2 = 1985 HR = 1986 SV

Discovered 1989 Mar. 5 by T. Seki at Geisei.

Id. S. Nakano (MPC 14624)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	66.85273	(1950.0)	P	Q	
n	0.24096136	Peri.	251.27896	+0.23846310	+0.96828061
a	2.5576304	Node	32.80557	-0.83099730	+0.24320801
e	0.1810032	Incl.	7.91633	-0.50257223	+0.05729325
P	4.09	H	13.1	G 0.25	

Residuals in seconds of arc

850421	046	0.6-	0.2+	890305	372	0.4+	0.9-	900920	372	0.2+	2.0+
850421	046	0.4-	1.7-	890305	372	1.7+	0.2+	900920	372	0.9+	1.6+
860930	046	1.8-	0.6+	890308	372	0.6+	0.9-	901008	372	0.3+	1.2-
860930	046	0.6+	0.9+	890308	372	(3.8+	0.9+)	901008	372	0.1+	1.5-
861001	046	(3.9+	1.2-)	890411	372	1.6-	0.5+ Y	901015	372	1.4-	1.0-
861001	046	(5.7+	0.4+)	890411	372	1.6+	2.1+ Y	901015	372	1.1-	1.0+
861003	046	1.9+	2.2-	890412	372	0.8-	0.5- Y				
861003	046	(0.8-	3.8-)	890412	372	0.6-	1.0+ Y				

(4640)* 1989 GA = 1938 DB = 1982 DC3 = 1982 DM6 = 1987 UV2

Discovered 1989 Apr. 1 by Y. Kushida and O. Muramatsu at the Yatsugatake South Base Observatory.

Id. S. Nakano (MPC 14625)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	234.29484		(1950.0)		P		Q	
n	0.29166664	Peri.	137.60697		-0.57305383		-0.81935967	
a	2.2518781	Node	347.32862		+0.73080232		-0.50203287	
e	0.1076147	Incl.	4.20769		+0.37086019		-0.27679006	
P	3.38	H	13.3	G	0.25			

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

380222	012	3.0-	2.0+	890403	809	0.0	0.8-	890410	809	1.4-	2.0-	
380225	012	(34.5-	65.1-)	890403	809	0.9-	0.5-	890410	809	1.8-	2.0-	
380303	012	1.8+	4.4-	890405	809	0.5-	0.1+	890412	896	(3.8-	6.0+)	Y
380307	012	(0.47+	0.00-)	890405	809	0.9-	0.3+	890429	896	(5.4+	0.9+)	
820222	704	1.0+	0.0	890405	809	1.1-	0.1-	890429	896	0.9-	0.9-	
820227	010	1.1+	0.7-	890405	896	0.3-	2.2+	900719	896	1.6+	0.3-	Y
870918	095	0.9+	1.3-	890408	809	0.8+	0.4-	900719	896	0.0	2.5+	Y
871021	657	0.6+	2.3-	890408	809	0.5+	0.1-	900824	896	1.4-	1.5-	
871021	657	0.2-	2.9-	890408	809	0.6+	0.2-	900824	896	0.2+	2.2+	
890401	896	(3.2+	9.0-)	Y 890408	896	2.4+	2.1+	Y 900826	896	0.7+	2.4-	Y
890403	809	0.1+	0.2-	890410	809	1.1-	1.9-	900826	896	1.8+	1.4-	Y

(4641)* 1990 QT3 = 1935 SH1 = 1961 UK = 1976 GZ1 = 1977 RX1 = 1984 YO5 = 1987 UU9

Discovered 1990 Aug. 30 by K. Endate and K. Watanabe at Kitami.

Id. G. V. Williams (MPC 17024), H. Kaneda

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	349.45852		(1950.0)		P		Q	
n	0.30436788	Peri.	283.45594		+0.90592909		-0.42248379	
a	2.1887870	Node	101.54156		+0.39878523		+0.82884229	
e	0.1707706	Incl.	1.65417		+0.14234754		+0.36678046	
P	3.24	H	13.8	G	0.25			

Residuals in seconds of arc

350929	078	(3.8-	48.4-)	X 841228	095	0.1+	0.7+	900913	392	1.5+	0.4+	
611018	760	1.6+	0.3-	871028	095	0.2+	1.7-	900914	675	1.4-	1.3-	
611018	760	1.4-	0.4+	900822	675	0.2-	0.5-	900914	675	1.4-	1.6-	
760401	095	0.7-	1.5-	900830	400	0.9+	2.6+	900919	675	0.5-	1.7-	
760404	095	0.5-	1.4-	900830	400	1.3+	1.2+	900919	675	0.4-	1.7-	
770908	095	0.4-	0.2-	900913	392	1.1-	1.7+	900926	392	2.0+	0.1+	

(4642)* 1990 QG4 = A916 PB = 1977 DJ10 = 1979 RS = 1979 SV8 = 1980 XL2

Discovered 1990 Aug. 23 by H. E. Holt at Palomar.

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	55.91445		(1950.0)		P		Q	
n	0.17465851	Peri.	131.57174		+0.18826357		+0.98207718	
a	3.1696371	Node	149.27626		-0.90620201		+0.17724183	
e	0.1592109	Incl.	1.01089		-0.37862216		+0.06410732	
P	5.64	H	12.0	G	0.25			

Residuals in seconds of arc

160801	029	0.1+	3.4-	Y 790924	095	1.8+	0.4-	900829	675	0.2-	0.5-	
160804	029	2.0-	3.1+	Y 801210	095	0.7-	0.6-	900829	675	0.6+	0.0	
160807	029	1.9+	0.4-	Y 900823	675	0.8+	0.7-	900920	372	(1.0-	7.1+)	
770219	381	0.1-	0.4-	900823	675	0.3+	0.8-	900920	372	3.0-	3.6+	
770219	381	0.1-	0.9-	900827	675	0.2-	1.6-					
790902	095	0.0	0.0	900827	675	0.5+	0.0					

(4643)* 1990 QD6 = 1990 QQ5 = 1957 MF = 1968 OX = 1972 RK2 = 1972 TV3
= 1975 GK1 = 1975 GP1 = 1979 QF7 = 1983 UJ = 1989 EN9
Discovered 1990 Aug. 23 by H. E. Holt at Palomar.
Id. G. V. Williams, C. M. Bardwell (d, MPC 8482)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M 50.40341		(1950.0)	P	Q
n 0.27142698	Peri.	187.16929	+0.39975275	+0.91613966
a 2.3624758	Node	106.39704	-0.83939573	+0.37892500
e 0.2014713	Incl.	1.77790	-0.36825610	+0.13078215
P 3.63	H	13.6	G 0.25	

Residuals in seconds of arc

570630	839	(30.5+	5.0+)	750412	808	0.3-	0.9+	900823	675	0.4-	0.1-
680725	095	0.8-	0.5-	790820	095	0.9+	1.1+	900830	400	1.4-	0.3+
720911	095	1.2+	2.3-	831030	675	0.3-	0.5+	900830	400	1.1-	1.4+
721005	095	(4.5+	6.0-)	831104	675	0.2-	0.9+	900914	675	0.2-	0.8-
750409	808	1.2+	1.6-	890305	033	0.1-	0.6+	900914	675	0.1-	1.0-
750409	808	0.8-	0.1-	890305	033	0.0	0.2+	900919	675	1.2+	0.2+
750412	808	0.3+	0.4+	900823	675	0.3-	0.7+	900919	675	1.1+	0.1+

(4644)* 1990 SR3 = 1951 GC = 1982 UA2 = 1985 JF2 = 1989 HE
Discovered 1990 Sept. 16 by A. Takahashi and K. Watanabe at Kitami.
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 98.49791		(1950.0)	P	Q
n 0.23407074	Peri.	205.32407	-0.30037039	+0.93654049
a 2.6075819	Node	47.77071	-0.82827022	-0.16213106
e 0.1413896	Incl.	14.12870	-0.47301805	-0.31081415
P 4.21	H	12.4	G 0.25	

Residuals in seconds of arc

510403	012	(8.6+	1.4+)	850515	675	1.4-	2.1+	900916	400	0.9+	0.0
510408	711	3.4+	4.2+ Y	890429	675	0.4-	2.4-	900926	400	(0.8+	3.5+)
510409	711	0.4-	2.9- Y	890429	675	0.5-	1.3-	900926	400	1.8+	1.8+
821016	046	2.1-	2.3-	890502	675	0.6-	0.4-	900926	400	1.1-	2.4+
821016	046	0.2-	1.8-	890502	675	0.4+	2.0-	901011	400	(3.3-	6.0+)
850513	675	(1.2+	6.5-)	900916	400	0.8+	0.9+	901011	400	2.1+	0.9-
850514	675	1.5-	0.8+	900916	400	0.6-	1.7-				

(4645)* 1990 SP4 = 1931 DU = 1962 JB = 1977 RT5 = 1979 FD1 = 1988 FF2
Discovered 1990 Sept. 16 by T. Fujii and K. Watanabe at Kitami.
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 271.61390		(1950.0)	P	Q
n 0.22577299	Peri.	294.08513	-0.39731701	-0.91767932
a 2.6710872	Node	179.31615	+0.89033294	-0.38599402
e 0.1345454	Incl.	9.47211	+0.22236556	-0.09419808
P 4.37	H	12.5	G 0.25	

Residuals in seconds of arc

310218	690	0.7-	1.4+	790323	095	1.1-	3.1-	900916	400	1.1+	2.6+
310221	690	0.7-	0.2+	880318	054	0.8+	0.5+	901011	400	1.0+	0.9-
310223	690	2.1+	0.1+	880319	809	0.2-	0.5+	901011	400	0.6+	1.1-
620504	760	1.3+	1.1-	880319	809	0.1-	0.1+	901011	400	0.1+	2.0-
620504	760	1.5+	0.7+	880320	809	0.7+	0.2+	901017	400	0.2+	2.7+
620507	760	1.7-	1.1+	880320	809	0.3-	0.6+	901017	400	0.6+	2.2+
620507	760	1.8-	1.4-	900916	400	2.5-	1.6-				
770909	095	0.5-	1.9-	900916	400	0.5-	0.2+				

(4646)* 4009 P-L = 1979 SN9 = 1983 VH2
Discovered 1960 Sept. 24 by C. J. van Houten and I. van Houten-Groeneveld on plates taken at Palomar by T. Gehrels.
Id. H. Oishi (MPC 12688)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Oishi

M	12.04495	(1950.0)		P	Q
n	0.26029330	Peri.	350.31828	+0.78679338	+0.61701087
a	2.4293722	Node	331.56441	-0.56399517	+0.70822606
e	0.1934159	Incl.	1.91711	-0.25073018	+0.34309391
P	3.79	H	14.1	G 0.25	

Residuals in seconds of arc

600924 675	0.2-	0.2-	601026 675	0.2-	0.7-	900722 801	0.1-	0.1-
600925 675	0.1+	0.1+	790922 095	0.8-	1.5+	900816 801	0.2-	0.1-
600926 675	0.5+	0.3-	831108 381	0.9+	0.7+	900816 801	0.1-	0.3-
600928 675	0.1-	0.6+	831108 381	0.8-	0.6-	900817 801	1.1+	0.4+
601017 675	0.0	0.5+	900430 413	0.1+	0.1-	900817 801	0.1-	0.3+
601022 675	0.4+	1.1-	900430 413	0.2-	0.4+			
601024 675	0.2+	0.4-	900722 801	0.5-	0.4-			

1955 EH = 1977 CB1 = 1988 CD1

Id. A. Lowe (k, MPC 13169), C. M. Bardwell (ibid.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell

M	325.45574	(1950.0)		P	Q
n	0.26850523	Peri.	277.90538	+0.35050687	-0.93472884
a	2.3795832	Node	151.35871	+0.90016885	+0.31897420
e	0.1513113	Incl.	7.01506	+0.25853621	+0.15664437
P	3.67	H	13.1	G 0.25	

Residuals in seconds of arc

550314 760	1.0+	1.3+	770213 675	2.0+	0.2-	900918 675	0.4-	0.1-
550314 760	0.5+	2.0+	770214 675	1.9+	0.5-	900918 675	0.3-	0.6+
550323 760	0.8-	0.0	880211 675	3.0-	1.6-	900920 675	0.1+	0.0
550323 760	1.7-	0.3-	880214 675	(20.2-	4.7-)	900920 675	0.2+	0.2+

1971 UN = 1990 SR

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Marsden

M	24.81833	(1950.0)		P	Q
n	0.25672111	Peri.	294.19624	+0.87100898	+0.48463591
a	2.4518611	Node	36.96016	-0.38802085	+0.77909950
e	0.2384202	Incl.	7.68889	-0.30130247	+0.39765815
P	3.84	H	13.5	G 0.25	

Residuals in seconds of arc

711026 029	0.1-	0.8-	711110 029	0.2-	0.2-	900919 675	0.3-	0.2-
711026 029	0.2+	0.2-	711110 029	1.4-	0.2-	900920 675	0.4-	0.3-
711027 095	1.1+	1.1+	711119 029	0.7+	0.3+			
711030 029	0.4-	0.0	900917 675	0.7+	0.5+			

1972 KL = 1968 HO1 = 1990 ER5

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	324.29396	(1950.0)		P	Q
n	0.26542290	Peri.	148.13578	+0.18337113	+0.98041471
a	2.3979750	Node	132.32275	-0.92106283	+0.19689117
e	0.1889428	Incl.	5.57649	-0.34353792	-0.00456830
P	3.71	H	13.5	G 0.25	

Residuals in seconds of arc

680422 095	0.6+	1.4+	900302 809	0.8-	0.1+	900303 809	0.4+	0.4-
720518 095	1.9-	1.3+	900302 809	0.4-	0.1-	900303 809	0.6+	0.4-
720609 095	1.4+	0.2+	900302 809	0.3-	0.2-			
720613 095	0.2+	2.4-	900303 809	0.1+	0.4-			

1973 SH1 = 1990 DG3
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Marsden
M 103.45223 (1950.0) P Q
n 0.08299822 Peri. 309.06289 +0.47418550 -0.87839420
a 5.2050440 Node 112.53293 +0.82640757 +0.42065494
e 0.0708150 Incl. 3.70983 +0.30364229 +0.22687673
P 11.88 H 10.0 G 0.25
Residuals in seconds of arc

730919 675	1.5+	0.0	730929 675	0.4-	1.1+	900224 809	0.8-	0.2+
730919 675	0.1+	0.9+	730930 675	0.1-	2.1-	900224 809	0.7-	0.0
730920 675	0.8-	1.0+	730930 675	0.9-	1.8+	900226 809	0.2-	0.0
730924 675	0.9-	1.3-	731004 675	2.5+	0.6-	900226 809	0.2-	0.0
730924 675	0.3-	1.1+	731004 675	0.4-	1.6+	900226 809	0.2-	0.1-
730925 675	0.4-	2.2-	731005 675	0.2+	1.7-	900227 809	0.7+	0.0
730925 675	0.5-	0.9+	731005 675	0.3-	2.2+	900227 809	1.0+	0.0
730929 675	0.7+	2.6-	900224 809	1.0-	0.3+	900227 809	1.4+	0.3-

1973 UB5 = 1962 WG2
Id. T. Kobayashi (MPC 15698)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 9.41104 (1950.0) P Q
n 0.17184619 Peri. 49.59032 +0.99936357 +0.03555619
a 3.2041250 Node 308.37184 -0.03373453 +0.91591100
e 0.1564218 Incl. 0.20954 -0.01159504 +0.39980345
P 5.74 H 11.9 G 0.25
Residuals in seconds of arc

621130 760	0.7-	0.3+	731027 033	0.3+	0.0	731101 033	0.1-	0.5+
621130 760	0.2-	0.8+	731027 033	0.8-	0.7-	900916 400	1.6-	0.2-
621203 760	0.8-	0.4-	731028 033	0.2+	0.3+	900916 400	0.5+	0.5+
621203 760	1.8+	1.1-	731031 033	0.1+	0.5+	900916 400	1.3+	0.8-

1977 QY = 1955 QQ1 = 1986 TA11 = 1990 QS
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
M 350.64839 (1950.0) P Q
n 0.22453156 Peri. 24.66271 +0.99059892 -0.11774389
a 2.6809237 Node 341.68954 +0.05565941 +0.81195615
e 0.1792310 Incl. 12.80750 +0.12496324 +0.57171986
P 4.39 H 12.0 G 0.25
Residuals in seconds of arc

550826 024(16.1-	1.8-)		861003 095	1.0-	1.9+	900922 675	1.0+	1.8-
770819 095	0.6+	0.5-	900819 675	0.8-	0.6+	900922 675	0.5+	0.6+
770820 095	0.2-	2.0-	900819 675	2.0-	0.5+	900924 675	1.8+	0.3+
770822 095	1.0+	1.5-	900821 675	1.6-	0.9+	900924 675	1.4+	0.4+
770824 095	0.9+	0.9+	900821 675	1.2-	0.4+			

1977 RL7 = 1990 SL1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 357.35933 (1950.0) P Q
n 0.22668448 Peri. 194.51833 +0.88507917 -0.46237118
a 2.6639274 Node 193.41181 +0.44666938 +0.87601519
e 0.2391567 Incl. 13.30117 +0.13084849 +0.13715056
P 4.35 H 13.5 G 0.25
Residuals in seconds of arc

770911 095	0.5+	2.1+	771012 675	0.4+	0.4+	771021 675	0.6+	2.3-
771007 675	0.5+	2.6-	771016 675	0.5+	0.2+	771021 675	1.7-	0.7+
771011 675	1.0-	0.2+	771016 675	0.8+	0.3+	771021 675	0.1+	2.1-
771011 675	1.2-	1.5+	771017 675	1.2-	1.4+	771021 675	0.5-	2.1+
771012 675	1.4+	0.6+	771017 675	0.5-	2.3+	771022 675	1.3-	1.5-

771022 675 1.1+ 0.3- 900916 675 0.1+ 0.4- 900917 675 0.2- 0.7-
771022 675 0.5+ 0.8- 900916 675 0.3+ 0.5- 900918 675 0.4- 0.3+
771022 675 0.9+ 0.4- 900917 675 0.4+ 0.4-

1978 SV7 = 1990 EM5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	184.63536		(1950.0)	P	Q
n	0.20536832	Peri.	34.59858	+0.95338164	-0.29974068
a	2.8452119	Node	342.74157	+0.24339247	+0.83218806
e	0.0779336	Incl.	6.75826	+0.17839156	+0.46649605
P	4.80	H	12.5	G 0.25	

Residuals in seconds of arc
780926 095 0.2- 1.8- 900302 809 0.7+ 0.0 900303 809 1.0- 0.1+
781002 095 0.5+ 1.7+ 900302 809 1.1+ 0.2- 900303 809 0.8- 0.0
781008 095 1.3- 0.9+ 900302 809 1.3+ 0.0
781101 095 1.0+ 0.7- 900303 809 1.2- 0.2+

1979 SS = 1977 AA3 = 1990 QD4
Id. E. Bowell (MPC 12312), B. G. Marsden, R. Nagata
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Marsden

M	8.66908		(1950.0)	P	Q
n	0.26718152	Peri.	17.13131	+0.98862300	+0.14266374
a	2.3874409	Node	334.52014	-0.14769354	+0.86071686
e	0.1729403	Incl.	6.36090	-0.02848117	+0.48868553
P	3.69	H	14.5	G 0.25	

Residuals in seconds of arc
770112 675 0.0 0.2+ 791011 046 1.6- 0.6- 900823 675 1.0+ 0.0
770113 675 0.1+ 0.4+ 791011 046 1.3+ 0.6- 900827 675 0.8+ 0.6-
790923 095 (2.4- 5.4+) 791012 046 0.8+ 0.8- 900827 675 0.5+ 0.4-
790925 046 1.6- 0.4- 791012 046 1.9+ 0.1- 900829 675 0.2+ 0.4+
790925 046 1.1+ 0.1+ 791015 046 (3.0+ 0.0) 900829 675 0.5+ 0.2+
790926 046 0.2- 0.2- 791015 046 0.1+ 1.0+ 900916 046 1.3- 2.3+
790926 046 1.0- 0.5+ 900822 675 0.7- 0.5- 900916 046 1.2- 0.7+
790927 046 1.8+ 0.2- 900822 675 0.3- 0.3- 900924 046 1.7- 0.5+
790927 046 1.0- 1.1- 900823 675 0.9+ 0.0 900924 046 0.3- 0.4+

1979 SR2 = 1990 SU1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	2.32586		(1950.0)	P	Q
n	0.17904252	Peri.	53.67342	+0.96866062	-0.24606016
a	3.1176828	Node	320.53934	+0.20732704	+0.87617467
e	0.2623657	Incl.	3.05996	+0.13679216	+0.41445427
P	5.50	H	13.1	G 0.25	

Residuals in seconds of arc
790918 675 0.1- 0.7+ 900916 400 1.0+ 0.0 901010 400 1.5- 0.7-
790919 675 0.1- 1.1+ 900918 675 0.6- 0.3+ 901010 400 2.1+ 1.9+
790922 095 0.9+ 1.5- 900918 675 0.8- 0.1- 901011 400 1.2- 1.9-
790924 095 (4.2+ 4.3+) 900920 675 0.3- 0.1- 901011 400 2.2+ 0.8+
790928 095 0.1- 1.6- 900920 675 1.1- 0.2+
900916 400 1.0+ 0.3- 901010 400 1.4- 1.1+

1979 SU2 = 1990 SL4
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	358.55693		(1950.0)	P	Q
n	0.27036780	Peri.	153.92214	+0.85146293	-0.51837568
a	2.3686466	Node	237.52660	+0.46316708	+0.81432698
e	0.1313903	Incl.	5.39750	+0.24594133	+0.26107130
P	3.65	H	13.5	G 0.25	

Residuals in seconds of arc

790918 675	0.0	0.4-	790922 049	0.4+	1.0+	900926 372	0.4+	0.0
790919 675	0.2-	0.5-	790922 095	0.9+	0.4+	901008 372	0.8-	0.5-
790922 049	0.4-	0.2+	790928 095	0.1-	0.2-	901008 372	0.8+	1.0+
790922 049	0.7-	0.4-	900926 372	0.2-	0.6-			

1980 SQ = 1990 SJ1

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M 1.49439		(1950.0)		P	Q
n 0.29682187	Peri.	158.66266	+0.92788042		-0.36853311
a 2.2257326	Node	223.09815	+0.32894030		+0.88068919
e 0.1308791	Incl.	4.76494	+0.17560239		+0.29760696
P 3.32	H	14.0	G	0.25	

Residuals in seconds of arc

800908 095	1.7-	1.4+	801003 046	0.1-	0.8-	900916 675	0.9-	0.6-
800929 046	2.0+	0.6-	801003 046	1.2+	0.8-	900917 675	0.0	0.2-
800929 046	0.0	0.8-	801008 095	2.1-	0.4+	900917 675	0.2-	0.5-
801001 046	1.5+	1.1-	801012 095	0.9-	2.9+	900918 675	0.0	0.1+
801001 046	0.3-	0.4+	900916 675	1.2+	0.9+	900918 675	0.3+	0.6-

1981 RA2 = 1990 SA4

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M 29.42760		(1950.0)		P	Q
n 0.22207999	Peri.	83.85178	+0.89438803		+0.40527542
a 2.7006230	Node	252.11216	-0.44676149		+0.83001327
e 0.2452247	Incl.	11.47151	+0.02177672		+0.38318377
P 4.44	H	13.0	G	0.25	

Residuals in seconds of arc

810907 095	0.6+	1.3-	900922 675	1.1-	0.2-	900924 675	0.5+	0.3-
810927 095	2.5-	2.7+	900922 675	0.8+	0.0			
811003 095	1.7+	0.9-	900924 675	0.0	0.0			

1981 SO = 1990 EL5

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M 236.60516		(1950.0)		P	Q
n 0.28279970	Peri.	357.27709	+0.97594879		+0.21725837
a 2.2987105	Node	350.11955	-0.19797012		+0.84875741
e 0.1199469	Incl.	6.00987	-0.09127868		+0.48208885
P 3.49	H	13.5	G	0.25	

Residuals in seconds of arc

810922 046	0.7-	0.0	811007 046	1.4+	0.0	900302 809	0.0	0.0
810922 046	1.1+	0.5+	811007 046	0.6+	0.8+	900303 809	0.1-	0.0
810925 046	0.5-	0.2-	811025 046	1.4-	0.2+	900303 809	0.2+	0.0
810925 046	0.5+	0.3-	811025 046	0.7+	0.3+	900303 809	0.5+	0.2+
811006 046	1.6-	0.6-	900302 809	0.5-	0.2-			
811006 046	0.1-	0.9-	900302 809	0.2-	0.2-			

1981 UQ11 = 1990 DP1

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 128.53772		(1950.0)		P	Q
n 0.26691847	Peri.	356.30455	+0.27877345		-0.95825246
a 2.3890045	Node	77.50048	+0.88272757		+0.22961721
e 0.1246002	Incl.	3.73172	+0.37825572		+0.17037653
P 3.69	H	13.5	G	0.25	

Residuals in seconds of arc

811022 095	2.2-	1.4+	900131 400	1.1-	0.8+	900221 046	1.2+	0.1-
811024 095	2.1+	0.0	900131 400	1.3+	0.3-	900222 046	0.7-	0.4+
811028 095	0.3-	1.5-	900221 046	1.9-	0.0	900222 046	1.1+	0.8-

1981 WE1 = 1990 TG
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 349.21634 (1950.0) P Q
n 0.21222603 Peri. 187.03138 +0.88075725 -0.46878164
a 2.7835849 Node 201.32727 +0.44296758 +0.86567033
e 0.2799510 Incl. 10.64131 +0.16747057 +0.17566632
P 4.64 H 13.5 G 0.25
Residuals in seconds of arc

811023	095	(1.3-	10.6+)	811202	688	0.2+	0.1-	901009	413	0.4+	1.5-
811025	330	1.4+	0.6+	811202	688	0.9+	0.1-	901009	413	0.5-	1.0+
811124	688	1.5-	0.4+	811218	688	0.2+	0.6-	901011	413	0.4+	1.3-
811124	688	1.2-	0.7+	811218	688	0.1+	0.9-	901011	413	0.1-	1.4+

1982 MA = 1990 QS5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell
M 43.74664 (1950.0) P Q
n 0.25620695 Peri. 129.54791 +0.47200960 +0.88159296
a 2.4551354 Node 168.61682 -0.81018058 +0.43417176
e 0.1686471 Incl. 0.25781 -0.34758360 +0.18517218
P 3.85 H 14.9 G 0.25
Residuals in seconds of arc

820623	474	1.0-	0.0	820627	474	0.0	0.8+	900822	675	0.7-	0.5-
820623	474	0.1-	0.4-	820628	474	1.8+	0.6+	900822	675	1.1+	0.2-
820626	474	0.2-	0.3+	820628	474	1.1+	0.4+	900829	675	0.0	0.5+
820626	474	0.9-	0.5-	820702	474	1.0-	0.7-	900829	675	0.4-	0.3+
820627	474	0.9+	0.6+	820702	474	0.5-	0.9-				

1982 ST = 1990 SX1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
M 354.44758 (1950.0) P Q
n 0.36881580 Peri. 45.01043 +0.87019174 -0.48238125
a 1.9257343 Node 343.01154 +0.29658822 +0.67549965
e 0.1041498 Incl. 20.09215 +0.39344855 +0.55768141
P 2.67 H 14.0 G 0.25
Residuals in seconds of arc

820919	675	(0.6-	3.9-)	821011	675	0.1+	0.5+	900925	675	0.1-	0.2-
820919	675	(4.4+	10.2+)	821013	675	0.6-	0.1-	900925	675	1.5+	0.6-
820920	675	0.1+	0.6+	900922	675	0.4-	1.2+	901014	675	0.7+	0.6-
820920	675	0.2-	0.3-	900922	675	2.1-	0.5+	901014	675	0.2+	0.2-
820920	675	(6.4+	17.4+)	900924	675	0.2-	0.3-	901017	675	0.4-	0.8+
820920	675	(9.7+	20.9+)	900924	675	1.2+	1.2-	901017	675	0.3+	0.2+

1982 TP1 = 1951 YK1 = 1988 GG1 = 1989 PG1
Id. K. Ichikawa, B. G. Marsden
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Ichikawa
M 293.19302 (1950.0) P Q
n 0.25174591 Peri. 250.26157 -0.66631780 -0.74383182
a 2.4840593 Node 241.63452 +0.70443270 -0.60492182
e 0.1223599 Incl. 3.40716 +0.24453051 -0.28422495
P 3.92 H 13.1 G 0.25
Residuals in seconds of arc

511227	711	0.1+	3.2- Y	821024	095	0.5+	0.5-	890801	675	2.1+	1.4-
821014	095	1.3-	1.1+	821108	095	0.9-	0.3-	890801	675	1.3-	1.3-
821020	095	0.6+	1.6+	880408	372	0.7+	1.0-				
821022	095	0.4+	0.7+	880408	372	0.7-	1.4+				

1982 UW3 = 1979 CB = 1979 ED = 1990 FC3
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Bardwell

M	103.98524	(1950.0)	P	Q
n	0.18186134	Peri. 271.33231	-0.13125006	-0.99098799
a	3.0853894	Node 186.39800	+0.97795321	-0.12500632
e	0.2024359	Incl. 13.89611	+0.16242209	-0.04812713
P	5.42	H 11.0	G 0.25	

Residuals in seconds of arc

790202	323	(6.0- 1.5+)	820920	095	0.4- 2.2-	821022	095	2.2- 1.0-
790205	323	1.4- 0.1-	820926	095	2.2+ 3.3-	900330	095	0.6- 2.9-
790303	330	1.1+ 1.1-	821019	033	0.1- 1.2-	900330	095	0.5- 2.9-
820916	095	1.0+ 1.7+	821019	033	0.5+ 1.3-			

1982 UH8 = 1982 TM = 1978 TM5 = 1990 SG1
Id. S. Nakano (d, MPC 11231; unpublished), E. Bowell (k), G. V. Williams, L. D. Schmadel
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	48.41901	(1950.0)	P	Q
n	0.24267409	Peri. 36.35265	+0.78327707	+0.61500064
a	2.5455821	Node 285.44392	-0.59026431	+0.68986579
e	0.1137205	Incl. 5.40753	-0.19510273	+0.38191544
P	4.06	H 13.0	G 0.25	

Residuals in seconds of arc

781008	095	0.6- 0.6-	821111	095	0.9+ 0.1-	900917	675	0.6- 1.6+
821013	688	0.9- 0.6-	821114	095	0.7+ 1.3+	900918	675	0.2+ 1.8-
821013	688	0.8- 0.9-	900916	675	1.1- 1.1+	900918	675	1.4+ 0.6-
821021	095	0.4- 0.0	900916	675	0.1- 0.2+			
821109	095	1.6+ 0.9+	900917	675	0.0 0.4-			

1983 JQ = 1982 DZ1
Id. D. W. E. Green (MPC 14190)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell

M	84.59016	(1950.0)	P	Q
n	0.17177354	Peri. 156.88694	+0.05860112	+0.99732318
a	3.2050284	Node 116.44850	-0.92332000	+0.07080321
e	0.1682164	Incl. 2.79961	-0.37953403	-0.01825860
P	5.74	H 12.3	G 0.25	

Residuals in seconds of arc

820216	046	(0.4+ 3.0-)	830506	688	(0.8- 2.4-)	900918	675	(1.7+ 3.2-)
820216	046	0.2- 0.8-	830506	688	0.3- 1.4-	900918	675	0.3+ 1.3-
820221	046	0.6+ 0.2-	830514	095	0.7- 0.1-	900920	675	0.5+ 0.7-
820221	046	1.0- 0.4-	830605	095	0.8+ 0.4+	900920	675	(1.6+ 2.5-)

1983 PZ = 1990 SY1
Id. S. Nakano
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	33.87851	(1950.0)	P	Q
n	0.28779118	Peri. 119.96349	+0.85568474	+0.51594306
a	2.2720537	Node 209.03137	-0.49868012	+0.80139808
e	0.1933533	Incl. 4.73743	-0.13828147	+0.30259523
P	3.42	H 14.0	G 0.25	

Residuals in seconds of arc

830804	095	0.8- 1.3-	900922	675	0.6+ 0.0	901014	675	0.0 0.2+
830806	095	0.9+ 0.7-	900922	675	0.3+ 0.8+	901017	675	0.7- 1.4-
830901	095	(0.9+ 4.2+)	900924	675	0.1+ 0.6+	901017	675	0.7- 1.0-
830905	095	0.6- 0.3-	900924	675	0.5- 1.0+			
830911	095	0.5+ 2.6+	901014	675	0.9+ 0.8-			

1983 RG2 = 1990 SG2
Id. H. E. Holt
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell

M 13.55261	(1950.0)	P	Q	
n 0.28372377	Peri. 296.24674	+0.98947375	-0.10110977	
a 2.2937121	Node 69.70234	+0.13622344	+0.89221282	
e 0.2011085	Incl. 6.33750	-0.04883512	+0.44015122	
P 3.47	H 14.3	G 0.25		

Residuals in seconds of arc

830912	688	0.3+	0.1-	831012	688	0.7-	0.6+	900919	675	0.1+	0.6-
830914	688	0.2+	0.0	831012	688	0.2+	0.1-	900919	675	0.0	0.6-
830914	688	0.6-	0.2+	900917	675	0.1+	0.0				
831009	688	0.3+	0.2-	900917	675	0.0	0.9+				

1983 RP2 = 1985 DJ4
Id. S. J. Bus (MPC 11843)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M 9.39061	(1950.0)	P	Q	
n 0.28788143	Peri. 222.71893	+0.97439011	-0.22192043	
a 2.2715743	Node 150.04600	+0.22089019	+0.91445193	
e 0.1702901	Incl. 4.16525	+0.04208841	+0.33842133	
P 3.42	H 14.4	G 0.25		

Residuals in seconds of arc

830813	688	0.2+	1.6-	830906	688	0.6+	0.6+	850222	675	0.7-	0.9-
830813	688	0.6+	0.0	830906	688	2.0+	0.9+	850223	675	0.4+	0.1-
830902	688	0.5-	0.9-	830910	688	0.7-	0.1+	901011	399	0.4-	0.5-
830902	688	2.1-	1.3+	830910	688	0.7-	0.7-	901011	399	2.0+	1.6+
830904	688	0.1+	0.5+	830912	688	1.6+	1.0-	901011	399	1.5-	1.3-
830904	688	1.1-	0.2+	830913	095	(0.1-	3.6-)				

1983 RT4 = 1975 XU4 = 1979 SB12 = 1979 WA2 = 1988 XX5 = 1990 ET
Id. R. Nagata, H. Kaneda
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 226.32635	(1950.0)	P	Q	
n 0.22789878	Peri. 152.95726	+0.99198793	+0.11023582	
a 2.6544510	Node 200.98875	-0.12210067	+0.96196643	
e 0.1503456	Incl. 9.92057	+0.03242472	+0.24993731	
P 4.32	H 13.4	G 0.25		

Residuals in seconds of arc

751203	095	0.1+	1.5-	830914	095	0.7+	0.5+	900302	809	0.4+	0.1+
790924	095	1.2+	2.1-	881208	808	0.3+	1.5+	900304	809	0.7-	0.7+
791116	095	1.1-	0.0	881208	808	0.3-	1.4+	900304	809	0.1-	0.1-
830901	095	(4.4-	6.5-)	900302	809	0.7+	1.1+	900304	809	0.3+	0.3-
830911	095	1.5-	2.9+	900302	809	0.2+	0.7+				

1983 VQ1
Id. R. H. McNaught (1990 obs.)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M 347.02011	(1950.0)	P	Q	
n 0.27621974	Peri. 346.94747	+0.71966283	-0.58694639	
a 2.3350682	Node 55.35356	+0.67062536	+0.44922344	
e 0.2902270	Incl. 26.79928	+0.17985279	+0.67356680	
P 3.57	H 14.5	G 0.25		

Residuals in seconds of arc

831106	675	0.3-	0.3-	831111	675	0.2-	0.3+	900921	413	0.0	0.1-
831106	675	0.4-	0.1-	831128	675	0.5+	0.2+	900925	413	0.6-	0.1+
831107	675	0.1+	0.4+	831129	675	0.7+	0.3+	900925	413	1.2+	0.3+
831108	675	0.1+	0.3-	840222	675	0.4-	0.0				
831109	675	0.2-	0.5-	900921	413	0.7-	0.2-				

1984 SH6 = 1990 EN5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 179.66658 (1950.0) P Q
n 0.25142644 Peri. 252.98075 +0.88069560 -0.47163902
a 2.4861631 Node 135.13393 +0.45482741 +0.81607116
e 0.1246548 Incl. 3.57213 +0.13231507 +0.33404266
P 3.92 H 13.5 G 0.25
Residuals in seconds of arc

840922	809	0.1-	0.3+	840926	809	1.2+	0.4-	840930	809	0.5-	0.2+
840922	809	0.0	0.5+	840927	809	0.6+	1.5-	840930	809	0.1-	0.1-
840922	809	0.3+	0.4+	840927	809	1.1+	1.0-	841001	809	0.3-	0.0
840923	809	0.0	0.0	840927	809	1.1+	1.1-	841001	809	0.1+	0.5+
840923	809	0.1+	0.2+	840928	809	0.9-	0.8+	841001	809	0.3+	0.1+
840923	809	0.4+	0.6+	840928	809	0.4-	0.8+	900302	809	0.5-	0.1+
840924	809	1.4-	0.3-	840928	809	0.0	1.2+	900302	809	0.2-	0.0
840924	809	1.2-	0.4-	840929	809	0.1-	0.3-	900302	809	0.3+	0.1+
840924	809	1.1-	0.1-	840929	809	0.1+	0.0	900303	809	0.3-	0.1-
840926	809	0.8+	0.5-	840929	809	0.0	0.4+	900303	809	0.1+	0.2-
840926	809	1.1+	0.4-	840930	809	0.9-	0.0	900303	809	0.7+	0.0

1985 CA2 = 1987 XV = 1990 UL
Id. T. Urata, S. Nakano
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 335.38566 (1950.0) P Q
n 0.29764844 Peri. 300.79775 +0.40938244 -0.90941916
a 2.2216057 Node 124.85946 +0.86457715 +0.36105325
e 0.0916297 Incl. 5.12022 +0.29139729 +0.20639123
P 3.31 H 13.6 G 0.25
Residuals in seconds of arc

850212	809	0.4+	1.3+	850219	809	0.7-	0.3-	850225	809	0.5+	0.3-	
850212	809	0.3+	1.0+	850219	809	0.5-	0.1-	850225	809	0.9+	0.2-	
850212	809	0.6+	1.0+	850219	809	0.4-	0.0	850226	809	0.8+	0.1+	
850214	809	0.1-	0.7+	850220	809	0.7-	0.4-	850226	809	0.9+	0.4+	
850214	809	0.1+	0.8+	850220	809	0.5-	0.5-	850226	809	0.8+	0.6+	
850214	809	0.3+	0.8+	850220	809	0.3-	0.4-	850227	809	0.1-	0.8-	
850216	809	0.3+	0.2+	850220	675	0.5-	1.7-	850227	809	0.2+	0.3-	
850216	809	0.3+	0.0	850221	809	0.8-	0.1-	850228	809	0.8-	0.5+	
850216	809	0.3+	0.1-	850221	809	0.6-	0.0	850228	809	0.7-	0.5+	
850217	809	0.2-	0.0	850221	809	0.5-	0.0	871215	046	0.5-	0.4+	
850217	809	0.0	0.0	850222	675	0.6+	1.1-	871215	046	0.5+	1.1-	
850217	809	0.1+	0.2+	850224	809	0.6-	0.0	901020	385	1.5-	0.8+	Y
850218	809	0.2+	0.2+	850224	809	0.5-	0.1-	901020	385	0.4-	0.3+	Y
850218	809	0.4+	0.1+	850224	809	0.2-	0.1-	901021	385	1.8+	0.6-	
850218	809	0.7+	0.1-	850225	809	0.2+	0.8-					

1985 VN = 1931 VK1 = 1989 TH
Id. T. Furuta (MPC 15412), H. Oishi
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Oishi
M 113.09072 (1950.0) P Q
n 0.23732820 Peri. 138.17010 +0.96949397 +0.21536945
a 2.5836718 Node 209.99928 -0.23548441 +0.95089852
e 0.2190737 Incl. 13.53724 +0.06803335 +0.22227914
P 4.15 H 13.1 G 0.25
Residuals in seconds of arc

311103	690(24.3+	14.1+)X		851114	054	0.2+	0.8+	890928	675	0.9-	0.7-
311106	690(69.9+	21.7+)X		851115	054	0.6-	1.4+	890928	675	0.9-	0.6-
851022	095	1.2+	0.6-	851115	054	0.4-	1.0+	890929	675	1.0-	0.8-
851109	095	0.7-	2.5-	851120	095	(0.2-	14.4+)	890929	675	1.0-	0.5-
851111	095	0.2+	0.5-	890927	675	1.4-	0.0	891004	881	0.1-	0.3+

891004	881	0.1-	0.2+	891023	046	2.4+	0.1+	891028	046	0.8-	0.1+
891005	881	0.4+	2.2+	891023	046	2.0+	0.0	891028	046	0.6+	1.2+
891005	881	1.3-	0.8+	891024	046	1.7+	0.3-	891030	807	0.3+	0.1-
891021	095	1.9-	1.6-	891024	046	1.4+	0.7-	891101	807	0.2+	0.5-
891022	046	0.6+	0.1-	891025	095	(2.2-	4.0+)	891229	801	0.7-	0.3+
891022	046	1.4+	1.1-	891025	095	1.2-	2.4+	891229	801	0.3-	0.1+

1986 AG1 = 1987 QQ9
Id. N. S. Chernykh, C. M. Bardwell

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5						Bardwell
M 345.32124		(1950.0)		P		Q
n 0.35843519		Peri. 96.84792		+0.74071979		-0.59769370
a 1.9627378		Node 300.33869		+0.38406019		+0.75136520
e 0.0363129		Incl. 20.81951		+0.55120955		+0.27966513
P 2.75		H 13.5		G 0.25		

Residuals in seconds of arc

860111	688	0.0	0.8+	860206	675	1.0-	0.9+	900916	801	0.1-	0.6-
860111	688	2.2+	0.0	860207	675	1.3-	1.9+	900918	801	0.5-	0.7-
860204	675	0.2+	1.1+	860305	688	1.0+	1.3-	900918	801	0.5-	0.7-
860205	688	1.4+	1.5-	860305	688	1.2+	0.8-	900921	801	0.3-	0.7-
860205	688	1.1-	3.3-	870826	095	1.8-	2.7+	900921	801	0.4-	0.7-
860205	675	0.1+	0.7+	900916	801	0.2-	0.6-				

1986 GY = 1982 BK3 = 1987 UZ6 = 1987 WG5 = 1990 QX2

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5						Kaneda
M 29.71143		(1950.0)		P		Q
n 0.30651971		Peri. 318.24311		+0.89368530		+0.44846697
a 2.1785312		Node 15.13022		-0.39579061		+0.80290897
e 0.1429089		Incl. 3.13654		-0.21136786		+0.39270163
P 3.22		H 14.8		G 0.25		

Residuals in seconds of arc

820118	033	0.2+	1.2-	860414	691	1.5-	1.0+	871027	095	1.4-	0.3+
820118	033	0.3-	1.1-	860415	691	0.6+	0.5-	871121	095	0.2+	1.5+
860405	691	0.3-	0.3+	860415	691	0.6+	0.4-	900824	675	0.1-	0.7-
860405	691	0.2-	0.2+	860415	691	0.5+	0.5-	900824	675	0.3-	0.8-
860405	691	0.2+	0.1+	860417	691	0.4+	0.0	900829	675	1.0-	1.0-
860414	691	0.8-	0.0	860417	691	0.1+	0.3-	900829	675	2.4+	0.8+
860414	691	0.7-	0.2+	860417	691	0.4+	0.4+				

1986 PC1 = 1975 RK1 = 1990 EU5
Id. G. V. Williams, K. Ichikawa

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5			(J-P)			Williams
M 298.74105		(1950.0)		P		Q
n 0.17914770		Peri. 134.61487		+0.36672469		+0.93025246
a 3.1164687		Node 156.89088		-0.86192660		+0.34457672
e 0.1755394		Incl. 1.74819		-0.35013647		+0.12608426
P 5.50		H 12.0		G 0.25		

Residuals in seconds of arc

750903	095	0.7-	2.9-	860804	675	1.4-	0.7+	900307	809	0.7-	0.1+
750906	095	2.6+	2.6-	860908	071	1.2-	1.0-	900307	809	0.6-	0.3-
860801	675	2.2+	1.3+	860908	071	1.3-	1.2-	900308	809	0.2+	1.1-
860801	675	0.2-	1.6+	860908	071	0.3-	1.0-	900308	809	0.3+	1.3-
860804	675	1.3+	1.8+	900307	809	1.0-	0.0	900308	809	0.4+	1.1-

1986 RE2
Id. K. Lawrence (1990 obs.)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	317.30274	(1950.0)	P	Q
n	0.22836248	Peri. 107.57888	+0.66315063	-0.67472474
a	2.6508617	Node 296.29115	+0.47255132	+0.71311428
e	0.0739058	Incl. 21.18536	+0.58045369	+0.19030121
P	4.32	H 12.0	G 0.25	

Residuals in seconds of arc

860905	675	1.2-	1.0-	861007	010	0.2+	2.2+	900922	675	0.6+	1.3-
860905	675	1.0+	2.5-	861007	010	1.4+	2.0-	900924	675	1.0+	1.6+
860906	675	0.2+	2.1+	861007	010	1.0-	0.4-	900924	675	0.3+	1.5+
860906	675	0.6-	1.8+	900922	675	1.8-	1.9-				

1986 RU5 = 1982 SN4 = 1989 OQ = 1990 TE
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	143.85168	(1950.0)	P	Q
n	0.23310531	Peri. 8.28138	-0.89989259	+0.42950912
a	2.6147819	Node 197.75423	-0.41296932	-0.89495737
e	0.1151466	Incl. 14.35442	-0.14017724	-0.12071958
P	4.23	H 12.0	G 0.25	

Residuals in seconds of arc

820920	095	0.9+	2.8-	861010	095	0.2+	0.9-	901009	413	0.1-	2.1+
860907	095	0.0	0.6-	890729	675	0.4-	1.7-	901011	413	0.1-	0.0
860911	095	1.2-	1.9-	890729	675	0.3+	0.6-	901011	413	0.2+	2.6+
861005	095	0.2+	0.7+	901009	413	0.1-	0.1+				

1986 SD2 = 1986 WE5 = 1973 AQ3
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Oishi

M	260.48818	(1950.0)	P	Q
n	0.19357558	Peri. 79.10292	+0.90252831	-0.39027637
a	2.9596240	Node 303.63208	+0.25708558	+0.82738834
e	0.0530666	Incl. 12.62678	+0.34547019	+0.40387236
P	5.09	H 11.8	G 0.25	

Residuals in seconds of arc

730102	095	0.7+	0.2+	861003	095	1.4+	1.4-	861127	010	(4.9+	2.3+)
730104	095	0.8-	0.4-	861127	010	0.3+	0.1+				
860929	095	0.9-	0.2+	861127	010	1.0-	1.5+				

1987 SL10 = 1987 RK = 1971 SM = 1990 EQ5
Id. S. Nakano (d, MPC 14156), G. V. Williams
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	118.65359	(1950.0)	P	Q
n	0.12473532	Peri. 245.17161	+0.70711486	-0.70477974
a	3.9671379	Node 159.48091	+0.69326686	+0.67508165
e	0.2426060	Incl. 9.39514	+0.13917480	+0.21806026
P	7.90	H 12.0	G 0.25	

Residuals in seconds of arc

710916	808	0.2+	0.7-	870903	809	1.4+	1.1-	900302	809	0.2-	0.1+
870901	809	0.6-	0.6-	870903	809	1.8+	1.3-	900302	809	0.1-	0.1+
870901	809	1.1-	1.0+	870929	033	1.1-	0.7-	900303	809	0.3+	0.2+
870901	809	0.5-	1.6+	870929	033	0.9-	0.3-	900303	809	0.3+	0.4+
870901	809	1.0+	1.3+	870930	033	0.3+	0.5-	900303	809	0.4+	0.6+
870902	809	1.0+	1.0+	870930	033	0.9-	0.7-	900304	809	0.1-	0.5-
870902	809	0.8+	0.5+	871001	033	2.0-	0.4-	900304	809	0.1-	0.4-
870902	809	1.0+	0.9+	900302	809	0.5-	0.2-	900304	809	0.0	0.4-

1987 UU2 = 1976 HE1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	343.58228	(1950.0)	P	Q
n	0.29427540	Peri. 151.98333	+0.99969952	-0.02197154
a	2.2385497	Node 209.28176	+0.01619502	+0.92484428
e	0.1241242	Incl. 1.27330	+0.01840101	+0.37971082
P	3.35	H 13.5	G 0.25	

Residuals in seconds of arc

760430 808 0.2- 0.3-	871020 657 (0.1+ 5.1-)	900719 657 0.8+ 1.2+
760430 808 0.6+ 1.5+	871021 657 0.2+ 0.2-	900719 675(26.1- 5.4-)
870918 095 1.4+ 2.1-	871021 657 0.0 0.7+	900719 657 0.0 1.1-
870918 095 (1.4- 2.9+)	890304 675 0.7+ 0.6+	900720 675 0.1- 1.6+
870921 095 1.4- 0.9+	890306 675 0.2- 1.7-	900720 675 1.5- 1.5-
871002 095 1.8+ 0.8-	890306 675 1.0- 0.2-	
871020 657 1.9- 1.6+	900719 657 0.9+ 0.6-	

1987 VB = 1950 TX2 = 1984 YM5 = 1984 YO6
Id. H. Kaneda (k), G. V. Williams (d)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	305.74794	(1950.0)	P	Q
n	0.29351390	Peri. 129.13764	+0.61122737	-0.78990472
a	2.2424199	Node 283.11331	+0.70951866	+0.57459646
e	0.1414588	Incl. 2.91417	+0.35069128	+0.21421824
P	3.36	H 13.0	G 0.25	

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

501013 760 0.6+ 1.3-	870920 095 1.0- 0.4-	871120 399 0.2- 1.9-
501013 760(0.08+ 0.03-)X	871114 399 0.6+ 1.7+	871120 399 1.5- 0.2+
841223 010 (3.4+ 14.5-)	871114 399 0.6+ 1.1+	871128 399 2.2+ 0.1+
841223 010 (9.4+ 17.5-)	871114 399 0.3+ 0.8+	871128 399 0.9- 0.9-
841228 095 0.1- 0.6-	871115 399 0.3- 0.0	
870918 095 0.8+ 0.1-	871115 399 1.1- 0.8+	

1988 BN
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	206.17282	(1950.0)	P	Q
n	0.22687761	Peri. 217.40729	-0.93944608	+0.02026486
a	2.6624101	Node 319.33632	+0.24195421	-0.66772067
e	0.2263436	Incl. 31.66801	-0.24269161	-0.74413603
P	4.34	H 12.5	G 0.25	

Residuals in seconds of arc

880119 372 2.4+ 0.8-	880212 894 0.9+ 2.1+	890629 474 1.1- 0.8+
880120 372 0.6- 3.3-	880213 675 (9.1- 1.5-)	890701 474 2.3- 0.3-
880123 372 0.8+ 1.6+	880213 894 2.6- 0.0	890701 474 2.8- 0.1-
880125 372 0.1+ 0.2-	880213 894 0.1+ 2.5+	890728 474 1.2+ 0.8+
880129 372 0.1+ 1.9+	880218 871 (3.9+ 2.8+)	890728 474 1.8+ 0.7+
880208 372 0.4+ 0.1+	880221 372 0.1- 1.3-	900921 372 3.2- 0.8+
880208 372 0.2+ 0.0	880221 372 0.9+ 0.2-	900921 372 0.3+ 1.6+
880211 675(12.8- 1.7-)	880414 801 0.6+ 1.0+	
880212 894 1.1+ 0.0	890629 474 0.1- 0.9+	

1988 BP3 = 1990 SW2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell

M	75.71744	(1950.0)	P	Q
n	0.22239704	Peri. 127.87515	+0.32321959	+0.94528338
a	2.6980503	Node 160.83869	-0.90510931	+0.32248812
e	0.1343371	Incl. 7.76849	-0.27623582	+0.04940383
P	4.43	H 13.2	G 0.25	

Residuals in seconds of arc

880118 809	0.2-	0.3-	880123 809	0.7-	0.5-	880129 809	0.2-	0.5-
880118 809	0.0	0.4-	880123 809	0.5-	0.5-	880130 809	0.5+	0.1+
880118 809	0.4+	0.2-	880125 809	0.2+	0.7+	900918 675	0.4-	0.8-
880119 809	0.1-	0.2+	880125 809	0.6+	0.7+	900918 675	0.4-	1.3+
880119 809	0.0	0.2+	880125 809	0.8+	0.6+	900920 675	0.0	0.3-
880121 809	0.4-	0.1-	880127 809	0.6-	0.3+	900920 675	0.8+	0.2-
880121 809	0.1-	0.1-	880127 809	0.1-	0.1-			
880121 809	0.1+	0.0	880129 809	0.3+	0.1-			

1988 UV = 1978 UZ3

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Nagata	
M 187.00577		(1950.0)	P	Q	
n 0.29187370	Peri.	205.25543	+0.54251947	-0.83721434	
a 2.2508130	Node	212.01992	+0.79106114	+0.53675607	
e 0.0952583	Incl.	7.46464	+0.28265685	+0.10471427	
P 3.38	H	13.8	G 0.25		

Residuals in seconds of arc

781028 675	1.2-	0.5+	881016 399	0.1+	0.0	881019 399	0.8-	0.1+
781029 675	1.2+	0.6-	881018 399	0.2-	2.1-	881019 399	0.4-	0.9-
881013 399	1.0-	0.4-	881018 399	0.5-	1.4+			
881015 399	1.1+	0.3-	881019 399	1.6+	2.2+			

1989 CJ1

Id. B. Roman (1990 obs.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Williams	
M 41.46870		(1950.0)	P	Q	
n 0.37337992	Peri.	208.45299	+0.94805070	+0.12487984	
a 1.9100090	Node	140.71777	-0.12306184	+0.99209186	
e 0.0716176	Incl.	27.52360	-0.29335245	-0.01259998	
P 2.64	H	13.5	G 0.25		

Residuals in seconds of arc

890211 675	0.2-	0.7+	890305 675	0.0	0.3-	900923 675	0.7-	0.6-
890211 675	1.2+	0.5-	890305 675	0.3+	0.5-	900925 675	(0.6-	9.1+)
890212 675	(26.3-	16.3+)	890405 675	0.4-	0.5+	900925 675	0.8+	0.3-
890301 675	1.0+	0.0	890405 675	(7.3+	2.5+)			
890301 675	2.0-	0.3+	900923 675	0.2-	1.0+			

1989 EC

Id. B. Roman (1990 obs.)

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5				Williams	
M 316.48117		(1950.0)	P	Q	
n 0.38527542	Peri.	98.19225	+0.17244755	-0.97648681	
a 1.8704891	Node	340.38154	+0.68147637	+0.21310165	
e 0.0736347	Incl.	22.66213	+0.71123259	+0.03257587	
P 2.56	H	13.0	G 0.25		

Residuals in seconds of arc

890304 675	1.4+	1.1-	890407 675	0.8+	1.0-	900924 675	0.2+	0.3+
890304 675	0.6+	0.4+	890429 675	0.6-	0.1+	900924 675	0.4+	0.6+
890306 675	(9.7-	2.6-)	890429 675	1.2+	0.6+	901014 675	0.7-	0.4+
890306 675	(8.8-	3.3-)	890501 675	0.7-	0.8+	901014 675	0.5-	0.1-
890405 675	0.3+	0.1-	890501 675	1.3-	1.5+	901017 675	0.6+	0.4-
890405 675	1.0-	1.0-	900922 675	0.2+	0.8-	901017 675	0.7-	0.4-
890407 675	2.1-	0.3-	900922 675	1.1+	0.4-			

1989 GM
Id. K. Lawrence (1990 obs.)
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 90.22422 (1950.0) P Q
n 0.22700410 Peri. 140.49146 -0.21822783 +0.93572347
a 2.6614263 Node 115.27299 -0.95484887 -0.14607060
e 0.1610812 Incl. 17.84589 -0.20159425 -0.32106846
P 4.34 H 12.5 G 0.25
Residuals in seconds of arc

890406	675	0.7+	0.1-	890430	675	0.1-	0.6-	900922 675 2.2+ 0.0
890406	675	0.4-	0.2-	890430	675	0.3-	0.9-	900922 675 1.1- 0.9-
890408	675	(0.0	5.1-)	890502	675	0.1-	1.3+	900924 675 1.2- 0.9+
890408	675	0.2-	0.3+	890502	675	0.5+	0.2+	

1989 LJ = 1980 BK2
Id. K. Lawrence (1990 obs.), G. V. Williams
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 149.13496 (1950.0) P Q
n 0.23627295 Peri. 116.35132 -0.87271434 +0.42038743
a 2.5913590 Node 89.38861 -0.48723248 -0.78241641
e 0.1198647 Incl. 14.37673 +0.03121207 -0.45945507
P 4.17 H 12.5 G 0.25
Residuals in seconds of arc

800123	095	0.1+	0.4+	890629	675	0.5-	1.9-	900922 675 0.6- 0.9+
890604	675	1.6+	0.0	890629	675	0.3-	0.3-	900924 675 0.4+ 0.2-
890604	675	0.7-	0.7+	890701	675	1.4-	0.4+	900924 675 0.9- 0.3+
890606	675	2.1+	1.1+	890701	675	2.4-	0.7+	
890606	675	1.0+	0.4-	900922	675	0.8+	0.1-	

1989 TO11
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
M 104.82469 (1950.0) P Q
n 0.08442118 Peri. 94.38096 +0.37032766 +0.92605366
a 5.1463789 Node 197.89217 -0.91812462 +0.35302594
e 0.0721250 Incl. 13.68362 -0.14108368 +0.13340651
P 11.67 H 10.0 G 0.25
Residuals in seconds of arc

891002	807	0.8+	0.4+	891004	807	0.1-	0.2+	900125 688 0.2- 0.2-
891003	809	0.1-	0.8+	891006	809	0.0	0.4-	900128 688 0.1- 0.2-
891003	809	0.3-	0.7+	891006	809	0.1+	0.2-	900128 688 0.1+ 0.7-
891003	809	0.4-	0.6+	891006	809	0.3+	0.3-	900918 801 0.3- 0.0
891003	809	0.2-	0.5-	891028	807	0.0	0.1+	900918 801 0.2+ 0.3+
891003	809	0.4-	0.5-	891031	807	0.5+	0.1+	
891003	809	0.2-	0.5-	900125	688	0.3+	0.0	

1989 VP = 1980 UA1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell
M 72.91954 (1950.0) P Q
n 0.21471333 Peri. 176.50866 +0.76678116 -0.50440545
a 2.7620405 Node 222.72312 +0.57382364 +0.81582931
e 0.1630330 Incl. 35.81541 +0.28770312 -0.28283860
P 4.59 H 11.5 G 0.25
Residuals in seconds of arc

801018	095	0.1+	0.1+	891120	095	2.0+	0.9+	891203 888 0.4+ 0.5-
891104	095	0.8-	1.1-	891124	095	0.8+	0.4-	891203 888 0.0 0.1-
891104	095	1.4-	1.7+	891129	675	0.2+	0.3+	891204 888 0.8- 0.5+
891106	095	0.8+	0.4-	891130	095	0.4+	0.7-	891204 888 1.5- 0.3+
891106	095	(0.9+	4.5-)	891201	675	(1.0-	3.4+)	891229 801 0.1- 0.2+
891120	095	(1.5-	12.0+)	891201	675	0.1-	0.7-	891229 801 0.2- 0.2+

1989 WE = 1942 BG = 1971 SR = 1987 HP1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nagata

M 82.27721		(1950.0)	P	Q
n 0.22421391	Peri.	261.82738	+0.60215443	-0.79650648
a 2.6834552	Node	150.92887	+0.76960720	+0.56087836
e 0.2082192	Incl.	6.45880	+0.21240244	+0.22581606
P 4.40	H 12.1	G 0.25		

Residuals in seconds of arc

420115	053(13.5+	5.0-)X	891106	095	0.8+	1.3+	891124	095 0.5+ 0.6+
710916	808 0.2+	0.8-	891106	095	0.5+	1.3+	891201	403 1.6- 0.1+
870424	046 0.7+	1.3-	891120	403	(0.8-	6.2+)	891201	403 0.5- 1.6-
870425	046 1.3-	0.6-	891121	403	1.3-	1.2-		
891026	095 2.7+	0.6-	891121	403	1.1-	1.2-		

1989 WG7 = 1976 UV1 = 1986 AC2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 59.62133		(1950.0)	P	Q
n 0.23296577	Peri.	222.68508	-0.15866856	-0.98703824
a 2.6158207	Node	236.45823	+0.91342959	-0.13749064
e 0.1625728	Incl.	1.65550	+0.37479417	-0.08277586
P 4.23	H 13.8	G 0.25		

Residuals in seconds of arc

761022	381 1.0-	0.7-	860112	688	0.2+	0.0	891129	400 0.8+ 1.5-
761022	381 0.6-	0.0	860117	688	0.7-	1.0-	891201	400 0.3- 1.7+
761026	095 1.7+	0.5+	860117	688	0.0	0.3+	891201	400 0.9+ 0.2+
860112	688 0.5+	0.4+	891129	400	0.7-	0.0	891206	400 0.7- 0.2-

1990 BG1 = 1964 WJ1 = 1976 JK2 = 1987 MH
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 42.30677		(1950.0)	P	Q
n 0.20113285	Peri.	77.35098	-0.88159546	-0.46072642
a 2.8850104	Node	75.13785	+0.38128892	-0.82323084
e 0.1722960	Incl.	6.09171	+0.27822329	-0.33169587
P 4.90	H 12.8	G 0.25		

Residuals in seconds of arc

641130	330 0.1-	0.2-	900126	400	(3.2-	1.9+)	900130	399 0.0 1.1+
760502	095 0.0	0.3+	900127	400	(13.2-	12.1+)	900130	399 0.9+ 0.4-
870630	413 0.3-	1.9-	900127	400	(13.6-	8.9+)	900214	400 0.1+ 0.2+
870630	413 0.6+	0.7+	900128	399	2.1-	1.0-	900214	400 0.5+ 0.2+
900121	400 1.5+	0.1+	900128	399	0.2-	0.3-	900217	875 1.0+ 1.4-
900121	400 1.0+	0.2+	900128	399	1.3-	0.0	900217	875 1.1- 2.7-
900126	400 1.6-	2.8+	900130	399	0.7+	0.3+		

1990 BQ1 = 1951 RD2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M 218.97246		(1950.0)	P	Q
n 0.21467629	Peri.	21.04583	+0.80201836	+0.40085376
a 2.7623582	Node	307.19762	-0.59590192	+0.48630053
e 0.1575332	Incl.	33.77337	-0.04083442	+0.77642002
P 4.59	H 11.5	G 0.25		

Residuals in seconds of arc

510910	675 0.8+	1.7-	900201	402	0.6+	2.6+	900322	801 0.1- 0.3+
510910	675 1.0-	1.2+	900202	402	0.2+	0.1-	900322	801 0.1+ 0.4+
900121	402 (4.4+	0.6+)	900202	402	1.3-	2.1-	900327	801 0.0 0.3+
900121	402 0.2+	0.3+	900216	402	1.3-	2.0-		
900201	402 1.5+	0.2-	900216	402	0.1+	0.3+		

1990 DR4 = A908 BH = 1982 RT1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	155.82176	(1950.0)	P	Q
n	0.18210780	Peri. 223.70202	+0.89532326	-0.44159553
a	3.0826050	Node 162.24503	+0.44279532	+0.86825655
e	0.1292926	Incl. 11.00653	+0.04825530	+0.22610606
P	5.41	H 11.5	G 0.25	

Residuals in seconds of arc

080123	024	1.8-	0.3-	820917	046	1.5+	0.1+	900317	809	1.9+	0.6-
080124	024	1.7+	2.5+	820917	046	2.8+	0.2-	900317	809	1.3+	0.3-
820915	046	(5.0-	5.2-)	900228	809	1.2-	0.6-	900317	809	0.9+	0.3-
820915	046	0.8-	0.3+	900228	809	1.2-	0.8-	900319	809	0.3+	0.4+
820915	046	1.6-	1.4-	900228	809	1.0-	0.7-	900319	809	0.2+	0.5+
820915	046	1.2-	2.0-	900301	809	0.8-	1.0-	900319	809	0.4+	0.5+
820916	046	(5.8+	0.9-)	900301	809	0.9-	0.9-				
820916	046	(6.3+	1.1-)	900301	809	0.5-	1.0-				

1990 EZ5 = 1990 GL = 1976 UZ9 = 1981 SO4 = 1986 PA2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	344.76730	(1950.0)	P	Q
n	0.18145728	Peri. 342.09756	-0.46225584	+0.88674301
a	3.0899680	Node 260.36960	-0.81322051	-0.42506082
e	0.1244274	Incl. 0.14676	-0.35354200	-0.18168693
P	5.43	H 13.0	G 0.25	

Residuals in seconds of arc

761022	381	0.5-	0.0	900301	809	0.4-	0.8-	900309	809	0.5+	0.4+
761022	381	0.6+	0.6+	900301	809	0.2-	0.9-	900404	809	0.2+	0.0
761024	381	0.3-	0.1-	900301	809	0.0	0.8-	900404	809	0.8-	1.3+
810925	095	0.3-	0.6+	900302	809	0.2-	0.1-	900404	809	0.9-	1.4+
860801	675	(13.4-	1.5-)	900302	809	0.1+	0.3-	900415	809	1.3+	0.1+
860801	675	(10.8-	0.0)	900302	809	0.2+	0.4-	900416	809	0.3+	0.6+
860802	675	(3.8+	0.6+)	900309	809	0.3+	0.4+	900416	809	0.3-	0.2-
860802	675	(8.6+	2.6+)	900309	809	0.4+	0.3+				

1990 KL
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	12.99739	(1950.0)	P	Q
n	0.25812190	Peri. 102.38953	+0.51734075	+0.85393847
a	2.4429776	Node 199.08220	-0.83660770	+0.49086382
e	0.3297929	Incl. 9.88149	-0.18012803	+0.17274777
P	3.82	H 13.5	G 0.25	

From 16 observations 1990 May 2-Sept. 21, mean residual 1".0.

1990 KO
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	13.34609	(1950.0)	P	Q
n	0.28378578	Peri. 69.31925	+0.50253597	+0.80254773
a	2.2933779	Node 235.01528	-0.86418319	+0.47721581
e	0.2472395	Incl. 23.10575	+0.02539703	+0.35802543
P	3.47	H 14.0	G 0.25	

From 24 observations 1990 May 22-Sept. 19, mean residual 0".7.

1990 MJ
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bardwell

M	9.22695		(1950.0)		P		Q
n	0.22058143	Peri.	75.70065		+0.82418517		+0.30490885
a	2.7128352	Node	264.72716		-0.48212242		+0.81987727
e	0.3972848	Incl.	28.63702		+0.29711408		+0.48459453
P	4.47	H	13.5	G	0.25		

From 19 observations 1990 June 28-Sept. 21, mean residual 0".8.

1990 MV = 1980 WA2 = 1980 XG2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nagata

M	40.41568		(1950.0)		P		Q
n	0.26760717	Peri.	177.67458		-0.00517657		+0.98049315
a	2.3849039	Node	91.98347		-0.92056944		+0.07206569
e	0.2320207	Incl.	11.33838		-0.39054464		-0.18286532
P	3.68	H	12.9	G	0.25		

Residuals in seconds of arc

801130	095	1.0-	0.9+	900629	675	1.1+	0.0	900723	675	1.4-	1.0+
801210	095	0.8+	0.4-	900629	675	0.8+	0.3+	900723	675	0.2+	0.3-
900627	675	0.2+	0.5+	900720	675	0.3-	0.2+				
900627	675	1.0-	0.5+	900720	675	0.4-	1.8-				

1990 OA
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell

M	40.05427		(1950.0)		P		Q
n	0.31084611	Peri.	152.99603		+0.19992924		+0.97394778
a	2.1582699	Node	128.34207		-0.92176681		+0.22399655
e	0.4228218	Incl.	7.84269		-0.33222619		-0.03537334
P	3.17	H	17.1	G	0.25		

From 28 observations 1990 July 19-Sept. 25, mean residual 0".83.

1990 OL
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Bowell

M	23.94989		(1950.0)		P		Q
n	0.22371964	Peri.	155.24252		+0.58969815		+0.79771004
a	2.6874061	Node	150.40775		-0.77698062		+0.60297924
e	0.4534851	Incl.	14.80102		-0.22035698		+0.00864484
P	4.41	H	16.2	G	0.25		

From 20 observations 1990 July 22-Sept. 25, mean residual 0".57.

1990 OL4 = 1975 PF
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nagata

M	355.68074		(1950.0)		P		Q
n	0.26169049	Peri.	65.96202		+0.97640324		+0.18824999
a	2.4207174	Node	283.05028		-0.21545468		+0.88251328
e	0.2327137	Incl.	6.23631		+0.01469654		+0.43096664
P	3.77	H	14.2	G	0.25		

Residuals in seconds of arc

750814	805	0.9+	0.4+	900725	675	0.1+	1.1-	900727	675	0.5-	0.5-
750815	805	0.2+	0.2-	900725	675	0.6+	1.2+	900728	675	0.3+	0.1+
750816	805	0.3+	0.4+	900727	675	0.5+	0.1-	900728	675	0.6+	0.9+

1990 OE5 = 1989 EZ4
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nagata

M	44.92538		(1950.0)		P		Q
n	0.21294393	Peri.	22.33707		-0.05583996		+0.99201844
a	2.7773197	Node	244.61674		-0.93388826		-0.09194711
e	0.1819630	Incl.	7.18855		-0.35317788		+0.08628528
P	4.63	H	13.2	G	0.25		

Residuals in seconds of arc

890302	413	0.5-	0.1-		900724	675	2.4+	0.2+		900727	675	1.6+	0.5+
890302	413	1.3-	0.2+		900725	675	0.9-	0.5-		900729	675	1.4-	0.7+
890307	413	0.5+	0.1-		900725	675	0.5-	0.8-		900729	675	0.5-	0.2-
890307	413	1.4+	0.1-		900727	675	0.4-	0.3+					

1990 PA = 1983 EB3

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	21.83550		(1950.0)	P	Q
n	0.22055518	Peri.	278.64493	+0.97259859	-0.10408258
a	2.7130504	Node	87.51879	+0.18121750	+0.89955796
e	0.2234215	Incl.	12.01023	-0.14564408	+0.42421963
P	4.47	H	11.5	G 0.25	

Residuals in seconds of arc

830314	095	0.0	0.0		900818	413	0.8+	0.7+		901015	413	0.1-	0.4+
900812	413	0.6-	0.2+		900828	413	1.2-	0.9-					
900813	413	0.5+	0.1+		900916	413	0.5+	0.6-					

1990 QJ = 1970 AV = 1985 OT

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	164.34031		(1950.0)	P	Q
n	0.21661356	Peri.	238.72439	-0.91879008	-0.00835318
a	2.7458636	Node	298.02491	+0.24292897	-0.79999952
e	0.2761325	Incl.	26.55658	-0.31114355	-0.59994249
P	4.55	H	11.3	G 0.25	

Residuals in seconds of arc

700105	095	0.0	0.0		900818	675	0.3+	0.3-		900922	675	0.5-	0.7+
850719	033	0.1+	0.6+		900821	675	0.1+	0.4+		900924	675	0.1+	0.2-
850721	033	0.2-	0.5-		900821	675	0.9+	0.7+		900924	675	0.1+	0.2-
900818	675	0.4-	0.5-		900922	675	0.5-	0.7-					

1990 QL = 1988 BW4

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	333.79388		(1950.0)	P	Q
n	0.27945145	Peri.	253.15395	+0.61322118	-0.77387518
a	2.3170354	Node	156.69010	+0.78619595	+0.61736740
e	0.2952738	Incl.	23.59010	-0.07652268	+0.14133191
P	3.53	H	14.0	G 0.25	

Residuals in seconds of arc

880126	413	0.7+	0.0		900818	675	0.1+	0.3+		900923	675	0.2-	0.6-
880126	413	0.4-	0.7-		900818	675	0.1+	0.8+		900923	675	0.1+	0.7+
880127	413	0.2-	1.3+		900820	675	0.1-	0.4-					
880127	413	0.0	0.6-		900820	675	0.1-	0.8-					

1990 QQ = 1989 BY1

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	83.09519		(1950.0)	P	Q
n	0.28025009	Peri.	301.66521	-0.35526418	+0.92601993
a	2.3126313	Node	306.98929	-0.79438518	-0.37101797
e	0.1975226	Incl.	9.19030	-0.49268605	-0.06951797
P	3.52	H	13.0	G 0.25	

Residuals in seconds of arc

890131	046	1.7+	1.7-		900819	675	0.9+	0.9+		900922	675	1.1+	0.0
890131	046	(6.2+	0.9-)		900819	675	0.3-	1.6+		900922	675	0.6-	0.8+
890201	046	1.3-	0.8+		900821	675	0.5-	1.3-		900924	675	0.4-	0.7-
890201	046	0.4-	0.9+		900821	675	0.3-	1.3-					

1990 QH1 = 1928 RM = 1981 AP3 = 1989 GK4
Id. G. V. Williams, R. Nagata
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M 31.48661		(1950.0)	P	Q
n 0.27067376	Peri.	341.79194	+0.83173040	+0.55455111
a 2.3668613	Node	344.44295	-0.49631574	+0.72138358
e 0.0821323	Incl.	5.65170	-0.24878752	+0.41482381
P 3.64	H	13.5	G 0.25	

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

280912	024(0.05+	0.07+)X	890409	809	0.4-	1.3+	900827	675	0.8-	0.1+
810108	381	0.9-	1.3-	890409	809	0.6-	1.4+	900828	675	0.9+	1.1-
810108	381	0.6+	0.2+	890409	809	1.0-	1.5+	900828	675	1.2+	1.1+
890403	809	0.7+	0.8-	900822	675	0.7+	0.4+	900914	675	0.7+	0.2-
890403	809	0.2-	0.7-	900822	675	0.4-	0.2+	900914	675	1.0+	0.1-
890403	809	0.2+	0.7-	900823	675	1.5-	0.0	900919	675	0.4-	0.2+
890405	809	0.5+	1.8-	900823	675	0.9-	0.1-	900919	675	0.7+	0.4-
890405	809	0.1-	2.0-	900827	675	0.4-	2.0-				

1990 QP1 = 1983 VM
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M 57.07656		(1950.0)	P	Q
n 0.26145152	Peri.	323.39085	+0.29957454	+0.95378075
a 2.4221970	Node	324.02420	-0.86548950	+0.26126362
e 0.1839192	Incl.	2.30330	-0.40147606	+0.14847091
P 3.77	H	14.0	G 0.25	

Residuals in seconds of arc

831108	801	0.4-	0.3-	900822	675	0.5-	0.2-	900914	675	0.5-	1.1+
831108	801	1.1-	0.3+	900828	675	0.6+	0.7-	900919	675	0.8-	0.3-
831109	801	1.5+	0.1-	900828	675	0.1-	0.1+	900919	675	0.2-	0.4-
900822	675	0.2+	0.3+	900914	675	1.2+	0.3+				

1990 QC2 = 1977 RR8 = 1986 EM3
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M 69.93973		(1950.0)	P	Q
n 0.30408253	Peri.	114.07594	+0.12648246	+0.99164587
a 2.1901605	Node	163.13211	-0.93881887	+0.12790667
e 0.1725694	Incl.	5.00427	-0.32034561	+0.01668391
P 3.24	H	14.5	G 0.25	

Residuals in seconds of arc

770908	675	0.0	1.5+	900822	675	0.5-	0.9-	900914	675	0.1-	0.0
770909	675	0.9-	1.3+	900828	675	0.1+	0.4-	900919	675	0.5+	0.2-
860312	809	0.1-	0.3-	900828	675	0.0	0.3-	900919	675	0.5+	0.4-
900822	675	0.2+	1.0-	900914	675	0.4+	0.1+				

1990 QD2 = 1972 RT1 = 1972 TO8
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M 36.16514		(1950.0)	P	Q
n 0.27239099	Peri.	197.62163	+0.71346616	+0.70016600
a 2.3569033	Node	117.90629	-0.63909055	+0.66610576
e 0.2103804	Incl.	1.75634	-0.28727913	+0.25704217
P 3.62	H	14.0	G 0.25	

Residuals in seconds of arc

720911	095	0.1+	0.3+	900828	675	0.1-	0.4+	900919	675	0.4-	0.4+
721013	095	0.1+	0.8-	900828	675	0.1-	0.2-	900919	675	0.1+	0.6+
900822	675	0.5+	0.7-	900914	675	0.2+	0.2+				
900822	675	0.2-	0.8-	900914	675	0.2-	0.5+				

1990 QL3 = 1978 LC
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 40.77729 (1950.0) P Q
n 0.26046491 Peri. 325.16080 +0.69042686 +0.72313292
a 2.4283050 Node 348.45897 -0.63923627 +0.59709811
e 0.1462198 Incl. 5.66133 -0.33865579 +0.34720688
P 3.78 H 13.7 G 0.25
Residuals in seconds of arc

780601	809	0.1-	0.2-	900828	675	0.2+	0.5+	900919	675	0.2+	0.5-
780602	809	0.1+	0.2+	900828	675	1.1+	0.3+	900919	675	0.2-	0.6-
900822	675	0.1-	0.4-	900914	675	0.1+	0.3+				
900822	675	0.5-	0.5-	900914	675	0.8-	0.7+				

1990 QY3 = 1986 PO = 1989 EF2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 67.93049 (1950.0) P Q
n 0.25451171 Peri. 296.59308 +0.08256871 +0.99639904
a 2.4660253 Node 338.11753 -0.89492386 +0.06562365
e 0.1628671 Incl. 2.96378 -0.43851305 +0.05368875
P 3.87 H 13.2 G 0.25
Residuals in seconds of arc

860801	675(20.4-	0.1+)		890306	046	0.3-	2.0-	900827	675	0.1+	2.4-
860801	675(22.0-	0.8+)		890307	046(35.3+	52.2-)		900827	675	0.0	0.5-
860802	675	2.0+	0.0	890307	046(34.5+	52.0-)		900914	675	1.1+	0.0
860802	675	4.4+	1.1+	900822	675	0.5+	0.0	900914	675	0.7+	0.7-
860804	675	1.9-	0.2+	900822	675	0.2-	0.0	900919	675	0.6+	0.8+
860804	675	4.8-	0.2-	900823	675	0.7-	0.6-	900919	675	1.2+	0.4-
890306	046	1.7-	2.1-	900823	675	1.0-	0.9-				

1990 QN4 = A915 TH = 1970 AD = 1979 OB14 = 1982 DT1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 350.43777 (1950.0) P Q
n 0.18304733 Peri. 209.14819 +0.92606898 -0.37728611
a 3.0720479 Node 173.00607 +0.35661080 +0.86878996
e 0.2978047 Incl. 3.37646 +0.12338952 +0.32071669
P 5.38 H 12.5 G 0.25
Residuals in seconds of arc

151010	024	2.2-	0.1+	900823	675	0.4+	0.4-	900911	413	2.0-	0.1-
151014	024	2.1+	2.0+	900823	675	1.4+	1.5+	900914	675	2.0+	0.4+
700104	095	2.1-	0.0	900827	675	0.6+	2.6-	900914	675	1.1+	0.7-
790719	095	3.8-	1.6+	900827	675	0.6+	0.5-	900919	675	0.2+	1.0-
820224	801	1.4+	1.6-	900911	413	1.1-	0.9+	900919	675	0.9+	0.6-

1990 QV4 = 1987 BT2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda
M 316.52071 (1950.0) P Q
n 0.18485527 Peri. 282.97529 +0.64163930 -0.75084032
a 3.0519786 Node 125.98698 +0.75712396 +0.58734366
e 0.1054963 Incl. 11.16252 +0.12272865 +0.30210302
P 5.33 H 12.3 G 0.25
Residuals in seconds of arc

870128	809	1.2-	0.6+	870130	809	1.1-	0.5+	900826	675	0.5+	1.1-
870128	809	1.4+	0.4-	870130	809	0.4+	0.4+	900826	675	0.4-	0.4+
870129	809	0.6-	0.3+	900824	675	0.5-	0.3+	900829	675	0.7+	0.4+
870129	809	1.1+	1.4-	900824	675	0.2-	0.0				

1990 RB = 1979 OR7
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Urata

M	19.63251	(1950.0)	P	Q
n	0.18979535	Peri. 56.89314	+0.97393960	+0.17627875
a	2.9987934	Node 292.60076	-0.22235727	+0.86614646
e	0.1058502	Incl. 8.89279	+0.04470901	+0.46767094
P	5.19	H 12.0	G 0.25	

Residuals in seconds of arc

790721 095	2.6-	1.5+	900912 385	2.9+	1.1-	900927 385	1.9-	1.2-
790724 413	0.6-	2.4-	900920 885	1.5+	0.8-	900927 385	3.9-	2.3+
790727 675	3.1+	1.1+	900920 885	1.0+	0.1+			
900912 385	0.2+	0.1+	900920 885	0.3+	0.5+			

1990 SB
Epoch 1990 Sept. 26.0 ET = JDE 2448160.5 Williams

M	33.81580	(1950.0)	P	Q
n	0.26658534	Peri. 86.21404	+0.09797106	+0.99375263
a	2.3909943	Node 189.89812	-0.99096867	+0.09247315
e	0.5484697	Incl. 18.11759	-0.09155745	+0.06248537
P	3.70	H 14.0	G 0.25	

From 16 observations 1990 Sept. 16-Oct. 16.

1990 SD = 1970 CM = 1975 TX = 1981 DB4 = 1983 VK2 = 1986 RJ2 = 1986 RR6
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	136.83777	(1950.0)	P	Q
n	0.26325644	Peri. 294.93730	-0.65475442	+0.75246802
a	2.4111083	Node 293.96971	-0.66222395	-0.61659155
e	0.1753662	Incl. 4.47743	-0.36435707	-0.23153130
P	3.74	H 12.9	G 0.25	

Residuals in seconds of arc

700211 805	0.5+	0.2+	900916 675	0.3+	0.7-	900920 675	1.2+	0.7-
700211 805	0.1-	0.5+	900916 675	1.1+	0.9-	900920 675	0.2+	0.6+
700211 805	0.6+	0.1+	900917 675	0.8+	0.9-	900920 372	(3.0+	0.6+)
751003 095	1.3-	1.9+	900917 675	0.5+	1.5-	900920 372	0.0	2.0+
810223 095	0.8-	0.3-	900918 675	0.8-	2.3-	900921 372	1.2-	0.4+
831108 381	0.3+	0.2+	900918 675	0.7+	0.0	900921 372	0.5-	0.6+
831108 381	0.3-	0.2+	900918 675	(0.6-	3.3-)	900926 372	1.9-	0.6-
860906 095	3.1-	0.1+	900918 675	1.5+	0.1-			
860912 054	2.0+	0.9+	900919 372	0.3+	1.5+			

1990 SM
Epoch 1990 Sept. 26.0 ET = JDE 2448160.5 Marsden

M	17.59026	(1950.0)	P	Q
n	0.31114825	Peri. 105.87694	-0.43746319	+0.88890731
a	2.1568725	Node 137.33418	-0.88253470	-0.39541391
e	0.7750893	Incl. 11.56796	-0.17250639	-0.23128260
P	3.17	H 16.5	G 0.25	

From 7 observations 1990 Sept. 22-Oct. 15.

1990 SP
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	335.07476	(1950.0)	P	Q
n	0.62507158	Peri. 47.98854	-0.04199316	-0.98523750
a	1.3547200	Node 45.25626	+0.83360451	-0.12611752
e	0.3872805	Incl. 13.51289	+0.55076320	+0.11576462
P	1.58	H 17.0	G 0.25	

From 10 observations 1990 Aug. 18-Oct. 17, mean residual 0".35.

1990 SQ
Epoch 1990 Sept. 26.0 ET = JDE 2448160.5 Williams
M 337.97006 (1950.0) P Q
n 0.34915032 Peri. 51.97592 +0.63932358 -0.76887994
a 1.9973818 Node 358.19763 +0.57731198 +0.48806641
e 0.4473809 Incl. 17.45391 +0.50791362 +0.41305546
P 2.82 H 13.0 G 0.25
From 18 observations 1990 Sept. 23-Oct. 17.

1990 SS
Epoch 1990 Sept. 26.0 ET = JDE 2448160.5 Williams
M 302.10299 (1950.0) P Q
n 0.45112624 Peri. 115.62393 -0.42372837 -0.90578326
a 1.6837231 Node 359.41486 +0.67037583 -0.31114337
e 0.4674813 Incl. 18.90377 +0.60913915 -0.28765689
P 2.18 H 18.5 G 0.25
From 19 observations 1990 Sept. 25-Oct. 9.

1990 SW = 1989 GU4
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 74.93247 (1950.0) P Q
n 0.27515349 Peri. 84.13793 +0.32845438 +0.94241078
a 2.3410967 Node 205.31961 -0.91440017 +0.30053804
e 0.1162044 Incl. 8.48254 -0.23662217 +0.14676106
P 3.58 H 13.5 G 0.25
Residuals in seconds of arc

890405	809	0.7-	0.0	890409	809	0.3+	0.5-	900920 675	0.2-	0.9-
890405	809	1.0+	1.1-	900916	675	0.1+	0.1+	900920 675	0.4-	0.3+
890406	809	0.1+	1.3+	900916	675	0.3+	0.2+	901010 400	0.2+	0.1-
890406	809	0.5-	0.3+	900917	675	0.0	0.5+	901010 400	0.0	0.1+
890406	809	0.8+	0.4-	900917	675	0.2-	1.8+	901010 400	(4.5+	2.0+)
890409	809	0.5-	0.1-	900918	675	0.4+	0.8-			
890409	809	0.6-	0.3+	900918	675	0.1-	1.3-			

1990 SA1 = 1934 PE = 1969 TT2 = 1983 RA5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams
M 76.11242 (1950.0) P Q
n 0.28325111 Peri. 29.73793 +0.28916389 +0.95371066
a 2.2962631 Node 257.17403 -0.89411367 +0.23825794
e 0.1418176 Incl. 4.85866 -0.34197221 +0.18349153
P 3.48 H 13.0 G 0.25
Residuals in seconds of arc (or two decimals in units of degrees)

340814	094(0.01+ | 0.03+)X	900917	675	0.4+	0.6-	900920 675	0.3-	0.8-
691009	095	0.3+	1.1-	900917	675	0.4+	1.3-	900920 675	1.3-	0.2+
830905	095	0.5+	1.5+	900918	675	0.3+	1.1-	900921 657	1.9-	0.2-
830907	095	0.6+	0.3+	900918	675	0.4-	1.5+	900921 657	0.8-	0.3+
830909	095	1.1-	0.1-	900918	675	0.1+	0.4-	901010 400	0.4+	1.5+
830912	095	(2.8-	12.4-)	900918	675	0.4+	1.7+	901010 400	1.8+	2.1-
900916	675	0.3+	0.4+	900920	657	0.2-	0.5-	901011 400	0.3-	2.1+
900916	675	0.7+	0.8-	900920	657	0.0	0.5-	901011 400	(4.5-	1.6-)

1990 SA2 = 1983 RA1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano
M 19.95039 (1950.0) P Q
n 0.28741600 Peri. 7.10443 +0.99479557 -0.10188955
a 2.2740260 Node 358.74317 +0.09221092 +0.90255244
e 0.1323979 Incl. 1.42642 +0.04334656 +0.41835106
P 3.43 H 14.5 G 0.25

Residuals in seconds of arc

830904	688	0.8-	0.2+	830910	688	0.4+	0.0	900926	372	0.1+ 2.3+
830904	688	0.4+	0.2+	900920	372	0.1-	0.3-	901016	372	1.1+ 0.8+
830908	046	1.5+	1.2-	900920	372	0.5+	0.6+	901017	372	0.9+ 0.9-
830908	046	0.7-	1.6-	900921	372	1.0-	1.0-	901019	372	1.5- 1.1-
830910	688	0.6-	2.0+	900926	372	0.2-	0.0			

1990 SN4 = 1986 TG6 = 1986 XB

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Urata

M	325.55613	(1950.0)	P	Q	
n	0.23571296	Peri.	82.96286	+0.18754603	-0.98213980
a	2.5954616	Node	356.12856	+0.78956791	+0.15987997
e	0.1549532	Incl.	12.92001	+0.58430215	+0.09919581
P	4.18	H	12.5	G 0.25	

Residuals in seconds of arc

861010	033	0.5+	0.8-	861206	054	0.3-	0.3+	901008	385	0.2+ 0.6+
861011	033	0.1+	0.0	900927	385	0.9-	0.5+	901013	385	2.9- 0.4-
861206	054	0.1-	0.1-	900927	385	3.5+	0.2-	901013	385	0.1- 0.1-

1990 TB = 1969 PP = 1983 RV5

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Williams

M	13.16975	(1950.0)	P	Q	
n	0.28317346	Peri.	137.65924	+0.98183362	+0.17464073
a	2.2966828	Node	212.50424	-0.18873939	+0.93907461
e	0.2988364	Incl.	7.93521	+0.01949816	+0.29603969
P	3.48	H	14.0	G 0.25	

Residuals in seconds of arc

690813	095	0.7-	2.0-	900620	413	0.7+	1.2-	901011	413	0.0 0.5-
830903	095	0.0	6.2+	900620	413	0.2+	0.8-	901011	413	0.7- 0.5+
831007	413	1.2+	0.7-	901009	413	0.1+	1.5-	901012	413	0.9- 0.2-
831007	413	0.3+	0.9-	901009	413	0.8-	0.8+			
890528	413	0.2+	0.0	901011	413	0.8+	1.7-			

1990 TR

Epoch 1990 Oct. 16.0 ET = JDE 2448180.5 Williams

M	13.57191	(1950.0)	P	Q	
n	0.31096927	Peri.	334.93959	+0.97961250	+0.19819304
a	2.1577000	Node	13.74983	-0.15302269	+0.84206517
e	0.4401215	Incl.	7.94331	-0.13016685	+0.50164307
P	3.17	H	14.0	G 0.25	

From 16 observations 1990 Oct. 11-19.

1990 TS = 1963 TD1 = 1980 XE1

Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	348.60043	(1950.0)	P	Q	
n	0.29303272	Peri.	51.43764	+0.58207126	-0.81312676
a	2.2448740	Node	2.97554	+0.71833131	+0.51175885
e	0.1710869	Incl.	4.67806	+0.38104223	+0.27735852
P	3.36	H	13.8	G 0.25	

Residuals in seconds of arc

631015	760	0.7+	0.3+	901011	399	2.3+	1.2-	901015	399	0.6- 0.3+
631015	760	1.7-	0.7+	901011	399	0.6+	1.2-	901015	399	1.9- 2.4+
631017	760	0.2+	0.7+	901011	399	0.3+	1.5-	901015	399	0.5+ 1.1+
801209	330	1.0+	1.1+	901015	392	1.3+	0.5-	901018	392	0.1- 1.2-
801213	330	1.2-	0.7-	901015	392	0.0	1.1-	901018	392	1.5- 0.8+

1990 TU = 1985 VW2
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Nakano

M	6.51245	(1950.0)	P	Q
n	0.18944345	Peri. 172.49887	+0.92967294	-0.35373816
a	3.0024998	Node 208.89128	+0.32595120	+0.91996178
e	0.1348106	Incl. 12.29050	+0.17165091	+0.16893677
P	5.20	H 12.4	G 0.25	

Residuals in seconds of arc

851109	095	1.5+	1.6+	901010	400	0.8+	1.4+	901016	372	0.6+	1.2+
851111	095	1.5-	1.5-	901011	400	0.8+	1.3-	901017	372	0.4+	0.7-
901010	400	0.1+	0.5+	901011	400	0.5-	1.0-	901019	372	2.1-	0.2-

1990 UA
Epoch 1990 Oct. 16.0 ET = JDE 2448180.5 Williams

M	22.69734	(1950.0)	P	Q
n	0.43655107	Peri. 203.81771	+0.58693586	+0.80946456
a	1.7209939	Node 102.12615	-0.74004369	+0.54465951
e	0.5527527	Incl. 0.96909	-0.32839249	+0.21934710
P	2.26	H 19.5	G 0.25	

From 8 observations 1990 Oct. 16-23.

1990 UN
Epoch 1990 Oct. 16.0 ET = JDE 2448180.5 Marsden

M	331.41283	(1950.0)	P	Q
n	0.44165603	Peri. 96.99868	-0.25456508	-0.96701705
a	1.7077067	Node 7.76540	+0.86004774	-0.23047255
e	0.5273713	Incl. 3.66616	+0.44217023	-0.10844550
P	2.23	H 23.5	G 0.25	

From 14 observations 1990 Oct. 22-25.

1990 UO
Epoch 1990 Oct. 16.0 ET = JDE 2448180.5 Marsden

M	282.32796	(1950.0)	P	Q
n	0.72319439	Peri. 332.51439	-0.97571579	-0.08691532
a	1.2292287	Node 205.08264	+0.07968352	-0.99585737
e	0.7513794	Incl. 28.31234	-0.20403241	+0.02671746
P	1.36	H 20.5	G 0.25	

From 14 observations 1990 Oct. 22-25.

2018 P-L = 1981 TH1 = 1990 EP5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	317.18887	(1950.0)	P	Q
n	0.28403318	Peri. 294.37925	+0.23863284	+0.97092600
a	2.2920506	Node 349.37445	-0.84966713	+0.19932857
e	0.1117980	Incl. 5.88209	-0.47023412	+0.13255501
P	3.47	H 14.0	G 0.25	

Residuals in seconds of arc

600924	675	1.0+	0.5-	601022	675	0.2-	0.4+	900302	809	0.1+	0.0
600926	675	0.2+	1.5-	601025	675	1.1+	0.8-	900302	809	0.5+	0.2-
600928	675	0.6-	0.3-	601026	675	0.1+	0.1-	900304	809	0.6-	0.3-
600929	675	1.4+	0.6-	811002	095	0.9-	2.5+	900304	809	0.4-	0.4-
601017	675	1.3-	0.3+	900302	809	0.2-	0.3+	900304	809	0.0	0.8-

4537 P-L = 1990 TW1
Id. G. V. Williams, B. G. Marsden
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	340.94536	(1950.0)	P		Q
n	0.29632521	Peri.	52.67584	+0.60346926	-0.79738616
a	2.2282189	Node	0.20669	+0.69142662	+0.52302495
e	0.1425849	Incl.	6.44657	+0.39718267	+0.30103191
P	3.33	H	16.5	G 0.25	

Residuals in seconds of arc

600924	675	0.3- 0.3-	601022	675	0.1- 0.1+	901012	033	0.9- 1.0+
600926	675	0.3+ 0.3-	601026	675	0.2+ 0.6-	901013	033	0.4+ 0.2+
600927	675	0.7- 1.0+	901010	033	0.4- 0.5-	901014	033	0.2+ 0.2+
600928	675	0.7+ 0.5-	901011	033	0.4+ 0.2-			
601017	675	0.0 0.6+	901011	033	0.3+ 0.6-			

4580 P-L = 1986 WE3 = 1990 TC3
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams

M	36.27987	(1950.0)	P		Q
n	0.23073963	Peri.	151.30062	+0.90475282	+0.42575116
a	2.6326237	Node	183.57242	-0.41908935	+0.88454391
e	0.2017790	Incl.	11.64861	-0.07606871	+0.19057290
P	4.27	H	14.0	G 0.25	

Residuals in seconds of arc

600924	675	0.3- 1.1-	601022	675	0.5+ 1.9+	901015	675	0.4- 1.4-
600926	675	0.4- 0.4-	601025	675	0.4- 1.4+	901015	675	1.2- 2.3-
600927	675	0.0 0.7+	601026	675	0.1+ 1.2+	901017	675	1.8+ 1.4-
600928	675	0.7- 0.1+	861127	033	0.2- 0.4+	901017	675	0.9+ 0.5-
601017	675	0.2+ 1.2+	861127	033	0.2+ 0.7+			

6581 P-L = 1990 DY1
Id. G. V. Williams
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Marsden

M	95.51378	(1950.0)	P		Q
n	0.07992540	Peri.	72.54411	+0.45340549	-0.89119173
a	5.3376124	Node	350.45630	+0.78185194	+0.40530936
e	0.0465211	Incl.	4.90233	+0.42793809	+0.20371948
P	12.33	H	10.0	G 0.25	

Residuals in seconds of arc

600926	675	0.3+ 2.6-	601026	675	0.7+ 2.5+	900228	809	1.1- 1.7+
600927	675	0.5+ 1.0-	900227	809	1.4- 1.4-	900301	809	2.4+ 0.1-
600928	675	0.8- 2.7-	900227	809	1.0- 1.4-	900301	809	2.4+ 0.3-
601017	675	1.6- 0.6+	900227	809	0.6- 1.5-	900301	809	2.7+ 0.6-
601022	675	0.5- 1.6+	900228	809	1.7- 1.7+			
601024	675	0.9+ 1.2+	900228	809	1.5- 1.7+			

6726 P-L = 1990 QV1
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M	26.25366	(1950.0)	P		Q
n	0.19657734	Peri.	210.20701	+0.84460860	+0.53348207
a	2.9294117	Node	117.48481	-0.48044575	+0.79240882
e	0.1107542	Incl.	2.91348	-0.23623760	+0.29577888
P	5.01	H	13.9	G 0.25	

Residuals in seconds of arc

600924	675	0.3- 1.9-	600927	675	0.2+ 0.3+	900825	675	0.9- 0.8-
600924	675	1.9+ 0.3-	600928	675	1.8- 1.1+	900825	675	0.1- 0.8+
600926	675	0.3+ 0.0	600928	675	0.8- 0.2-	900828	675	2.0+ 0.1-
600926	675	1.1+ 0.4+	900822	675	0.3+ 0.2-	900828	675	1.2- 0.5+
600927	675	0.5- 0.4+	900822	675	0.2- 0.0			

1218 T-2 = 1981 YJ1 = 1990 ET5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 144.05491 (1950.0) P Q
n 0.26402021 Peri. 282.61790 +0.23610352 -0.97169925
a 2.4064608 Node 153.72180 +0.89791662 +0.21522676
e 0.0777137 Incl. 0.96591 +0.37148469 +0.09735509
P 3.73 H 14.0 G 0.25
Residuals in seconds of arc

730919	675	1.5-	0.3-	730929	675	1.0+	0.2-	900304	809	0.0	0.3+
730919	675	2.2-	0.6+	730930	675	1.6+	0.5+	900304	809	0.4+	0.3+
730920	675	1.7-	0.1+	730930	675	1.6+	0.6+	900304	809	0.7+	0.0
730924	675	0.2-	0.7+	731004	675	0.9+	1.1+	900306	809	0.2-	0.2+
730924	675	0.4+	0.7-	731004	675	0.4+	1.0+	900306	809	0.2-	0.2+
730925	675	2.7-	2.4-	731005	675	0.5+	0.6-	900306	809	0.2-	0.2+
730925	675	1.0-	1.0+	731005	675	2.5+	0.5-				
730929	675	0.1+	0.2+	811220	801	0.0	0.3-				

1344 T-2 = 1990 EO5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 107.79016 (1950.0) P Q
n 0.20277754 Peri. 315.18097 -0.04689999 -0.99852158
a 2.8693951 Node 137.48460 +0.92745354 -0.05374539
e 0.0891721 Incl. 2.33032 +0.37098561 +0.00812888
P 4.86 H 13.5 G 0.25
Residuals in seconds of arc

730919	675	0.1-	1.8-	730930	675	0.6+	0.2+	731005	675	1.6+	1.0-
730919	675	1.2-	0.1+	730930	675	0.6+	0.1+	731005	675	1.6+	0.3+
730920	675	0.6-	0.5-	730930	675	1.2+	1.1+	731005	675	1.3-	0.3+
730924	675	1.1+	0.5-	730930	675	0.6-	0.2-	731005	675	1.6+	1.2-
730924	675	0.3-	0.6-	730930	675	0.5+	0.9+	731005	675	0.6+	0.6+
730925	675	0.1-	0.2+	730930	675	0.5+	0.7+	731005	675	1.5-	0.1+
730925	675	0.3+	0.1+	731004	675	1.7-	1.3-	900302	809	0.6+	0.4+
730929	675	0.3+	0.2-	731004	675	0.0	0.8+	900302	809	1.2+	0.3+
730929	675	1.2+	2.9+	731004	675	(3.3-	0.6+)	900302	809	1.7+	0.3+
730929	675	0.4+	2.8-	731004	675	0.5-	0.2+	900304	809	1.6-	0.6-
730929	675	0.2-	1.8-	731004	675	1.3-	0.2-	900304	809	1.2-	0.2-
730929	675	0.6-	2.8+	731004	675	2.0-	0.6+	900304	809	0.8-	0.4-

2610 T-3 = 1990 ES5
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 (J-P) Williams
M 67.76071 (1950.0) P Q
n 0.26725995 Peri. 204.86132 -0.92526613 -0.37853408
a 2.3869738 Node 312.87298 +0.35332970 -0.83670519
e 0.1299998 Incl. 1.90664 +0.13798807 -0.39577315
P 3.69 H 15.0 G 0.25
Residuals in seconds of arc

771007	675	1.3-	0.4+	771016	675	0.3-	1.5-	900303	809	0.9-	0.0
771011	675	0.7+	1.1+	771017	675	0.1-	1.5+	900303	809	0.5-	0.0
771011	675	1.0-	0.8+	771017	675	0.4-	1.4+	900303	809	0.1-	0.0
771012	675	0.1-	0.1+	771021	675	1.4+	2.1-	900305	809	0.0	0.1-
771012	675	1.6+	1.0+	771022	675	0.5-	0.3+	900305	809	0.5+	0.0
771016	675	0.0	1.7-	771022	675	0.1+	1.3-	900305	809	1.0+	0.2+

4008 T-3 = 1989 LP
Epoch 1990 Nov. 5.0 ET = JDE 2448200.5 Kaneda

M 208.55741	(1950.0)	P	Q
n 0.30430744	Peri. 87.16057	-0.99292659	+0.08165269
a 2.1890768	Node 97.51231	-0.10883686	-0.91607856
e 0.1365937	Incl. 4.98768	+0.04744802	-0.39259764
P 3.24	H 13.8	G 0.25	

Residuals in seconds of arc

771007	675	1.2+	1.9+	771016	675	0.0	0.9+	890605	675	1.1+	0.7-
771011	675	0.5-	1.5-	771016	675	0.8+	1.1+	890612	399	0.4-	0.0
771011	675	0.3+	0.8-	890603	675	0.9+	0.6+	890612	399	1.3-	0.6-
771012	675	0.4-	1.0-	890603	675	0.0	0.8+				
771012	675	1.5-	0.7-	890605	675	0.4-	0.0				

* * * * *

NEW NAMES OF MINOR PLANETS

(2964) Jaschek = 1974 OA1
Discovered 1974 July 16 at the Estacion Astronomica Dr. Carlos U. Cesco.
Named in honor of Carlos Jaschek, professor of astronomy at the University of Strasbourg and director of the Stellar Data Center. Born in Germany, he was educated in Argentina and served as head of the astrophysics department at La Plata from 1957 to 1973. His earliest work, around 1950, was with the La Plata program for astrometric observations of minor planets. As head of the astrophysics group he inaugurated programs in stellar spectroscopy and arranged for the development of instrumentation, especially for photoelectric photometry. He was also involved with the start of radioastronomy and space activities in Argentina and in 1972 organized the first Latin American conference on astrophysics. After a year in Geneva, he began work in Strasbourg in 1974, strengthening the research there in astrophysics and attempting to make the stellar data center the largest such center in the world. He has also contributed to the creation of data centers in China, Japan, India, the U.S.S.R. and Argentina. A member of the Argentine National Academy of Sciences, he has also served in the CNRS and as president of IAU Commission 45.

(3088) Jinxiuzhonghua = 1981 UX9
Discovered 1981 Oct. 24 at the Purple Mountain Observatory.
The name reflects the natural beauty and ancient civilization of China. Jinxiuzhonghua, or "Splendid China", is the largest miniature scenic spot in the world. Situated in Shenzhen, in the southern part of China, and constructed by China Travel Service, it is an attractive place for tourists and well-known for its outstanding scenery, including the Great Wall, the Imperial Palace, the Terra-Cotta Warriors and Horses of Qin Shihuang Mausoleum, and scenic and historical sites such as Guilin, Suzhou and Hangzhou.

(3773) Smithsonian = 1984 YY
Discovered 1984 Dec. 23 at the Oak Ridge Observatory.
Named in honor of the Smithsonian Institution on the occasion of the centennial celebration of its Astrophysical Observatory, 1990 Nov. 2-4.

(3800) Karayusuf = 1984 AB
Discovered 1984 Jan. 4 by E. F. Helin at Palomar.
Named in honor of Alford S. Karayusuf, M.D., in recognition of his enthusiasm and dedication for the extension of space exploration. With a

vitality uncommon since the first days of space exploration, he has encouraged the dreams of Man's discovery and adventure in the solar system. He has generously supported near-earth asteroid research projects at the Jet Propulsion Laboratory and has spearheaded a World Space Foundation program to investigate the distant regions of the solar system.

(4024) Ronan = 1981 WQ

Discovered 1981 Nov. 24 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Colin A. Ronan, author and specialist in the history and philosophy of science. Particularly interested in the moon and planets, he has written more than 20 books on astronomy. He has played key roles in the administration of the British Astronomical Association and is its current president. In addition, he has been director of the Association's Historical Section (1953-1965) and editor of its Journal (1965-1985). Name suggested and citation material provided by S. A. Mitton.

(4025) Ridley = 1981 WU

Discovered 1981 Nov. 24 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Harold B. Ridley, distinguished British astrophotographer specializing in comet and asteroid astrometry and photography. For many years, Ridley has been a very active and dedicated member of the British Astronomical Association, having served as its president (1976-1978), vice president (1978-1981, 1982-1985, 1986-1987), director of the Meteor Section (1954-1968), assistant to the director of Comet Section (1975) and currently as a Council member. Name independently suggested by S. A. Mitton and B. G. Marsden, with citation material provided by the former.

(4026) Beet = 1982 BU1

Discovered 1982 Jan. 30 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Ernest A. Beet, a member of the British Astronomical Association for half of its existence. Having served in various capacities on the B.A.A.'s council between 1946 and 1987, notably as president during 1962-1964 and for twelve years as secretary, he still attends the London meetings. A schoolteacher by profession, Beet has made outstanding contributions to the advancement of astronomy education in England and has been heavily involved in the B.A.A. education committee. He has written several popular books, including "The Teaching of Astronomy in Schools" (1948). Name suggested by B. G. Marsden and citation material provided by S. A. Mitton.

(4027) Mitton = 1982 DN

Discovered 1982 Feb. 21 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Simon and Jacqueline Mitton, astronomers in Cambridge, England. Originally at the Mullard Radio Astronomy Observatory, Simon made comprehensive high-resolution observations of Cygnus A with the Cambridge One-Mile Telescope. Interested in the correlation of radio and optical observations, he moved to the Institute of Astronomy in 1972 and collaborated with Jacqueline on a study of the optical spectrum of Cygnus A. She also worked on equivalent widths and curves of growth. Both subsequently turned their interests to the dissemination of astronomy, he as editor of the "Cambridge Encyclopedia of Astronomy" and astronomy publisher for Cambridge University Press, she as editor of the Journal of the British Astronomical Association. Citation provided by B. G. Marsden at the request of the discoverer.

(4084) Hollis = 1985 GM
Discovered 1985 Apr. 14 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.
Named in honor of Andrew J. Hollis, a member of the British Astronomical Association since 1961. As director of the Asteroids and Remote Planets section, he has encouraged amateur astronomers to make photoelectric photometric observations of minor planets and has published several light curves and phase curves.

(4119) Miles = 1983 BE
Discovered 1983 Jan. 16 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.
Named in honor of Howard G. Miles, founder director of the Artificial Satellite Section of the British Astronomical Association, in which capacity he has served continuously since 1960. Miles has given sterling service to the advancement of amateur astronomy in Britain. A lecturer at Lanchester Polytechnic, Coventry, he was awarded the Member of the Order of the British Empire for his civic service in education. Miles is a former business secretary of the B.A.A. and for many years has acted as coordinator for observations of fireballs and other transient phenomena. Name suggested and citation material provided by S. A. Mitton.

(4125) Lew Allen = 1987 MO
Discovered 1987 June 28 by E. F. Helin at Palomar.
Named in honor of Lew Allen, who has been vice president of the California Institute of Technology and director of the Jet Propulsion Laboratory since 1982. He has provided exceptional leadership and vision to extend the U.S. exploration of the solar system. Under his guidance, 1989 saw the successful launch of the Magellan spacecraft to the planet Venus and the Galileo spacecraft to Jupiter. Allen is highly regarded by JPL people as an excellent leader as well as a caring, accessible friend. The discoverer acknowledges his genuine interest and support over the years.

(4205) David Hughes = 1985 YP
Discovered 1985 Dec. 18 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.
Named in honor of David W. Hughes, reader in physics at Sheffield University, where he teaches courses on all aspects of astronomy. His research area concerns small solar-system bodies, particularly the relationship between comets and meteors. He has served astronomy in Britain as a vice president of both the Royal Astronomical Society and the British Astronomical Association. Hughes is a prolific reviewer of astronomy books and writes regularly on current issues in astronomy for "Nature". Name suggested and citation material provided by S. A. Mitton.

(4219) Nakamura = 1988 DB
Discovered 1988 Feb. 19 by M. Inoue and O. Muramatsu at Kobuchizawa.
Named in honor of Giichi Nakamura, the owner of Mitaka Koki, the leading maker of optical equipment in Japan. Mitaka Koki develops and produces observational and measuring equipment used at the National Astronomical Observatory and the Institute of Space and Astronomical Science. The company also puts an emphasis on producing equipment for Japanese amateur astronomers. Name proposed by M. Inoue, who discovered this minor planet on films taken with a Mitaka Koki telescope. Citation prepared by O. Muramatsu and H. Kosai.

(4239) Goodman = 1980 OE
Discovered 1980 July 17 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named in honor of Neville J. Goodman, a member of the British Astronomical Association since 1944. Professionally, he was commissioning editor for the British scientific publisher Adam Hilger for many years. Goodman's service to astronomy dates from 1952, when he became editor of the B.A.A. Journal, a post he filled with distinction for eight years. From 1962 to 1972 he devoted himself tirelessly to the position of business secretary of the Association. President from 1972 to 1974, he again served as secretary from 1976 to 1984. Goodman has contributed many ephemerides to the B.A.A. Handbook and currently serves as Handbook editor. Name suggested independently by the discoverer and B. G. Marsden. Citation material provided by S. A. Mitton.

(4372) Quincy = 1984 TB

Discovered 1984 Oct. 3 at the Oak Ridge Observatory.

Named in memory of John Quincy Adams (1767-1848), sixth president of the United States and a lifelong patron of astronomy. Instrumental in founding the Harvard College Observatory, he also first proposed--albeit unsuccessfully at the time--the establishment of an observatory under the aegis of the Smithsonian Institution. The minor planet is named on the occasion of the joint Harvard-Smithsonian Center for Astrophysics celebration of the sesquicentennial of the Harvard College Observatory and the centennial of the Smithsonian Astrophysical Observatory, 1990 Nov. 2-4.

(4478) Blanco = 1984 HG1

Discovered 1984 Apr. 23 by W. Ferreri at the European Southern Observatory.

Named in honor of Carlo Blanco, professor of astronomy at Catania University. Known for his intense activity in the observation and analysis of the mutual eclipses of the major satellites of Jupiter and Saturn, he is also involved in international campaigns devoted to observations of minor planets and the Pluto-Charon system. Furthermore, he has contributed to the study of solar-type stellar activity, in particular to analyses of stellar chromospheres and coronas.

(4482) Frerebasile = 1986 RB

Discovered 1986 Sept. 1 by A. Maury at Palomar.

Named in honor of Nicolas Dupont, in religious life Frere Basile of the Freres des Ecoles Chretiennes, professor of mathematics and amateur astronomer. Soon after World War II he was assigned to teach cosmography at the Institution Saint Joseph in Nancy. Many students considered the subject too dry and it was subsequently removed from French curricula. To interest his pupils further by giving them "hands-on" experience with the sky, Frere Basile designed and built with a small group a 26-cm telescope and observatory, founded the Cercle Orion and in 1965 co-founded the Societe Lorraine d'Astronomie. Since then he has organized many trips to several European observatories and at the age of 84 continues to teach astronomy, observe, arrange astronomy camps in the summer and publish the "Echo d'Orion". Several professional astronomers owe him their vocations. Frere Basile is a laureate of the Societe Astronomique de France, a recipient of the gold medal of the city of Nancy, and he received the Academic Palms in 1989. Citation written by J. Blondelet at the request of the discoverer.

(4490) Bambery = 1988 ND

Discovered 1988 July 14 by E. F. Helin and B. Roman at Palomar.

Named in honor of Raymond J. Bambery, chemist and image-processing scientist at the Jet Propulsion Laboratory with a great interest in all aspects of astronomy. He has spent several sessions at Palomar helping search for near-earth minor planets and has been instrumental in upgrading measuring and data reduction techniques.

(4506) Hendrie = 1990 FJ

Discovered 1990 Mar. 24 by B. G. W. Manning at Stakenbridge.

Named in honor of Michael J. Hendrie, an English amateur with a longstanding interest in astronomy and skilled in the construction of his own instruments. Hendrie has constructed several observatories, most recently one housing a 0.25-m folded reflector for astrometric comet photography. A co-recoverer of periodic comet Crommelin in 1956, he began systematic comet photography in 1952, an interest that stimulated him to take an important role in promoting professional-amateur collaboration in Britain during the International Halley Watch. He served as director of the Comet Section of the British Astronomical Association for ten years. Name proposed by discoverer and endorsed by B. G. Marsden. Citation material provided by S. A. Mitton.

(4522) Britastra = 1980 BM

Discovered 1980 Jan. 22 by E. Bowell at the Anderson Mesa Station of the Lowell Observatory.

Named to commemorate the centenary of the founding of the British Astronomical Association. Intended to be a less technical counterpart of the Royal Astronomical Society, the BAA was established with the objectives: "The association of Observers, especially the possessors of small telescopes, for mutual help, and their organization in the work of Astronomical observation. The circulation of current Astronomical information. The encouragement of a popular interest in Astronomy."

(4575) Broman = 1987 ME1

Discovered 1987 June 26 by E. F. Helin at Palomar.

Named for Brian P. Roman, astronomer, chef extraordinaire and humorist, in recognition for his diligence and dedication in the pursuit of near-earth minor planets. His participation in the planet-crossing asteroid survey at Palomar has been a major contribution to its continuing success. This particular object was discovered on his birthday. Name endorsed by K. Lawrence and J. Alu.

(4580) Child = 1989 EF

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

Named in honor of Jack B. Child, software engineer at the Jet Propulsion Laboratory, Asteroid Project director of the World Space Foundation, and past president of the Orange County Astronomers. His generous helpfulness over the years has been greatly appreciated. He has played a very important role in introducing team members to the Palomar planet-crossing asteroid survey project. Name endorsed by R. L. Staehle.

* * * * *

EPHEMERIDES.

1990 SQ a,e,i = 2.00, 0.45, 17 Elements MPC 17216

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	21 22.47	-03 45.9	0.335	1.198	119.4	46.5	12.6
1990	10 26	21 18.41	+04 48.5					
1990	11 05	21 21.22	+13 08.8	0.358	1.132	103.9	58.3	12.9
1990	11 15	21 30.04	+21 05.9					
1990	11 25	21 44.70	+28 39.1	0.393	1.104	96.7	62.6	13.2
1990	12 05	22 05.64	+35 48.2					
1990	12 15	22 34.21	+42 28.2	0.432	1.119	96.6	60.9	13.4
1990	12 25	23 12.75	+48 28.1					
1991	01 04	00 03.65	+53 24.7	0.480	1.174	101.0	55.3	13.6
1991	01 14	01 07.43	+56 41.3					

1991 01 24	02 19.46	+57 45.9	0.557	1.259	106.2	48.6	13.9
1991 02 03	03 30.03	+56 36.0					
1991 02 13	04 31.32	+53 45.1	0.682	1.365	108.3	43.4	14.3

1990 SM a,e,i = 2.16, 0.78, 12 Elements MPC 17215

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 10 16	22 30.52	-31 03.9	0.594	1.413	123.2	36.2	17.4
1990 10 26	22 48.19	-26 51.7					
1990 11 05	23 02.39	-23 34.4	0.969	1.650	114.7	33.1	18.7
1990 11 15	23 15.19	-20 47.5					
1990 11 25	23 27.49	-18 18.9	1.378	1.866	102.9	31.0	19.7
1990 12 05	23 39.63	-16 02.5					
1990 12 15	23 51.78	-13 54.8	1.809	2.064	90.3	28.5	20.5

1990 SS a,e,i = 1.68, 0.47, 19 Elements MPC 17216

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 10 16	23 06.76	+06 03.1	0.538	1.476	146.7	21.7	18.9
1990 10 26	22 41.74	+07 53.0					
1990 11 05	22 23.02	+09 51.6	0.546	1.338	117.9	40.9	19.2
1990 11 15	22 11.29	+12 02.1					
1990 11 25	22 05.98	+14 29.2	0.575	1.198	96.6	54.9	19.5
1990 12 05	22 05.87	+17 17.1					
1990 12 15	22 09.68	+20 28.1	0.578	1.067	81.8	65.9	19.6
1990 12 25	22 16.40	+24 04.2					
1991 01 04	22 25.08	+28 05.7	0.531	0.962	71.9	76.4	19.5
1991 01 14	22 35.07	+32 31.2					
1991 01 24	22 46.15	+37 21.6	0.432	0.903	66.4	87.6	19.3
1991 02 03	22 58.80	+42 41.8					
1991 02 13	23 15.81	+48 52.6	0.296	0.908	66.0	96.7	18.9

Periodic Comet Mueller 2 (1990j) Elememts MPC 17175

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1990 10 16	00 30.57	+08 50.1	1.101	2.085	167.6	5.9	16.4
1990 10 26	00 27.04	+07 26.1					
1990 11 05	00 25.76	+06 14.8	1.178	2.078	146.5	15.3	16.5
1990 11 15	00 27.17	+05 23.0					
1990 11 25	00 31.41	+04 54.2	1.330	2.081	127.3	22.2	16.8
1990 12 05	00 38.34	+04 48.5					
1990 12 15	00 47.63	+05 03.8	1.534	2.096	110.8	26.1	17.1
1990 12 25	00 58.97	+05 37.2					
1991 01 04	01 12.03	+06 25.3	1.770	2.120	96.5	27.4	17.5
1991 01 14	01 26.51	+07 24.6					
1991 01 24	01 42.16	+08 32.1	2.024	2.154	83.9	27.0	17.9
1991 02 03	01 58.78	+09 44.5					
1991 02 13	02 16.20	+10 59.4	2.286	2.198	72.3	25.3	18.2
1991 02 23	02 34.29	+12 14.4					
1991 03 05	02 52.92	+13 27.3	2.546	2.249	61.5	22.8	18.5

1990 SB a,e,i = 2.39, 0.55, 18 Elements MPC 17215

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 10 16	01 05.37	+00 30.6	0.916	1.907	171.2	4.6	15.6
1990 10 26	00 56.63	-02 09.9					
1990 11 05	00 50.99	-03 59.2	1.141	2.047	147.4	15.1	16.6
1990 11 15	00 48.55	-05 02.8					
1990 11 25	00 49.11	-05 28.5	1.444	2.182	126.6	21.3	17.4
1990 12 05	00 52.26	-05 25.0					
1990 12 15	00 57.55	-04 59.6	1.798	2.311	108.8	23.8	18.1
1990 12 25	01 04.62	-04 18.0					

1991 01 04	01 13.11	-03 25.0	2.177	2.434	92.9	23.8	18.6
1991 01 14	01 22.75	-02 24.0					
1991 01 24	01 33.31	-01 17.9	2.560	2.551	78.4	22.2	19.0
1991 02 03	01 44.63	-00 08.9					
1991 02 13	01 56.54	+01 01.2	2.929	2.661	64.7	19.6	19.3

Periodic Comet Holt-Olmstead (1990k) Elements MPC 17175

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1990 10 16	01 13.28	+11 37.6	1.048	2.044	176.4	1.8	17.2
1990 10 26	01 03.36	+12 39.2					
1990 11 05	00 55.28	+13 35.8	1.113	2.056	155.3	11.6	17.4
1990 11 15	00 50.10	+14 30.6					
1990 11 25	00 48.38	+15 26.8	1.263	2.078	134.5	19.8	17.7
1990 12 05	00 50.17	+16 27.0					
1990 12 15	00 55.19	+17 32.5	1.475	2.111	116.8	24.6	18.1
1990 12 25	01 03.07	+18 43.6					
1991 01 04	01 13.38	+19 59.8	1.725	2.153	101.8	26.6	18.5
1991 01 14	01 25.73	+21 19.9					
1991 01 24	01 39.82	+22 42.7	1.996	2.203	88.5	26.5	18.9
1991 02 03	01 55.36	+24 06.6					
1991 02 13	02 12.12	+25 30.0	2.276	2.260	76.5	25.1	19.3
1991 02 23	02 29.95	+26 51.4					
1991 03 05	02 48.67	+28 09.2	2.554	2.323	65.4	22.8	19.7
1991 03 15	03 08.15	+29 22.1					
1991 03 25	03 28.28	+30 28.9	2.822	2.391	54.8	19.9	20.0

Periodic Comet Mueller 3 (1990l) Elements MPC 17174

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1990 10 16	01 24.29	-04 28.8	2.049	3.029	167.0	4.2	17.4
1990 10 26	01 18.40	-05 09.2					
1990 11 05	01 13.29	-05 34.0	2.142	3.045	150.5	9.2	17.5
1990 11 15	01 09.53	-05 41.5					
1990 11 25	01 07.53	-05 31.4	2.330	3.064	130.5	14.2	17.7
1990 12 05	01 07.47	-05 05.3					
1990 12 15	01 09.36	-04 25.1	2.585	3.087	111.7	17.2	18.0
1990 12 25	01 13.10	-03 33.1					
1991 01 04	01 18.55	-02 31.8	2.877	3.113	94.5	18.4	18.2
1991 01 14	01 25.49	-01 23.4					
1991 01 24	01 33.74	-00 09.6	3.180	3.142	78.9	17.9	18.5
1991 02 03	01 43.13	+01 07.6					
1991 02 13	01 53.48	+02 26.8	3.474	3.174	64.4	16.3	18.7
1991 02 23	02 04.66	+03 46.8					
1991 03 05	02 16.53	+05 06.2	3.742	3.208	50.8	13.9	18.9
1991 03 15	02 28.99	+06 24.0					
1991 03 25	02 41.95	+07 39.4	3.973	3.245	37.9	10.9	19.1

1990 UA a,e,i = 1.72, 0.55, 1 Elements MPC 17218

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 10 16	01 24.46	-10 44.6	0.056	1.050	160.7	18.3	14.2
1990 10 21	01 29.62	-01 48.2					
1990 10 26	01 31.75	+01 49.0	0.144	1.136	167.8	10.7	16.2
1990 10 31	01 33.23	+03 49.4					
1990 11 05	01 34.69	+05 09.1	0.241	1.223	161.6	14.9	17.6
1990 11 10	01 36.34	+06 08.4					
1990 11 15	01 38.33	+06 56.9	0.347	1.309	153.4	19.8	18.7
1990 11 20	01 40.76	+07 39.6					
1990 11 25	01 43.65	+08 19.0	0.465	1.394	145.1	23.9	19.5
1990 11 30	01 47.02	+08 56.7					
1990 12 05	01 50.82	+09 33.4	0.594	1.477	137.1	27.0	20.3

1990 TR a,e,i = 2.16, 0.44, 8 Elements MPC 17217

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	02 17.17	+21 15.2	0.304	1.288	161.3	14.3	12.7
1990	10 26	02 08.18	+24 13.0					
1990	11 05	02 00.44	+25 59.7	0.385	1.369	166.3	9.9	13.2
1990	11 15	01 56.09	+26 53.8					
1990	11 25	01 56.09	+27 17.3	0.522	1.467	151.2	18.9	14.3
1990	12 05	02 00.39	+27 27.7					
1990	12 15	02 08.32	+27 35.4	0.714	1.575	135.5	26.0	15.3
1990	12 25	02 19.23	+27 45.8					
1991	01 04	02 32.49	+28 00.8	0.953	1.688	121.3	29.8	16.2
1991	01 14	02 47.52	+28 19.8					
1991	01 24	03 03.97	+28 41.9	1.232	1.803	108.4	31.2	16.9
1991	02 03	03 21.50	+29 05.3					
1991	02 13	03 39.86	+29 28.4	1.538	1.916	96.2	30.8	17.5

1990 MF a,e,i = 1.74, 0.45, 2 Elements MPC 17022

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	10 16	05 22.10	+22 27.7	0.357	1.218	120.5	44.8	18.4
1990	10 26	05 07.14	+21 22.3					
1990	11 05	04 47.01	+20 10.7	0.398	1.348	148.8	22.4	18.3
1990	11 15	04 24.92	+18 56.0					
1990	11 25	04 04.68	+17 47.9	0.494	1.481	177.0	2.0	18.2
1990	12 05	03 49.20	+16 56.7					
1990	12 15	03 39.49	+16 27.7	0.666	1.610	154.1	15.5	19.6
1990	12 25	03 35.37	+16 20.8					
1991	01 04	03 36.04	+16 32.2	0.905	1.732	133.1	24.5	20.7

Comet Tsuchiya-Kiuchi (1990i) Elements MPC 17175

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	m1
1990	10 16	10 52.81	-01 34.5	1.743	1.128	37.4	32.5	7.2
1990	10 26	10 39.70	-06 33.1					
1990	11 05	10 20.83	-12 51.3	1.355	1.248	62.0	44.5	7.1
1990	11 15	09 51.13	-21 01.9					
1990	11 25	09 00.94	-31 08.8	1.009	1.425	91.1	43.8	7.1
1990	12 05	07 37.22	-40 49.4					
1990	12 15	05 47.86	-44 36.2	0.987	1.634	112.0	34.0	7.6
1990	12 25	04 17.60	-41 30.1					
1991	01 04	03 23.68	-36 03.8	1.373	1.858	102.9	31.1	8.9
1991	01 14	02 54.19	-30 58.2					
1991	01 24	02 38.36	-26 46.0	1.929	2.089	85.1	28.0	10.1
1991	02 03	02 30.31	-23 22.4					
1991	02 13	02 26.95	-20 36.8	2.504	2.320	67.9	23.2	11.1
1991	02 23	02 26.59	-18 20.4					
1991	03 05	02 28.22	-16 27.3	3.036	2.551	52.2	17.9	12.0
1991	03 15	02 31.18	-14 53.0					
1991	03 25	02 35.05	-13 34.7	3.490	2.779	38.4	12.9	12.7

1990 SP a,e,i = 1.35, 0.39, 14 Elements MPC 17215

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990	11 25	15 52.51	+06 29.2	0.144	0.862	27.1	148.6	20.7
1990	12 05	15 27.61	+13 22.0					
1990	12 15	15 19.17	+14 39.7	0.275	0.830	48.9	116.6	18.2
1990	12 25	15 20.73	+13 30.6					
1991	01 04	15 28.28	+11 17.4	0.405	0.863	60.9	94.8	17.9
1991	01 14	15 39.19	+08 42.0					
1991	01 24	15 51.37	+06 06.2	0.496	0.947	71.0	79.3	17.9
1991	02 03	16 03.31	+03 39.1					
1991	02 13	16 13.81	+01 24.5	0.535	1.061	82.7	67.3	17.9

4008 T-3 a,e,i = 2.19, 0.14, 5 Elements MPC 17221

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 10 16	01 34.11	+01 08.4	1.479	2.470	171.9	3.3	16.9
1990 10 26	01 23.89	+00 18.0					
1990 11 05	01 14.63	-00 18.0	1.528	2.460	154.3	10.1	17.2
1990 11 15	01 07.31	-00 35.3					
1990 11 25	01 02.61	-00 32.6	1.673	2.446	132.0	17.5	17.7
1990 12 05	01 00.78	-00 10.5					
1990 12 15	01 01.77	+00 28.8	1.882	2.431	112.1	22.0	18.0
1990 12 25	01 05.39	+01 22.8					
1991 01 04	01 11.36	+02 28.7	2.122	2.413	94.8	24.0	18.3

1982 TP1 a,e,i = 2.48, 0.12, 3 Elements MPC 17200

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 10 16	03 56.03	+21 49.4	1.572	2.425	140.3	15.2	16.7
1990 10 26	03 50.93	+21 23.4					
1990 11 05	03 43.19	+20 45.9	1.431	2.398	163.4	6.8	16.2
1990 11 15	03 33.66	+19 58.7					
1990 11 25	03 23.63	+19 06.0	1.391	2.372	171.5	3.5	16.0
1990 12 05	03 14.52	+18 14.0					
1990 12 15	03 07.50	+17 29.1	1.458	2.346	147.1	13.2	16.4
1990 12 25	03 03.36	+16 56.5					
1991 01 04	03 02.44	+16 38.6	1.609	2.321	125.4	20.2	16.8

1981 GD1 a,e,i = 3.04, 0.10, 3 Elements MPC 12126

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1990 12 15	08 40.16	+13 50.7	1.979	2.748	133.2	15.1	18.4
1990 12 25	08 36.81	+13 45.9					
1991 01 04	08 31.10	+13 52.0	1.819	2.744	155.4	8.6	18.0
1991 01 14	08 23.55	+14 07.6					
1991 01 24	08 15.01	+14 30.3	1.760	2.742	174.8	1.9	17.6
1991 02 03	08 06.52	+14 56.8					
1991 02 13	07 59.12	+15 23.8	1.814	2.741	155.0	8.7	18.0
1991 02 23	07 53.65	+15 48.5					
1991 03 05	07 50.65	+16 08.7	1.966	2.741	133.1	15.3	18.4

1989 VP a,e,i = 2.76, 0.16, 36 Elements MPC 17208

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 04	10 04.21	-34 57.6	2.356	2.802	106.8	19.6	16.5
1991 01 14	10 00.53	-36 22.8					
1991 01 24	09 54.46	-37 18.5	2.223	2.835	119.1	17.7	16.3
1991 02 03	09 46.53	-37 38.9					
1991 02 13	09 37.57	-37 20.4	2.142	2.867	128.9	15.6	16.2
1991 02 23	09 28.64	-36 22.2					
1991 03 05	09 20.80	-34 48.5	2.133	2.898	132.6	14.6	16.2
1991 03 15	09 14.88	-32 46.6					
1991 03 25	09 11.42	-30 26.3	2.204	2.928	128.3	15.5	16.3

2548 P-L a,e,i = 3.14, 0.13, 2 Elements MPC 12689

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	10 49.59	+09 42.2	2.358	3.198	142.8	10.7	17.5
1991 02 03	10 44.90	+10 19.4					
1991 02 13	10 38.56	+11 04.8	2.207	3.174	166.0	4.3	17.1
1991 02 23	10 31.15	+11 54.1					
1991 03 05	10 23.44	+12 42.1	2.169	3.149	169.4	3.3	17.0
1991 03 15	10 16.22	+13 24.2					
1991 03 25	10 10.25	+13 56.6	2.247	3.125	146.2	10.2	17.3
1991 04 04	10 06.07	+14 17.0					
1991 04 14	10 03.97	+14 24.8	2.415	3.100	125.0	15.4	17.6

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

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	10 50.19	+10 28.7	2.867	3.700	142.9	9.2	17.7
1991 02 03	10 45.15	+11 05.9					
1991 02 13	10 38.80	+11 48.9	2.741	3.707	166.0	3.7	17.3
1991 02 23	10 31.63	+12 33.9					
1991 03 05	10 24.30	+13 16.8	2.734	3.713	169.2	2.9	17.3
1991 03 15	10 17.43	+13 54.0					
1991 03 25	10 11.62	+14 22.7	2.846	3.717	146.3	8.6	17.6
1991 04 04	10 07.29	+14 41.3					
1991 04 14	10 04.69	+14 49.4	3.053	3.720	125.0	12.8	17.9

4028 P-L a,e,i = 2.58, 0.18, 7 Elements MPC 12797

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	10 55.24	-02 54.3	1.611	2.418	135.9	16.4	17.7
1991 02 03	10 50.48	-02 33.5					
1991 02 13	10 43.54	-01 50.0	1.512	2.456	158.2	8.6	17.4
1991 02 23	10 35.23	-00 47.4					
1991 03 05	10 26.68	+00 27.5	1.512	2.495	170.0	4.0	17.2
1991 03 15	10 18.99	+01 46.5					
1991 03 25	10 13.10	+03 01.1	1.620	2.533	150.0	11.4	17.7
1991 04 04	10 09.61	+04 04.8					
1991 04 14	10 08.71	+04 54.1	1.818	2.572	129.2	17.6	18.2

1982 PC a,e,i = 2.22, 0.20, 4 Elements MPC 13604

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	10 59.07	+05 29.5	1.806	2.629	139.0	14.2	18.6
1991 02 03	10 53.67	+06 14.1					
1991 02 13	10 45.93	+07 14.4	1.651	2.611	163.0	6.3	18.1
1991 02 23	10 36.55	+08 25.2					
1991 03 05	10 26.58	+09 39.0	1.605	2.590	171.5	3.2	17.9
1991 03 15	10 17.15	+10 48.3					
1991 03 25	10 09.36	+11 46.3	1.671	2.565	146.9	12.3	18.3
1991 04 04	10 03.97	+12 29.0					
1991 04 14	10 01.35	+12 54.8	1.826	2.537	124.9	18.9	18.7

1989 WE1 a,e,i = 3.01, 0.11, 11 Elements MPC 15897

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	10 56.02	+19 52.1	2.330	3.176	143.5	10.6	16.4
1991 02 03	10 51.03	+21 01.8					
1991 02 13	10 44.30	+22 12.2	2.235	3.192	163.0	5.2	16.1
1991 02 23	10 36.49	+23 16.6					
1991 03 05	10 28.42	+24 09.0	2.254	3.208	161.0	5.8	16.2
1991 03 15	10 20.94	+24 45.2					
1991 03 25	10 14.79	+25 03.5	2.384	3.223	141.3	11.2	16.5
1991 04 04	10 10.51	+25 04.2					
1991 04 14	10 08.35	+24 49.3	2.599	3.237	121.4	15.3	16.9

1985 UH3 a,e,i = 2.44, 0.22, 3 Elements MPC 15710

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	10 59.06	+06 49.7	2.154	2.972	139.6	12.4	18.3
1991 02 03	10 53.52	+07 33.0					
1991 02 13	10 46.08	+08 27.8	2.018	2.977	163.4	5.4	17.9
1991 02 23	10 37.37	+09 29.2					
1991 03 05	10 28.28	+10 31.0	1.995	2.979	171.5	2.8	17.7
1991 03 15	10 19.73	+11 27.6					
1991 03 25	10 12.56	+12 14.1	2.089	2.978	147.4	10.4	18.2
1991 04 04	10 07.38	+12 47.7					
1991 04 14	10 04.49	+13 07.3	2.277	2.974	125.6	15.9	18.5

(4438) 1983 WR a,e,i = 3.19, 0.24, 13 Elements MPC 16218

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	10 58.18	+25 04.6	3.031	3.865	143.3	8.8	17.5
1991 02 03	10 52.73	+26 01.9					
1991 02 13	10 45.86	+26 56.2	2.938	3.881	160.1	5.0	17.3
1991 02 23	10 38.10	+27 42.4					
1991 03 05	10 30.11	+28 16.2	2.963	3.896	157.3	5.6	17.3
1991 03 15	10 22.60	+28 35.3					
1991 03 25	10 16.16	+28 38.7	3.100	3.909	139.2	9.6	17.6
1991 04 04	10 11.25	+28 27.2					
1991 04 14	10 08.13	+28 02.8	3.325	3.920	119.8	12.8	17.8

1985 XR a,e,i = 2.64, 0.08, 4 Elements MPC 15556

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	10 59.51	+09 07.9	1.852	2.684	140.3	13.5	16.7
1991 02 03	10 54.71	+09 56.3					
1991 02 13	10 47.82	+10 55.6	1.740	2.701	163.7	5.9	16.3
1991 02 23	10 39.55	+11 59.5					
1991 03 05	10 30.90	+13 01.0	1.735	2.718	170.6	3.4	16.2
1991 03 15	10 22.88	+13 53.6					
1991 03 25	10 16.41	+14 32.7	1.842	2.734	147.3	11.4	16.6
1991 04 04	10 12.12	+14 56.0					
1991 04 14	10 10.27	+15 03.3	2.037	2.750	126.1	17.1	17.0

1989 VQ a,e,i = 2.42, 0.22, 3 Elements MPC 16585

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 04.73	+09 56.7	2.058	2.877	139.3	12.9	18.2
1991 02 03	10 59.04	+10 42.0					
1991 02 13	10 51.31	+11 36.3	1.939	2.897	163.0	5.7	17.8
1991 02 23	10 42.23	+12 34.0					
1991 03 05	10 32.73	+13 28.7	1.931	2.914	170.6	3.2	17.7
1991 03 15	10 23.80	+14 14.7					
1991 03 25	10 16.32	+14 48.2	2.040	2.928	147.2	10.6	18.2
1991 04 04	10 10.91	+15 07.1					
1991 04 14	10 07.86	+15 11.6	2.241	2.939	125.5	16.1	18.6

1980 SD a,e,i = 2.59, 0.18, 13 Elements MPC 7779

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 07.63	+20 25.8	2.139	2.969	140.9	12.1	18.7
1991 02 03	11 01.69	+21 11.8					
1991 02 13	10 53.54	+21 58.5	1.997	2.949	161.2	6.2	18.3
1991 02 23	10 43.83	+22 39.1					
1991 03 05	10 33.53	+23 07.2	1.967	2.927	162.4	5.9	18.2
1991 03 15	10 23.71	+23 18.5					
1991 03 25	10 15.34	+23 11.4	2.048	2.903	142.5	12.1	18.5
1991 04 04	10 09.15	+22 46.6					
1991 04 14	10 05.48	+22 06.6	2.217	2.878	122.1	17.2	18.8

(4271) 1976 GQ6 a,e,i = 3.02, 0.09, 11 Elements MPC 15540

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	10 59.60	+04 29.4	2.405	3.210	138.5	11.7	16.9
1991 02 03	10 55.65	+05 17.6					
1991 02 13	10 50.03	+06 18.6	2.246	3.198	161.7	5.6	16.5
1991 02 23	10 43.23	+07 28.4					
1991 03 05	10 35.96	+08 41.6	2.198	3.186	174.0	1.9	16.2
1991 03 15	10 28.97	+09 52.3					
1991 03 25	10 23.01	+10 55.1	2.268	3.173	150.3	9.0	16.6
1991 04 04	10 18.64	+11 46.2					
1991 04 14	10 16.21	+12 23.6	2.436	3.159	128.5	14.4	16.9

1986 TZ1 a,e,i = 2.20, 0.22, 5 Elements MPC 11427

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 09.73	+13 02.2	1.643	2.472	139.0	15.1	17.3
1991	02 03	11 03.86	+14 09.8					
1991	02 13	10 55.45	+15 25.7	1.549	2.507	162.2	6.9	16.9
1991	02 23	10 45.34	+16 41.2					
1991	03 05	10 34.75	+17 47.3	1.563	2.540	167.4	4.9	16.9
1991	03 15	10 24.94	+18 37.0					
1991	03 25	10 17.00	+19 06.6	1.687	2.569	145.2	12.8	17.3
1991	04 04	10 11.63	+19 15.9					
1991	04 14	10 09.08	+19 06.7	1.895	2.595	124.2	18.6	17.8

1982 VB1 a,e,i = 2.34, 0.14, 6 Elements MPC 15410

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 06.22	-02 34.4	1.819	2.599	133.8	15.9	18.1
1991	02 03	11 01.34	-02 20.2					
1991	02 13	10 54.20	-01 45.7	1.681	2.615	156.3	8.7	17.7
1991	02 23	10 45.46	-00 53.2					
1991	03 05	10 36.13	+00 12.0	1.645	2.630	171.5	3.2	17.5
1991	03 15	10 27.27	+01 23.0					
1991	03 25	10 19.91	+02 32.0	1.721	2.642	151.7	10.3	17.9
1991	04 04	10 14.76	+03 32.6					
1991	04 14	10 12.14	+04 20.8	1.892	2.652	130.1	16.8	18.3

1989 UE8 a,e,i = 2.24, 0.17, 4 Elements MPC 16585

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 07.99	+10 07.2	1.779	2.601	138.6	14.5	17.0
1991	02 03	11 02.93	+10 59.5					
1991	02 13	10 55.38	+12 03.8	1.630	2.587	162.1	6.7	16.6
1991	02 23	10 46.00	+13 13.6					
1991	03 05	10 35.84	+14 20.7	1.588	2.571	170.4	3.7	16.4
1991	03 15	10 26.08	+15 17.5					
1991	03 25	10 17.87	+15 58.6	1.658	2.553	146.9	12.3	16.8
1991	04 04	10 12.03	+16 21.3					
1991	04 14	10 08.96	+16 25.9	1.816	2.531	125.3	18.9	17.2

9073 P-L a,e,i = 3.16, 0.15, 5 Elements MPC 15571

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 04.09	+07 15.7	2.719	3.518	138.6	10.7	18.3
1991	02 03	10 59.30	+07 37.7					
1991	02 13	10 53.01	+08 07.6	2.582	3.533	161.7	5.0	18.0
1991	02 23	10 45.69	+08 42.3					
1991	03 05	10 38.01	+09 17.8	2.559	3.547	174.2	1.6	17.8
1991	03 15	10 30.64	+09 50.4					
1991	03 25	10 24.23	+10 16.8	2.656	3.560	150.8	7.9	18.2
1991	04 04	10 19.29	+10 34.8					
1991	04 14	10 16.10	+10 43.2	2.854	3.571	129.1	12.6	18.5

1980 FR1 a,e,i = 3.16, 0.14, 4 Elements MPC 10757

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 04.50	+05 14.7	2.503	3.298	137.7	11.6	17.7
1991	02 03	10 59.84	+05 33.3					
1991	02 13	10 53.56	+06 01.7	2.373	3.321	160.8	5.6	17.4
1991	02 23	10 46.20	+06 36.8					
1991	03 05	10 38.45	+07 14.4	2.355	3.344	175.0	1.5	17.2
1991	03 15	10 31.07	+07 50.5					
1991	03 25	10 24.72	+08 21.2	2.455	3.366	151.6	8.1	17.6
1991	04 04	10 19.94	+08 43.9					
1991	04 14	10 17.01	+08 56.9	2.655	3.387	129.9	13.1	17.9

(4575) Broman a,e,i = 3.00, 0.04, 11 Elements MPC 16863

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 03.22	+06 52.8	2.107	2.919	138.6	12.9	15.9
1991 02 03	10 59.79	+07 51.7					
1991 02 13	10 54.45	+09 03.7	1.959	2.913	161.7	6.1	15.5
1991 02 23	10 47.73	+10 23.7					
1991 03 05	10 40.42	+11 44.6	1.920	2.907	173.1	2.3	15.3
1991 03 15	10 33.38	+12 59.6					
1991 03 25	10 27.45	+14 02.6	1.995	2.901	149.9	9.9	15.7
1991 04 04	10 23.28	+14 50.1					
1991 04 14	10 21.24	+15 20.6	2.165	2.896	128.4	15.7	16.0

(4274) 1980 RZ3 a,e,i = 2.69, 0.23, 7 Elements MPC 15541

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 12.21	+11 24.0	2.221	3.026	138.0	12.6	17.6
1991 02 03	11 06.63	+11 56.2					
1991 02 13	10 59.12	+12 35.0	2.111	3.062	161.2	6.0	17.3
1991 02 23	10 50.31	+13 15.6					
1991 03 05	10 41.05	+13 52.5	2.112	3.096	171.5	2.7	17.1
1991 03 15	10 32.24	+14 21.4					
1991 03 25	10 24.71	+14 39.0	2.230	3.128	149.0	9.4	17.6
1991 04 04	10 19.04	+14 44.2					
1991 04 14	10 15.54	+14 37.0	2.445	3.157	127.5	14.6	18.0

7643 P-L a,e,i = 2.19, 0.11, 4 Elements MPC 14962

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 10.43	+05 00.8	1.270	2.094	136.3	19.0	18.6
1991 02 03	11 06.85	+05 50.4					
1991 02 13	11 00.25	+07 00.9	1.164	2.118	159.6	9.3	18.1
1991 02 23	10 51.46	+08 25.0					
1991 03 05	10 41.82	+09 51.8	1.153	2.142	174.7	2.5	17.8
1991 03 15	10 32.79	+11 10.3					
1991 03 25	10 25.73	+12 11.8	1.243	2.167	150.4	13.2	18.4
1991 04 04	10 21.49	+12 51.8					
1991 04 14	10 20.38	+13 09.7	1.416	2.191	129.1	20.8	19.0

1981 EU29 a,e,i = 3.00, 0.11, 11 Elements MPC 15409

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 11.57	+07 35.0	2.511	3.299	137.0	11.7	17.7
1991 02 03	11 06.63	+07 46.3					
1991 02 13	10 59.94	+08 05.7	2.360	3.305	160.1	5.8	17.4
1991 02 23	10 51.99	+08 30.0					
1991 03 05	10 43.50	+08 55.5	2.320	3.310	175.6	1.3	17.1
1991 03 15	10 35.25	+09 18.4					
1991 03 25	10 28.00	+09 35.3	2.400	3.313	151.9	8.1	17.5
1991 04 04	10 22.32	+09 43.9					
1991 04 14	10 18.56	+09 43.2	2.581	3.315	130.0	13.4	17.8

1978 SN7 a,e,i = 3.02, 0.09, 10 Elements MPC 15700

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 09.25	-07 19.8	2.244	2.980	130.6	14.5	16.8
1991 02 03	11 05.64	-07 16.3					
1991 02 13	11 00.18	-06 53.6	2.093	2.999	151.7	9.0	16.5
1991 02 23	10 53.38	-06 12.4					
1991 03 05	10 45.98	-05 16.0	2.040	3.017	167.8	4.0	16.3
1991 03 15	10 38.79	-04 09.4					
1991 03 25	10 32.60	-02 59.1	2.102	3.035	155.1	7.9	16.5
1991 04 04	10 28.02	-01 51.3					
1991 04 14	10 25.42	-00 51.1	2.265	3.053	134.6	13.5	16.9

1980 VX1 a,e,i = 2.79, 0.21, 7 Elements MPC 16022

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 16.61	+10 28.4	1.645	2.456	136.7	15.9	17.2
1991 02 03	11 11.87	+10 43.9					
1991 02 13	11 04.61	+11 08.5	1.547	2.497	159.7	7.9	16.8
1991 02 23	10 55.60	+11 36.8					
1991 03 05	10 45.96	+12 02.5	1.551	2.539	173.7	2.5	16.6
1991 03 15	10 36.87	+12 20.5					
1991 03 25	10 29.38	+12 26.9	1.663	2.581	151.1	10.8	17.2
1991 04 04	10 24.21	+12 20.3					
1991 04 14	10 21.65	+12 00.9	1.867	2.625	129.8	17.1	17.6

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

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 16.20	-01 42.5	2.010	2.768	132.0	15.3	18.7
1991 02 03	11 11.89	-01 33.9					
1991 02 13	11 05.25	-01 07.3	1.822	2.747	154.6	8.9	18.2
1991 02 23	10 56.78	-00 24.0					
1991 03 05	10 47.32	+00 32.0	1.735	2.723	173.4	2.4	17.8
1991 03 15	10 37.87	+01 34.8					
1991 03 25	10 29.48	+02 37.6	1.764	2.696	154.1	9.3	18.1
1991 04 04	10 23.01	+03 34.0					
1991 04 14	10 18.95	+04 19.3	1.891	2.666	131.8	16.3	18.5

1989 WV a,e,i = 2.75, 0.05, 16 Elements MPC 15723

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 15.62	+27 13.3	1.998	2.819	139.4	13.1	15.9
1991 02 03	11 11.71	+28 51.9					
1991 02 13	11 05.33	+30 28.5	1.885	2.809	154.6	8.7	15.6
1991 02 23	10 57.08	+31 53.1					
1991 03 05	10 47.92	+32 56.8	1.876	2.798	153.5	9.1	15.6
1991 03 15	10 38.99	+33 33.8					
1991 03 25	10 31.37	+33 42.2	1.968	2.788	137.8	13.9	15.9
1991 04 04	10 25.89	+33 23.9					
1991 04 14	10 22.97	+32 43.1	2.137	2.777	119.9	18.2	16.2

(4444) 1985 SA a,e,i = 2.33, 0.13, 7 Elements MPC 16220

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 16.83	+10 30.7	1.782	2.588	136.7	15.1	17.2
1991 02 03	11 13.08	+11 36.5					
1991 02 13	11 06.78	+12 55.8	1.624	2.572	159.4	7.8	16.7
1991 02 23	10 58.46	+14 21.7					
1991 03 05	10 49.07	+15 44.9	1.571	2.554	170.5	3.7	16.4
1991 03 15	10 39.75	+16 56.7					
1991 03 25	10 31.66	+17 50.5	1.629	2.535	148.8	11.8	16.8
1991 04 04	10 25.71	+18 23.0					
1991 04 14	10 22.41	+18 34.3	1.776	2.513	127.2	18.5	17.2

1976 QN a,e,i = 2.16, 0.15, 0 Elements MPC 14471

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 19.18	+04 33.2	1.608	2.400	134.1	17.1	18.2
1991 02 03	11 15.27	+04 58.0					
1991 02 13	11 08.51	+05 40.6	1.437	2.379	157.2	9.2	17.7
1991 02 23	10 59.43	+06 36.9					
1991 03 05	10 49.06	+07 40.0	1.364	2.356	177.4	1.1	17.2
1991 03 15	10 38.69	+08 41.8					
1991 03 25	10 29.65	+09 34.2	1.401	2.330	152.3	11.5	17.7
1991 04 04	10 23.01	+10 11.7					
1991 04 14	10 19.33	+10 31.8	1.527	2.303	129.9	19.5	18.1

1981 EP19 a,e,i = 2.25, 0.11, 3 Elements MPC 15242

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 18.46	+03 19.1	1.584	2.373	133.7	17.4	18.7
1991 02 03	11 14.51	+03 54.2					
1991 02 13	11 07.86	+04 48.0	1.453	2.393	157.0	9.3	18.2
1991 02 23	10 59.17	+05 55.8					
1991 03 05	10 49.50	+07 09.8	1.420	2.411	177.7	1.0	17.8
1991 03 15	10 40.09	+08 21.2					
1991 03 25	10 32.15	+09 22.3	1.497	2.428	152.9	10.8	18.4
1991 04 04	10 26.55	+10 07.6					
1991 04 14	10 23.71	+10 35.0	1.666	2.442	130.9	18.1	18.9

1983 XG a,e,i = 3.19, 0.15, 5 Elements MPC 13675

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 12.83	-00 05.1	2.824	3.574	133.5	11.5	17.6
1991 02 03	11 08.95	+00 14.8					
1991 02 13	11 03.55	+00 46.9	2.665	3.590	156.0	6.4	17.3
1991 02 23	10 57.05	+01 29.0					
1991 03 05	10 50.02	+02 17.8	2.616	3.605	175.2	1.3	17.0
1991 03 15	10 43.10	+03 09.2					
1991 03 25	10 36.92	+03 58.8	2.686	3.618	155.7	6.5	17.4
1991 04 04	10 31.99	+04 42.9					
1991 04 14	10 28.65	+05 18.6	2.863	3.630	133.8	11.5	17.7

1981 EX13 a,e,i = 2.97, 0.09, 10 Elements MPC 10771

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 14.68	-05 41.5	2.499	3.225	130.4	13.5	18.2
1991 02 03	11 11.26	-05 31.6					
1991 02 13	11 06.07	-05 04.6	2.312	3.217	151.9	8.3	17.9
1991 02 23	10 59.51	-04 21.4					
1991 03 05	10 52.23	-03 25.0	2.227	3.208	169.9	3.1	17.5
1991 03 15	10 44.95	-02 20.0					
1991 03 25	10 38.42	-01 11.8	2.258	3.198	156.6	7.1	17.8
1991 04 04	10 33.28	-00 06.5					
1991 04 14	10 29.94	+00 51.6	2.395	3.187	135.3	12.8	18.1

1986 WL1 a,e,i = 2.29, 0.06, 6 Elements MPC 15557

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 23.09	+14 34.3	1.414	2.231	136.3	17.8	16.8
1991 02 03	11 19.25	+15 20.6					
1991 02 13	11 12.27	+16 15.8	1.297	2.244	158.1	9.4	16.4
1991 02 23	11 02.87	+17 11.4					
1991 03 05	10 52.30	+17 57.3	1.276	2.256	168.5	5.0	16.2
1991 03 15	10 42.04	+18 25.9					
1991 03 25	10 33.48	+18 32.8	1.357	2.269	148.7	13.2	16.6
1991 04 04	10 27.61	+18 17.8					
1991 04 14	10 24.83	+17 43.4	1.522	2.282	128.1	20.2	17.1

1988 PP a,e,i = 2.63, 0.08, 13 Elements MPC 15559

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 17.26	+11 26.0	1.715	2.524	136.8	15.5	15.9
1991 02 03	11 15.06	+12 53.0					
1991 02 13	11 10.34	+14 34.8	1.563	2.509	158.6	8.3	15.5
1991 02 23	11 03.59	+16 23.2					
1991 03 05	10 55.68	+18 07.5	1.514	2.494	168.4	4.6	15.2
1991 03 15	10 47.71	+19 37.6					
1991 03 25	10 40.80	+20 45.8	1.574	2.480	148.6	12.1	15.6
1991 04 04	10 35.90	+21 28.5					
1991 04 14	10 33.52	+21 45.9	1.720	2.467	127.9	18.7	16.0

(4273) 1978 UU1 a,e,i = 2.40, 0.23, 3 Elements MPC 15540

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 25.30	+05 52.8	2.040	2.806	133.2	14.8	18.5
1991	02 03	11 20.96	+06 34.5					
1991	02 13	11 14.37	+07 29.5	1.900	2.833	156.5	8.0	18.1
1991	02 23	11 06.04	+08 33.1					
1991	03 05	10 56.84	+09 38.9	1.866	2.857	176.9	1.1	17.8
1991	03 15	10 47.71	+10 40.1					
1991	03 25	10 39.63	+11 30.9	1.949	2.878	153.7	8.8	18.3
1991	04 04	10 33.36	+12 07.8					
1991	04 14	10 29.31	+12 29.2	2.133	2.895	131.4	15.1	18.7

(4398) 1984 HC2 a,e,i = 2.37, 0.06, 5 Elements MPC 16012

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 24.00	+08 55.3	1.508	2.308	134.5	17.7	16.5
1991	02 03	11 21.22	+09 49.7					
1991	02 13	11 15.57	+10 59.7	1.381	2.322	157.0	9.6	16.1
1991	02 23	11 07.65	+12 17.9					
1991	03 05	10 58.50	+13 34.7	1.349	2.336	173.0	3.0	15.8
1991	03 15	10 49.40	+14 40.6					
1991	03 25	10 41.61	+15 28.5	1.423	2.350	152.1	11.5	16.2
1991	04 04	10 36.10	+15 54.7					
1991	04 14	10 33.36	+15 59.4	1.585	2.365	130.7	18.7	16.7

1989 WU2 a,e,i = 3.10, 0.19, 3 Elements MPC 16878

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 24.05	+07 58.5	2.441	3.206	134.2	12.7	17.9
1991	02 03	11 20.31	+08 33.9					
1991	02 13	11 14.73	+09 18.7	2.309	3.241	156.9	6.9	17.6
1991	02 23	11 07.77	+10 08.6					
1991	03 05	11 00.11	+10 58.7	2.285	3.275	175.6	1.3	17.3
1991	03 15	10 52.50	+11 44.1					
1991	03 25	10 45.69	+12 20.5	2.379	3.308	154.6	7.4	17.8
1991	04 04	10 40.28	+12 45.3					
1991	04 14	10 36.65	+12 57.4	2.576	3.339	132.8	12.7	18.1

1988 PX2 a,e,i = 3.00, 0.08, 11 Elements MPC 15890

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 21.70	-01 46.9	2.395	3.128	130.8	13.8	18.1
1991	02 03	11 18.74	-01 17.0					
1991	02 13	11 13.94	-00 30.8	2.227	3.140	153.1	8.2	17.7
1991	02 23	11 07.70	+00 29.3					
1991	03 05	11 00.65	+01 39.2	2.162	3.151	175.1	1.5	17.3
1991	03 15	10 53.55	+02 53.1					
1991	03 25	10 47.13	+04 05.0	2.214	3.162	158.1	6.7	17.7
1991	04 04	10 42.07	+05 09.4					
1991	04 14	10 38.76	+06 02.6	2.373	3.171	135.9	12.7	18.0

1981 SN a,e,i = 2.48, 0.16, 5 Elements MPC 10309

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 27.59	-02 57.6	2.061	2.787	128.9	15.9	18.6
1991	02 03	11 24.04	-02 45.1					
1991	02 13	11 18.25	-02 14.2	1.899	2.805	151.3	9.7	18.2
1991	02 23	11 10.67	-01 26.5					
1991	03 05	11 02.07	-00 26.2	1.835	2.822	173.0	2.5	17.8
1991	03 15	10 53.38	+00 40.9					
1991	03 25	10 45.56	+01 48.0	1.886	2.836	158.2	7.5	18.1
1991	04 04	10 39.39	+02 48.7					
1991	04 14	10 35.36	+03 38.5	2.041	2.848	135.9	14.2	18.5

1976 UR15 a,e,i = 2.64, 0.06, 10 Elements MPC 15551

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 30.87	+18 06.0	1.920	2.709	135.1	14.9	18.4
1991 02 03	11 27.15	+19 01.1					
1991 02 13	11 20.87	+20 01.1	1.789	2.719	155.6	8.6	18.1
1991 02 23	11 12.57	+20 58.4					
1991 03 05	11 03.15	+21 45.0	1.759	2.728	164.8	5.5	17.9
1991 03 15	10 53.70	+22 14.6					
1991 03 25	10 45.32	+22 23.7	1.839	2.737	148.3	11.0	18.2
1991 04 04	10 38.85	+22 11.8					
1991 04 14	10 34.80	+21 41.1	2.010	2.746	128.2	16.7	18.6

1987 FF1 a,e,i = 2.59, 0.14, 14 Elements MPC 12002

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 29.29	+22 13.6	1.542	2.352	136.1	16.9	16.6
1991 02 03	11 27.08	+24 03.6					
1991 02 13	11 21.86	+25 57.0	1.452	2.378	153.7	10.6	16.3
1991 02 23	11 14.24	+27 41.1					
1991 03 05	11 05.31	+29 03.9	1.459	2.405	157.4	9.1	16.3
1991 03 15	10 56.37	+29 57.1					
1991 03 25	10 48.73	+30 17.2	1.564	2.433	142.7	14.4	16.6
1991 04 04	10 43.36	+30 05.9					
1991 04 14	10 40.71	+29 28.2	1.747	2.462	124.9	19.5	17.0

1982 RW a,e,i = 2.22, 0.19, 2 Elements MPC 13594

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 33.75	+02 17.0	1.875	2.617	129.8	16.8	18.2
1991 02 03	11 30.22	+02 30.4					
1991 02 13	11 24.05	+03 00.3	1.687	2.603	152.6	10.0	17.8
1991 02 23	11 15.62	+03 44.4					
1991 03 05	11 05.75	+04 37.6	1.595	2.586	177.4	1.0	17.2
1991 03 15	10 55.50	+05 33.6					
1991 03 25	10 46.06	+06 25.3	1.618	2.566	157.2	8.7	17.6
1991 04 04	10 38.45	+07 06.7					
1991 04 14	10 33.32	+07 34.3	1.741	2.543	134.2	16.4	18.0

9546 P-L a,e,i = 3.13, 0.10, 3 Elements MPC 14631

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 28.41	+06 49.4	2.223	2.980	132.8	14.0	16.3
1991 02 03	11 26.01	+07 19.0					
1991 02 13	11 21.51	+08 00.5	2.037	2.961	154.9	8.1	15.9
1991 02 23	11 15.29	+08 50.4					
1991 03 05	11 07.97	+09 43.4	1.953	2.943	176.1	1.3	15.5
1991 03 15	11 00.37	+10 33.8					
1991 03 25	10 53.36	+11 16.1	1.983	2.926	156.8	7.7	15.8
1991 04 04	10 47.71	+11 46.2					
1991 04 14	10 43.97	+12 02.0	2.114	2.909	134.8	14.2	16.1

1986 EQ2 a,e,i = 2.90, 0.08, 2 Elements MPC 11143

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 30.98	+02 10.0	2.356	3.086	130.4	14.1	18.3
1991 02 03	11 27.98	+02 31.2					
1991 02 13	11 22.98	+03 05.9	2.185	3.096	152.9	8.3	18.0
1991 02 23	11 16.38	+03 51.6					
1991 03 05	11 08.81	+04 43.9	2.115	3.106	176.9	1.0	17.5
1991 03 15	11 01.03	+05 37.7					
1991 03 25	10 53.86	+06 27.6	2.163	3.114	159.0	6.6	17.9
1991 04 04	10 48.00	+07 09.2					
1991 04 14	10 43.93	+07 39.5	2.316	3.122	136.6	12.8	18.3

1986 UQ a,e,i = 2.12, 0.12, 2 Elements MPC 15414

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 37.15	-00 58.6	1.645	2.378	127.7	19.1	17.8
1991	02 03	11 34.50	-00 52.3					
1991	02 13	11 28.92	-00 25.3	1.466	2.373	150.0	12.0	17.3
1991	02 23	11 20.79	+00 21.2					
1991	03 05	11 10.97	+01 22.8	1.377	2.365	174.0	2.5	16.8
1991	03 15	11 00.61	+02 32.1					
1991	03 25	10 51.07	+03 40.3	1.396	2.355	159.2	8.7	17.1
1991	04 04	10 43.50	+04 39.4					
1991	04 14	10 38.63	+05 23.9	1.514	2.343	136.1	17.3	17.5

1989 TH1 a,e,i = 2.72, 0.29, 8 Elements MPC 15422

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 38.71	+03 07.8	2.343	3.060	129.0	14.5	17.0
1991	02 03	11 34.41	+03 16.8					
1991	02 13	11 28.02	+03 37.6	2.201	3.107	152.0	8.6	16.7
1991	02 23	11 19.99	+04 07.7					
1991	03 05	11 11.04	+04 43.0	2.162	3.152	176.4	1.1	16.3
1991	03 15	11 01.98	+05 19.0					
1991	03 25	10 53.67	+05 51.3	2.243	3.195	159.2	6.4	16.7
1991	04 04	10 46.80	+06 16.2					
1991	04 14	10 41.82	+06 31.6	2.433	3.235	136.5	12.3	17.1

1972 TF a,e,i = 2.26, 0.19, 5 Elements MPC 16421

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 37.56	-00 02.4	1.882	2.606	128.0	17.3	18.9
1991	02 03	11 34.42	+00 24.8					
1991	02 13	11 28.72	+01 10.9	1.721	2.627	150.8	10.6	18.5
1991	02 23	11 20.90	+02 13.3					
1991	03 05	11 11.76	+03 26.2	1.655	2.645	175.5	1.7	18.0
1991	03 15	11 02.32	+04 42.5					
1991	03 25	10 53.66	+05 54.2	1.705	2.660	159.2	7.7	18.4
1991	04 04	10 46.71	+06 54.6					
1991	04 14	10 42.06	+07 39.9	1.857	2.672	136.1	15.1	18.8

1988 RU6 a,e,i = 2.64, 0.14, 2 Elements MPC 14953

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 31.60	+01 07.7	1.704	2.454	129.9	17.9	17.4
1991	02 03	11 30.25	+01 15.7					
1991	02 13	11 26.25	+01 42.3	1.512	2.426	151.6	11.2	16.9
1991	02 23	11 19.91	+02 26.0					
1991	03 05	11 11.98	+03 22.0	1.410	2.400	175.4	1.9	16.3
1991	03 15	11 03.46	+04 23.6					
1991	03 25	10 55.58	+05 22.7	1.414	2.375	159.8	8.3	16.6
1991	04 04	10 49.41	+06 12.0					
1991	04 14	10 45.67	+06 46.6	1.514	2.352	137.3	16.8	17.0

1981 SC7 a,e,i = 2.53, 0.24, 9 Elements MPC 10836

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 41.53	+13 39.7	2.073	2.826	131.7	15.1	18.1
1991	02 03	11 37.42	+14 25.7					
1991	02 13	11 30.88	+15 19.3	1.947	2.866	153.7	8.8	17.8
1991	02 23	11 22.41	+16 14.1					
1991	03 05	11 12.82	+17 03.3	1.924	2.903	168.9	3.8	17.5
1991	03 15	11 03.11	+17 40.8					
1991	03 25	10 54.27	+18 02.4	2.016	2.938	152.8	8.9	17.9
1991	04 04	10 47.12	+18 06.7					
1991	04 14	10 42.14	+17 54.3	2.208	2.971	131.7	14.6	18.3

1989 WB a,e,i = 3.00, 0.12, 12 Elements MPC 15721

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 37.24	+19 50.4	2.257	3.024	133.9	13.6	16.4
1991 02 03	11 33.98	+20 50.5					
1991 02 13	11 28.48	+21 54.0	2.131	3.047	153.5	8.3	16.1
1991 02 23	11 21.19	+22 53.9					
1991 03 05	11 12.85	+23 43.2	2.109	3.069	162.5	5.6	16.0
1991 03 15	11 04.33	+24 16.5					
1991 03 25	10 56.55	+24 30.2	2.198	3.091	148.4	9.7	16.2
1991 04 04	10 50.27	+24 24.1					
1991 04 14	10 45.96	+23 59.7	2.382	3.113	129.1	14.5	16.6

1982 SA4 a,e,i = 2.27, 0.19, 5 Elements MPC 9067

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 41.19	+08 17.6	1.965	2.708	130.3	16.1	18.3
1991 02 03	11 37.72	+08 50.6					
1991 02 13	11 31.63	+09 36.4	1.788	2.704	152.9	9.6	17.9
1991 02 23	11 23.30	+10 30.2					
1991 03 05	11 13.52	+11 25.6	1.709	2.697	173.9	2.2	17.4
1991 03 15	11 03.29	+12 15.7					
1991 03 25	10 53.75	+12 54.2	1.746	2.688	155.9	8.7	17.8
1991 04 04	10 45.90	+13 17.1					
1991 04 14	10 40.37	+13 23.3	1.884	2.675	133.4	15.8	18.2

1987 QW2 a,e,i = 3.20, 0.15, 1 Elements MPC 14197

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 33.79	+04 26.9	2.797	3.519	130.7	12.2	18.1
1991 02 03	11 30.90	+04 47.9					
1991 02 13	11 26.26	+05 19.4	2.591	3.500	153.0	7.4	17.8
1991 02 23	11 20.15	+05 59.0					
1991 03 05	11 13.11	+06 43.1	2.489	3.480	176.4	1.0	17.3
1991 03 15	11 05.74	+07 27.4					
1991 03 25	10 58.74	+08 07.8	2.507	3.458	159.4	5.8	17.6
1991 04 04	10 52.77	+08 40.4					
1991 04 14	10 48.28	+09 02.9	2.634	3.436	137.0	11.5	17.9

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

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 37.26	+06 07.1	2.369	3.100	130.5	14.0	17.0
1991 02 03	11 34.38	+06 32.9					
1991 02 13	11 29.43	+07 10.1	2.191	3.102	152.8	8.4	16.7
1991 02 23	11 22.77	+07 55.4					
1991 03 05	11 15.00	+08 44.0	2.114	3.104	175.4	1.5	16.3
1991 03 15	11 06.90	+09 30.7					
1991 03 25	10 59.31	+10 10.3	2.155	3.105	158.6	6.7	16.6
1991 04 04	10 52.97	+10 39.3					
1991 04 14	10 48.39	+10 55.4	2.301	3.104	136.3	12.9	16.9

1982 SC6 a,e,i = 2.36, 0.20, 7 Elements MPC 13605

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 44.58	+09 23.5	1.311	2.084	129.8	21.3	16.6
1991 02 03	11 41.96	+09 33.2					
1991 02 13	11 35.86	+09 56.4	1.204	2.126	151.9	12.6	16.2
1991 02 23	11 26.89	+10 27.2					
1991 03 05	11 16.23	+10 57.7	1.182	2.170	173.8	2.8	15.8
1991 03 15	11 05.39	+11 20.4					
1991 03 25	10 55.87	+11 29.3	1.262	2.215	157.2	10.1	16.3
1991 04 04	10 48.82	+11 21.8					
1991 04 14	10 44.79	+10 58.3	1.434	2.261	135.5	18.1	16.9

1988 RQ5 a,e,i = 2.87, 0.05, 3 Elements MPC 16431

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 37.28	-00 12.2	2.311	3.019	128.0	14.9	18.1
1991 02 03	11 34.91	+00 03.9					
1991 02 13	11 30.46	+00 35.1	2.124	3.020	150.1	9.4	17.8
1991 02 23	11 24.26	+01 19.8					
1991 03 05	11 16.91	+02 14.0	2.033	3.020	173.7	2.1	17.4
1991 03 15	11 09.15	+03 12.7					
1991 03 25	11 01.84	+04 10.1	2.057	3.020	161.6	6.0	17.6
1991 04 04	10 55.75	+05 00.7					
1991 04 14	10 51.40	+05 40.7	2.190	3.019	139.0	12.6	18.0

1976 QC1 a,e,i = 2.16, 0.19, 2 Elements MPC 12940

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 44.27	+01 26.0	1.789	2.509	127.1	18.2	19.1
1991 02 03	11 41.76	+01 34.1					
1991 02 13	11 36.39	+02 00.0	1.587	2.488	149.4	11.7	18.6
1991 02 23	11 28.45	+02 41.9					
1991 03 05	11 18.66	+03 35.5	1.476	2.465	174.2	2.3	18.0
1991 03 15	11 08.08	+04 34.2					
1991 03 25	10 57.98	+05 30.3	1.477	2.439	160.3	7.9	18.3
1991 04 04	10 49.57	+06 16.6					
1991 04 14	10 43.64	+06 48.6	1.578	2.409	136.8	16.5	18.7

1179 T-2 a,e,i = 2.45, 0.16, 2 Elements MPC 14963

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 37.75	+00 04.4	1.657	2.393	128.0	18.9	18.8
1991 02 03	11 36.75	+00 06.5					
1991 02 13	11 32.94	+00 28.3	1.452	2.356	149.5	12.3	18.3
1991 02 23	11 26.55	+01 08.9					
1991 03 05	11 18.27	+02 04.5	1.332	2.320	173.4	2.8	17.7
1991 03 15	11 09.12	+03 08.5					
1991 03 25	11 00.40	+04 12.3	1.318	2.285	161.3	8.0	17.9
1991 04 04	10 53.33	+05 07.6					
1991 04 14	10 48.77	+05 48.5	1.400	2.250	138.4	17.2	18.3

1988 RB a,e,i = 2.60, 0.22, 12 Elements MPC 13682

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 41.45	-14 36.7	2.428	3.042	120.0	16.3	17.1
1991 02 03	11 38.96	-15 09.7					
1991 02 13	11 34.27	-15 24.3	2.194	3.016	139.7	12.2	16.7
1991 02 23	11 27.62	-15 17.7					
1991 03 05	11 19.57	-14 49.3	2.045	2.988	158.0	7.1	16.4
1991 03 15	11 10.87	-14 00.3					
1991 03 25	11 02.41	-12 55.0	2.004	2.957	159.2	6.9	16.3
1991 04 04	10 55.09	-11 40.1					
1991 04 14	10 49.57	-10 22.9	2.071	2.924	141.7	12.3	16.6

(4292) Aoba a,e,i = 2.75, 0.05, 4 Elements MPC 15547

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 41.33	+00 27.9	1.949	2.664	127.4	17.1	16.0
1991 02 03	11 39.15	+00 24.3					
1991 02 13	11 34.51	+00 36.2	1.776	2.673	149.2	10.9	15.6
1991 02 23	11 27.76	+01 02.3					
1991 03 05	11 19.59	+01 38.8	1.695	2.682	172.8	2.6	15.1
1991 03 15	11 10.94	+02 20.8					
1991 03 25	11 02.82	+03 02.2	1.725	2.691	162.2	6.5	15.4
1991 04 04	10 56.17	+03 37.4					
1991 04 14	10 51.60	+04 02.4	1.858	2.701	139.6	13.9	15.8

1988 PJ1 a,e,i = 2.60, 0.12, 15 Elements MPC 14355

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 46.05	-07 51.0	2.132	2.788	122.6	17.3	18.2
1991 02 03	11 43.13	-08 44.6					
1991 02 13	11 37.69	-09 23.4	1.915	2.769	143.1	12.4	17.8
1991 02 23	11 29.98	-09 45.2					
1991 03 05	11 20.61	-09 49.1	1.786	2.749	162.7	6.1	17.4
1991 03 15	11 10.49	-09 36.5					
1991 03 25	11 00.67	-09 10.9	1.767	2.728	160.6	7.0	17.4
1991 04 04	10 52.21	-08 38.1					
1991 04 14	10 45.85	-08 04.1	1.854	2.706	140.7	13.6	17.7

1986 TO3 a,e,i = 2.16, 0.11, 1 Elements MPC 15245

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 46.67	+01 21.9	1.567	2.294	126.5	20.2	17.4
1991 02 03	11 44.49	+01 30.3					
1991 02 13	11 39.23	+01 58.2	1.411	2.312	148.7	12.8	16.9
1991 02 23	11 31.27	+02 43.2					
1991 03 05	11 21.48	+03 39.7	1.341	2.329	173.6	2.7	16.4
1991 03 15	11 11.06	+04 40.2					
1991 03 25	11 01.38	+05 36.1	1.378	2.344	161.1	7.9	16.7
1991 04 04	10 53.63	+06 20.4					
1991 04 14	10 48.53	+06 49.0	1.514	2.357	137.9	16.6	17.2

(4412) 2535 P-L a,e,i = 3.14, 0.16, 2 Elements MPC 16017

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 42.64	+03 10.0	2.954	3.645	128.1	12.3	18.5
1991 02 03	11 39.97	+03 34.0					
1991 02 13	11 35.59	+04 08.7	2.759	3.650	150.4	7.7	18.2
1991 02 23	11 29.79	+04 51.9					
1991 03 05	11 23.03	+05 40.0	2.666	3.653	173.9	1.7	17.8
1991 03 15	11 15.90	+06 29.1					
1991 03 25	11 09.03	+07 14.9	2.693	3.655	162.1	4.8	18.0
1991 04 04	11 03.03	+07 53.6					
1991 04 14	10 58.34	+08 22.8	2.834	3.655	139.6	10.2	18.4

(4280) 1985 PF2 a,e,i = 2.38, 0.01, 5 Elements MPC 15543

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 48.16	+08 24.1	1.641	2.383	128.7	18.8	17.3
1991 02 03	11 46.65	+08 53.4					
1991 02 13	11 42.16	+09 37.6	1.477	2.385	150.3	11.8	16.9
1991 02 23	11 35.01	+10 31.6					
1991 03 05	11 25.99	+11 28.0	1.402	2.387	171.6	3.5	16.4
1991 03 15	11 16.20	+12 18.5					
1991 03 25	11 06.96	+12 55.5	1.433	2.389	158.5	8.8	16.7
1991 04 04	10 59.43	+13 14.4					
1991 04 14	10 54.37	+13 13.7	1.561	2.391	136.5	16.8	17.1

1975 SJ a,e,i = 2.75, 0.10, 4 Elements MPC 15549

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 47.39	+05 42.6	2.059	2.775	128.0	16.2	17.2
1991 02 03	11 45.08	+06 02.5					
1991 02 13	11 40.35	+06 35.2	1.897	2.796	150.1	10.1	16.8
1991 02 23	11 33.57	+07 17.4					
1991 03 05	11 25.41	+08 03.7	1.830	2.817	173.2	2.4	16.4
1991 03 15	11 16.74	+08 48.3					
1991 03 25	11 08.54	+09 25.6	1.876	2.837	160.9	6.6	16.7
1991 04 04	11 01.68	+09 51.2					
1991 04 14	10 56.76	+10 03.1	2.027	2.856	138.5	13.5	17.1

1989 WK a,e,i = 2.25, 0.16, 2 Elements MPC 15722

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 47.60	-02 03.0	1.815	2.512	124.9	18.8	17.2
1991	02 03	11 46.04	-02 01.5					
1991	02 13	11 41.73	-01 40.4	1.605	2.489	146.6	12.6	16.8
1991	02 23	11 34.86	-01 00.1					
1991	03 05	11 26.06	-00 03.7	1.480	2.464	170.5	3.8	16.2
1991	03 15	11 16.30	+01 03.3					
1991	03 25	11 06.79	+02 12.6	1.465	2.437	163.3	6.7	16.3
1991	04 04	10 58.70	+03 16.2					
1991	04 14	10 52.92	+04 07.5	1.552	2.407	139.9	15.6	16.7

1989 YF5 a,e,i = 2.59, 0.13, 14 Elements MPC 16586

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 48.93	-16 42.0	2.326	2.913	117.4	17.5	17.3
1991	02 03	11 46.59	-17 38.4					
1991	02 13	11 41.88	-18 16.8	2.111	2.907	136.4	13.5	16.9
1991	02 23	11 35.04	-18 33.7					
1991	03 05	11 26.63	-18 27.2	1.975	2.899	154.1	8.6	16.6
1991	03 15	11 17.43	-17 57.3					
1991	03 25	11 08.42	-17 07.5	1.943	2.890	157.8	7.5	16.5
1991	04 04	11 00.56	-16 04.0					
1991	04 14	10 54.56	-14 54.3	2.016	2.879	142.8	12.2	16.8

1986 UG a,e,i = 2.21, 0.15, 2 Elements MPC 12709

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 50.65	+02 40.3	1.615	2.334	126.1	19.9	17.8
1991	02 03	11 48.80	+03 08.2					
1991	02 13	11 43.95	+03 55.5	1.465	2.364	148.4	12.7	17.4
1991	02 23	11 36.47	+04 58.6					
1991	03 05	11 27.18	+06 10.6	1.404	2.391	172.9	2.9	16.9
1991	03 15	11 17.22	+07 22.9					
1991	03 25	11 07.88	+08 26.8	1.450	2.416	161.3	7.6	17.2
1991	04 04	11 00.29	+09 15.5					
1991	04 14	10 55.17	+09 45.7	1.598	2.439	138.3	15.9	17.7

1978 VL11 a,e,i = 2.42, 0.17, 6 Elements MPC 11995

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 44.10	+11 06.5	1.428	2.198	130.4	19.9	16.4
1991	02 03	11 44.38	+11 48.8					
1991	02 13	11 41.46	+12 47.6	1.249	2.165	151.0	12.8	15.8
1991	02 23	11 35.53	+13 56.7					
1991	03 05	11 27.29	+15 06.4	1.153	2.135	168.9	5.1	15.3
1991	03 15	11 17.91	+16 05.9					
1991	03 25	11 08.90	+16 45.3	1.156	2.107	156.2	11.0	15.5
1991	04 04	11 01.69	+16 58.9					
1991	04 14	10 57.23	+16 45.9	1.245	2.082	135.3	19.8	15.9

1955 QN a,e,i = 2.25, 0.09, 7 Elements MPC 16867

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 49.46	-09 03.0	1.757	2.418	121.2	20.4	17.1
1991	02 03	11 47.87	-09 30.1					
1991	02 13	11 43.45	-09 35.2	1.575	2.429	141.9	14.5	16.7
1991	02 23	11 36.46	-09 16.3					
1991	03 05	11 27.62	-08 34.0	1.473	2.439	163.2	6.7	16.3
1991	03 15	11 17.93	-07 32.2					
1991	03 25	11 08.63	-06 18.3	1.475	2.447	163.4	6.7	16.3
1991	04 04	11 00.88	-05 01.4					
1991	04 14	10 55.46	-03 50.1	1.580	2.453	142.5	14.4	16.8

1980 GO a,e,i = 3.17, 0.11, 2 Elements MPC 14186

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 43.40	+02 22.8	2.190	2.898	127.7	15.6	17.8
1991	02 03	11 42.17	+02 38.2					
1991	02 13	11 38.74	+03 08.1	1.992	2.885	149.3	10.1	17.4
1991	02 23	11 33.39	+03 50.4					
1991	03 05	11 26.66	+04 40.8	1.887	2.874	172.8	2.5	16.9
1991	03 15	11 19.30	+05 34.1					
1991	03 25	11 12.18	+06 24.3	1.895	2.864	163.2	5.8	17.1
1991	04 04	11 06.17	+07 05.9					
1991	04 14	11 01.86	+07 35.3	2.008	2.855	140.7	12.9	17.5

1975 XP3 a,e,i = 2.35, 0.13, 3 Elements MPC 7606

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 51.84	+03 04.6	1.603	2.322	126.0	20.1	17.7
1991	02 03	11 50.04	+03 11.6					
1991	02 13	11 45.22	+03 36.0	1.456	2.352	148.0	12.9	17.3
1991	02 23	11 37.75	+04 14.9					
1991	03 05	11 28.45	+05 02.5	1.394	2.381	172.4	3.2	16.9
1991	03 15	11 18.46	+05 51.8					
1991	03 25	11 09.10	+06 35.3	1.440	2.409	162.4	7.2	17.2
1991	04 04	11 01.48	+07 07.0					
1991	04 14	10 56.33	+07 23.6	1.585	2.437	139.5	15.5	17.7

4600 P-L a,e,i = 3.18, 0.17, 2 Elements MPC 15570

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 44.37	+02 45.8	2.034	2.748	127.6	16.5	17.2
1991	02 03	11 43.06	+03 03.9					
1991	02 13	11 39.43	+03 36.9	1.875	2.770	149.3	10.5	16.9
1991	02 23	11 33.84	+04 22.0					
1991	03 05	11 26.90	+05 14.4	1.808	2.794	172.8	2.5	16.5
1991	03 15	11 19.44	+06 08.2					
1991	03 25	11 12.38	+06 57.1	1.852	2.820	163.0	5.9	16.7
1991	04 04	11 06.56	+07 36.1					
1991	04 14	11 02.54	+08 01.9	2.000	2.847	140.7	12.9	17.1

(4349) Tiburcio a,e,i = 2.62, 0.24, 11 Elements MPC 15694

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 51.48	+15 09.3	2.377	3.100	129.7	14.1	16.5
1991	02 03	11 48.59	+16 14.4					
1991	02 13	11 43.46	+17 27.1	2.229	3.127	150.6	8.9	16.2
1991	02 23	11 36.41	+18 41.3					
1991	03 05	11 28.09	+19 49.9	2.183	3.151	164.9	4.7	16.0
1991	03 15	11 19.29	+20 46.5					
1991	03 25	11 10.89	+21 25.9	2.252	3.172	152.8	8.3	16.3
1991	04 04	11 03.69	+21 46.0					
1991	04 14	10 58.26	+21 47.1	2.425	3.191	132.7	13.4	16.6

1980 TG4 a,e,i = 2.62, 0.17, 12 Elements MPC 15702

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 54.54	+10 30.8	2.363	3.067	127.8	14.7	18.2
1991	02 03	11 51.29	+10 52.7					
1991	02 13	11 45.73	+11 23.3	2.177	3.070	149.8	9.3	17.9
1991	02 23	11 38.16	+11 58.7					
1991	03 05	11 29.18	+12 33.7	2.090	3.072	170.4	3.1	17.5
1991	03 15	11 19.59	+13 03.2					
1991	03 25	11 10.33	+13 22.5	2.120	3.071	158.8	6.7	17.7
1991	04 04	11 02.27	+13 28.9					
1991	04 14	10 56.01	+13 21.4	2.259	3.068	136.8	12.9	18.1

1979 XQ a,e,i = 2.26, 0.13, 4 Elements MPC 13589

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 54.29	+05 14.4	1.813	2.522	126.2	18.4	17.6
1991	02 03	11 52.13	+05 36.7					
1991	02 13	11 47.15	+06 14.4	1.639	2.533	148.3	11.8	17.2
1991	02 23	11 39.63	+07 04.2					
1991	03 05	11 30.29	+07 59.9	1.556	2.542	172.0	3.1	16.8
1991	03 15	11 20.15	+08 54.4					
1991	03 25	11 10.42	+09 40.2	1.585	2.549	161.1	7.3	17.0
1991	04 04	11 02.21	+10 12.1					
1991	04 14	10 56.27	+10 27.4	1.716	2.553	138.2	15.2	17.4

2604 P-L a,e,i = 2.33, 0.19, 3 Elements MPC 14627

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 47.66	+04 05.2	1.430	2.173	127.3	21.1	17.9
1991	02 03	11 48.00	+03 59.7					
1991	02 13	11 45.13	+04 11.8	1.227	2.130	148.2	14.1	17.3
1991	02 23	11 39.14	+04 39.9					
1991	03 05	11 30.62	+05 19.4	1.103	2.090	171.9	3.8	16.6
1991	03 15	11 20.67	+06 03.3					
1991	03 25	11 10.81	+06 42.4	1.077	2.051	162.8	8.3	16.7
1991	04 04	11 02.60	+07 09.0					
1991	04 14	10 57.17	+07 18.2	1.142	2.015	139.7	18.8	17.2

1988 UP a,e,i = 3.15, 0.17, 2 Elements MPC 13862

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 48.92	+04 19.2	3.004	3.683	127.1	12.3	17.4
1991	02 03	11 46.50	+04 43.2					
1991	02 13	11 42.36	+05 17.5	2.796	3.679	149.2	7.9	17.1
1991	02 23	11 36.74	+05 59.6					
1991	03 05	11 30.07	+06 46.2	2.689	3.674	172.2	2.1	16.7
1991	03 15	11 22.92	+07 33.2					
1991	03 25	11 15.90	+08 16.3	2.702	3.668	163.1	4.5	16.8
1991	04 04	11 09.65	+08 52.0					
1991	04 14	11 04.64	+09 17.7	2.829	3.659	140.6	10.0	17.1

1975 YE a,e,i = 2.88, 0.23, 14 Elements MPC 15550

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 47.49	-07 04.7	1.962	2.626	122.6	18.4	16.9
1991	02 03	11 46.40	-06 37.7					
1991	02 13	11 42.92	-05 48.0	1.811	2.675	144.2	12.5	16.6
1991	02 23	11 37.39	-04 36.9					
1991	03 05	11 30.48	-03 08.9	1.747	2.724	167.4	4.5	16.2
1991	03 15	11 23.03	-01 30.7					
1991	03 25	11 15.98	+00 08.9	1.795	2.773	165.9	5.0	16.4
1991	04 04	11 10.17	+01 41.6					
1991	04 14	11 06.19	+03 01.0	1.952	2.821	143.4	12.2	16.8

1979 QK6 a,e,i = 2.18, 0.20, 4 Elements MPC 10037

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 54.47	+04 25.9	1.869	2.573	125.9	18.1	18.7
1991	02 03	11 52.86	+05 01.3					
1991	02 13	11 48.46	+05 54.4	1.665	2.556	147.9	11.8	18.3
1991	02 23	11 41.49	+07 02.2					
1991	03 05	11 32.54	+08 18.3	1.551	2.536	171.4	3.4	17.8
1991	03 15	11 22.55	+09 34.8					
1991	03 25	11 12.71	+10 42.9	1.549	2.513	161.0	7.4	17.9
1991	04 04	11 04.19	+11 35.5					
1991	04 14	10 57.86	+12 08.8	1.650	2.486	137.8	15.7	18.3

(4299) 1952 QX a,e,i = 2.24, 0.17, 5 Elements MPC 15677

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 56.24	+06 40.6	1.808	2.518	126.2	18.4	17.4
1991 02 03	11 54.31	+07 25.8					
1991 02 13	11 49.56	+08 27.0	1.648	2.541	148.3	11.8	17.0
1991 02 23	11 42.30	+09 39.5					
1991 03 05	11 33.24	+10 55.7	1.579	2.562	170.4	3.7	16.6
1991 03 15	11 23.39	+12 07.0					
1991 03 25	11 13.93	+13 05.3	1.622	2.580	159.6	7.7	16.9
1991 04 04	11 05.96	+13 45.4					
1991 04 14	11 00.20	+14 05.3	1.768	2.596	137.3	15.2	17.3

1977 QU2 a,e,i = 2.49, 0.10, 5 Elements MPC 14343

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 51.65	-03 37.2	1.854	2.532	123.3	19.0	17.2
1991 02 03	11 50.46	-03 30.4					
1991 02 13	11 46.64	-03 03.3	1.682	2.553	144.8	12.9	16.8
1991 02 23	11 40.48	-02 16.9					
1991 03 05	11 32.63	-01 14.6	1.594	2.573	168.5	4.4	16.4
1991 03 15	11 24.00	-00 02.5					
1991 03 25	11 15.69	+01 11.4	1.615	2.593	165.7	5.4	16.5
1991 04 04	11 08.70	+02 19.4					
1991 04 14	11 03.73	+03 15.4	1.742	2.612	142.7	13.4	17.0

1981 KJ a,e,i = 3.13, 0.15, 15 Elements MPC 16425

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 56.30	+18 01.0	2.742	3.450	129.2	12.8	18.0
1991 02 03	11 53.65	+18 41.5					
1991 02 13	11 48.93	+19 27.0	2.545	3.431	149.1	8.5	17.7
1991 02 23	11 42.39	+20 12.4					
1991 03 05	11 34.52	+20 52.2	2.449	3.411	163.2	4.8	17.5
1991 03 15	11 26.01	+21 21.3					
1991 03 25	11 17.63	+21 35.5	2.468	3.390	153.5	7.5	17.6
1991 04 04	11 10.17	+21 33.0					
1991 04 14	11 04.20	+21 13.8	2.592	3.368	134.1	12.3	17.9

4031 P-L a,e,i = 2.37, 0.18, 5 Elements MPC 8909

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 59.53	+00 24.6	1.603	2.295	123.2	21.0	18.7
1991 02 03	11 57.84	+00 12.2					
1991 02 13	11 53.07	+00 17.6	1.459	2.337	144.9	14.1	18.4
1991 02 23	11 45.53	+00 39.3					
1991 03 05	11 36.04	+01 13.5	1.396	2.378	169.2	4.5	17.9
1991 03 15	11 25.73	+01 54.2					
1991 03 25	11 15.90	+02 34.3	1.440	2.418	165.5	5.9	18.1
1991 04 04	11 07.74	+03 07.3					
1991 04 14	11 02.00	+03 29.0	1.587	2.458	142.3	14.5	18.7

(4338) Velez a,e,i = 2.25, 0.18, 6 Elements MPC 15690

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 52.14	-04 38.6	1.715	2.395	122.7	20.2	17.9
1991 02 03	11 52.07	-04 40.2					
1991 02 13	11 49.17	-04 19.4	1.489	2.358	143.7	14.4	17.3
1991 02 23	11 43.53	-03 35.0					
1991 03 05	11 35.64	-02 28.8	1.343	2.320	167.1	5.5	16.8
1991 03 15	11 26.40	-01 06.0					
1991 03 25	11 17.04	+00 24.4	1.300	2.280	166.2	6.0	16.7
1991 04 04	11 08.89	+01 51.9					
1991 04 14	11 02.97	+03 07.5	1.359	2.240	142.6	15.8	17.1

1269 T-2 a,e,i = 2.94, 0.01, 1 Elements MPC 15079

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 52.57	-00 10.8	2.262	2.934	124.5	16.0	18.9
1991	02 03	11 51.14	-00 06.5					
1991	02 13	11 47.49	+00 12.5	2.064	2.936	146.1	10.8	18.5
1991	02 23	11 41.86	+00 44.7					
1991	03 05	11 34.76	+01 27.2	1.957	2.937	169.6	3.5	18.1
1991	03 15	11 26.93	+02 15.3					
1991	03 25	11 19.23	+03 03.5	1.961	2.939	166.1	4.7	18.2
1991	04 04	11 12.51	+03 46.3					
1991	04 14	11 07.42	+04 19.7	2.075	2.941	143.2	11.8	18.6

1983 TS1 a,e,i = 3.08, 0.19, 2 Elements MPC 14191

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 54.44	+03 27.6	2.794	3.459	125.5	13.4	18.1
1991	02 03	11 52.17	+03 51.5					
1991	02 13	11 48.05	+04 26.5	2.610	3.484	147.6	8.7	17.8
1991	02 23	11 42.33	+05 10.3					
1991	03 05	11 35.50	+05 59.1	2.524	3.506	170.8	2.6	17.5
1991	03 15	11 28.13	+06 48.6					
1991	03 25	11 20.92	+07 34.2	2.557	3.528	164.5	4.3	17.6
1991	04 04	11 14.51	+08 12.0					
1991	04 14	11 09.41	+08 39.5	2.704	3.548	141.9	10.0	18.0

1989 WR a,e,i = 2.27, 0.18, 7 Elements MPC 15723

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	12 02.32	+06 53.8	1.978	2.666	124.9	17.6	18.4
1991	02 03	12 00.04	+07 16.4					
1991	02 13	11 55.03	+07 52.4	1.793	2.674	146.9	11.6	18.0
1991	02 23	11 47.52	+08 38.1					
1991	03 05	11 38.15	+09 28.0	1.698	2.680	169.8	3.8	17.6
1991	03 15	11 27.83	+10 15.2					
1991	03 25	11 17.71	+10 53.3	1.716	2.682	161.8	6.7	17.8
1991	04 04	11 08.86	+11 17.3					
1991	04 14	11 02.08	+11 25.2	1.842	2.681	139.0	14.2	18.2

2203 T-3 a,e,i = 3.17, 0.10, 12 Elements MPC 12701

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 49.75	-11 35.0	2.277	2.897	119.9	17.1	18.4
1991	02 03	11 49.09	-11 45.0					
1991	02 13	11 46.28	-11 35.2	2.082	2.909	140.1	12.6	18.1
1991	02 23	11 41.55	-11 04.5					
1991	03 05	11 35.42	-10 13.8	1.967	2.923	160.9	6.4	17.7
1991	03 15	11 28.58	-09 06.3					
1991	03 25	11 21.85	-07 47.8	1.960	2.937	165.9	4.7	17.7
1991	04 04	11 16.05	-06 25.6					
1991	04 14	11 11.80	-05 06.6	2.062	2.953	146.7	10.7	18.0

(4309) 1978 QC a,e,i = 3.01, 0.27, 2 Elements MPC 15680

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 56.44	-00 32.5	2.652	3.299	123.5	14.4	18.5
1991	02 03	11 54.09	-00 16.6					
1991	02 13	11 49.80	+00 12.5	2.482	3.343	145.6	9.6	18.2
1991	02 23	11 43.84	+00 53.0					
1991	03 05	11 36.73	+01 41.5	2.406	3.386	169.3	3.1	17.9
1991	03 15	11 29.10	+02 33.9					
1991	03 25	11 21.66	+03 25.3	2.449	3.426	166.6	3.9	18.0
1991	04 04	11 15.09	+04 11.2					
1991	04 14	11 09.91	+04 48.3	2.606	3.465	143.6	9.9	18.4

1987 RC1 a,e,i = 3.21, 0.13, 1 Elements MPC 14197

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 55.79	+01 46.3	2.754	3.410	124.6	13.8	17.1
1991 02 03	11 54.18	+01 58.4					
1991 02 13	11 50.67	+02 22.5	2.523	3.388	146.3	9.3	16.7
1991 02 23	11 45.44	+02 56.8					
1991 03 05	11 38.91	+03 38.5	2.386	3.366	169.5	3.1	16.3
1991 03 15	11 31.65	+04 23.7					
1991 03 25	11 24.36	+05 07.7	2.365	3.343	166.5	4.0	16.3
1991 04 04	11 17.74	+05 46.1					
1991 04 14	11 12.39	+06 15.6	2.458	3.320	143.6	10.3	16.6

1981 EY30 a,e,i = 2.24, 0.21, 4 Elements MPC 15704

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	12 01.00	+00 19.8	2.021	2.685	122.8	17.9	18.5
1991 02 03	11 59.73	+00 42.5					
1991 02 13	11 55.85	+01 23.5	1.805	2.673	144.7	12.3	18.1
1991 02 23	11 49.52	+02 21.2					
1991 03 05	11 41.25	+03 31.4	1.677	2.657	168.9	4.1	17.6
1991 03 15	11 31.85	+04 47.7					
1991 03 25	11 22.38	+06 02.1	1.660	2.638	165.6	5.4	17.6
1991 04 04	11 13.93	+07 07.0					
1991 04 14	11 07.35	+07 56.9	1.753	2.615	141.8	13.7	18.0

1983 WF1 a,e,i = 3.18, 0.31, 21 Elements MPC 9687

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	12 00.10	+25 22.3	3.215	3.914	129.3	11.2	18.1
1991 02 03	11 57.48	+26 41.4					
1991 02 13	11 53.01	+28 01.9	3.085	3.946	146.4	8.0	17.9
1991 02 23	11 46.97	+29 17.9					
1991 03 05	11 39.81	+30 23.6	3.059	3.976	154.3	6.2	17.8
1991 03 15	11 32.11	+31 14.0					
1991 03 25	11 24.56	+31 46.0	3.145	4.004	145.1	8.2	18.0
1991 04 04	11 17.78	+31 58.5					
1991 04 14	11 12.26	+31 52.4	3.330	4.029	128.3	11.3	18.2

1982 SG12 a,e,i = 2.31, 0.12, 6 Elements MPC 13686

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 58.18	-03 46.9	1.650	2.324	121.8	21.1	18.3
1991 02 03	11 57.92	-03 32.6					
1991 02 13	11 54.76	-02 55.2	1.484	2.350	143.1	14.6	17.9
1991 02 23	11 48.91	-01 55.3					
1991 03 05	11 41.04	-00 37.4	1.398	2.376	167.2	5.3	17.5
1991 03 15	11 32.12	+00 51.2					
1991 03 25	11 23.37	+02 20.7	1.418	2.400	167.3	5.2	17.5
1991 04 04	11 15.97	+03 41.4					
1991 04 14	11 10.73	+04 46.4	1.541	2.424	143.8	14.1	18.1

1989 XC a,e,i = 2.86, 0.11, 3 Elements MPC 15726

Date ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991 01 24	11 58.70	+04 34.6	2.403	3.075	124.9	15.2	17.3
1991 02 03	11 57.02	+04 59.6					
1991 02 13	11 53.17	+05 37.2	2.215	3.089	146.7	10.1	16.9
1991 02 23	11 47.40	+06 24.4					
1991 03 05	11 40.21	+07 17.0	2.121	3.102	169.6	3.3	16.6
1991 03 15	11 32.28	+08 09.7					
1991 03 25	11 24.44	+08 56.7	2.142	3.114	164.3	5.0	16.7
1991 04 04	11 17.49	+09 33.7					
1991 04 14	11 12.03	+09 57.8	2.274	3.125	141.9	11.4	17.1

(4429) 1978 RJ2 a,e,i = 2.38, 0.21, 1 Elements MPC 16215

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	12 04.34	-01 02.7	1.974	2.626	121.5	18.6	19.0
1991	02 03	12 02.52	-00 57.6					
1991	02 13	11 58.05	-00 35.5	1.804	2.663	143.4	12.8	18.7
1991	02 23	11 51.19	+00 02.3					
1991	03 05	11 42.57	+00 52.0	1.720	2.697	167.6	4.5	18.3
1991	03 15	11 33.05	+01 48.3					
1991	03 25	11 23.71	+02 44.4	1.747	2.729	167.3	4.6	18.3
1991	04 04	11 15.56	+03 33.8					
1991	04 14	11 09.33	+04 11.9	1.885	2.758	143.7	12.4	18.8

(4286) 1988 PU4 a,e,i = 2.92, 0.08, 3 Elements MPC 15545

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	01 24	11 58.07	+02 10.2	2.408	3.072	124.2	15.4	16.7
1991	02 03	11 56.67	+02 31.8					
1991	02 13	11 53.13	+03 07.2	2.215	3.083	146.0	10.3	16.3
1991	02 23	11 47.68	+03 54.0					
1991	03 05	11 40.82	+04 48.4	2.113	3.093	169.3	3.4	16.0
1991	03 15	11 33.20	+05 45.3					
1991	03 25	11 25.62	+06 38.9	2.126	3.102	166.0	4.5	16.0
1991	04 04	11 18.90	+07 24.1					
1991	04 14	11 13.62	+07 57.6	2.250	3.111	143.2	11.1	16.4

1987 RY a,e,i = 3.23, 0.16, 0 Elements MPC 13607

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	02 13	11 53.79	+01 12.4	2.778	3.632	145.1	8.9	17.5
1991	02 23	11 48.71	+01 46.1					
1991	03 05	11 42.41	+02 27.3	2.636	3.613	168.3	3.2	17.2
1991	03 15	11 35.41	+03 12.5					
1991	03 25	11 28.34	+03 57.5	2.613	3.594	167.9	3.3	17.2
1991	04 04	11 21.83	+04 38.3					
1991	04 14	11 16.43	+05 11.5	2.705	3.573	145.0	9.3	17.5
1991	04 24	11 12.55	+05 34.8					
1991	05 04	11 10.41	+05 46.8	2.889	3.551	123.9	13.6	17.7

1989 YB a,e,i = 2.54, 0.30, 7 Elements MPC 15899

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	02 13	11 58.53	-09 12.9	2.363	3.176	139.1	11.7	18.0
1991	02 23	11 52.10	-08 54.7					
1991	03 05	11 44.22	-08 20.9	2.249	3.204	161.3	5.7	17.7
1991	03 15	11 35.55	-07 34.1					
1991	03 25	11 26.91	-06 38.8	2.248	3.229	167.6	3.8	17.6
1991	04 04	11 19.09	-05 40.5					
1991	04 14	11 12.73	-04 44.6	2.364	3.250	146.9	9.7	18.0
1991	04 24	11 08.26	-03 55.8					
1991	05 04	11 05.85	-03 17.3	2.573	3.269	125.9	14.5	18.3

1989 VV a,e,i = 2.45, 0.14, 2 Elements MPC 15721

Date	ET	R. A. (1950)	Decl.	Delta	r	Elong.	Phase	V
1991	02 13	11 58.94	+02 47.4	1.865	2.729	144.5	12.1	17.7
1991	02 23	11 52.71	+03 34.7					
1991	03 05	11 44.70	+04 31.1	1.766	2.744	168.3	4.2	17.3
1991	03 15	11 35.71	+05 30.8					
1991	03 25	11 26.74	+06 26.8	1.778	2.757	166.3	4.9	17.3
1991	04 04	11 18.80	+07 13.0					
1991	04 14	11 12.64	+07 45.5	1.900	2.768	143.0	12.6	17.8
1991	04 24	11 08.74	+08 02.3					
1991	05 04	11 07.26	+08 03.1	2.105	2.777	122.3	17.9	18.2